

**DRAINAGE PLANNING FOR THE MAIN ROAD OF HARAPAN  
VILLAGE, KECAMATAN SUNGAI APIT  
(Case Study on Jl. Utama Hrapan Village, Sungai Apit District)**

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**ABSTRACT**

Visually, the drainage that is being reviewed is still in natural conditions, this is one of the reasons this area often experiences flooding during high rainfall and due to tides. Therefore, the writer wants to plan a concrete drainage channel so that the area around the drainage which is on the main road of the village hopes that it will not experience flooding caused by tides and high rainfall. Therefore, research is needed on this matter by measuring directly the field and analyzing the results obtained.

The method used in analyzing the intensity of rainfall is to use the Gumbel distribution and the Mononobe method with rainfall data obtained from the Siak Regency Agriculture Office 2019. Meanwhile, to analyze the rainfall discharge and river channel discharge using the Rational method based on data obtained from the field, including data measurement of drainage profile, measurement of flow velocity and measurement of existing water level.

The results of the calculation obtained the existing capacity at the Jln. Utama Desa Harapan when the tide condition is  $22,34626 \text{ m}^3 / \text{second}$ , while at low tide it is  $3.044025 \text{ m}^3 / \text{second}$  on the left side of the road while on the right side of the road the existing capacity on the channel is  $20,1743 \text{ m}^3 / \text{second}$  and normal conditions or low tide of  $2.6638 \text{ m}^3 / \text{second}$ . Calculation of the rainfall and discharge plans for the upstream part of the water is  $0.9253 \text{ m}^3 / \text{second}$ . From the data obtained in the field as well as from other sources, it can be obtained a concrete drainage section plan with a channel base width of 2.5 m with a channel height of 2 m and a guard height of 0.8 m. And can also the results of the calculation of the RAB for the entire work item of Rp. 2,055,183,000.

Keywords: main road drainage planning in Harapan, discharg, channel dimensions