

Discharging liquids to water, sewer or land is a key environmental risk, therefore a Water Management Plan and Permit to Pump/Discharge is an integral part of the project's environmental risk management procedure. Over-pumping activities are included in this requirement.

The Regulatory Authorities: the Environment Agency (EA), Scottish Environmental Protection Agency (SEPA) and Natural Resources Wales (NRW), all have guidance on their websites and you should refer to it, not least because it can change without warning but also because they contain useful information.

EA – <https://www.gov.uk/guidance/discharges-to-surface-water-and-groundwater-environmental-permits>

SEPA – <https://www.sepa.org.uk/regulations/water/>

NRW - <https://naturalresources.wales/permits-and-permissions/water-discharges/discharges-to-surface-water-and-groundwater/?lang=en>

A bespoke Water Management Plan must be developed to reflect the activities on site. The Tilbury Douglas Permit to Pump/Discharge, EHS-PMT-010 supports this and is in addition to any permits or licences required by Regulatory Authorities. It must be approved by your Sustainability Advisor prior to the start of pumping. It is valid for a maximum of 3 months as long as there are no changes to the activity.

The Permit to Pump/Discharge can be drafted at the start of a project, in anticipation of any pumping that may be required. This will prevent delays if it is found that licences are required. Always speak to your Sustainability Advisor to find out what consents* you need.

*Note the term consent will be used as a generic term to cover the permits, exemptions, consents, licences etc that may be required. The correct specific term will be used when necessary.

Part 1 – DESCRIPTION OF DISCHARGE

- Provide a brief description characterising the properties of the discharge (which may arise from groundwater abstraction, rainwater collection in excavations, surface water ponding, over-pumping etc.)
- Attach a plan showing the location of the pumping/discharge activity.
- Estimate the maximum discharge rate and the steady state discharge rate. In order to choose the pump size, you must have some idea of what this is likely to be.

Part 2 CONSENTS AND RISK ASSESSMENT

- Reference any information relating to conditions set by Regulator, water company or other interested party.
- Speak to your Sustainability Promoter to find out which consents you require.
- Identify whether the intended drainage route is fit for purpose and also whether there are any additional drainage pathways which could be affected by or intercept the discharge and lead to adverse impacts.
- Provide reference to the associated RAMS detailing the correct sequence of work, the precise way in which the work is to be done and the duties of all persons involved (Use appendices if required).

Part 3 TREATMENT PRIOR TO DISCHARGE

Sizing Settlement Tanks

It is possible to find the effective settling area, A, of the tank you will need for a specific activity using the equation below:

$A = Q/V$ where:

Q = Treatable Flow rate (m^3/hr)

V = Settling velocity of particles (m/hr). Calculate by putting 1 x tablespoon of soil into clear bottle, filling with water, shaking it up and timing its settlement against the height of the water in the bottle. Repeat with several samples to get accurate result. Photos at minute intervals may be useful evidence.

A = Effective settling area (m^2) – usable surface area of settlement tank/lagoon. Volume is not important.

For example: with a flow rate of $10m^3/hr$ and particles that settle at $1m/hr$, settlement area needed = $10m^2$ so one $2x5m$ tank or perhaps 2 x $2x3m$ tanks depending on the tank size available. There are tanks available with internal baffles which increase the effective settling area so refer to the manufacturer's specification.

Settlement tanks are useless for small particles that settle very slowly or not at all, such as clay. Small particles may also not be stopped by silt bags, terram or straw bales. If you know you have clay or have found that the soil in the bottle test will not settle, then you need to look for other solutions, either an alternative disposal route or a different treatment such as flocculation or coagulants.

Monitoring Requirements

State the monitoring requirements. Who will do what, when, how, which equipment, what training is required. This should be agreed by the site team, Regulator (if permit required) and Sustainability Advisor.

As a minimum, any water you discharge into surface water should be as clean or cleaner than the receiving water body. This comparison can be done using a turbidity tube or similar, with the results recorded. A higher standard than this may be set by the Regulator.

If the water leaving the settlement tank is not clean enough, then stop the process and re- consider the method you are using.

If you can see a silty plume in the receiving water, stop immediately and contact your Sustainability Advisor.

Monitoring records must be kept. In the event of the system failing, this could be what decides whether we are prosecuted or not and how we defend ourselves.

Highlight emergency response arrangements – if the treatment planned fails, what will you do?

In spite of consent from the Regulator and your best efforts, if the discharge causes environmental harm, the company and possibly individuals can be prosecuted for causing a pollution incident.

Part 4 – BEFORE WORK IS STARTED

This section must be approved by the Sustainability Advisor and the responsible person preparing the permit, confirming that all necessary precautions have been implemented and the work can proceed. The Tilbury Douglas site authorising signatory should be the Site Manager or his/her nominee.

Part 5 – EHS-PMT-010 PERMIT CLOSURE

This part is to be completed by the site supervisor stating the date and time when work has been completed or suspended and left in a safe condition.

It must include a check to ensure that any potential for pollution is suitably mitigated.

Finally, the Permit to Pump/ Discharge and supporting documentation, monitoring records etc., must be filed for record purposes.

NOTE: The original Permit to Pump/ Discharge (EHS-PMT-010) should be held in the Environmental Management Plan and copies carried by the supervisor of the work and displayed on the permit notice board. It is recommended that a copy of both the regulatory consent (if required) and this Permit to Pump/Discharge be kept at the point of discharge. The supervisor must acquaint all relevant persons under his control with the requirements of the regulatory consent & Permit to Pump/ Discharge and instruct them accordingly.