Evaluating Potential Storm Shelters

Coastal area populations have increased dramatically in recent decades. As a result, it is no longer possible to evacuate everyone within the hurricane warning times provided by the National Hurricane Center (typically 12 hours or less). Evacuation times can reach 20 or more hours, even for the approach of smaller hurricanes (Saffir/Simpson category 3 or lower). Residents must either leave before hurricane warnings are issued or stay behind and risk hurricane forces. Many people will choose to remain rather than evacuate.

The safety of those who stay cannot be guaranteed. Local governments can try to shelter people in buildings believed to be strong enough to withstand the storm, thereby minimizing (but not eliminating) the risk to those people. The best shelters are fully engineered and well-built structures out of the influence of flooding and waves. These may not be available. Then, the only alternative is to shelter people in the upper stories of buildings whose lower floors are subject to flooding. This is vertical evacuation.

Vertical evacuation should be used only as a last resort. This must be stressed to coastal residents. Otherwise, the designation of vertical evacuation shelters may encourage people not to evacuate.

It is important to determine, as accurately as possible, the resistance to storm forces of any building used as a shelter. If the resistance is overestimated, the building may sustain unanticipated damages, and occupants may be injured or killed. It is necessary to collect as much information about the building and site as possible, inspecting them carefully and obtaining the best available predictions of storm forces at the building site. The performance of similar structures during other storms can also provide important information.

General Evaluation Procedure for Shelters

- Identify potential shelters—This should be based on location, elevation, type of construction, etc.

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