



Beach and Dune Walkover Guidelines

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Division of Water Resource Management
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On many of Florida's beaches, sand dunes and coastal vegetation provide significant protection to upland property, upland development, and the beach dune system. The Florida Department of Environmental Protection (DEP) encourages the design of beach access, including beach and dune walkovers, to protect the dune topography and dune vegetation from pedestrian traffic and allow for the natural recovery of damaged or eroded dunes.

PERMIT REQUIREMENTS

A permit from DEP is required for construction of walkovers on most sandy beaches fronting on the open waters of the Atlantic Ocean or Gulf of Mexico. In areas where a Coastal Construction Control Line (CCCL) has been established pursuant to provisions of Section 161.053, Florida Statutes (F.S.), a permit is required for all excavation, construction, or other activities with the potential to cause beach erosion or damage coastal vegetation. On sandy shorelines where a CCCL line has not been established, a permit is required for construction activities within 50 feet of the mean high water line (see Section 161.052, F.S.).

Permits for walkovers contain standard conditions that require construction to be conducted in a manner that minimizes short-term disturbance to the dune system and existing vegetation. Replacing vegetation destroyed during construction with similar plants suitable for beach and dune stabilization is required. Only limited excavation for the placement of support posts is authorized, and construction of walkovers may not occur during the marine turtle-nesting season, which extends May 1 through October 31 (except for Brevard through Dade counties, which extends March 1 through October 31).

GENERAL SITING GUIDELINES

The walkover shall be designed and sited to protect dune features, to minimize disturbance of native vegetation, to not restrict lateral beach access and to minimize the amount of construction material that may become debris during a storm. Elevated walkovers are not required for all beach accesses, such as in sparsely vegetated, low profile dune areas where on-grade sand or shell paths are suitable for controlling foot traffic. Walkovers should generally be constructed perpendicular to the shoreline and extend at least to the seaward toe of the frontal dune or the existing line of vegetation but not farther than 10 feet seaward of the vegetation. The optimum siting of the walkover structure can be determined by contacting a CCCL field inspector.

GENERAL DESIGN GUIDELINES

Walkovers are designed to be minor, expendable structures that pose a minimal interference with coastal processes and generate minimal amounts of debris. Walkovers constructed across native beach and dune vegetation should be post-supported and elevated a sufficient distance above the existing or proposed vegetation to allow for sand build-up and clearance above the vegetation. Whenever possible, stairways and ramps leading from the dune bluff or crest down to the beach should be designed with posts that completely span the seaward slope of the dune. The structure should be designed to minimize the quantity of material used in construction, such as avoiding the use of vertical wood pickets, and reducing the length and width of construction on the beach.

Single family walkovers should not exceed 4 feet in overall width and the support posts shall not be greater than 4-inch wide posts. Multi-family walkovers shall not exceed 6 feet in overall width and the support posts shall not be greater than 6-inch wide posts. Round posts are preferred to square posts. Support posts shall not be

encased in concrete nor installed into dune slopes that are steeper than approximately 30 degrees. Support posts should have a minimum 5 feet of soil penetration. Applicants should consult with the Bureau prior to requesting a permit for a walkover that contains switchbacks, long ramps or other features required to comply with the Americans with Disabilities Act Accessibility Guidelines.

WALKOVER ELEVATION GUIDELINES

Site conditions affecting walkover heights vary as the structure traverses the beach/dune system. The ground cover changes from the uplands, commonly covered with woody scrub or coastal strand vegetation (saw palmetto/sea grape/scrub oaks), over a dune bluff or one or several dune crest(s), covered with either coastal strand or coastal grassland (sea oats/bitter panicum/marsh hay), down the slope to the dry sand beach, either uncovered bare escarpment or partially covered with beach/dune vegetation (railroad vine/sea rocket/sea oats). The type of structure and height from the dune bluff or crest down to the beach also must be considered in setting the walkover elevation. Increased elevation of the structure requires a longer run to the beach and additional construction material within this high energy area. This creates additional storm generated debris, sea turtle nesting habitat impacts, sand losses due to storm wave scour, and interferes with people's ability to walk along the beach.

Walkover Elevations in Uplands. The upland environment of coastal scrub/coastal strand habitat is characterized by more stable soil conditions with less blowing sands and infrequent storm overwash events. The stable conditions allow for the development of a mature woody vegetation and saw palmetto dominated plant community. In addition to thick above ground stem and leaf vegetation between 5 and 15 feet in height, this plant community has an extensive below ground woody root mat. Walkovers in these upland habitats need be elevated only a sufficient distance above the ground to avoid disturbance of the soil and root systems or cutting of low tree and palmetto trunks. An elevation of the stringers from 6" to 2'-0" above existing grade should be sufficient. Walkover elevations crossing coastal wetlands within upland areas may require increased elevations. Elevation of the walkover above the leaf canopy is in most cases impractical in coastal scrub or coastal strand habitats.

Walkover Elevations over Bluffs. The low stringer elevation recommended for uplands can be carried to an eroded bluff line. This will reduce the length of a ramp or walkover down to the beach. Again the objective the walkover elevation is to reduce damage to coastal scrub soils and root systems.

Walkover Elevations over Dune Crests. Dune environments are characterized by mobile sands subject to storm effects (which lower grade elevations) and wind effects (which can raise elevation as sand is trapped). Dunes are dominated by coastal grassland plants adapted to the dynamic environment. These include sea oats, bitter panicum, and little bluestem. Walkovers sited within active dune systems are required to be elevated sufficiently to allow for sand movement and growth of vegetation. Walkover designs published in "Beach/Dune Walkover Structures" referenced below specify a 3'-10" minimum clearance from existing grade to the bottom of the stringers of an up to 6-foot wide (overall dimension) multi-family or public beach access structures, and a 3'-0" minimum clearance to the top of the deck for an up to 4-foot wide single family structures.

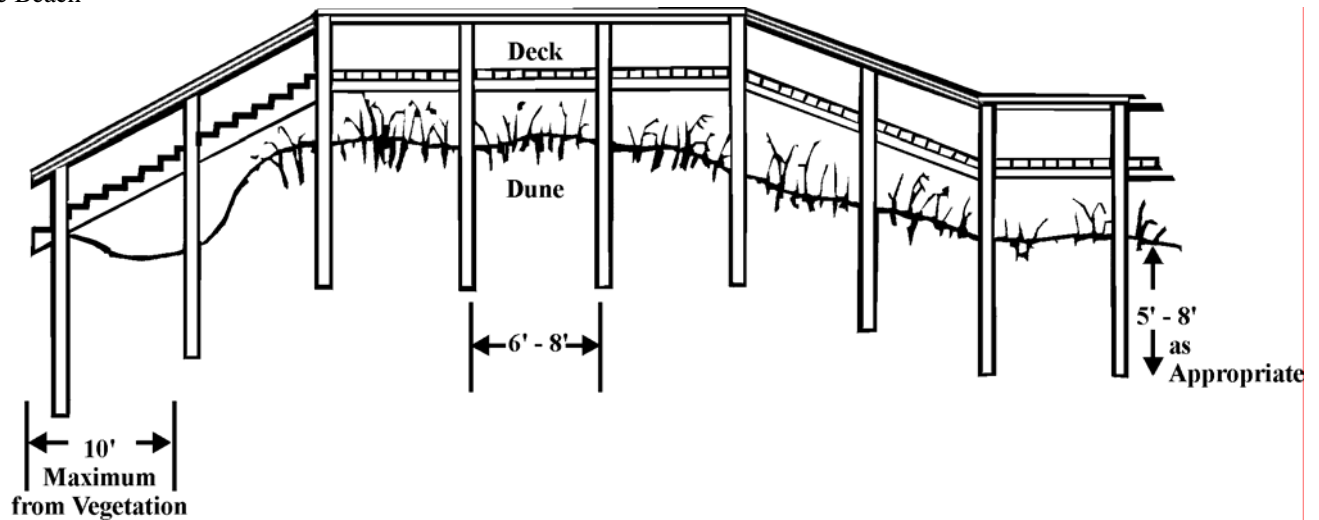
Walkover Elevations on Seaward Dune or Bluff Slopes. The elevation of the walkover at the dune crest and the distance of the seaward terminus from the water's edge determine the height of the steps or ramps crossing the seaward slope. The design objective is to get the structure down to the beach in as short a shore-normal (perpendicular to the shoreline) distance as possible while reducing the shore-parallel coverage of the slope. Department guidelines require that the seaward terminus of the structure be no farther seaward than 10 feet from the line of permanent beach dune vegetation or the toe of the frontal dune. Reducing the seaward encroachment and shore-parallel width decreases the potential for storms interacting with the structure, occupation of sea turtle nesting habitat by the structure, and interference with lateral public beach access. Walkovers designed for the Americans with Disabilities Act often increase the length of walkover ramps on the beach. This requires the need for a site specific review for environmental impacts. The burial of the ramp or

step terminus a minimum amount (0.5 to 1.0 feet)-foot below grade may allow for use of the walkover after some lowering of the beach elevation from minor storms. However, placement of this terminus below the depth of a post storm beach profile is discouraged as this portion of the walkover will most likely have been damaged by larger storms and to have interfered with coastal processes.

On Grade Walkovers. Elevated walkovers are not necessary in all site conditions and use situations. Where dune development is minimal, beach dune vegetation sparse or use infrequent, on-grade footpaths may be preferred. The Department discourages solid concrete walks and footpath surfaces such as stepping stones that create debris or missiles. Other surfaces such as geotextile fabrics, cabled wood planks, or shell require a case by case review. No permanent path surfaces are allowed seaward of the dune or within sea turtle nesting habitat.

TYPICAL WALKOVER PROFILE

⇐ To the Beach



References

Beach/Dune Walkover Guidelines, the Florida Bureau of Beaches and Coastal Systems, Florida Department of Environmental Protection, Revised January 1998.

Beach/Dune Walkover Structures, SUSF-SG-76 by Todd L. Walton, Jr., and Thomas C. Skinner. Published by the Marine Advisory Program of the Florida Cooperative Extension Service and the Florida Sea Grant, March, 1983.