



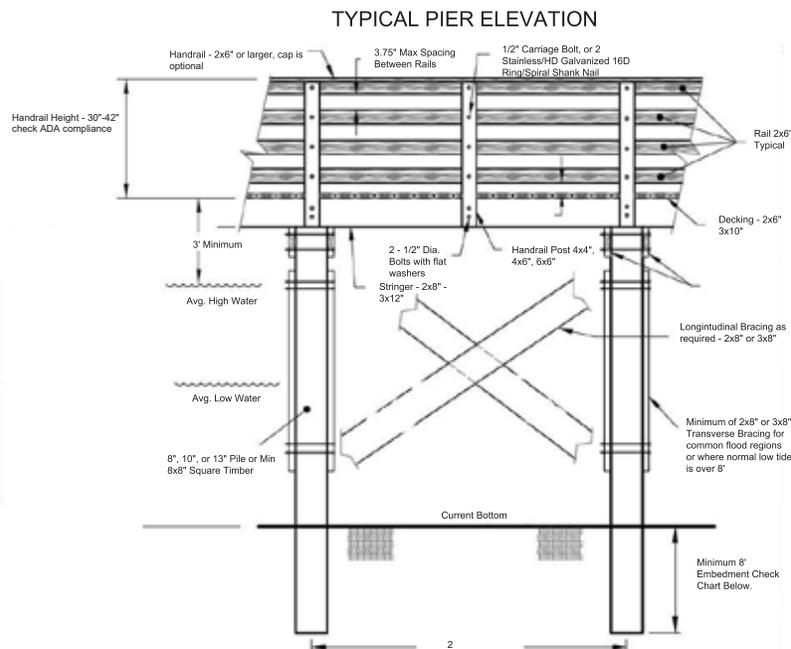
PIERS & BOARDWALKS CONSTRUCTION DETAILS

Basic Design Guidelines

- » Fresh water & salt water piers and boardwalks have long been used to provide access to the water for coastal and waterfront property owners. Fixed piers are used for boating access where the active boating period (usually summer) water level fluctuations are minimal (0 to 3 feet). Where the active boating periods exceed three feet in water level change, the choice of boating access structures usually goes to floating dock systems. However, even in floating dock systems, fixed piers are often used to traverse shallow or marsh areas to reach the floating dock system located in deeper waters.
- » For residential fixed pier systems, a pile span of 6 to 12 feet is common. The normal width of residential piers is four to six feet. Therefore, typical bay (the area between piles and adjacent bays) sizes are 4'x8', 4'x10', 6'x8', and 6'x10'. A suggested minimum vertical live load capacity for residential fixed piers is 50 pounds per square foot (psf) of deck area. Based on this assumption, the chart below will usually give conservative pile embedment values for the common soil types shown.



NOTE: Spacing between intermediate rails/pickets is set at 3-3/4" (max). In order to comply with International Building Code (IBC) requirement that a 4" sphere shall not be allowed to pass through openings.



PILE NOTES

- » Specify, order, and install piles for true length. Do not cut long piles or use pile cut-offs for shorter piles.
- » Piles should be driven to grade, jetting of first two feet of embedment may be allowed to obtain proper alignment.
- » Piles should be driven vertical (plumb).

PILE EMBEDMENT CHART			
PILE SIZE DIAMETER	8"	10"	13"
Soil Type	Embedment Depth (Feet)		
Medium Dense Sand	8	8	8
Loose Sand	12	9	10
Medium Stiff Clay	8	8	8
Soft Clay	8	8	8

