

ASBPA FALL 2010 TECHNICAL CONFERENCE

Charleston Oceanfront Villas – Case Study of a Retrofitting an Existing Seawall to Reduce Flood Hazard Insurance Premiums at Folly Beach, SC

ABSTRACT

With the costs of insurance on the rise, particularly storm hazard insurance along the US Coastal areas, there has been increased scrutiny by local communities and property owners on revisions to FEMA flood insurance maps. This is especially true in the coastal “VE Zones” where insurance premiums may represent a significant portion of annual expenditures.

The presentation will provide an overview of the project and steps that were required from planning through construction and monitoring for the Charleston Oceanfront Villas (COV) project site, which is an oceanfront condominium development located near the center of Folly Beach. The site is ~700 ft long and fronted by a concrete seawall constructed in 1961. In 2007, the COV were interested in finding a way to reduce flood hazard premiums. Detailed analysis of the site (FEMA 2004 FIRMs, new detailed topography, surge & wave evaluation, seawall condition, setback, etc.) resulted in a determination that the wall would effectively trip the incident waves and reduce wave conditions to allow remapping as an AE Zone (saving significantly on insurance premiums). The Letter of Map Revision (LOMR) required a plan to strengthen certain elements of the seawall to meet FEMA’s criteria to withstand the 100-year return period event. Construction was completed in fall 2007, with annual reports on wall condition which followed per conditions of the FEMA LOMR. The site is easily accessible by conference attendees, should they wish to visit the site while in Charleston.

While the primary impetus for this project was economic, the assessment and rehabilitation of the seawall has increased storm protection to the upland property which is in the interest of the property owner, FEMA, and the community at large.

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AUTHOR BIO

Tim Mason has over 17 years of experience in coastal and marina engineering, and is a senior engineer with Applied Technology & Management in Charleston, SC. His responsibilities have included planning, permitting, engineering and construction phase consulting services for a wide range of coastal (beach nourishment, inlet management), marine (marina renovations and new projects, resorts), and environmental projects along the US East Coast, Caribbean, Central America, and the Middle East. Mr. Mason is a registered civil engineer in the states of SC, NC, DE, and USVI, and has a Master’s Degree in Coastal & Oceanographic Engineering from the University of Florida.