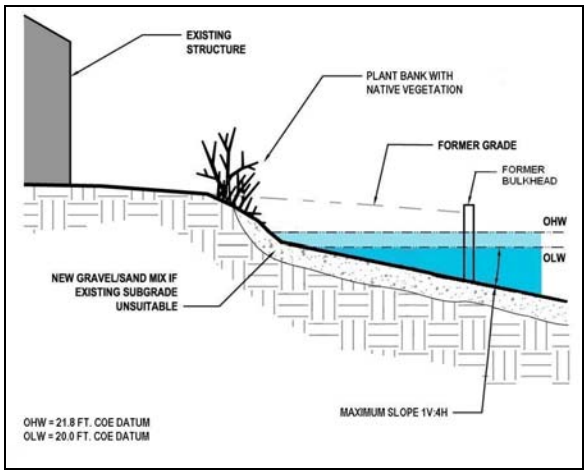
Cut Beach, Place Gravel Fill and Re-vegetate



Remove existing rip rap or concrete bulkhead and cut into the existing bank across the maximum width of the property to attain a shallow shoreline grade and further reduce the effects of scouring wave action. Plant native riparian vegetation ten feet deep across at least 50% of the width of the shoreline. Plant emergents in areas where wave action is suitable for growth. Place gravel beach fill grading slope to range of 1Vertical (V):4 Horizontal (H) or less steep. The design target for the slope is 1V:7H. More than 2 cubic yards of gravel fill per lineal foot at or below the 21.85 foot elevation will need additional review and consent by COE. Typically, gravel size should range from 1/8 inch to 2 inches. Add emergent plants in areas where wave action is suitable for growth. For higher energy areas shoreline logs may be partially buried within the new substrate at the water's edge. The area behind the logs will be planted with willows and/or emergent vegetation. Section F gives the COE web site for work windows at various locations around the lake. Best management practices including installation of silt fences for water quality control must be used. This method may be most appropriate for shallow-sloped shorelines with lawns. Site specific engineering may be needed depending on location and scale of project.

Below is an example of a residential shoreline on Lake Washington that formerly had a bulkhead at the water line across the front of the property. The owners removed the bulkhead, cut back the grass and built a gradual-sloped beach with small sized substrate placed several feet above the 21.85 foot elevation (ordinary high water (OHW)) to absorb wave action. The beach extends across the width of the property and includes emergent and riparian shoreline vegetation.

Shallow-sloped upland site on Lake Washington

Below is an example of a residential shoreline on Lake Washington that formerly had a bulkhead lower than 21.85 feet elevation (OHW) across the front of the property. The owners removed the bulkhead, cut back the grass and built a gradual-sloped beach with small sized substrate that extends above the 21.85 foot elevation (OHW) several feet to absorb wave action. The beach extends across the width of the property. The rockery functions as a retaining wall to allow a shallow- sloped beach at a steep-sloped site.

Steeper-sloped upland site on Lake Washington