

## ABSTRAK

Kubu Raya merupakan salah satu Kabupaten yang ada di Provinsi Kalimantan Barat. Kubu Raya yang secara astronomis terletak di sekitar garis khatulistiwa yang menyebabkan mengalami dua musim, yaitu musim kemarau dan musim penghujan. Saat musim penghujan, air hujan yang jatuh ke permukaan tanah dan sebagian akan menjadi limpasan permukaan (*surface runoff*) dan sebagian akan menjadi aliran tanah (*groundwater*). Air hujan yang menjadi limpasan permukaan (*surface runoff*) akan mengalir di permukaan tanah karena gaya gravitasi dan akan mengalir melalui saluran-saluran seperti saluran drainase, sungai, danau, laut hingga samudra. Saat ini lah permasalahan akibat limpasan akan terjadi yaitu banjir. Penelitian ini berlokasi di Parit Gertak Kuning, Desa Limbung, Kabupaten Kubu Raya. Tujuan dari penelitian ini adalah menganalisis besar debit aliran saluran drainase pada kawasan Parit Gertak Kuning; mengetahui kinerja sistem drainase pada Parit Gertak Kuning berdasarkan hasil penilaian kondisi jaringan drainase; mengkaji kombinasi pasang surut dan curah hujan terhadap kejadian banjir di kawasan Parit Gertak Kuning. Metodologi Penelitian yang digunakan adalah metode analitis deskriptif. Simulasi aliran di saluran menggunakan program aplikasi HEC-RAS. Simulasi dilakukan pada saat kondisi pasang dan tanpa hujan, surut tanpa hujan, dengan hujan rencana periode ulang 2 Tahun dan 5 Tahun. Hasil dari penelitian menunjukkan bahwa pada saat terjadi pasang dan disertai debit rancangan dengan periode ulang 5 Tahun, beberapa segmen penampang tidak mampu menampung debit air tersebut. Berdasarkan peninjauan langsung di lapangan dan berdasarkan pedoman penilaian kinerja saluran, ada beberapa segmen saluran yang perlu dilakukan perawatan rutin agar tidak terjadi penyempitan pada saluran.

kata kunci : analisis, banjir, curah hujan, HEC-RAS, hidrologi, kinerja saluran,.

## ABSTRACT

Kubu Raya is one of the regencies in West Kalimantan Province. Kubu Raya is astronomically located around the equator which causes it to experience two seasons, namely the dry season and the rainy season. During the rainy season, rainwater falls to the ground surface and some will become surface runoff and some will become ground water. Rainwater that becomes surface runoff will flow on the ground surface due to gravity and will flow through channels such as drainage channels, rivers, lakes, seas and oceans. Currently, the problem due to runoff will occur, namely flooding. This research is located in Parit Gertak Kuning, Limbung Village, Kubu Raya Regency. The purpose of this study was to analyze the flow rate of the drainage channel in the Parit Gertak Kuning area; determine the performance of the drainage system at Gertak Kuning Trench based on the results of the assessment of the condition of the drainage network; studied the combination of tides and rainfall on flood events in the Parit Gertak Kuning area. The research methodology used is a descriptive analytical method adapted to the research flow chart. Data analysis was carried out with the HEC-RAS application program as a tool for modeling drainage flow and also to display channel cross section, channel length, channel discharge, hydrograph unit. The analysis was carried out at high tide and without rain, low tide without rain, and planned 2-year and 5-year return period rains. The results of the study showed that in simulating the 3 conditions in the upstream channel the flow was smaller than at the estuary of the ditch. At the time of high tide and accompanied by a design discharge with a return period of 5 years, some cross-sectional segments are unable to accommodate the water discharge. After direct observation in the field and based on the guidelines for assessing the performance of the channel, there are several segments of the channel that need regular maintenance to prevent narrowing of the channel.

keywords : analysis, hydrology, HEC-RAS, rainfall, channel performance, flooding.