

Perencanaan Sistem Plambing Pada Komplek Apartemen Elevee = Desain Plumbing System for Elevee Apartment

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Abstrak

Komplek Apartemen Elevee berlokasi di kawasan alam sutera yang terdiri dari 6 tower apartemen dan 3 basement. Pada proses pembangunan tahap pertama dibangun 3 tower dan 3 basement terlebih dahulu. Peralatan utama plambing yang ikut dibangun di tahap pertama yaitu tangki air bawah (CWT) dengan volume sebesar 1250m³ dan penampungan air limbah (STP 1) dengan volume sebesar 531m³/hari. Sumber utama air bersih berasal dari kawasan air bersih kawasan alam sutera, yang dikumpulkan di tangki air baku kemudian di filter dan disimpan ke tangki air bawah. Dari tangki air bawah air di distribusikan ke tangki air atap masing-masing tower. Kapasitas pompa transfer ke tower 1 sebesar 45m³/jam dengan daya 39,5 kW dengan kapasitas tangki atas 56m³, kapasitas pompa transfer ke tower 2 sebesar 55m³/jam dengan daya 56 kW dengan kapasitas tangki atas 70m³, dan kapasitas pompa transfer ke tower 7 sebesar 33m³/jam dengan daya 31 kW dengan kapasitas tangki atas 50 m³. Dari tangki atap masing-masing tower di distribusikan secara grafitasi kecuali lima lantai teratas yang menggunakan bantuan pompa tekan. Air buangan dari masing-masing kamar mandi unit dialirkan menuju pipa tegak dan dialirkan ke penampungan air limbah utama yang berada di basement 2. Air hujan yang jatuh dari atap masing-masing tower dialirkan menuju pipa tegak dan dialirkan ke sumur resapan yang berada di sekitar tower apartemen. Jumlah sumur resapan untuk tower 1 sebanyak 12 buah, Jumlah sumur resapan untuk tower 2 sebanyak 8 buah, dan Jumlah sumur resapan untuk tower 7 sebanyak 6 buah. Kapasitas masing – masing sumur resapan sebesar 18 m³.

The Elevee Apartment is located in the Alam Sutera area, consisting of 6 apartment towers and 3 basements. In the first phase of development, 3 towers and 3 basements were constructed. The main plumbing equipment built in the first phase includes the ground water tank (CWT) with a volume of 1250m³/day and the waste water treatment plant (STP 1) with a volume of 531m³/day. The main source of clean water comes from the Alam Sutera clean water area, collected in the raw water tank, then filtered, and stored in the underground water tank. From the underground water tank, water is distributed to the roof tanks of each tower. The transfer pump capacity to tower 1 is 45m³/hour with a power of 39.5 kW and a roof tank capacity of 56m³. The transfer pump capacity to tower 2 is 55m³/hour with a power of 56 kW and a roof tank capacity of 70m³. The transfer pump capacity to tower 7 is 33m³/hour with a power of 31 kW and a roof tank capacity of 50 m³. From the roof tank of each tower, water is distributed by gravity except for the top five floors, which use booster pumps. Waste water from each bathroom unit is directed to vertical pipes and then collected into the main waste water storage located in basement 2. Rain water from the roof of each tower is directed to vertical pipes and flowed into infiltration wells located around the apartment tower. The infiltration wells for tower 1 is 12 units, for tower 2 is 8 units, and for tower 7 is 6 units. The capacity of each infiltration well is 18 m³.