

Defra/Environment Agency Flood and Coastal Defence R&D Programme



Scoping Study for an Environmental River Engineering Design Manual (EREDM)

R&D Technical Report

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**Defra / Environment Agency
Flood and Coastal Defence R&D Programme**

**Scoping Study for an
Environmental River Engineering Design Manual
(EREDM)**

November 2004

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This document provides information for Defra and Environment Agency Staff about consistent standards for flood defence and constitutes an R&D output from the Joint Defra / Environment Agency Flood and Coastal Defence R&D Programme.

EXECUTIVE SUMMARY

This scoping study reports on the work required to develop a digital Environmental River Engineering Design Manual (EREDM). The Manual should provide guidance and supporting information on the most widely used river enhancement techniques employed by the Environment Agency and others.

The scoping study briefly explores what information currently exists, in what format and for what purpose. From this a core of 26 easily accessible publications (Appendix A) were chosen to help demonstrate the range of techniques available and their applicability to the UK situation

Selection of the methods and techniques to be included is addressed. It is recommended that these consist of those:

- Most commonly undertaken techniques;
- Techniques applicable to a wide range of UK rivers.

For each technique the study proposes that there is an assessment of:

- Robust scientific evidence. Reject those found lacking as being unfounded;
- Expert opinion support. Where scientific evidence is lacking this may prove an adequate surrogate.

From this study over 150 different design specifications were found for river enhancement techniques. Appendix B lists these techniques. The designs ranged from detailed practical diagrams to theoretical descriptions. The design layout for the EREDM must be detailed, easily understood and pictorial. Two principal options are proposed; firstly, a compendium of the most comprehensive and complete designs or secondly, a new 'synthesis' of the most desirable elements of many designs.

Options for the format of the Manual include electronic via Intranet, Internet and CD-ROM or a combination of these. Estimated costs are provided, together with the relative merits of each.

To demonstrate the EREDM to others (including potential funding partners) a proof of concept has been developed (attached CD-ROM). This proof takes the user through a series of web pages featuring selected techniques.

The scoping study also looked at the potential interest in this tool from the other UK Environmental Agencies. Many of these indicate they could potentially provide funding towards the design phase, should the output be available to their staff. There is also a common request to be consulted at a very early stage to enable the EREDM to meet their requirements.

An outline specification has been provided to allow the Project Manager to progress quickly to the design phase (Appendix J). Potential collaborators are also suggested.

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Appendix D	Contributors and Beneficiaries (Rivers Agency, N. Ireland) - Initial comments to the proposed EREDM
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Appendix H	Design Manual for Environmental engineering costings: Internet and CD-ROM based
Appendix I	Design Manual for Environmental engineering costings: Intranet, Internet and CD-ROM based
Appendix J	Specification for the Environmental River Engineering Design Manual
Appendix K	HR Wallingford framework costs agreement with the Environment Agency

CD-ROM

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