

Sediment discharge options 101

There are two main methods of discharging waste water, when a tank is vacuumed out using 'water quality technician' trained divers.

1. Water can be pumped over the top of the tank and then onto the ground, into a sediment pond, sewer connection or into a pair of mobile tankers. A 25 kL semi tanker is filled in an hour, so a second unit is required to allow a continuous cleaning operation to be performed effectively (while the first truck travels, unloads and returns to site).
2. A cover plate or plug can be fitted into the existing scour penetration in the wall or floor and this penetration is used to create suction for the internal vacuum hoses - this waste water then goes where the scour empties out.

Disposal methods and compromises:

1. Construct a small coffer dam out of coarse sand or hay bales to limit the sediment dispersal in rural areas.
2. Pumping direct to sewers in urban areas is another option - 'close by' sewer points that can handle 8 litres/second flow rate are required. Stormwater pits can also be used to catch the run off (after being blocked off downstream) and then pumped out and into an adjacent sewer point or tanker (if site access is too steep or crowded).
3. Tankers used to run the water to either a sewer point or a sewer treatment plant can double the overall cleaning cost (in most cases). This is where a very efficient vacuuming process is required, to reduce tanker loadings and overall waste water volumes per tank cleaned.
4. Tankering will slow down any cleaning operation if enough tankers are not supplied – two by 25kL semi tankers are the minimum required for a continuous cleaning operation. When running two tankers, the 'turn around' time needs to be under 45 minutes, to allow for unforeseen circumstances, such as opening and closing gates in rural areas, hold ups in discharging, and getting lost!! If this maximum time is not possible or viable, a third tanker needs to be available.

5. Think of the Carbon footprint overall and not just the waste water taken away – chlorinated water out of a normal storage tank, mixed in with the average sediment loading vacuumed out, is effectively de-chlorinated by the time it soaks into the natural ground.



Figure 1 Hay Bale Cofferdam



Figure 2 Course Sand Cofferdam



Figure 3 Course Sand Coffor Dam after water has soaked away



Figure 4 Tank Wall Coffor Dam using coarse sand



Figure 5 Collection and Mobile Disposal Tanker arrangement



Figure 6 Static Collection and Mobile Disposal Tanker arrangement