



Florida Department of Environmental Protection (DEP)
Division of Water Resource Management
Bureau of Beaches and Coastal Systems
3900 Commonwealth Boulevard, Mail Station 300
Tallahassee, Florida 32399-3000
(850) 488-7708

BUREAU OF BEACHES AND COASTAL SYSTEMS COASTAL CONSTRUCTION ITEMS OF CONCERN

The following general information is provided to alert the applicant to items of special concern to the Department. The applicant should be aware that the coastal construction control line defines an area of extreme impact during major storm events that do not occur often, but which inevitably impact the coast on a broadly predictable basis. Not only is this area subject to be covered by water to a great depth during a hurricane or other tropical weather event, but extremely destructive waves can be anticipated to rise above the “still water” elevation and smash into the shore and against structures built along it, removing vast amounts of sand. Typically, minor structures, paved areas, and on-grade walls cannot be expected to survive such an onslaught, and it is best if they are designed and built so as to not help accelerate incoming waves or become missiles or objects likely to batter major habitable structures that are designed to survive such events. Lesser storm events will not be as destructive as a hurricane, but they occur more often and are likely to cause at least some of the damage associated with more powerful phenomena. All specific design requirements are contained in Section 161.052, F.S., and Chapter 62B-33, F.A.C.

SITING AND FOOT PRINT

The impact of the siting (i.e., location) of all planned structures in a project on the beach/dune system is a primary concern. The structures should be designed to minimize impacts to the dune system by being placed landward of the landward toe of the frontal or primary dune. Sufficient room should be allowed so that the dune system can flex in a natural way to the maximum extent possible. Where siting constraints result in locating a proposed structure on the frontal or primary dune, the structure’s shore parallel coverage should be minimized. In making its recommendations, the staff assesses both the direct and cumulative impacts of the project on the beach/dune system. Direct impacts are generally determined in terms of changes in the system that alter the natural processes and ability of the system to evolve and function and that result in a potential or actual loss of sand material from the system. Cumulative impacts are those impacts on the total system caused by this project or by other proposed project of a similar nature constructed on other sites. Cumulative impact assessment involves an evaluation of the current condition and functioning of the local beach/dune system as well as all long-range trends.

FOUNDATION AND SLAB STRUCTURES

The least damaging impact to the natural functioning of the beach/dune system from a major structure (such as a single or multi-family residence, parking garage, or commercial facility) is achieved by placing the structure on piles. This elevates the structure so that the bottom of the lowest horizontal structure supporting member of the lowest floor is at or above the design breaking wave crest and minimizes the resistance to flow of all structural components below that level to allow the free flow of coastal floodwaters during a design storm event. Understructure building components, including vertical walls, should be frangible in design, failing under the hydrostatic and hydrodynamic forces of the design storm event.

Excavation of material from the beach/dune system should be minimized, and any beach-compatible materials that are excavated should be placed on-site in a suitable location seaward of the control line.

Material containing significant amounts of construction debris, organic matter, clay, or other material foreign to the natural beach area should be removed from the site and should be replaced with a like amount of beach-compatible material.

Slab on-grade and extensive use of other impervious surfaces should be avoided as they inhibit growth of vegetation and natural dune dynamics, may accelerate the loss of sand from the system by wind and water movement and may induce increased levels of overwash, flooding, and structural damage landward of or adjacent to the structure. All such structures should be of a pervious or semi-pervious design and should fail under minimal storm stress. Any runoff from impervious surfaces should be contained or disposed of landward of the frontal line.

COASTAL ARMORING

Coastal and shore-protection structures (such as seawalls, revetments, and bulkheads) inhibit the natural functioning of the beach/dune system. In doing so, they can interfere with the onshore-offshore movement of sand and cause increased erosion on adjacent properties. In areas where the longshore sand supply is limited, they may result in a loss of beach seaward of and adjacent to the structure. The state's policy on the use of rigid coastal armoring structures is restrictive and is primarily limited to protecting existing non-conforming major structures vulnerable to damage from frequent coastal storms. Further state policy allows for closing a gap up to 250 feet long in a line of existing coastal armoring. Structures that are properly designed and sited seldom require further protection. All requests for coastal armoring require an in-depth site specific impact assessment. To minimize impacts to nesting marine turtles, coastal armoring must be located as far landward as practicable.

TURTLE NESTING

Florida's sandy beaches are nesting sites for several species of threatened or endangered marine turtles. Activities that interfere with the movement of turtles up or along the beach, result in a change in the basic character of the beach itself, or result in improper lighting, can inhibit the successful nesting of turtles. Pursuant to Section 161.053(5)(c), F.S., the Department may condition the nature, timing, and sequence of construction of permitted activities to provide protection to nesting marine turtles and hatchlings and their habitat, pursuant to Section 370.12, F.S.

VEGETATION AND LANDSCAPING

Natural beach/dune vegetation provides a good protection for the dune system, helps to trap and hold sand, inhibits both wind and sand erosion, and allows the system to adjust to natural stresses. Department policy discourages unnecessary removal of existing established native salt-tolerant vegetation. The surface contours of the natural beach/dune system are the most stable and should not be altered needlessly even landward of the frontal dune. Clearing and leveling of beach/dune areas other than the minimal amounts needed for major structures are not recommended. Restoration of damages incidental to necessary construction activity is required. Dune walkovers should be constructed and used for beach access where heavy foot traffic is anticipated to prevent the creation of areas barren of vegetation.

MITIGATION/ENHANCEMENT

Mitigation is action taken to reduce or offset potential impacts from proposed activities and may take the form of dune restoration/enhancement activities, and/or special control measures during or after construction.