

عنوان مقاله:

Experiments on Scour around Inclined Circular and Rectangular With Semi Circular Nose Piers

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خلاصه مقاله:

Experimental study of local scour geometry around inclined circular and rectangular with semi circular nose (semi rectangular) piers, under clear water condition is investigated. The measurements are carried out for three different inclination angles of piers with respect to vertical direction, namely; 10,20 and 30 degrees, both towards upstream and downstream directions. In order to study the effects of sediment gradation on scour geometry, two different uniform and non-uniform bed materials are used. The results indicate that increasing of the inclination angle towards downstream reduces both the depth and length of scour hole, while for the pier inclined towards upstream direction, the curves of normalized scour depth versus inclination angle do not follow a definite trend. By comparison of scour hole in uniform sediments with non uniform ones, it is found that the formation of armor layer acts as a countermeasure to prevent the pier and significantly eliminates the scour dimensions. Finally, some conclusions on the effect of pier shape on scour geometry are proposed.

کلمات کلیدی:

Scour, Bridge Piers, Sediment

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