

Integral Abutment Bridge: A Study on Types, Importance, Limitations and Design Guidelines

Authors : Babitha Elizabeth Philip

Abstract : This paper aims to study in general about bridges without expansion joints. Integral Abutment Bridges (IAB) fall into this category of bridges. They are having a continuous deck and also the girders are integrated into the abutments. They are most cost effective system in terms of construction, maintenance, and longevity. The main advantage of IAB is that it is corrosion resistant since water is not allowed to pass through the structure. The other attractions of integral bridges are its simple and rapid construction, smooth and uninterrupted deck which provides a safe ride. Also damages to the abutments can be avoided to a great extent due to better load distribution at the bridge ends. Damages due to improper drainage are not seen in IAB because of its properly drained approach slabs thus eliminating the possibility of erosion of the abutment backfill and freeze and thaw damage resulting from saturated backfill.

Keywords : continuous bridge, integral abutment bridge, joint bridge, life cycle cost, soil interaction

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