

C 016669 : MAJOR ENVIRONMENTAL ENGINEERING

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FLOCCULATOR. THESIS ADVISOR : ASSO. PROF. THEERA KAROT,
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Turbidity removal using a tapered gravel bed flocculator were studied.

The Laboratory pilot plant was made of transparent plastic with increasing crosssectional area with height. The parameters studied were gravel size which varied from 1-2 mm. to 10-20 mm., gravel heights which varied from 20, 40, 60, 80 and 100 cm., upflow velocity which varied from 0.098 to 0.171 m³/m²-min and alum dose which varied from 15 to 30 mg/l. The raw turbid water was synthesized from kaolinite clay and tap water to have 50 NTU. turbidity. Alum was used as a coagulant.

It was found that small gravel produced higher flocculation efficiency than large gravel. Lower upflow velocity produced higher turbidity removal efficiency than higher upflow velocity. The optimum alum dose was 15 mg/l. The dimensionless GT values varied from 7.36×10^3 - 6.73×10^4 .