

REDESIGN OF LEACHATE TREATMENT PLANT IN TPA BENOWO SURABAYA

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ABSTRACT

Leachate treatment is a part of an integrated and environmentally solid waste treatment problems which could never be separated from them. Benowo landfill is the only solid waste landfill to Surabaya's people, which is placed in the center area of Benowo's potential shrimp and salt embankment. Leachate treatment plant which has built in Benowo landfill is expected to be able to treats leachate well even if safe for the environment. But the actual fact and the design evaluation show that the discharge of leachate have not meet the requirements of the wastewater treatment regulation on SK Gubernur Jawa Timur No 45 Tahun 2002 Tentang Baku Mutu Limbah Cair Bagi Industri atau Kegiatan Usaha Lainnya ; especially for five major parameters, which are include : TDS (12195 mg/L), COD (2000 mg/L), BOD (840 mg/L), oil & grease (127,50 mg/L), and N (629,51 mg/L). Therefore, redesign of Benowo leachate treatment plant have to be done in order to minimizes the environmental problems which may be arisen. The redesign proccess of Benowo leachate treatment plant will be done by using several steps as follows : 1)evaluation and analysis of leahate quantity (leachate flowrates), 2)evaluation and analysis of leahate quality, 3)evaluation and analysis of pollutants removal procentation in each treatment unit, 4)evaluation and analysis of leachate treatment plant existing design condition, 5)optimation alternatives and improvement recommendation for each treatment unit. Benowo leachate treatment plant which has been redesigned must be able to treats leachate so that the leachate effluent discharge can be met the wastewater regulation on SK Gubernur Jawa Timur No 45 Tahun 2002 Tentang Baku Mutu Limbah Cair Bagi Industri atau Kegiatan Usaha Lainnya.

Keywords : leachate, leachate treatment plant Benowo, redesign, wastewater quality standard.