

## THE WINDS OF CHANGE

By Suzanne S. Hunnicutt, AIA, LEED-AP



As required by Florida law, the Florida Building Commission updates the Florida Building Code (FBC) every three years. The update cycle is based on the code development cycle of the International Building Code (IBC) which serves as the model for the FBC. The process of incorporating Florida-specific requirements is normally a complicated one, but this time it seems even more so. This explains one of the ironies of the FBC in that the year that is referenced in the name of the code bears no relationship to the time when it will become effective or the model code on which it is based. In this case the 2010 FBC is based on the 2009 IBC and will become effective in either late 2011 or early 2012.

This year brings an additional complication in that the Florida Building Commission chose to incorporate a newer reference document which has not yet been incorporated into the IBC. The ASCE 7-10 is the recently published update to the document “Minimum Design Loads for Buildings and Other Structures” which is the basis for the code requirements for structural design. The 2009 IBC references ASCE 7-05 while the 2010 FBC will reference the new ASCE 7-10. Included in the new document are some fairly significant changes to the wind load design criteria.

ASCE 7-05 and older versions of the standard included a single map showing the design wind speed for any given area. The calculation for velocity pressure then included an “Importance Factor” multiplier to account for the type of occupancy housed by the structure, with more critical functions such as hospitals and fire stations having a higher value. The ASCE 7-10 standard has incorporated the multiplier (which is now referred to as a “Risk Category”) into the wind speed map, resulting in three different maps.

Another major change to the wind design procedure is the change from an Allowable Strength Design method to an Ultimate Strength Design method. This requires a change in the factor that is applied to the wind loads in the load combination equations, but also requires an adjustment to the mapped wind speeds. The result will be that in most areas the basic wind speeds will be much higher than those in the previous editions of the code although the calculated design pressures will be somewhat lower. For instance, in many areas in central Florida the wind speeds indicated on the maps will be 20 to 40 mph higher depending on the Risk Category, but the calculated design pressures will be 10% to 20% less.

The change to the wind speed maps will have one additional result for buildings in the central Florida area. The Wind-Borne Debris Region which was defined by the 120 mph wind speed line on previous maps, will now be tied to the 140 mph line on the new maps. The location of this line will bring Highlands, Hardee, Desoto, Okeechobee, Glades, and portions of Polk County into the Wind-Borne Debris Region which will require protection of openings from impacts. This will mean windows and doors will have to be impact-resistant or shutters will have to be provided.

The 2010 FBC will bring other “changes” related to energy conservation and accessibility requirements, but we will leave those topics for another day and another newsletter.

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