ABSTRAK

Suratno
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Perencanaan sistem Penyediaan Air Minum di Desa Gempolan Kecamatan Pakel Kabupaten Tulungagung

Pembimbing 1 : Drs. Sigit Winarto, ST., MT.
Pembimbing 2 : Suwarno, ST, MT.

Kebutuhan air minum aman saat ini merupakan isu penting kemanusiaan , hal ini merupakan kebutuhan dasar setiap manusia, begitu pula permasalahan air minum aman ini juga terjadi di Desa Gempolan . Air dari sumur dangkal di desa Gempolan memiliki kualitas yang jelek dengan kandungan collyform yang tinggi sehingga tidak layak dikonsumsi. Warga harus membeli air minum untuk kebutuhan domestik dari depo atau toko penjual air minum.Di Desa Gempolan ada potensi sumur bor artesis yang mempunyai kualitas air aman untuk diminum dan tidak ada kandungan bakteri collyform sehingga bisa dimanfaatkan didistribusikan ke rumah-rumah penduduk.

Sumur bor artesis desa Gempolan tersebut mempunyai debit 5 ltr/dtk . Jumlah penduduk Desa Gempolan di tahun 2020 adalah 3333 jiwa dengan kebutuhan air total 3,086 ltr/dtk. Sedangkan proyeksi jumlah penduduk Desa Gempolan tahun 2036 adalah 4230 jiwa dengan proyeksi kebutuhan air sebesar 3,916 ltr/dtk. Hasil perhitungan berdasarkan standar SNI 19-6728.1-2002 (100 ltr/orang/hari), kebutuhan masyarakat adalah 3,086 lt/dtk di tahun 2020 dan 3,916 lt/dtk tahun 2036. Sedangkan hasil Real Demand Survey (86,72 ltr/orang/hari), kebutuhan masyarakat adalah 2,950 lt/dtk tahun 2020 dan 3,950 lt/dtk tahun 2036. Sehingga dapat disimpulkan sumur bor tersebut mampu memenuhi kebutuhan masyarakat desa Gempolan hingga tahun 2036

Sistem penyediaan air minum terbut mengunakan sistem pemompaan ke menara reservoir dialirkan menggunakan pipa GIP SNI sebanyak 4 lonjor @6meter , selanjutnya di distribusikan dengan Pipa GIP SNI sebanyak 1,5 lonjor@ 6 meter dan Pipa PVC SNI S 12,5 ⌀ 4” sebanyak 335 lonjor @ 6 meter ,Pipa PVC SNI S 12,5 ⌀3” sebanyak 117 lonjor@ 6 meter serta pipa PVC SNI S12,5 ⌀ 1,5” sebanyak 523 lonjor@ 6 meter

Kata Kunci : Kebutuhan Air, Jaringan Distribusi, Kualitas air , Epanet

ABSTRAC

Suratno

Regester : 202005010204

Planning for a drinking water supply system in Gempolan Village, Pakel District, Tulungagung Regency

Advisor 1: Drs. Sigit Winarto, ST., MT.
Advisor 2: Suwarno, ST, MT

The need for safe drinking water is currently an important humanitarian issue, this is a basic need of every human being, as well as the problem of safe drinking water also occurs in Gempolan Village. Water from shallow wells in Gempolan village is of poor quality with a high collyform content, making it unfit for consumption. Residents have to buy drinking water for domestic needs from depots or shops selling drinking water. In Gempolan Village there is the potential for artesian wells that have safe drinking water quality and do not contain collyform bacteria so that they can be used and distributed to people's homes.

The artesian well in Gempolan village has a discharge of 5 liters/sec. The population of Gempolan Village in 2020 is 3333 people with a total water need of 3,086 liters/sec. While the projected population of Gempolan Village in 2036 is 4230 people with a projected water demand of 3,916 liters/sec. The calculation results are based on the standard SNI 19-6728.1-2002 (100 liters/person/day), community needs are 3,086 liters/second in 2020 and 3,916 liters/second in 2036. While the results of the Real Demand Survey (86.72 liters/person/ days), community needs are 2,950 liters/sec in 2020 and 3,950 liters/sec in 2036. So it can be concluded that the drilled well is able to meet the needs of the Gempolan village community until 2036

The drinking water supply system uses a pumping system to the reservoir tower, which is channeled using SNI GIP pipes of ⌀ 4 lengths @ 6 meters, then distributed with SNI GIP Pipes of 6 lengths @ 6 meters and PVC SNI S Pipes 12.5 ⌀ 4" with 335 lengths @ 6 meters, PVC SNI S 12.5 ⌀ 3" pipe as much as 117 lengths @ 6 meters and PVC SNI S12.5 ⌀ 1.5" pipes as much as 523 lengths @ 6 meters

Keywords: Water Demand, Distribution Network, Water Quality, Epanet