

ABSTRAK
ANALISA KEBUTUHAN SUMUR RESAPAN UNTUK DRAINASE
JALAN
(Studi Kasus di Ruas Jalan Jatilawang Kabupaten Banyumas)

Arief Mifta Syaifurrachman

Daerah ruas jalan Jatilawang Banyumas memiliki kedalaman air tanah yang cukup dalam. Sehingga memerlukan suatu cara untuk mengkonservasi air tanah agar jumlah air tanah dapat terjaga dan memenuhi kebutuhan masyarakat. Dalam penelitian ini dilakukan beberapa langkah analisis untuk mendapatkan hasil yang baik. Diantaranya adalah menentukan hujan harian maksimum dengan analisis frekuensi, mencari nilai intensitas hujan dengan Metode Mononobe, Van Breen, Haspers dan Der Weduwen, menghitung debit puncak dengan Metode Rasional, menghitung nilai permeabilitas dengan alat *Falling Head Permeability*, menghitung kedalaman sumur resapan dengan metode Sunjoto, mencari jumlah dan jarak antar sumur resapan dan dimensi saluran drainase menggunakan tampang ekonomis. Dari hasil penelitian diperoleh hujan harian maksimum 134,149 mm, intensitas hujan Metode Mononobe 34,20 mm/jam, Metode Van Breen 203,186 mm/jam, Metode Haspers dan Der Weduwen 39,3961 mm/jam. Debit maksimum berturut-turut 0,12635 m³/detik, 0,75072 m³/detik dan 0,14556 m³/detik. Nilai permeabilitas hasil percobaan $1,38 \times 10^{-5}$ m/detik. Karakteristik sumur resapan Metode Mononobe D = 0,8 m, H = 5,0 m, X = 21,89 m, n = 160 SR, Metode Van Breen D = 0,8 m, H = 5,0 m, X = 3,68 m, n = 950 SR, Metode Hasper dan Der Weduwen D = 0,8 m, H = 5,0 m, X = 19,00 m, n = 184 SR. Dimensi saluran drainase tampang ekonomis dengan b = 0,30 m dan h = 0,15 m.

Kata kunci : sumur resapan, air tanah, drainase, permeabilitas

ABSTRACT
**REQUIREMENT ANALYSIS OF INFILTRATION WELL FOR ROAD
 DRAINAGE**

(Case Study at Road Area Jatilawang Banyumas)

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The area road Jatilawang Banyumas has quite deep aquifer. It requires a way to conserve and keep quantity of ground water which can satisfy the needs of the people. In this study several steps of analysis were to get good results. They are determining the maximum daily rainfall with frequency analysis, calculating the value of rainfall intensity with Mononobe's Method, Van Breen, Haspers and Der Weduwen's Method, calculating the maximum flow with Rational Method, calculating the permeability using Falling Head test, absorption wells with a depth of Sunjoto Method, calculating the amount and spacing between wells and drainage channel dimension using the method of economical section. The results of the research are the maximum daily rainfall 134,149 mm, rainfall intensity with Mononobe's Method 34,20 mm/h, Van Breen's Method 203,186 mm/h, Haspers's and Der Weduwen's Methode 39,3961 mm/h. The maximum flow are 0,12635 m³/s, 0,75072 m³/s and 0,14556 m³/s. Permeability value is 1,38 x 10⁻⁵ m/s. The Characteristics of infiltration well with Mononobe's Method are D = 0,8 m, H = 5,0 m, X = 21,89 m, n = 160 SR, Van Breen's Method are D = 0,8 m, H = 5,0 m, X = 3,68 m, n = 950 SR, Hasper's Method and Der Weduwen's Method are D = 0,8 m, H = 5,0 m, X = 19,00 m, n = 184 SR. Dimensions of drainage channel with economical form are b = 0,30 m and h = 0,15 m.

Key words: infiltration well, ground water, drainage, permeability