

EROZIJAS PROCESU IZPĒTE UPĒS PIE INŽENIERU BŪVĒM
INVESTIGATION OF EROSIONN PROCESS IN RIVERS NEAR ENGINEERING
CONSTRUCTIONS

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Contraction of the river flow by bridge crossing course local erosion near abutments, piers and can change current situation of environment. Destruction of the bridge because of the scour can be reason for considerable environmental damages and losses.

Laboratory investigations were done in flume 3,5 m width and 21 m long, with slope – 0,0012, Froude numbers from 0,078 to 0,1335, Reynolds numbers from 7500 to 19900. Duration of the tests was 7 hours, diameter of the bed materials 0,24 mm and 0,67 mm, of the bed materials 0,24 mm and 0,67 mm, depth flow 0,07 m and 0,13 and contraction of the flow from 1,60 to 5,60.

In tests with fixed bed were measured water levels and velocities of the flow. In tests with flexible bed – development of erosion process in time, local velocities and shape of scour hole.

On the basis of laboratory tests and differential equation of equilibrium of bed sediment movement the method was worked out for determination of depth of erosion at the abutments. Analysis of received formulas allows us to take into account contraction of the flow, Froude number, size of the bed material, hidrograph of the flow, time of scour development.

Comparisons of theoretical results of investigation with laboratory tests gave good results.

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Dalībnieks Ziņojums Referāts Stenda ziņojums
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TĒMA Vides problēmas un to izvērtējums.

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