

DEWATERING

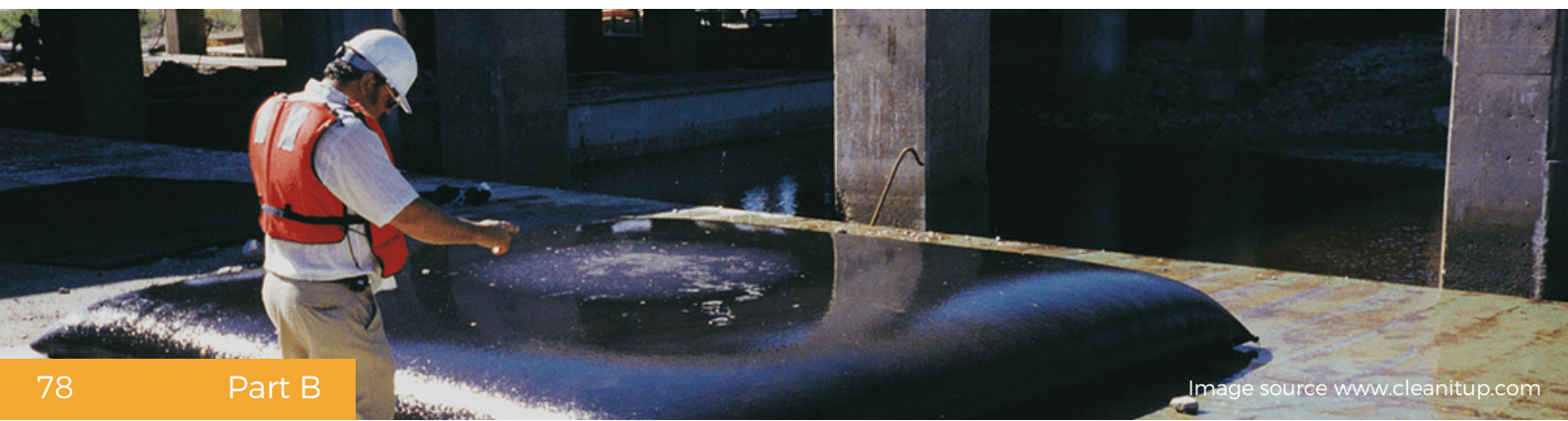
WHAT IS THIS?

Dewatering is the process of pumping water out of a hole, excavation, or sediment basin. It may be required on a development site where sediment-laden water has collected in a low-lying area, or within trenches or sediment basins. If this water is being pumped for release into the stormwater system - as opposed to being trucked to a disposal facility - the water must be suitably treated to meet water quality criteria (i.e. turbidity and pH). Water quality criteria will depend on the types of contaminants and water quality objectives for the receiving environment. The time and cost of treating water can be minimised by keeping clean and dirty water separate through the use of drainage and erosion controls.

WHAT DO I NEED TO DO?

Before starting site works:

- ▶ You are responsible by law not to discharge pollutants (including sediment) into the stormwater system or receiving environment where it has the potential to damage infrastructure, cause an environmental nuisance or environmental harm.
- ▶ Check your planning approval and other permits for the required treatment standard for dewatering. Alternatively, seek advice from council or the EPA.
- ▶ Dewatering is ideally done by a qualified and experienced person through an approved service provider – ensure this is scheduled and budgeted for.
- ▶ Before you allow any captured stormwater to leave the site into the environment or stormwater system, make sure the pH is between 6.5 and 8.5, and total suspended solids (TSS) is less than 50mg/L. These recommended limits are from 'De-watering Activities – General', IECA Book 4 Design Factsheets, 2010. Be aware that there may be locally adopted treatment standards – read your planning permit to determine if this is the case. Discharged water absolutely must not result in a turbid plume being visible or a significant pH change in receiving waters.
- ▶ Ensure the sediment disposal arrangements have been considered in the control design so that the area requiring cleaning can be reached by a pump to the trailer tank/vacuum truck.



Installing the controls:

- ▶ Test the site water to determine treatment options.
- ▶ Treat the water to reach the required standards.
- ▶ Retest the water and re-treat as needed.
- ▶ If water can be completely treated on-site to an acceptable standard, it can be released via the stormwater connection. If water cannot be adequately treated it must be disposed of via vacuum or pump truck to an appropriate disposal facility.

If runoff has coarse sediment only, filter bags may be appropriate - position to maximise filtration of outflow runoff prior to reaching the stormwater connection. Consider release via level spreader onto large, grassed area, if available. On large development sites, runoff with fine particles (clay) can be treated by dewatering to a Type 1 sediment basin. Addition of a coagulant or flocculant at this stage will assist further in treatment (see page 76).

Remember, the best way to prevent sediment leaving site is to minimise its generation in the first place.

RAPID ON-SITE TURBIDITY TESTING

Using a turbidity tube can be a quick and cost-effective way of measuring if water collected on your construction site is safe to release into the stormwater system, or requires further treatment. The relationship between the readings from a turbidity tube (measured in Nephelometric Turbidity Units, or NTU) and total suspended solids (TSS) varies widely depending on the type of sediments present on a site. For example, the more fine particles in sediment, the higher the expected NTU for a given TSS. However, in the absence of site-specific relationships, take all reasonable and practicable measures to achieve a NTU reading not exceeding 60. More information can be found in IECA Dewatering Activities – General (IECA Book 4 Design Factsheets, 2010).

