

OPTIMIZATION OF GRAVITY RETAINING WALL PROFILE BY INTRODUCING CAVITY

BHARAT SHAH¹ & P.P.TAPKIRE²

¹Research Scholar, Department of Civil Engineering. B. Navale Sinhgad
College of Engineering, Solapur, Maharashtra, India

²H.O.D, Department of Civil Engineering, N. B. Navale Sinhgad
College of Engineering, Solapur, Maharashtra, India

ABSTRACT

The aim of this paper is to develop a cost effective and structurally efficient profile of gravity retaining wall by introducing cavity in the section. For this, various section sizes of gravity retaining wall are analyzed and accordingly profile is selected. After selection of an appropriate profile of gravity retaining wall stability calculations are carried out for various heights using 'C' programming by strength of material approach. Section is further analyzed by finite element method by using software ANSYS.

Rectangular and circular cavities are introduced in the section for various heights and is analyzed by strength of material approach (C program) as well as by finite element approach (ANSYS).

KEYWORDS: Principles of Design, Finite Element Analysis, Plane Stress Problem, Plane Strain Problem, Rectangular Cavity, Circular Cavity, ANSYS