

EXECUTIVE SUMMARY:

This *2006 Shelter Retrofit Report* fulfills the requirements of Section 252.385(3), Florida Statutes, for the Division of Emergency Management (the Division), to annually provide a list of facilities to be retrofitted using state funds to the President of the Senate, Speaker of the House of Representatives and the Governor. Retrofitting is the modification of an existing structure to make it stronger and more disaster resistant. An example would be the installation of hurricane shutters on an existing building to protect doors and windows from wind-borne debris. Such measures bring the safety of public shelters up to established criteria, and to provide more safe spaces for Florida's residents. The retrofitting of buildings is a viable resource in the endeavor to increase the number of shelter spaces and eventually provide shelter to all those seeking it.

Significant progress has been made toward reducing, and ultimately eliminating, the deficit of safe public hurricane shelter space. In Florida, 813,484 hurricane shelter spaces have been created through a combination of retrofitting and use of enhanced wind design and construction standards. Another 49,894 spaces are scheduled to be ready by the 2007 hurricane season. This will provide a total of 863,378 hurricane shelter spaces that meet the American Red Cross' *Standards for Hurricane Evacuation Shelter Selection* (ARC 4496, January 2002).

The Division reviewed 344 project submittals for the *2006 Shelter Retrofit Report*. Proposals were submitted by county emergency management agencies in cooperation with local American Red Cross Chapters, school boards and other organizations that participate in hurricane shelter planning and operations. After evaluation of the projects, the Division recommends 136 prioritized retrofit projects that could potentially create 54,415 hurricane shelter spaces statewide at an estimated cost of \$8,683,049 (see Appendix E(1)).

As the following table demonstrates, the majority of the public hurricane shelter capacity created has been achieved in the past eight years. This is due to several factors, but the primary source of shelter capacity increase has been availability of retrofit and mitigation-related funds (see Table 2.2). Prior to 1999, Florida did not have a significant dedicated source of funding. The 1999 Legislature appropriated \$2.265 million to retrofit school buildings that are used as public hurricane shelters with window shutters. This appropriation netted about 35,000 spaces. In 2000, Governor Bush and the Legislature followed up by committing at least \$3 million per year to hurricane shelter retrofitting, and nearly \$30 million in federal mitigation funds were obligated after Hurricanes Floyd and Irene. The impact of significant funding has sharply reduced the state's hurricane shelter space deficit. Table EX-1 (page ii) summarizes the progress toward eliminating Florida's deficit of hurricane shelter space through funding of projects listed in the *Shelter Retrofit Report* since 1994.

Table EX-1. Historical Summary of Shelter Retrofit Report Progress (Estimates)						
Year	Shelter Retrofit Report \$ Estimate	Shelter Retrofit Report Projected Spaces	Shelter Retrofit Report \$ Allocated	Shelter Retrofit Report Spaces Gained	Other Spaces Gained (Non-Retrofit Report Projects)	Total Spaces Gained
1999	\$17,882,467	88,679	\$8,473,341	72,230	114,680*	186,910
2000	\$40,230,545	250,362	\$25,572,795	119,087	88,774	207,861
2001	\$31,385,308	119,905	\$5,233,731	20,574	34,039	54,613
2002	\$36,950,663	157,326	\$4,735,113	41,710	50,002	91,712
2003	\$33,339,100	137,985	\$2,464,547	33,381	53,373	86,754
2004	\$20,238,862	93,967	\$7,500,000	68,765	67,556	136,321
2005	\$23,096,021	68,182	\$3,000,000	24,481	24,832	49,313
2006	\$19,088,154	54,415	\$3,000,000	13,820	36,074	49,894
2006A	N/A	N/A	\$15,000,000	23,736	N/A	23,736
Total	N/A	N/A	\$74,979,527	417,784	469,330	887,114
"2006A" represents funding via House Bill 7121. "887,114" is 863,378 plus the 23,736 from HB 7121						

Also as Table EX-1 illustrates, under the leadership of Governor Bush and the Florida Legislature, Florida has demonstrated a sustained commitment to eliminating the deficit of safe public hurricane shelter space. From 1999 to 2005, almost \$57 million in federal and state funds have been committed towards retrofitting of suitable facilities. This created more than 380,000 spaces. This commitment supplemented local efforts to reduce public hurricane shelter deficits, and helped Florida be prepared to weather the extraordinary hurricane seasons of 2004 and 2005.

For Fiscal Year 2006-2007, Governor Bush proposed a Hurricane Preparedness, Response and Recovery emergency management initiative budget request and the 2006 Legislature responded by signing Government Budget Request House Bill (HB) 7121 into law on June 1, 2006 as Chapter 2006-71, Laws of Florida. The measure appropriates \$15 million to structurally enhance or retrofit public hurricane evacuation shelters, and directs the Division to establish a statewide grant application process. The grant application process generated 35 applications that, after determination of eligibility, could create 23,736 spaces at a total cost of \$15.6 million. The projects are expected to be initiated and completed over a 12 to 36 month period. Therefore, the hurricane shelter grants, in combination with other federal, state and local

funds are expected to create about 150,000 spaces over the next two years.

Chapter 2006-71 also appropriates \$52.8 million to the Division to install permanent emergency power capacity at designated Special Needs Shelters (SpNS) to support air-conditioning, lights, life safety systems and medical equipment and directs that the emergency power system for the selected SpNS's be operational by June 1, 2007. This is an exceptionally challenging schedule, but once installed the generators will provide emergency power to support an estimated 28,645 SpNS spaces.

The Division coordinated with the local emergency managers to establish the candidate list of SpNSs, and staff from the Division and the Department of Health (DOH) prioritized the candidate list. The criteria used in determining the priorities included the facility's location in a coastal or interior county, the magnitude of vulnerable general population in the Regional Planning Council (RPC) Region and county, the deficit of SpNS spaces in the county, the deficit of SpNS spaces in the Region, and the facility's status as meeting the Department of Education's "Public Shelter Design Criteria" (i.e., Enhanced Hurricane Protection Areas or EHPAs) or the ARC 4496 hurricane safety criteria. With the prioritization list completed and approved by Division Director Fugate, and Secretary Francois, DOH, with the concurrence of the Executive Office of the Governor, the installation process is moving forward. After completion of the installation, the facility owners must assume responsibility for operation, maintenance, repair and fueling of the emergency power system for a minimum of 15 years.

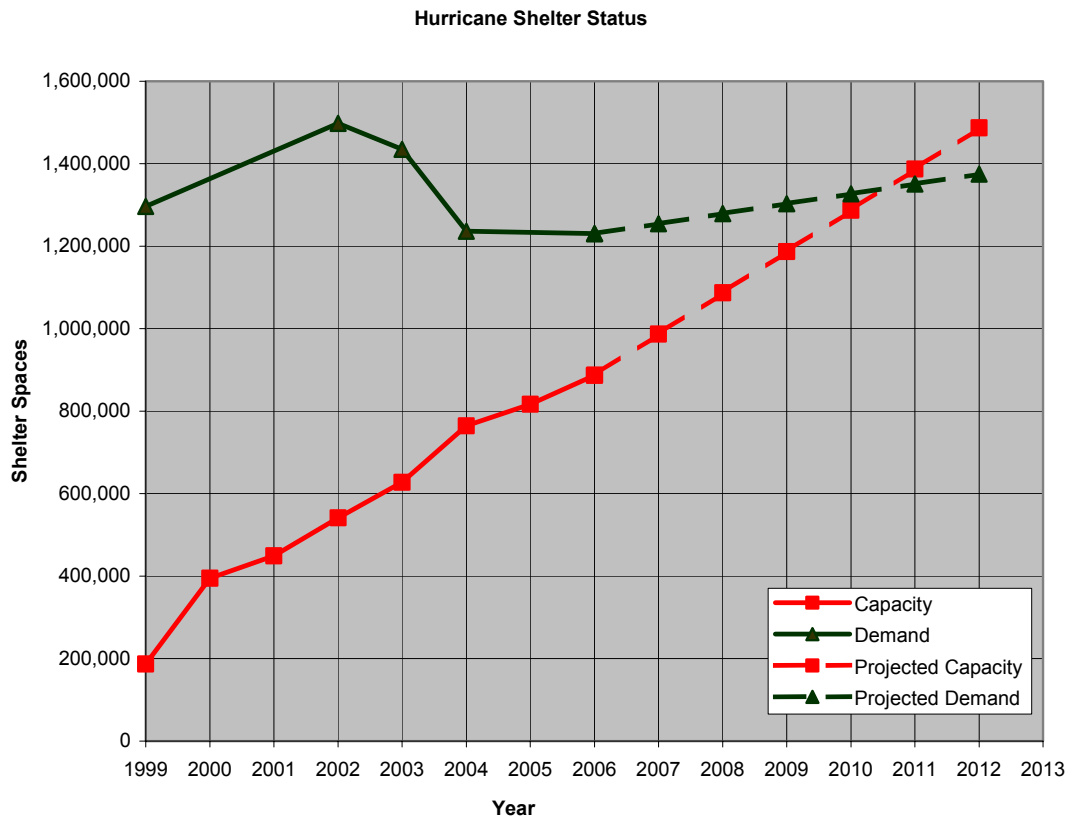
The Division's public hurricane shelter deficit elimination strategy focuses on six major components: 1) survey hurricane shelter facilities in existing local inventories to identify unused space; 2) survey facilities not currently listed in local inventories to identify additional capacity; 3) provide funding for cost-effective retrofit or other mitigation measures on existing buildings that can provide additional shelter capacity; 4) incorporating hurricane shelter design criteria into new public building construction projects; 5) reducing hurricane shelter demand through improved public information, education and behavioral analysis; and 6) shelter demand reduction through decreased evacuation need.

A very critical component of the strategy to increase the availability of "safe" hurricane shelter space is construction of new school facilities to comply with the EHPA requirements. Through construction of EHPA facilities, about 358,980 (see Table 2.2) hurricane shelter spaces have been added to the state's inventory since 1995. Local officials also estimate that another 25,642 spaces will be added to the inventory by August 2007.

Since 1995, Florida has made significant progress toward improving the safety and availability of public hurricane shelter space. The statewide deficit has been reduced by about 75 percent. This has been accomplished through a comprehensive strategy of surveys, retrofitting, new construction and demand-reduction components. Florida now has 23 counties with a demonstrable surplus of public hurricane shelter spaces. Also, for the first time in recent history, Florida has four regions (RPC 2 – Apalachee, RPC 6 – East Central Florida, RPC 10 –

Treasure Coast and RPC 11- South Florida) with a demonstrable surplus of public hurricane shelter space. Based upon current trends, Figure EX-1 indicates that Florida will eliminate its deficit of public hurricane shelter space around 2011.

Figure EX-1. Graph of Florida’s progress in reducing the hurricane shelter space deficit.



The importance of this effort to improve Florida’s hurricane shelter inventory was emphasized over the last two years’ active hurricane seasons. During 2004 and 2005, a total of eight (8) hurricanes impacted Florida. Fortunately, hurricane wind and flood related damage was very light for nearly all of the occupied public hurricane shelters. Only a small number of shelters during the 2004 season received significant structural damage, with none reported during the 2005 season. Given the apparent lack of significant damage during the 2005 season, the Division only performed site assessments for select shelters occupied during the 2004 season.

In 2004, four hurricanes impacted Florida from August through early October. During this time, more than 368,000 persons sought safety in hundreds of public shelters throughout the state. Like other types of critical facilities (e.g., fire-rescue stations, police stations, etc.) many experienced minor cladding, roof cover and rainwater intrusion damage. Based upon data from the most heavily impacted counties, ninety-seven (97) percent had no significant structural damage, with two (2) percent experiencing marginal structural damage and less than one (1)

percent experiencing major structural failure. Though conditions inside the shelters were often very uncomfortable, there were no deaths or life-threatening injuries associated with building damage. The results of the last two seasons' experience confirms that Florida has made significant progress toward improving the safety of the public hurricane shelter inventory, but also demonstrates that continued improvements are necessary.

As Florida's hurricane vulnerable population continues to grow, it is vitally important that construction of hurricane shelters and retrofitting of existing buildings be considered a priority. For this State to meet its goal of eliminating the hurricane shelter space deficit, the incorporation of the EHPA criteria into new construction, retrofitting of suitable existing buildings and continued use of new technologies must be accomplished. The overall result of full implementation of the Division's shelter deficit reduction strategy is a greater level of preparedness, a more efficient capability for responding to incidents and a greater ability to meet the needs of disaster victims.