

## ABSTRAK

**PUTRA DHARMA. 2024.** *Perencanaan Ulang Drainase Pada Ruas Jalan Sigura Gura Kecamatan Lowokwaru Kota Malang Sta 0+000 – Sta 1+1000.* Teknik Sipil Fakultas Teknik Universitas Wiraraja Madura (Pembimbing: **ACH. DESMANTRI ST. MT.** )

Sistem drainase secara umum dapat didefinisikan sebagai serangkaian bangunan air yang berfungsi untuk mengalirkan air yang dapat mengganggu pengguna jalan, sehingga badan jalan tetap kering. Ketika musim penghujan terjadi di Kota Malang menyebabkan beberapa wilayah tergenang banjir terutama pada Jalan Sigura Gura Kecamatan Lowokwaru Kota Malang.

Dalam laporan perencanaan ulang drainase jalan ini dilakukan pengamatan secara langsung pada lokasi studi dan mengumpulkan beberapa data seperti *site plan*, data curah hujan dari 3 stasiun terdekat pada tahun 2014 hingga 2023, serta HSP Kota Malang 2023. Metode pengolahan data dimulai dari, analisa curah hujan daerah dengan metode rata-rata aljabar, curah hujan rancangan metode Log Person Tipe III, perhitungan debit banjir rancangan dengan kala ulang 2 tahun, perhitungan debit limbah, perhitungan kapasitas saluran, dan menentukan dimensi saluran dan dimensi bangunan pelengkap.

Dari hasil perhitungan didapatkan curah hujan rancangan sebesar 80,605 mm/hari, saluran berbentuk persegi berbahan batu kali dengan dimensi terbesar  $b = 0,8$  m dan  $H = 0,5$  m. Rencana anggaran biaya perencanaan ulang ini adalah Rp Rp 1.850.566.000 ,-.

**Kata kunci:** Drainase, Perencanaan Ulang, Perhitungan

## ABSTRACT

**PUTRA DHARMA. 2024.** *Re-planning drainage on roads Sigura Gura Subdistrict Lowokwaru Malang City Sta 0+000 – Sta 1+1000.* Civil engineering Faculty of Civil , University of Wiraraja Madura (Pembimbing: **ACH. DESMANTRI ST. MT**)

A drainage system can generally be defined as a series of water structures that function to drain water that can disturb road users, so that the road body remains dry. When the rainy season occurs in Malang City, several areas are flooded, especially on the roads Sigura gura Malang City.

In this road drainage re-planning report, direct observations were made at the study location and collected several data such as site plans, rainfall data from the 3 closest stations from 2014 to 2023, as well as the 2023 Malang City HSP. The data processing method starts with rainfall analysis. area using the algebraic average method, rainfall design using the Log Person Type III method, calculation of design flood discharge with a return period of 2 years, calculation of waste discharge, calculation of channel capacity, and determining channel dimensions and dimensions of complementary buildings.

From the calculation results, it was found that the design rainfall was 80.605 mm/day, the channel had a square shape made from river stone with the largest dimensions  $b = 0.8$  m and  $H = 0.5$  m. The budget plan for this re-planning is IDR IDR 1,850,566,000.-.

**Key words:** Drainage, Re-planning, Calculation