

WORKS IN, NEAR OR LIABLE TO AFFECT WATERCOURSES: PPG5

POLLUTION PREVENTION GUIDELINES

These guidelines have been drawn up to assist all those who may have cause to work in or near watercourses. They have been jointly produced by the Environment Agency for England and Wales, the Scottish Environment Protection Agency and the Environment and Heritage Service in Northern Ireland, referred to as the Agency or Agencies. Compliance with this guidance should minimise the risk of pollution occurring. Every site is different and will need to be considered individually. Consultation with your local Agency office is advisable before any work is started. Contact details can be found at the end of these guidelines.

1. LEGAL FRAMEWORK

- a. The Agencies are responsible for both the protection of “controlled waters” from pollution and for the prevention of pollution of the environment, harm to human health and detriment to local amenity by waste management activities.

“Controlled waters” include all watercourses, lakes, lochs, coastal waters and water contained in underground strata (or “groundwater”) and it is an offence to pollute such waters, either deliberately or accidentally. In addition, the formal consent of the Agency is required for many discharges to controlled waters, including both direct discharges and discharges to soakaways. Such consents are granted subject to conditions and are not issued automatically.

- b. All discharges to the public foul sewer require authorization by the sewerage undertaker and may be subject to the terms and conditions of a trade effluent consent.
- c. Any other waste produced on a site will be subject to the Duty of Care (Reference 1) and may also be subject to control under the Waste Management Licensing Regulations 1994. In addition, certain wastes are defined as “Special Wastes” and are subject to more rigorous controls (Reference 2). Advice is available from the Agencies.
- d. In England and Wales, the Environment Agency also has powers and responsibilities for flood defence. Under the Water Resources Act 1991, prior consent must be obtained for any structure in, over or under a ‘main’ river (defined in the Water Resources Act 1991). Under the Land Drainage Act 1991, consent is also required for the erection of mill dams, weirs, and similar obstructions and for culverts in ‘ordinary’ watercourses (defined by the Land Drainage Act 1991).

These controls are supplemented by regional byelaws which regulate certain other activities on and in the vicinity of main rivers. The extent of the area of land subject to this control varies from region to region and also depends on the type of facility being protected. For example, the area of land subject to byelaw control will usually be greater in the vicinity of sea defences than in the vicinity of main rivers. Seek advice from your local Agency office about local byelaw distances and other specific areas subject to byelaw control.

In addition, the Environment Agency must be given 7 days written notice of any intention to temporarily divert flow of any watercourse, carry out works within the river channel or commence any operations in the river channel so that suitable arrangements can be made concerning fishery interests.

In Scotland, new powers are due to be introduced which will require that any person proposing to carry out drainage works will have to consult with SEPA beforehand on the precautions to be taken to prevent pollution.

2. INTRODUCTION

Most pollution incidents are avoidable. Careful planning can reduce the risk of pollution. Most of the measures needed to prevent pollution cost very little, especially if they are included at the planning stage of any scheme or project. In contrast, the costs of cleaning up a pollution incident can be very high. There are also serious consequences of a prosecution for environmental offences. Any work carried out in or near watercourses must be regarded as high risk with significant potential to cause pollution.

Potential pollutants of concern include silt, cement, concrete, fuel, lubricating and shutter release oils, petrol, sewage, bridge cleaning debris and other waste materials.

The Agency has produced specific guidance for pollution prevention at construction and demolition sites (PPG6 - Reference 3) which should be followed in conjunction with this guidance if applicable.

3. GENERAL PRECAUTIONS

In planning and carrying out any work in or near rivers, streams, ditches and other watercourses, precautions must be taken to ensure their complete protection against pollution, silting and erosion.

Any work on or near foul sewers, (especially trunk sewers), underground oil/chemical pipelines or fluid filled electricity cables poses a major threat of pollution if damage occurs. At least 7 days prior notification of an intention to work on these structures should be given to the Agency, enabling appropriate pollution prevention measures and emergency procedures to be agreed.

The use of industrial by-products at locations where drainage from the material could directly or indirectly enter surface or groundwater must be discussed with the Agency. Such materials must be suitable for the purpose, well weathered and must not pose a leachate problem (Reference 4).

4. SILT

Silt causes lasting damage to river life such as fish, insects and plants and can also build up to cause flooding. Water containing silt should never be pumped or allowed to flow directly into a river, stream or surface water drain. Silty water can arise from dewatering excavations, exposed ground, stockpiles, plant and wheel washing, site roads and disturbance of the river bed. Where possible, silty water should be disposed of to the foul sewer with the prior agreement of the sewerage undertaker (see Section 1b). Discharges to streams, watercourses or soakaways must have Agency approval which should be obtained well in advance. Suitable treatment will be required, such as the use of a lagoon, tank or grassed area to settle solids. For fine silts, flocculants may be required to aid settlement, although these should be used with care because of their potential for pollution.

a. Pumping

Care should be taken with the discharge to watercourse of any pumped clean water from dewatering or overpumping operations. If it is carried out with a powerful pump and/or at a high rate, then the river bed and bank could be disturbed and eroded, producing silty river water. Therefore pumped discharges must be made using a pump of a suitable size for the situation and at a rate which will not cause river bed disturbance.

b. Excavations

Where possible prevent water from entering excavations. Use cut off ditches to prevent entry of surface water and well point dewatering or cut-off walls for groundwater. Use the corner of the excavation as a pump sump and avoid disturbing that corner. Do not allow personnel or plant to disturb water in the excavation. For work in river channels, the use of coffer dams is recommended to keep river water out of the working area.

c. Exposed ground and stockpiles

Minimise the amount of exposed ground and soil stockpiles. Seeding or covering stockpiles and constructing silt fences from a suitable geotextile may be useful in reducing silt levels in run-off water.

d. Site roads and river crossings

Site roads and approaches to river crossings must be regularly brushed or scraped and kept free from dust and mud deposits. The inclusion of small dams in roadside ditches may assist silt retention, especially on steep slopes. If a river is to be frequently crossed, a permanent bridge or pipe crossing should be constructed. This would make fording of the river, and the consequent disturbance of the bed, unnecessary.

e. Bank restoration

Where possible, bank restoration should be carried out by vehicles operating from the bank rather than the river.

5. CONCRETE AND CEMENT

Fresh concrete and cement are very alkaline and corrosive and can cause serious pollution in watercourses. It is essential to ensure that the use of wet concrete and cement in or close to any watercourse is carefully controlled so as to minimise the risk of any material entering the water, particularly from shuttered structures or the washing of equipment. The use of quick setting mixes may be appropriate.

For long term projects involving on-site concrete production, careful initial siting of concrete mixing facilities is vital. A settlement and recirculation system for water reuse should be considered. This will minimise the risk of pollution and reduce water usage. Washing out and cleaning of concrete batching plant or ready mix lorries should be carried out in a contained area as far from the watercourse as practical.

6. OIL AND CHEMICALS

a. Storage

Fuel, oil and chemical storage must be sited on an impervious base within a bund and secured. The base and bund walls must be impermeable to the material stored and of adequate capacity. Detailed guidelines concerning above ground oil storage tanks are available (PPG2 - Reference 5). Leaking or empty drums must be removed from the site immediately and disposed of via a registered waste disposal contractor.

b. Security

All valves and trigger guns should be protected from vandalism and unauthorised interference and should be turned off and securely locked when not in use. Any tanks or drums should be stored in a secure container or compound, which should be kept locked when not in use. Bowsers should be stored within site security compounds.

c. Refuelling

The risk of spilling fuel is at its greatest during refuelling of plant. Where possible, refuel mobile plant in a designated area, preferably on an impermeable surface well away from any drains or watercourses. Keep a spill kit available and use a banded bowser. Never leave a vehicle unattended during refuelling or jam open a delivery valve. Check hoses and valves regularly for signs of wear, and ensure that they are turned off and securely locked when not in use. Diesel pumps and similar equipment should be placed on drip trays to collect minor spillages or leaks. These should be checked regularly and any accumulated oil removed for appropriate disposal.

d. Biodegradable oils

When working in or near rivers, the use of biodegradable chainsaw chain bar lubricant and biodegradable hydraulic oil in plant is recommended. The Environment Agency has adopted a policy to do so for its own operations, and those working on its behalf will be required to do so by the year 2005.

7. BRIDGE CLEANING AND REPAINTING

Where bridges or other structures over, or adjacent to, rivers are being cleaned or repainted, debris should be prevented from falling into the watercourse or onto the embankment. Provision for the collection of solid debris, including spent abrasive materials and waste paint, should be incorporated into working methods. Where possible physical cleaning methods should be adopted in preference to the use of liquid chemicals such as caustic and acid solutions. If such liquids are used the effluent must be fully contained. The Agency can advise on the required pollution prevention measures (PPG23 - Reference 6).

8. HERBICIDE USE

The use of herbicides in or near rivers requires the written approval of the Agency. If approval is given, the user is responsible for ensuring that the interests of other river users are not adversely affected. Please contact the Agency for further details.

9. EMERGENCIES

If it is unavoidable that oil and chemicals have to be used within close proximity of a stream, river or any other watercourse, then it is recommended that a suitable spill kit or absorbent materials are held in the vicinity and that an appropriate temporary bund is put in place. In the event of any spillage, the spilt material should be contained (using absorbents such as sand, soil or commercially available booms or pads) and the Agency notified immediately, using the emergency hotline number listed at the end of this guidance.

10. REFERENCES

1. Waste Management - The Duty of Care - A code of practice (revised 1996): ISBN: 0-11-753210-X: The Stationery Office: Tel. 08706 00 55 22
2. Classification of special waste: Information Sheet 1: Environment Agency
Use of the consignment note: Information Sheet 2: Environment Agency
Obtaining and sending consignment notes: Information Sheet 3: Environment Agency
A Guide to the Special Waste Regulations 1996: SEPA
A Guide to the Special Waste Regulations (Northern Ireland) 1998: Environment and Heritage Service
3. PPG6: Working at construction and demolition sites
4. Use of industrial by-products in road construction - water quality effects, Report 167: CIRIA (Construction Industry Research and Information Association) ISBN: 0-86017-475-1: Tel. 020 7222 8891
5. PPG2: Above ground oil storage tanks
6. PPG23: Maintenance of structures over water

References 2, 3, 5 & 6 are available free of charge from the Agencies

All the Agencies' pollution prevention guidance notes are available on the web sites listed below.

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The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water in England, Wales, Scotland and Northern Ireland.

EMERGENCY HOTLINE

0800 80 70 60



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