Protection of Controlled Waters

Contents

1 Guidance on Compliance

Pre-start

As early as possible identify all potential consent requirements, review tender/contract documents for work liable to require consent to:

- Work in, on or under a river channel, remembering a flood plane is part of a river channel and may also require consent.
- Discharges to watercourses, this includes streams, ditches, brooks, lakes etc.
- Abstraction requirements.
- Diversion or work liable to affect any water course.

Once details have been gained, contact the Environment Agency, SEPA or Water Company and discuss requirements with them and obtain relevant consent application forms for completion.
Early contact is imperative as some consent applications may take 4 months to be processed (Usually due to statutory consultation process).
Informal consent must be followed up by written confirmation (fax or letter) from the EA, SEPA or water company to prove consent, informal or otherwise, has been granted.
When consented activities are complete consents must be closed out with the relevant authority.

On site

Controls

Many construction activities have the potential to cause pollution to controlled waters unless effectively controlled. Annex A sets out a generic list of those activities that have a high risk to pollute, the associated environmental effect and the generic controls/best practice measures that may be adopted. It should be noted that each site is different and therefore controls often need to be adapted to address individual site needs. A list of best practice references is given in the reference section.

Notwithstanding the control measures adopted, each site must develop a plan for controlling environmental emergencies, see standard 'Environmental incident investigation, reporting and control standard' (E STD 01), and Accident and incident investigation and reporting (Environmental Incident) (SH PRO 02b) for reference.

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ANNEX A - Potentially polluting activities

Activities that can give rise to pollution	Potential Aspects and Impacts	Controls
Site runoff	**Uncontrolled runoff with high suspended solid load.**	• Keep areas of hard standing clean through regular sweeping. • Minimise the area stripped of vegetation and topsoil. Vegetation stops silt build up by protecting the soil and acting as a filter. • Construct silt traps, fences, straw bales or grips to control the flows of surface run-off and settle out suspended solids. • Ensure all works adjacent to, or flows of water into watercourses have a suitable buffer strip of vegetation. • Undertake regular inspections of the controls to ensure they are working effectively. • Ensure sufficient areas are provided for the containment of firewaters
Site drainage	**Pollution of surface water watercourses and uncontrolled discharges to foul sewer**	• Liaise with EA or SEPA on drainage system to a surface watercourse or soakaway if necessary; • In Scotland any discharging to a surface water must do so via a SUDS system; • Any discharge to foul sewers must be licensed by local sewerage operator. • If required install oil interceptors on drainage systems from areas of hard standing and for refuelling. Always maintain oil interceptors in accordance with manufacturers requirements; • Keep hard standing areas clean of silt and oils; • Ensure that equipment and materials which would be liable to float away are not stored within areas at risk from foreseeable flooding nor within 10 metres of any surface watercourse; • In laying out the site, ensure that all storage facilities and equipment are located as far away as reasonably practicable from any watercourse or drain. • Monitor against consent conditions where applicable • Ensure that any site drainage that may be affected by firewater runoff has the potential to be isolated to prevent pollution.
Site setup	**Pollution of watercourses and groundwater during periods of flooding**	• Set up stores on the highest ground within a site and away from watercourses, typically at least 10 metres; • Ensure any existing flood defences are maintained. Any works must be approved by the EA in England and Wales and by the Planning Authorities in Scotland
Works above, in or near watercourses.	**Changes to flow, volume and quality. Increased flood risk to surrounding land. Loss of ecological resources and fishery potential**	• Works above, in or near watercourses may require Land Drainage Consent (England and Wales) or Controlled Activities Regulations (CAR) authorisations (Scotland). • Refuel at least 10metres from any watercourse; • Only discharge direct to a watercourse if permitted EA / SEPA; • Prevent plant and equipment entering a watercourse; • Retain strips of vegetation adjacent to surface watercourses;

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Activities that can give rise to pollution	Potential Aspects and Impacts	Controls
		• Site spoil heaps, temporary stockpiles, haul roads at least 10 m from a watercourse and away from drainage systems • Visually monitor the watercourse on a regular basis for colour changes, oils, flow changes, suspended solids; • Ensure consent parameters are monitored if applicable; • Where necessary and practicable use booms downstream of works to prevent the spread of accidental pollution; • Control the use of potentially polluting materials in and around watercourses; • Seek EA or SEPA approval for your proposed method of works.
Pumping out of excavations	**Changes in ground water levels.** **Discharges with high suspended solid load.**	• Where practicable ensure localised pumping out of excavations is discharged to vegetated areas at least 10 metres away from a watercourse; • Only discharge direct to a watercourse if permitted by the EA or SEPA; • If direct to a watercourse or road gulley use settlement systems or filtering devices to reduce suspended solid loading.
Directional drilling and Bentonite use and storage	**Pollution of surface water watercourses.** **Discharges with high suspended solid load**	• Ensure only approved directional drillers are used; • Ensure launch pits are not likely to cause damage to associated watercourses or pollution via leakage; • Contain spent drilling fluids in a designated tank or lined settlement lagoon; • Monitor for breakout during drilling operations; • Ensure drilling fluids are stored away from watercourses in suitable containers; • Ensure any localised pumping out of excavations is discharged via vegetated areas at least 10 metres away from a watercourse; • Ensure static plant and equipment have integral drip trays or are placed over suitable drip trays; • Maintain a suitable spill kit on site.
Refuelling	**Direct pollution of watercourses / groundwater by spillages**	• Refuel in designated areas on hardstanding, where possible; • Supervise fuel deliveries and ensure only trained personnel undertake refuelling; • If refuelling using a mobile bowser ensure that a spillage kit is close by and do not refuel within 10m of a watercourse or drain; • Ensure that fuel delivery systems have automatic shut-off ‘pistol grip’ type nozzles; • Ensure that all valves, flaps and delivery devices are shut off/closed prior to movement of mobile bowsers.

Oil and chemical storage	**Direct pollution of watercourses / groundwater**	• All oil storage facilities, including mobile bowsers, drums and fixed tanks must meet the following requirements:
		  • be double skinned or bunded (to 110% or 25% of largest container),
		  • all pipework and storage containers must be stored well within the bund (such that leaks cannot “project” beyond the bund walls);

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Activities that can give rise to pollution	Potential Aspects and Impacts	Controls
		• be located at least 10m away from watercourses or road gulley's and away from drainage systems • be lockable to prevent vandalism/theft • all mobile bowsers should be moved out of any GPZ1 at the end of the working day • oils and fuels should never be stored in GPZ's 1 or 2 unless previously authorised by the Environment Agency.
Vehicle washing and maintenance (including wheelwashes)	**Direct pollution of watercourses / groundwater discharges with high suspended solid load.**	• Wash down plant and equipment in designated areas; • Ensure that they are appropriately drained (see above) or contain the wash down effluent and dispose of appropriately.
Works to sewerage pipelines	**Potential for spillages of raw sewage leading to contamination of ground; pollution of watercourses pollution of groundwater, pollution of existing drinking water supply**	• Contain foul water and contaminated land in a dedicated area prior to disposal; • Ensure that only personnel qualified to work on foul water systems are employed and used, • Ensure that blank flange(s) are employed as (temporary) stoppers on pipelines under pressure.
Wastewater disposal – offices and other facilities	**Direct pollution of watercourses / groundwater. Discharges with high suspended solid load. Emissions of dust and other polluting materials**	• Where possible dispose to foul sewer. If unavailable use septic tanks or use cess tanks. Note that discharge from septic tanks will need to be consented by the EA or SEPA (E GUID 06). • Ensure tanks are emptied frequently and maintained.
Demolition	**Direct pollution of watercourses / groundwater. Discharges with high suspended solid load. Emissions of dust and other polluting materials**	• Prior to decommissioning (above or below ground tanks) ensure that the contents have been determined and appropriately disposed of. **Do not** discharge contents down a drain or into a watercourse; • Ensure demolition activities are controlled to prevent emissions of dust or solid debris from affecting watercourses.
Landscaping / maintenance	**Use of pesticides/herbicides causing pollution of watercourse and associated habitat**	• Use appropriately qualified personnel to apply pesticides/herbicides; • Obtain approval from EA/SEPA for use of any pesticides/herbicides within 10 metres of a watercourse.
Storage of contaminated material	**Uncontrolled runoff with high suspended solid load and/or contaminated.**	• Contain contaminated material in a dedicated area prior to disposal. • Ensure that if contamination is leachable and discharge of effluent is to a drain or sewer that this is compliant with any conditions for discharge as previously agreed with the agencies or relevant Water Company.
Storage of spoil	**Uncontrolled runoff with high suspended solid load.**	• Ensure storage is in an area where surface runoff cannot pollute surface waters. • If stored on a hard standing ensure that the area is appropriately drained in accordance with any consent – typically the area will require a sediment trap or settlement lagoon to be constructed.

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Activities that can give rise to pollution	Potential Aspects and Impacts	Controls
Concreting	**Direct pollution of watercourses/groundwater.**	• Place concrete carefully to avoid direct contamination of watercourses. • Wash out concrete wagons in designated areas away from watercourses and drainage systems.
Abstraction	**Changes to flow or level of water in controlled waters and water levels in surrounding land.**	• Obtain relevant approvals. • Monitor abstraction to ensure compliance with approvals.
De-chlorination of pipe work	**Excess chlorous or sodium thiosulphate causing pollution of watercourses and associated habitat/fisheries.**	• Dispose of to foul sewer with approval from the relevant Water Company. • If disposal to surface watercourse is necessary ensure relevant approvals are obtained from EA/SEPA. • Monitor discharges to ensure chlorous level is acceptable.
Disposal of road sweepings	**Direct pollution of watercourses/groundwork. Discharged with high suspended solid load.**	• Discharge road sweepings in a designated area away from watercourses or drains. • If material is unsuitable for re-use then dispose of appropriately. • If discharge to lagoons ensure that they are suitably maintained.

2 Monitoring

A suitable and sufficient monitoring regime must be in place to ensure that consented activities conform to any parameters laid down in consents. A monitoring strategy must be developed prior to activity and a responsible person nominated under the Environmental Management Plan to undertake monitoring.

- Frequency of monitoring must be determined on a risk basis and should be appropriate to the potential for pollution.
- Parameters laid down in the consent must be checked during monitoring and where parameters do not exist a qualitative parameter schedule will be formulated by the Environmental Adviser (based on relevant guidelines and/or quality of receiving water body).
- Monitoring will be undertaken by a competent person and where required training will be provided by the Environmental Adviser on a request basis.
- A suitable record of monitoring must be created this can take the form of a site diary entry, use of a form or book but must include an assessment of the discharge and detail any remedial actions taken should they be required.

3 Further information

Environment Agency (www.environment-agency.gov.uk)
Scottish Environment Protection Agency (SEPA) (www.sepa.org.uk)
Natural Resources Wales (https://naturalresources.wales/?lang=cy)
Marine Management Organisation (www.marinemanagement.org.uk)
NetRegs (www.netregs.gov.uk)

Pollution Prevention Guidelines (PPGs) were withdrawn and moved to the archives in 2015 and have undergone a review process. As a result the **Guidance for Pollution Prevention (GPPs)** have been

produced. This guidance has been produced by Natural Resources Wales (NRW), the Northern Ireland Environment Agency (NIEA) and the Scottish Environment Protection Agency (SEPA). For Northern Ireland, Scotland and Wales, these documents offer guidance on environmental legislation, however, this guidance is not endorsed by the Environment Agency as regulatory guidance in England. To view the GPP's please visit (Guidance for Pollution Prevention (GPP) documents | NetRegs | Environmental guidance for your business in Northern Ireland & Scotland) or for guidance on environmental regulations in England go to **www.gov.uk**.

CIRIA - Environmental good practice on-site (C502)
CIRIA / Environment Agency Joint Guidelines 'Concrete Bunds for Oil Storage Tanks'
CIRIA / Environment Agency Joint Guidelines 'Masonry Bunds for Oil Storage Tanks'

SEPA Scottish Oil Storage Regulations Advice
SEPA – The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) – A Practical Guide - January 2018 (https://www.sepa.org.uk/media/34761/car_a_practical_guide.pdf)

Appendix A - Drip tray Guidance

Purpose

Drip trays provide a safe and convenient way to store and handle hazardous materials, protect the environment and our workers from leaks, drips and spills.
They provide temporary storage for containers and drums. They are useful for preventing drips and small leaks onto the ground, mainly in operational areas where chemicals and small amounts of fuel or oil are needed. They are not bunds and will not prevent large quantities of chemicals or fuels from spilling onto the ground.

This document aims to provide guidance on:

- The controls/requirements to be adhered to regarding the use of drip trays while working on Morgan Sindall sites and;
- The importance of correct use of drip trays in the protection of land contamination, and oil drips, leaks, and spills.

Legislative background

- The Control of Pollution (Oil Storage) (England) Regulations 2001
- The Water Environment (Oil Storage) (Scotland) Regulations 2006
- Control of Pollution (Oil Storage) Regulations (Northern Ireland) 2010
- The Water Resources (Control of Pollution) (Oil Storage) (Wales) Regulation 2016

The Regulations are designed to reduce the number of incidents of oil pollution from organisations that store oil outside, either for transport, fuel use, heating or other manufacturing and lubrication activities.

General requirements for oil storage

- Oil should be stored in containers of sufficient strength and structural integrity so it is unlikely to burst or leak during ordinary use.
- Containers should be positioned, or other steps must be taken, in order to minimise the risk of damage by impact.

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- Plant or oil/fuel storage should be located away from sensitive areas where there exists potential for water pollution (ie away from drains, gullies, watercourses etc). In addition, plant should ideally be located away from main traffic routes to reduce the risk of collision or damage by plant.
- Containers shall be stored within a secondary container (e.g. a bund) which has a capacity of not less than 110% of the containers storage capacity, or if there is more than one container, a capacity of not less than 110% of the largest container's storage capacity or 25% of their aggregate capacity whichever is greatest. Further guidance can be found at https://www.gov.uk/guidance/storing-oil-at-a-home-or-business.
- Drip trays should have a base and walls that are impermeable to liquid and oil, and must not be penetrated by any valve, pipe or opening which is used for draining the system.
- If the connection point to a fill pipe is not within the secondary containment system, a drip tray must be used to catch any oil spilled when the container is being filled with oil.
  Failure to comply with the Regulations is a criminal offence. A person guilty of an offence is liable to a fine.

Use of drip trays

- All items of plant require drip tray.
- Excavators, dumpers or other large items of mobile plant which can be driven by a person do not require a drip tray but should be used while refuelling. The exception to this is where risk assessment shows that these items require containment.
- Where plant has an internal drip tray then external drip tray is not required unless refuelling is being carried out. NOTE: Internal drip trays must be checked prior to moving plant to ensure no spillages occur. In addition internal trays must be checked regularly to ensure integrity and cleaned out as required. Internal drip trays also need to be verified as internal drip trays and not just a hole
- Drip trays are not expected to follow excavators, dumpers etc around unless the item of plant shows signs of leakage, in which case this should be rectified immediately.
- The use of a drip tray can be risk assessed out by the project on a case by case basis, but this must be authorised by the Business Unit SHEQ Manager.
- Fully bunded fuel tanks either; static or on wheels, do not need drip trays UNLESS they are connected to an item of plant i.e. a generator. In this case the whole set up must be bunded to 110% either using a pop up or block bund created to the oil storage regulation standards. It is permissible to have an outlet from these bunds so long as a http://www.capturegreen.com/products/hydrocarbon-removal-cartridge/ is in place.
- Where a fully bunded fuel tank (as above) is being used to fuel items of plant and the hoses returned to the fuel tank after each use, a drip tray must be used whilst refuelling.
- Spill kits must be kept in all work areas and also with all fuel stores.
- When using interceptor drip trays / cages, ONLY items which float on water can be stored in / on these. They must be filled with water to the correct level before materials are stored on them.

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Types of drip trays

There are various different types of drip trays in use on Morgan Sindall sites. All items of plant require drip trays.

- Plant nappy – suitable for small plant. The plant nappy allows any water to pass through but retains any oil residue. Used filter inserts should be disposed of as hazardous wastes and replaced by inserts supplied from the manufacturer
- Baking tray style metal containment (last resort) – suitable for small plant. The metal tray is prone to filling up with rain water so it requires daily emptying. Only use if all other drip trays are not available.
- Interceptor style drip trays – suitable for the storage of oil drums etc. The interceptor drip tray works on the principle of 'oil floats on water'. Oil collected in the tray is retained and clean water expelled via an outflow hole in the interceptor chamber. The water level needs to be regularly topped up.
- EnviroPad's – suitable for small plant. The EnviroPad captures oils and other hydrocarbons and solidifies them. Used pads should be disposed of as hazardous wastes and replaced.

Plant Nappy

The Plant Nappy or similar is Morgan Sindall's preferred choice for the storage of small quantities of fuels and oils and items of plant only.

- The filter inserts that are used in the nappy allow rain water to pass through the membrane but the filter medium retains oils and fuels
- Using a plant nappy removes the need to dispose of oily water that can accumulate in other types of spill containment equipment, thus saving costs on disposal
- **Liners can be maintained by squeezing out any oils which have accumulated onto a spill kit pad.**
- Lay the liner out on a flat surface with spill kit pads underneath
- Utilise a paint roller handle or similar and run it across the blue woven layer of the liner ensuring any excess oils are captured on the spill kit pad
- Any liners or spill kit pads which need to be disposed of are to be bagged and disposed of as hazardous waste in segregated, labelled, secure container.
- Note: Filter inserts do have an absorbency capacity and will require maintenance once this capacity is reached (refer to Manufactures Guidance with regards to absorbency capacity for different size filters)
- Replacement plant nappy filters are available from stores. **Nappies should have the correct blue proprietary inserts in use at all time.**

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Interceptor drip trays

Interceptor drip trays work on the principle that oils float on water. They have an integral oil/water separator in the form of baffles. The following instructions should be adhered to when using interceptor style trays:

- Place on level ground
- Prime with water at the indicated level
- Regularly check tray to ensure that there are no blockages or that oil is not being discharged from outlet and water levels are maintained.
- If maintenance is required then the contents should either be disposed of in a suitable manner (i.e. via an approved waste carrier) and the correct waste documentation obtained or treated using a hydrocarbon bio-digester (Note: If oils/fuels have emulsified, liquids should be tankered away as the use of bio-digesters will be unsuccessful).
- If there is only a light film of oil in the drip tray this can be removed by using oil absorbent pads. These pads will need to be bagged and disposed of as hazardous waste. Rainwater in drip trays that are being used for storing chemicals may be contaminated. However the contamination might not be visible. If in doubt, you should test the rainwater and remove it from the site as hazardous waste if necessary.
- Always use for static plant operating within 10m of a watercourse.
- Chemicals that DON'T float on water should NOT be stored in an 'interceptor' drip tray.
- Maintain the area around the interceptor drip tray and clean up any spillages

EnviroPad's

The EnviroPad is a form of drip tray that utilises polymer technology to capture and retain spills and drips of hydrocarbons. Oils and other hydrocarbons are instantly trapped, solidified and immobilised into a non-leaching, dry rubber-like mass, ensuring that hazardous fluids are removed to non-detectable levels.

- Used pads must be disposed of as hazardous waste

Remember: Contaminated water from spill containment equipment should be disposed of in a suitable manner, and the correct waste documentation obtained.

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Table of Requirements

Item of Equipment	Drip Tray Requirements
Portable Compressor	Compressors with internal drip trays need to be monitored for ingress of water prior to moving around site. Utilise plant nappy when refuelling if internal drip tray is not available Position engine compartment over plant nappy if compressor doesn't have an internal drip tray
Cut Off Saw	Utilise plant nappy when refuelling. Put back in the stores at the end of the shift
Floor Saw	Utilise plant nappy when refuelling. Put back in the stores at the end of the shift
Excavator	No requirement unless leaking.
Dumper	No requirement unless leaking.
Oils	Stored in an approved container, positioned in a drip tray/plant nappy
Diesels (other than main stores)	Stored in an approved container, positioned in a drip tray/plant nappy
Petrol (other than main stores)	Stored in an approved container, positioned in a drip tray/plant nappy
Petrol Portable Generator	Generators with internal drip trays need to be monitored for ingress of water prior to moving around site. Utilise plant nappy when refuelling if internal drip tray is not available
Pump	Utilise plant nappy when refuelling.
Breaker	Compressed Air - No need to store breaker unit on drip tray Hydraulic – Put back in the stores at the end of shift.
Cement Mixer	Utilise plant nappy when refuelling. Put back in the stores at the end of shift.
Compactor Plate	Utilise plant nappy when refuelling. Put back in the stores at the end of shift.
Rammax	Utilise plant nappy when refuelling. Put back in the stores at the end of shift.
Tower Lights	Utilise plant nappy when refuelling if internal drip tray is not available Position plant nappy under generator if no internal drip tray is available (because these are usually static for more than 3 days)
Fuel Bowser	All fuel bowsers should be bunded. Utilise plant nappy when refuelling.