

**“KAJIAN EFEKTIFITAS GROUND TANK SISTEM PERPIPAAN AIR
BERSIH GEDUNG B UNIVERSITAS MUHAMMADIYAH JEMBER
DENGAN MENGGUNAKAN APLIKASI EPANET”**

(Studi Kasus : Gedung Kuliah B Universitas Muhammadiyah Jember)

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Universitas Muhammadiyah Jember merupakan salah satu Perguruan Tinggi milik Persyarikatan Muhammadiyah. Awal mula berdirinya pada 11 Maret 1981 yang diprakarsai oleh Tokoh Muhammadiyah dan warga Muhammadiyah di Jember. Jumlah mahasiswa Universitas Muhammadiyah Jember khususnya yang ada di gedung B yang berisi fakultas teknik, fakultas pertanian, fakultas hukum dan fakultas ilmu sosial dan politik. Berdasarkan data yang di peroleh dari Biro Kepegawaian dan BAAK jumlah keseluruhan mahasiswa pada tahun 2018 sebanyak 5357, tahun 2019 sebanyak 5436 dan tahun 2020 sebanyak 5037. Bertambahnya jumlah Mahasiswa, Karyawan dan Dosen di Universitas Muhammadiyah Jember mengakibatkan kebutuhan air bersih tidak dapat terpenuhi dengan baik. Oleh karena itu perlu adanya kajian ulang sistem jaringan air bersih untuk memenuhi kebutuhan air seluruh Mahasiswa, Karyawan dan Dosen gedung B Universitas Muhammadiyah Jember. Data yang digunakan berupa data sekunder yang didapatkan dari instansi terkait, jurnal penelitian di gedung B Universitas Muhammadiyah Jember maupun survey secara langsung. Data sekunder berupa data Jumlah Mahasiswa, Karyawan dan Dosen dan Peta Lokasi. Dari perencanaan yang berjudul Kajian Efektifitas Groundtank Sistem Perpipaan Air Bersih gedung B Universitas Muhammadiyah Jember dengan dimensi reservoir panjang 4 meter, lebar 4 meter dan tinggi 3 meter didapatkan kapasitas reservoir sebesar 40824 liter/jam > kebutuhan Mahasiswa, Karyawan dan dosen sebesar 12167 liter/jam, dengan hasil proyeksi penduduk ditahun 2025 sebanyak 4843 orang. Untuk menaikkan air dari sumber air keatas reservoir digunakan pompa jenis centrifugal RUN DF-NS-2M.

Kata Kunci : Air, Sistem Perpipaan, Universitas Muhammadiyah Jember

**“STUDY OF THE EFFECTIVENESS OF GROUNTANK CLEAN WATER
PIPING SYSTEM BUILDING B UNIVERSITY OF MUHAMMADIYAH
JEMBER USING EPANET APPLICATION”**

(Case Study : Lecture Building B University of Muhammadiyah Jember)

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ABSTRACT

Muhammadiyah University of Jember is one of the Universities owned by the Muhammadiyah Association. The beginning of its establishment on March 11, 1981 was initiated by Muhammadiyah leaders and Muhammadiyah residents in Jember. The number of students of the University of Muhammadiyah Jember, especially those in building B which contains the faculty of engineering, faculty of agriculture, faculty of law and faculty of social and political sciences. Based on data obtained from the Staffing Bureau and BAAK, the total number of students in 2018 was 5357,2019 as many as 5436 and in 2020 as many as 5037 The increasing number of students, employees and lecturers at the University of Muhammadiyah Jember resulted in the need for clean water cannot be met properly. Therefore, there is a need to review the clean water network system to meet the water needs of all Students, Employees and Lecturers of building B of Muhammadiyah University Jember. The data used is in the form of secondary data obtained from related investments, research journals in building B of muhammadiyah university of Jember and direct surveys. Secondary data in the form of data on the number of students, employees and lecturers and location maps. From the planning entitled The Effectiveness Study of Groundtank Clean Water Piping System building B University of Muhammadiyah Jember with reservoir dimensions of 4 meters long, 4 meters wide and 3 meters high obtained a reservoir capacity of 40824 liters / hour > the needs of Students, Employees and lecturers of 12167 liters / hour, with the results of population projections in 2025 as many as 4843 people. To raise water from the water source above the reservoir is used run centrifugal type pump DF-NS-2M.

Keywords: *Water, piping system , Muhammadiyah University of Jember*