

Case Study – Attenuation Tank, Dagenham

Scope of Works

Client: Expanded Structures (LOR)
Location: Dagenham School, Essex
Structure: Attenuation Tank & Pumping Station
Dimensions: 2no Pipes within 33m x 5m Excavation
Temporary Works: Excavation with trench support system
Excavation Depth: 5.5m

Ground Conditions: Made Ground 0.0m to 0.7m
BEGL
Terrace Gravels 0.7m to 5.2m
BEGL
London Clay 5.2m onwards

Groundwater Level: 2.0m BEGL

Dewatering Proposals:

Vacuum wellpoint system installed at nominal 1.5m centres Around the perimeter of the works to top of Clay using conventional water jetting installation method. Provision of gap to allow access into one end.

System divided into two parts each pumped by a silenced diesel piston pump (49 dB at 7m) with fuel usage of 1.1 lts/hour. Discharge via v-notch settlement tank with calibrated flowmeter into Thames Water MH



Operation & Performance

- A total of 110no wellpoints were installed and the system commissioned in 1 week
- Start up pumping flow was 27.5 lts/sec with steady state conditions reached after 3 days and a flow maintained at ~ 6lts/sec.
- Discharge water was clean throughout
- Works completed within 5 weeks and to programme and budget