



scottish environment protection agency



ENVIRONMENT
AGENCY

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 Scottish Environment Protection Agency, the Environment Agency for England and Wales and the Environment and Heritage Service in Northern Ireland, referred to as the Agency or Agencies in these guidelines. 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 the protection of "controlled waters" from pollution under the Water Resources Act 1991 in England and Wales, the Control of Pollution Act 1974 (as amended) in Scotland and the Water Act 1972 in Northern Ireland. With the exception of Northern Ireland they are also responsible for the prevention of pollution of the environment and harm to human health by waste management activities under the Environment Protection Act 1990.

It is an offence to cause pollution of controlled water, either deliberately or accidentally. "Controlled waters" include all watercourses and water contained in underground strata (or "groundwater"). In addition, the formal consent of the Agency is required for many discharges to controlled waters, including both direct discharges and discharges to soakaway. Such consents are granted subject to conditions and are not issued automatically.

- b. Discharges to 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) under the Environment Protection Act 1990 and may also be subject to control under the Waste Management Licensing Regulations 1994. In addition, certain hazardous wastes are subject to the Special Waste Regulations 1996 (Reference 2). Advice is available from the Agency.
- 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 (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.

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 allowed to flow or pumped 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 I b). 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 of any pumped clean water, such as dewatering or overpumping, to the watercourse. 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 all 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 river crossing is frequently required, 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

Cement and concrete are very alkaline and corrosive and can have a highly polluting impact on watercourses. It is essential to ensure that the use of cement and wet concrete 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 & 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. (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 bunded bower. 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.

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.

8. 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.

9. REFERENCES

1. Waste Management - The Duty of Care - A code of practice:
The Stationery Office ISBN: 0 11 753210
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
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.
5. PPG2: Above ground oil storage tanks

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

ENVIRONMENT AGENCY

HEAD OFFICE

Rio House, Waterside Drive, Aztec West
Almondsbury, Bristol BS32 4UD.
Tel: 01454624400 Fax: 01454624409
Internet: www.environment-agency.gov.uk

REGIONAL OFFICES

ANGLIAN

Kingfisher House
Goldhay Way
Orton Goldhay
Peterborough PE2 5ZR
Tel: 01733 371 811
Fax: 01733 231 840

MIDLANDS

Sapphire East
550 Streetsbrook Road
Solihull 391 1QT
Tel: 0121 711 2324
Fax: 0121 711 5824

NORTH EAST

Rivers House
21 Park Square South
Leeds LS1 2QG
Tel: 0113 244 0191
Fax: 0 1 13 246 1889

NORTH WEST

Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tel: 0 1925 653 999
Fax: 0 1925 415 961

SOUTHERN

Guildbourne House
Chatsworth Road
Worthing
West Sussex BN11 1LD
Tel: 0 1903 832 000
Fax: 01903 821 832

SOUTH WEST

Manley House
Kestrel Way
Exeter EX2 7LQ
Tel: 0 1392 444 000
Fax: 01392 444 238

THAMES

Kings Meadow House
Kings Meadow Road
Reading RG1 8DQ
Tel: 0 118 953 5000
Fax: 0 1 18 950 0388

WELSH

Rivers House
St Mellons Business Park
St Mellons
Cardiff CF3 0LT
Tel: 0 1222 770 088
Fax: 0 1222 798 555

ENVIRONMENT & HERITAGE SERVICE

Calvert House,
23 Castle Place,
Belfast 1
BT1 1FY
Tel: 0 1232 254868
Fax: 0 1232 254777

SCOTTISH ENVIRONMENT PROTECTION AGENCY

HEAD OFFICE

Erskine Court
The Castle Business Park
Stirling FK9 4TR
Tel: 01786 457 700 Fax: 01786 446 885
Internet: www.sepa.org.uk

REGIONAL OFFICES

NORTH REGION HQ

Graesser House
Fodderty Way
Park
Dingwall Business Park
Dingwall IV1 5 9XB
Tel: 0 01 349 862 021
Fax 0 349 863 987

WEST REGION HQ

SERA West
5 Redwood Crescent
Peel Park
East Kilbride G74 SPP
Tel: 01355 574 200
Fax: 01355 574 688

EAST REGION HQ

Clearwater House
Heriot-Watt Research
Park
Avenue North
Riccarton
Edinburgh EH 14 4AP
Tel: 0 131 449 7296
Fax: 0131 449 7277

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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