

ABSTRAK

PERENCANAAN SUMUR RESAPAN DAN PINTU AIR SEBAGAI PENGENDALI BANJIR DI DESA PULO KECAMATAN JOMBANG KABUPATEN JOMBANG

Meningkatnya permukiman yang pesat mengakibatkan makin berkurangnya daerah resapan air hujan, karena meningkatnya luas daerah yang ditutupi oleh perkerasan dan mengakibatkan waktu berkumpulnya air jauh lebih pendek, sehingga air hujan yang terkumpul melampaui kapasitas drainase yang ada. Desa Pulo Kabupaten Jombang jika musim penghujan tiba dan curah hujan tinggi sering kali terjadi banjir. Maka dari itu perlu direncanakan sumur resapan tanpa mengganggu lahan warga. Data curah hujan yang digunakan selama 10 tahun (2014-2023 dari 3 stasiun hujan terdekat dari lokasi perencanaan yaitu SH. Jombang, SH. Keplak, SH. PG Jombang baru. Dari hasil perhitungan didapatkan nilai $i = 1,98 \text{ mm/jam}$; $C = 0,70$; $A = 6,26 \text{ km}^2$ maka nilai debit banjir rencana sebesar $0,0241 \text{ m}^3/\text{dt}$. Direncanakan pemasangan sumur resapan precast pada 17 titik dengan kedalaman masing-masing 3m. Dan direncanakan pintu air sungai untuk mengontrol masuknya air ke irigasi permukiman warga.

Kata kunci : Resapan Air Hujan, Debit Banjir, Pintu Air Irigasi

ABSTRACT

DESIGN OF ABSORPTION WELLS AND SLIDING GATES AS FLOOD CONTROL IN PULO VILLAGE, JOMBANG DISTRICT, JOMBANG REGENCY

The rapid increase in residential areas has resulted in a reduction in rainwater catchment areas due to the increased area covered by pavement, resulting in a much shorter water retention time, resulting in rainwater collection exceeding the capacity of existing drainage systems. During the rainy season and heavy rainfall, Pulo Village in Jombang Regency often experiences flooding. Therefore, it is necessary to design absorption wells without disturbing residents' land. Rainfall data used for 10 years (2014-2023) from the three rain stations closest to the planning location: SH. Jombang, SH. Keplak, SH. PG Jombang Baru. The calculation results obtained a value of $i = 1.98$ mm/hour; $C = 0.70$; $A = 6.26$ km², resulting in a planned flood discharge of 0.0241 m³/sec. Precast infiltration wells are planned to be installed at 17 locations, each with a depth of 3 m. River sluice gates are also planned to control the inflow of water into residential irrigation.

Keywords: Rainwater Infiltration, Flood Discharge, Irrigation Sluice Gate

