STUDI PENGARUH TUNNEL CURUG JOMPONG TERHADAP ALIRAN SUNGAI CITARUM

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ABSTRAK

Banjiradalahsuatukeadaandimanaterdapataliran air dengan volume besar yang merendamdaratan. Meluapnyaaliran air Sungai Citarum di Dayeuhkolot yang seringterjadididugadisebabkankarenaadanyapenyempitansalurandan*backwater* di Situs CurugJompong, Pemerintahmerencanakansolusiuntukpermasalahantersebutdenganmembangunterowongan air di Situs CurugJompong. NamunmasyarakatbelummengetahuiseberapabesarpengaruhpembuatanterowonganCurugJompong, makadariitudiperlukanstudimengenaipengaruhpembuatanterowonganCurugJompong. Padapenelitianinidigunakananalisis debit banjirmenggunakan HSS Snyder danmenggunakan*software* HEC-HMS v4.2.1, sedangkanpemodelanaliran Sungai Citarummenggunakan*software* HEC-RAS v5.0.6 denganmetode 2D. Dari hasilpemodelandidapatbahwasetelahpemasanganterowonganCurugJompongterjadipenurunanelevasimuka air padadaerahNanjunghinggaMargahayusepanjang 11,471 km, terjadi pula penambahankecepatanaliransebesar 4,34% yang terjadi di daerahNanjung,danterjadipenurunanwaktukejadianbanjirsebesar 3,5 jam. SedangkanluapanpadadaerahDayeuhkolottidakmengalamiperubahan. Dari hasilpemodelaninidapatditarikkesimpulanbahwaluapan yang terjadi di Dayeuhkolotbukandisebabkanolehpenyempitansalurandan*backwater* yang terjadi di situs CurugJompong, melainkankarenapenampangsungai yang tidakmemadaidalammenampung debit banjir yang terjadi.

Kata kunci :Sungai, Terowongan, CurugJompong

[1]Dosen PenanggungJawabKesatu

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STUDY OF CURUG JOMPONG TUNNEL EFFECTTOWARDS CITARUM RIVER FLOW

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ABSTRACT

Flood is a situation is which a water flow with massive volume soaks the lands, overflows of Citarum River at the Dayeuhkolot section that frequently happens often expected to be caused by the constriction of Citarum River channel and backwater that occurred at CurugJompong site. The Government planning to build a water tunnel that goes through underground at CurugJompong. However, people does not yet know how much the construction of this water tunnel affects the flood and overflows at Dayeuhkolot. Therefore, a study about the construction of water tunnel is needed toaddress the effects of this construction. In this study, flood discharge analysis was done by Snyder's synthetic unit hydrograph and HEC-HMS v4.2.1 software, whereas Citarum River flood modeling was done by HEC-RAS v5.0.6 with 2D method. Results from modeling simulation shows that after the construction of CurugJompong water tunnel, reduction of water surface elevation occurs at Nanjung up to Margahayu with a distance of 11,471 km from lower CurugJompong, with a reduction of flows velocity by 4,34 % at Nanjung, time of flood also reduced by 3,5 hours. Meanwhile the overflows and puddle at Dayeuhkolot seems to be the same. From this analysis, it can be concluded that overflows and puddle at Dayeuhkolot is not caused by constriction and backwater at CurugJompong, but it was caused because of the river cross sectional capacity that cannot holds the flood discharge.

Keywords : River, Tunnel, CurugJompong

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