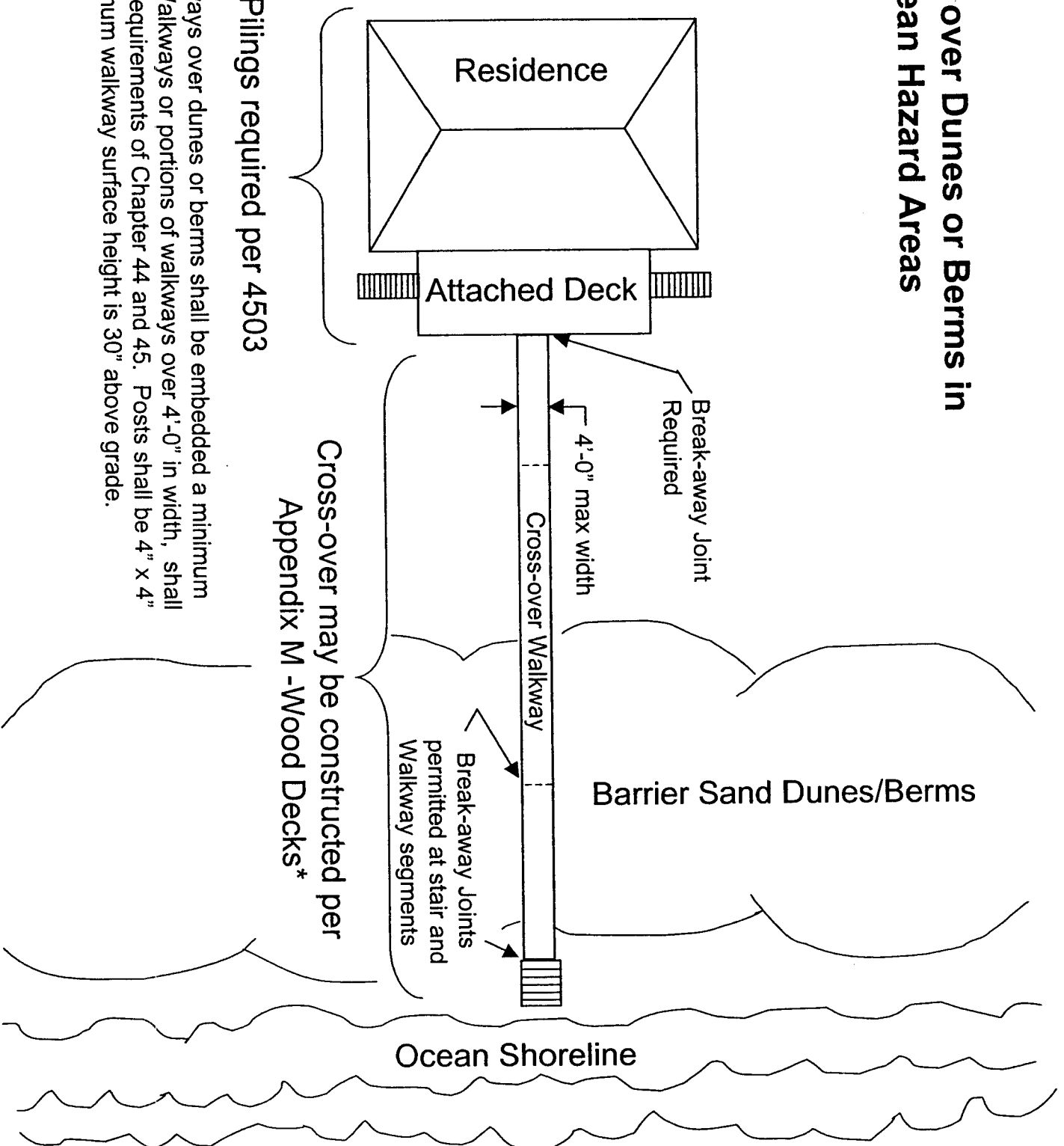


## Walkways over Dunes or Berms in Ocean Hazard Areas



\* Posts for walkways over dunes or berms shall be embedded a minimum depth of 4'-0". Walkways or portions of walkways over 4'-0" in width, shall comply with the requirements of Chapter 44 and 45. Posts shall be 4" x 4" minimum. Maximum walkway surface height is 30" above grade.

## CHAPTER 45

# COASTAL AND FLOOD PLAIN CONSTRUCTION STANDARDS

### SECTION 4501 PURPOSE, APPLICATION, AND SCOPE

The requirements set forth in this section shall apply to all construction located within areas identified by governmental agency (state and federal) as coastal high hazard areas, ocean hazard areas, the regulatory flood plain areas, and all areas designated as 130 MPH wind zone. See Table No. 301.2a.

### SECTION 4502 DEFINITIONS

**MSL.** Mean sea level as defined by National Geodetic Vertical Datum.

**Base Flood Elevation:** The peak water elevation in relation to MSL expected to be reached during a design flood which is established by the Building Code Council as a flood having a one percent chance of being equalled or exceeded in any given year.

**Coastal High Hazard Area.** An area subject to coastal flooding and high velocity waters including storm wave wash, as shown by Federal Emergency Management Agency Maps and subject to the approval of the Building Code Council. "✓"

**Ocean Hazard Area.** An area, as identified by the North Carolina Coastal Resources Commission, and subject to approval by the Building Code Council, near the shoreline of the Atlantic Ocean which has been identified as subject to at least one of the following hazards: (A) Historical or predicted future trends of long term erosion, (B) erosion expected to occur during a coastal storm reaching the base flood elevation, or (C) shoreline fluctuations due to tidal inlets. AEC

**Flood Plain.** Land below base flood elevation, which of record has in the past been flooded by storm water-surface runoffs, or tidal influx: and as defined by the Corps of Engineers' maps, the Federal Emergency Management Agency maps or as approved by Building Code Council.

**Lowest Floor.** The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided

1. That the walls are substantially impermeable to the passage of water and the structural components have the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy or,
2. Construction shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allow-

ing the entry and exit of flood waters.

**Regulatory Flood Plain.** (Same as flood plain defined above.)

### SECTION 4503 PILING STANDARDS

**4503.1** All one and two family dwellings in areas identified as coastal high hazard areas or ocean hazard areas shall be constructed on a pile foundation of wood or concrete.

**4503.2 Concrete Piles.** Concrete piles may be used if made and installed in accordance with North Carolina State Building Code, General Construction, Chapter 18.

**4503.3 Size of wood piles.** Round timber piles shall not be less than 8 inches in diameter at building level and have a minimum tip diameter of 6 inches. Square timber piles shall not be less than 8 inches square, nominal. Piles supporting uncovered stairs, uncovered walkways and uncovered decks shall be 6 inches x 6 inches minimum, or if round, have a minimum tip diameter of 6 inches x 6 inches minimum, or if round, have a minimum tip diameter of 6 inches. Piles supporting uncovered stairs, uncovered walkways and uncovered decks less than five (5) feet above grade may be 4 inches x 4 inches minimum.

**4503.4 Required depth of piles.** Pile tip shall extend to a depth of not less than 8 feet below the natural grade or finished grade of the lot whichever is lower. All pilings within the Ocean Hazard Area shall have a tip penetration of at least 5.0 feet below mean sea level or 16 feet below average original grade whichever is least. Structures within Ocean Hazard Areas which are placed upon the site behind a line 60 times the annual erosion rate away from the most seaward line of stable natural vegetation area exempt from this additional tip penetration requirement.

**4503.5 Spacing of wood piles.** The maximum center-to-center spacing of wood piles shall not be more than 8 feet on center under load bearing sills, beams, or girders. However, for dwellings having more than two stories above piles or where the piling spacing exceeds 8 feet on center, the pile foundation shall be designed by a Professional Engineer or Architect. Pile spacing in the non-load bearing direction may be 12 feet. → 2 stories

**4503.6 Tying and bracing of wood piles.** If sills, beams, or girders are attached to the piling, a minimum of two-5/8 inch galvanized steel bolts per beam member shall be through bolted at each piling connection. Piling shall not be notched so that the cross-section is reduced below 50%. Sills, beams,