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## MEMORANDUM

**TO:** Jerry Murphy, Fort Myers Beach Community Development Director  
**FROM:** Bill Spikowski  
**DATE:** June 6, 2005  
**SUBJECT:** FEMA's Floodplain Mapping Restudy

In the very near future, FEMA will release revised floodplain maps for Lee County that will have major effects on building practices across the county, including each of the municipalities.<sup>1</sup> FEMA began this floodplain restudy for Lee and Collier Counties in 1998.

FEMA's original flood study for Lee County was completed in 1984. It included precise predictions for the worst coastal floods expected to occur every hundred years. Coastal flooding is caused by a combination of storm surges and wind-driven waves during tropical storms and hurricanes.<sup>2</sup>

For Fort Myers Beach (and the other islands in Lee County), FEMA's restudy apparently will include one major change in the way that the height of coastal flooding is predicted. This study is expected to increase predicted flood levels by about 2 feet because coastal experts believe an important factor had not previously been included, the effect of "wave setup" (which predicts the effects of breaking waves on shallow water).

An estimate of the effects of wave setup will probably be added to the "A zones," which cover most of Fort Myers Beach, as well as to the "V zones" (velocity zones) near the beach. This change will probably also move the A zone/V zone boundary landward, although we don't know by how much. Once approved by FEMA, the revised maps must be used by all local governments in their permitting process to regulate the location and elevation of new buildings.

Assuming that adding wave setup to the flood prediction models is technically sound, there is little chance it will be altered by any political or legal processes, or by concerns about its effects on owners of existing buildings that will no longer conform to floodplain regulations.

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<sup>1</sup> FEMA will act through its engineering contractor Dewberry (a national firm based in Virginia)

<sup>2</sup> FEMA's analysis of "riverine flooding," where heavy rainfall cannot be handled by rivers, creeks, and storm drain systems, was limited in scope in 1984. The restudy is expanding the riverine analysis, which will probably get most of the public attention when the riverine floodplain is expanded on the revised maps.

An existing building is considered nonconforming due to floodplain regulations whether it is 1 inch or 10 feet below FEMA's latest base flood elevations – such buildings cannot be improved by more than 50% of their value. Thus the same rule that sensibly tries to eliminate buildings that are easily flooded will now have to be applied to elevated buildings that recently received permits, unless they had been built at least 2 feet higher than today's base flood elevations. (Fortunately, building higher than required is fairly common at Fort Myers Beach, either because the owner wanted the extra height below an elevated building, or because the state's CCCL rules forced beachfront buildings to be higher than FEMA's base flood elevations at the time of permitting.)

A landward shift in the A zone/V zone boundary could have a dramatic effect on Fort Myers Beach. In V zones, landowners are not permitted to "dry floodproof" commercial space at ground level. Without the use of ground level, most commercial uses are no longer viable. In residential areas this loss of commercial potential is of course irrelevant; but new residences would have to be elevated much higher than they are today.

I do not know at this point whether moving the V zone boundary would affect public improvements within the right-of-way of Estero Boulevard (utilities, for instance). But once the V zone gets within about 30 to 40 feet of Estero Boulevard, it would make it impossible to have commercial space at sidewalk level. Instead of walking past shops or restaurants, pedestrians in our prime commercial areas would be looking at parking lots, perhaps screened by shrubs or expendable walls (unless the town were to develop an entirely new strategy such as limiting parking and/or mandate unobstructed views of the Gulf below elevated buildings).

The Town of Fort Myers Beach faces several decisions as a result of the FEMA restudy. There is some time left to consider whether the town has any options regarding regulatory changes because those changes don't have to be adopted by the town until six months after the revised maps have been finalized.

However, if the town wants to dispute the revised maps in any way, there is only a narrow 90-day period after public notices are issued. These appeals can only be considered on the grounds that the maps are scientifically or technically incorrect. (FEMA's flood program is national and addresses only flood prevention; its rules allow very little latitude for ameliorating social or economic problems that flood prevention may cause in individual communities.)

An appeal must be accompanied by scientific or technical data. A community cannot file an appeal to preserve its rights and then explain the technical basis at a later date.

There is one action the town could take right now to prepare for a possible appeal. The town could contract with a coastal engineering firm that is experienced with the floodplain program to carry out tasks such as these:

- **Verify FEMA's technical work** to ensure that no mistakes have been made and that any judgement calls made in the process don't unfairly penalize property owners or damage the legitimate policy goals of the town.

- **Consider whether there are other equally reasonable ways to redraw the A zone/V zone boundary** as it applies to Fort Myers Beach. A engineering model is used to determine the flood elevations for seven “transects” that cross Estero Island, with those transects then used as the basis for the mapping of floodplain boundaries across the island. It may be worthwhile to use FEMA’s model to establish additional transects, or to consider minor adjustments to the A zone/V zone interface between transects, in ways that would save some of the town’s most important pedestrian commercial areas.
- **Join town officials in approaching FEMA about the town’s concerns** and see if there are other means of adjusting the floodplain boundaries slightly to minimize the damage to the town’s tourist economy.

As to regulatory changes, the town will be required to modify the LDC’s floodplain regulations to use the revised maps. Many buildings constructed since 1984 will suddenly become nonconforming unless the town decides to take significant risks by providing more lenient regulations for expansion of those newer buildings than for pre-1984 buildings.

The official schedule is for preliminary release of these maps later this month (see attached letter), with the 90-day appeal period to begin 30 days later. I have just learned that the maps probably will not be released until September but that further delay is very unlikely because the FEMA contract with Dewberry expires at the end of September. A different contractor, Michael Baker Corporation, may take over in October. This transition may make it difficult for the town to obtain computer models and other work products that are the basis for the revised maps. Delays in contracting with a qualified coastal engineer would further hamper the analysis that is needed.