

www.environment-agency.gov.uk

Achieving positive gains from watercourses in new development

Good practice note 3

ENVIRONMENT AGENCY



116591



**ENVIRONMENT
AGENCY**

www.environment-agency.gov.uk

The Environment Agency is the leading public body protecting and improving the environment in England and Wales.

It's our job to make sure that air, land and water are looked after by everyone in today's society, so that tomorrow's generations inherit a cleaner, healthier world.

Our work includes tackling flooding and pollution incidents; reducing industry's impacts on the environment; cleaning up rivers, coastal waters and contaminated land; and improving wildlife habitats.

Published by:

Environment Agency
Rio House
Waterside Drive, Aztec West
Almondsbury, Bristol BS32 4UD
Tel: 01454 624400 Fax: 01454 624409

© Environment Agency October 2004

All rights reserved. This document may be reproduced with prior permission of the Environment Agency.

This report is printed on Cyclus Print, a 100% recycled stock, which is 100% post consumer waste and is totally chlorine free. Water used is treated and in most cases returned to source in better condition than when it was removed.

Watercourses in new development

A healthy river or stream corridor can be the focal point of a new development, adding to the quality of life of local people. Well-designed developments use watercourses and the space around them:

- to manage flood risk;
- to provide urban greenways;
- to maintain an area where wildlife can flourish;
- to enhance the landscape and educational value of the area;
- to increase the desirability and marketability of the finished development.

We hope that this Good Practice Note will help you to realise fully the rich potential offered by your on-site watercourse.

Contributing to the achievement of sustainable development is the principal statutory aim of the Environment Agency. Local planning authorities also seek sustainable development in accordance with Government guidance and the Development Plan. Many have policies to safeguard river corridors.

A list of the other Good Practice Notes in this Sustainable Development series is at the back of this leaflet.

Step 1 – Talk to us at the Environment Agency

Always talk to the Environment Agency about the watercourses on your site before you produce your first site layout plan.

We will:

- help you to identify the main issues and avoid pollution;
- advise you how to apply for any statutory consents you may need;
- let you know if we have useful information about your watercourse, such as historic flood levels or the presence of legally protected species;
- tell you about the latest examples of best practice.

We hope that we can help you to use the watercourses on your site to increase the success of your project for the benefit of people, wildlife and the wider environment.

Step 2 – Map and survey your watercourses. Understand the ways in which they may both help and constrain your plans.

There is a lot you can do yourself, but you may also need to recruit specialists to your project team to help you.

Topographical survey

- Accurately map any watercourses or wetland features on the site. Set these features in the context of a site-level survey.
- Use maps and on-site clues to identify any watercourse hidden from view by culverting or damaged by other previous works. In some cases you may need to contact your local sewerage undertaker for help.

Flood risk assessment

- What is the risk of your site flooding or of your development increasing flood risk elsewhere? Dealing with these issues can have a major impact on site layout and design. See Good Practice Note 1 on addressing flood risk for vital information on this subject.

Modified or unmodified

- Establish whether the watercourse is in a relatively natural condition or not. If it is, then you can often do most good by leaving it alone and protecting it from the impacts of the construction process.
- Has the channel been straightened? Have the banks or the bed of the

watercourse been reinforced or regraded? Are there weirs or other flow control structures? Are there any outfalls? If the stream has been modified, try to establish what has been done and why. How different is the engineered section to any nearby unmodified section?

People and access

- Is there existing safe access for people? Can access be appropriately improved? Can the watercourse form part of a greenway route or green corridor?
- Will your development need to include areas of open space? Can this include the stream corridor or be connected to it by a generous greenway?

Watercourse crossings

- Do roads or paths need to cross the watercourse? How can crossing points be kept to an absolute minimum? The Environment Agency has a presumption against culverting as it reduces flood conveyance and severs the bankside wildlife corridor.
- When crossings are vital we prefer clear span bridges. The width of road bridges can often be reduced by using the bridge as a single-lane, traffic-calming pinch point.

Wildlife and landscape

- Try to characterise the wildlife and landscape value of your watercourse. How can it be improved? Have you got an ecologist on your project team? Consider employing an ecological clerk of works to avoid future problems on particularly sensitive sites.
- If you have reason to believe there are legally protected species or habitats on or close to your site, talk to English Nature promptly to avoid any future problems.

Planning permission

Consider the planning policy implications of your development proposal. Refer to the relevant development plan. Contact your local authority.

Step 3 – Produce a draft site layout plan that reflects your detailed knowledge of the flooding and wildlife of the watercourse.

Contact the Environment Agency and consult us on your draft layout plan to ensure that it is acceptable from an Environment Agency point of view.

Step 4 – Develop detailed plans and design solutions to gain the maximum benefit from your watercourse.

1. Seek further advice from the sources of information and advice listed in this leaflet.
2. Ensure your design team and contractors are fully informed, especially of the details of timing/working practice that may be needed.
3. Maintain a dialogue with the Environment Agency. We will help as much as we can.

Consider the ways you can enhance damaged sections of watercourse:

1. Can your development help to restore the natural appeal of a previously degraded watercourse? Staff at the Environment Agency are very experienced in enhancing watercourses. We are always happy to try to help you.
2. Can existing culverts be removed? Can existing hard engineering to the bed and banks be replaced with a more wildlife friendly and visually attractive alternative? Can the river and its floodplain be rehabilitated, thereby reducing flood risk, and increasing wildlife value?

Occasionally there is scope for restoring significant lengths of river or stream. The picture below shows how meanders were created in a section of the River Skerne in Darlington, to create an attractive linear riverside park.

This section of river is now highly valued by the local community.



If the opportunity is identified at an early stage, even the smallest watercourse can be enhanced to provide significant habitat and public benefits.

Step 4.1 Allow people and wildlife to move safely along the banks of the watercourse.

Good practice

1. Provide safe cycling and pedestrian routes that also create amenity space and enhance natural features.



3. Use bridges rather than culverts: they cause less obstruction to flood flow and leave more of the streamside wildlife corridor intact.

2. Where appropriate, re-profile steep open banks to form a gentle slope with shallow waterside margins. This increases safety.



Step 4.2 Modern, high quality development layouts should always promote the amenity value of well-designed streamside corridors.

Buildings should face watercourses and not turn their backs to them. This helps to promote respect and safe use of a valued community space.



Site with watercourse



The old way



The new way buildings should face watercourses

Where to find out more

Further guidance and advice

The Environment Agency also provides specialist advice on protected species, such as crayfish and salmon.

By Design: Urban Design in the Planning System, (DLTR) and (CABE), 2000. Available from www.planning.odpm.gov.uk

Places, Streets and Movement: A companion guide to Design, Bulletin 32 DTLR, 1998

A Guide to Green Networks, English Nature

The Urban Design Compendium, Llewlyn-Davies for English Partnerships and the Housing Corporation, 2000.

For measures to encourage cycling see Sustrans www.sustrans.org.uk

Urban Rivers; our future and inheritance, Petts G et al, 2002. Environment Agency

A Biodiversity Guide for the Planning and Development Sectors in South East England, English Nature, 2002. ISBN 85716 617 5

River Restoration Centre Manual of Techniques, available on RRC website at www.theRRC.co.uk

Works in, near or liable to affect watercourses. Pollution Prevention Guidelines (PPG) note 5 on www.environment-agency/netregs/resources

Other Good Practice Notes in this series:

Flooding

Practical advice on how to ensure new development is at minimal risk of flooding and does not increase the risk of flooding elsewhere.

Drainage

Practical advice for designing drainage schemes to avoid pollution and help return water to the environment naturally.

Watercourses

Practical advice on restoring and enhancing watercourses, to benefit wildlife and the community.

Wise Use of Resources

Practical advice for resource-efficient design and construction, to conserve natural resources and reduce operational costs.

Contacts

Environment Agency
Hampshire and Isle of Wight
Wessex Way
Colden Common
Winchester
Hampshire SO21 1WP
Tel: 08708 506 506
Fax 01962 841 573

Website:
www.environment-agency.gov.uk

The River Restoration Centre.
See their website for details
www.theRRC.co.uk



ENVIRONMENT AGENCY

Information Services Unit

Please return or renew this item by the due date

Due Date

V
V
F
H
G
S

F
E
C



ENVIRONMENT
AGENCY