

53:171 Water Resources Engineering
Lesson 30: Erosion and Sediment Control Practices

Sediment Basin Design

A sediment basin is to be designed for a construction site with a 5 acre drainage area. The basin outlet is designed for the 2-year floods using the Rational Method, where the runoff coefficient is 0.75 and the 2-yr rainfall intensity is 2.26 in/hr.

Determine the surface area (in ft² and acre-feet) and minimum storage (in ft³) for a design particle size of (a) fine silt and (b) very fine sand.