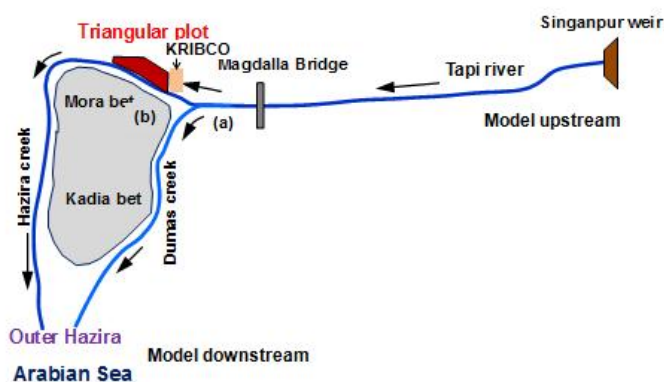


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Research Paper

A Critical Analysis of Steady and Unsteady State Flood Routing in Flood Inundation Assessment for Estuarine Region.

Ramesh C, Srishailam C, Archana Shinde and Vivekanandan N.

J. Civil Eng. Urban., 7(4): 48-53, 2017; pii:S225204301700008-7

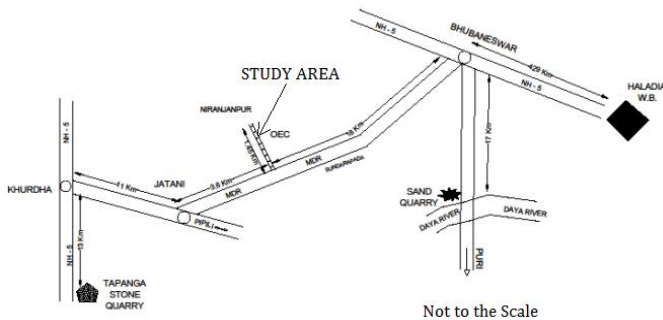
Abstract

Estimation of flood inundation is essential for varied purposes. Mostly, hydraulic routing

procedures are adopted for such investigations. The backwater effect due to the afflux could be estimated by considering flows as steady state or unsteady state in the study reach. In real world situation, based on the typical project conditions, data availability and also project requirements the flood levels are estimated adopting either of these methods. The paper explores these two approaches in flood inundation assessments and throws light on their merit and drawbacks for a complex boundary condition of riverine flood interacting with sea tides compounded with storm surge in an estuarine region. The results of the study indicated that for upper reaches, the steady state model offers flood levels lower than the unsteady state. On the other hand, for the estuarine regions with tide and storm surge, the study identified that the steady state model could be a better option. The results of the study also indicated that the accuracy of flood levels from unsteady models call for extensive data and modelling efforts. The study suggested the unsteady model which explicitly accounts the storage effects could be useful in studying the complex hydrodynamic process.

Keywords: Flood Routing, Flood Inundation, Steady State, Unsteady State, Manning's coefficient, Peak Flood, Storm Surge, Estuarine Region

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Research Paper

Detailed Project Report of Designing a Flexible Pavement Including Cross Drainage Work of a Village Road near Suburb of Bhubaneswar.

Lohani TK, Pati S and Parida PK.

J. Civil Eng. Urban., 7(4): 54-64, 2017; pii:S225204301700009-7

Abstract

A detailed project report (DPR) of 1.45Km is prepared for a proposed village road to be constructed on an earthen road connecting Niranjanpur village to Sundarpada-Jatni Main Road. This will help in providing all-weather connectivity to the people residing in the nearby villages. The existing earthen road is of very low quality with undulations and depression all along. The road passes through laterite quarries and rain fed forest. During rainy season, most part of the road remains muddy and some parts are submerged in rain water due to poor drainage system. This proposal is to provide a flexible pavement for the entire length of this earthen road connected with a drainage system for a stretch of 400m. A slab culvert is also designed for the project road having a span of 3m as per the requirements. This paper includes all the parts regarding soil and material testing, pavement designs, drainage and culvert designs including drawings and estimations.

Keywords: Detailed project report (DPR), Major district road (MDR), Culvert, Cross Drainage, Embankment

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