

Road Schemes and the Protection of the Water Environment

A Water Management Unit Guidance Note

January 2012

CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1. INTRODUCTION	3
2. AIM	3
3. SCOPE	4
4. WATER MANAGEMENT UNIT 'ACTIONS'	5
5. WATER FRAMEWORK DIRECTIVE	5
6. ENVIRONMENTAL IMPACT ASSESSMENT PHASE	6
7. DETAILED DESIGN PHASE	9
8. PRE-CONSTRUCTION AND CONSTRUCTION PHASE	10
9. OPERATIONAL PHASE	12
10. CONTACTING WATER MANAGEMENT UNIT	13

1. INTRODUCTION

- 1.1 The Northern Ireland Environment Agency (NIEA) Water Management Unit (WMU) has responsibility for the protection of the water environment. WMU is empowered to protect the water environment by a number of pieces of legislation, most notably the Water Framework Directive.
- 1.2 Road construction involves the formation of linear construction sites which potentially pose a significant risk to the water environment due to the number of waterways that they may impact upon and the potential cumulative impact upon waterbodies.
- 1.3 Water pollution from road schemes can occur at the pre-construction, construction or operational phases. The mobilisation of sediment, spillages of fuel, oil or cement, dewatering activities or the disturbance of contaminated land are examples of activities that may result in the release of pollutants to waterways or groundwaters, particularly during the construction phase.
- 1.4 The linear nature of road schemes therefore pose particular challenges for those responsible for water management on these sites and for WMU, who is responsible for protecting the water environment.

2. AIM

- 2.1 The aim of this guidance document is to advise how WMU will input and interact with various parties involved in the development of major road schemes, including consultants, contractors, developers and members of the public. This guidance also indicates what 'Actions' WMU will take at the environmental assessment, detailed design, pre-construction, construction and operational phases of road schemes.
- 2.2 This guidance does not replicate the advice and guidance provided in existing published good practice documents, some of which are listed in section 6.1.3. Rather this guidance note focuses on WMUs role and the actions WMU will take during each phase of new road schemes.
- 2.3 It is a key aim for WMU to work constructively with Road Service's consultants and private developers to contribute to the full and comprehensive Environmental Impact Assessments (EIA) that are carried out for road schemes and that commitments to the protection of the water environment, which are reported in the Environmental Statement, are carried through to the detailed design, pre-construction, construction and operational stages of the project.

3. SCOPE

- 3.1 The scope of this guidance document relates primarily to WMUs role in the protection of the water environment in relation to the environmental assessment, detailed design, pre-construction, construction and operation of new or upgraded roads.
- 3.2 In relation to other aspects of environmental protection WMU recommend direct consultation should take place with other relevant Units within NIEA (see section 10), the Loughs Agency and the Inland Fisheries Group, of The Department of Culture, Arts and Leisure (DCAL) to ensure their views, advice and guidance are fully captured at all phases of the scheme.
- 3.3 Reference to Environmental Impact Assessment (EIA) in this document refers to the whole process by which information regarding the likely environmental effects of a project is systematically collected, assessed and publicised.
- 3.4 Reference to an Environmental Statement (ES) in this document refers to a statutory document produced to report the findings and conclusions reached through the EIA process.
- 3.5 This guidance note should also be applied to road schemes/projects where it has been determined that a statutory EIA is not required. WMU may request some form of environmental assessment on the impacts of a non EIA project on water quality on a case by case basis depending upon the specific project.
- 3.6 WMUs Pollution Prevention Team are always available to provide advice and guidance on best practice measures to protect the water environment for all sizes of scheme (see section 10 for contact details).

4. WATER MANAGEMENT UNIT ‘ACTIONS’

- 4.1 This guidance note identifies and describes the ‘Actions’ that WMU take to ensure road schemes do not significantly impact upon the water environment.
- 4.2 A list of WMU ‘Actions’ and a brief discussion on the reason for those ‘Actions’ is set out in sections 6 - 9. The list of ‘Actions’ has been apportioned into the relevant road scheme phases .i.e.
- Environmental Impact Assessment Phase
 - Detailed Design Phase
 - Pre-Construction and Construction Phase
 - Operational Phase

5. WATER FRAMEWORK DIRECTIVE

- 5.1 Although a list of WMU ‘Actions’ is detailed, in Sections 6-9, for each road scheme phase, they are all driven by the following Strategic Aim:
- **Strategic WMU Aim:** To assess and regulate road schemes in relation to the requirements of the Water Framework Directive¹ to protect and improve water quality.
- 5.1.1 It is a fundamental requirement of the Water Framework Directive (WFD) that there must not be any overall deterioration in water quality or the ecological status of any waterbody.
- 5.1.2 In line with WFD requirements, WMU will review any proposed works, culvert or structure that may result in a deterioration of the status of a waterbody, or will prevent the waterbody meeting its water quality objectives.

¹ Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

6. ENVIRONMENTAL IMPACT ASSESSMENT PHASE

6.1 WMU Action: To establish contact with the road scheme promoter/applicant at the earliest opportunity to discuss and advise on their Environmental Impact Assessment of the water environment.

6.1.1 WMU is routinely consulted on new road schemes by Road Service and by DOE Planning. WMU would advise all new road scheme proposers to make contact with WMU at the scoping stage in the EIA process as this aids in the creation of a constructive relationship between WMU and the promoter/applicant during the EIA process to ensure all likely significant impacts are identified, assessed and mitigated. This approach can save time at later stages of the project cycle.

6.1.2 The Design Manual for Roads and Bridges² provides guidance on the environmental assessment of the construction and operational phases of road projects and provides specific advice and guidance on road drainage and the water environment.

6.1.3 The following documents also provide detailed guidance on how to plan and manage the prevention of water pollution from road projects:

- Design Manual For Roads and Bridges HD 45/09 – Road Drainage and the Water Environment²;
- C648 Control of water pollution from linear construction projects, Technical Guidance and C649 Control of water pollution from linear construction projects, Site Guide³;
- ‘Guidelines for Fisheries Protection during Development Works’⁴.
- PPG 5 - Works and maintenance in or near water;
- PPG 6 - Working at construction and demolition sites;

6.1.4 The list is not exhaustive and other documents and Pollution Prevention Guidelines (PPGs) may be relevant on a case by case basis. The full suite of PPGs can be viewed and downloaded at: <http://www.environment-agency.gov.uk/netregs/links/107968.aspx>

6.1.5 WMU holds a variety of information on the water environment that can assist in the environmental impact assessment process. WMU can also provide advice on the environmental impact assessment of the water environment, particularly in

² Design manual for Roads and bridges <http://www.standardsforhighways.co.uk/dmrb>

³Murname, E., Heap, A. and Swain, A., 2006, C648 Control of water pollution from linear construction projects, Technical Guidance and C649 Control of water pollution from linear construction projects, Site Guide, CIRIA, London, UK.

⁴ Guidelines for Fisheries Protection during Development Works (Foyle and Carlingford areas), Environmental Guidelines Series – No. 1, Loughs Agency.

relation to the statutory requirements for road schemes, e.g. in relation to the Water Framework Directive. See Section 10 for appropriate WMU contact details.

- 6.1.6 WMU have produced a guidance note on water quality issues that should be considered at the EIA Scoping Stage and on carrying out a Water Framework Directive Assessment. This document can be located on WMUs website: http://www.doeni.gov.uk/niea/water-home/development_management.htm
- 6.1.7 To aid communication, consideration should be given to establishing an Environmental Liaison Group (ELG) for individual projects. WMUs Major Client Interface Group would be a willing partner – see contact details Section 10. This would be seen as the forum for all interested parties to engage and discuss the content of the EIA, thereby negating the need for addendums at a later date.

6.2 WMU Action: To review and provide a formal consultation response on the published Environmental Statement.

- 6.2.1 Once the Environmental Impact Assessment process has been concluded, the findings will be published in an Environmental Statement by the road scheme proposer/applicant.
- 6.2.2 As part of their consultee role WMU will review the Environmental Statement to ensure all potential environmental impacts on the water environment have been identified, assessed and appropriate avoidance and/or mitigation measures proposed (see section 6.1.7).
- 6.2.3 WMU will provide a formal consultation response setting out the Unit's comments on the Environmental Statement. WMUs response may recommend, should the scheme be given approval, that specific conditions should be included in the contract for the scheme, or the Planning Decision Notice, to ensure the protection of the water environment.
- 6.2.4 Examples of appropriate conditions that WMU may recommend are as follows:
- *the Contractors must submit a Pre-Construction Environmental Management Plan to NIEA Water Management Units Pollution Prevention Team at least 4 weeks prior to the commencement of any works, including pre-construction earthworks related to contaminated land or archaeological investigation near or liable to affect any waterway (as defined by the Water (Northern Ireland) Order 1999).*
 - *The Contractors must submit a Construction Environmental Management Plan (CEMP) to NIEA Water Management Units Pollution Prevention Team at least 4 weeks prior to the commencement of construction. This is an essential*

requirement to ensure effective avoidance and mitigation measures have been considered, effected and maintained for the protection of the water environment.

- *The Contractors must submit any Method Statements, for works in, near or liable to affect any waterway as defined by the Water ((Northern Ireland) Order 1999, to NIEA Water Management Units Pollution Prevention Team at least 4 weeks prior to the commencement of the works or phase of works.*
- *The Contractor must ensure that an appropriate communications strategy is developed and implemented to ensure NIEA Water Management Unit are appropriately consulted throughout the pre-construction and construction phases of the scheme.*
- *An Environmental Manager must be designated for the scheme. Contact details of the designated Environmental Manager must be forwarded to Water Management Units Pollution Prevention Team as soon as possible before commencement of works.*

6.2.5 A key objective in recommending that certain conditions be included in the contract, or Planning Decision Notice, for the road scheme is to create a formal link between the commitments contained within the Environmental Statement and the pre-construction, construction and operational phases.

7. Detailed Design Phase

7.1 WMU Action: To provide advice and guidance on the incorporation of the environmental commitments presented in the Environment Statement during the detailed design of the road scheme.

- 7.1.1 WMU can provide advice and guidance to the road scheme promoter/applicant, their consultants and/or contractors during the detailed design stage. By liaising with the scheme designers WMU can ensure that the environmental commitments presented in the Environmental Statement to protect the water environment are incorporated into the detailed design of the road scheme.
- 7.1.2 WMU can also provide advice and guidance on the content of Pre-Construction Environmental Management Plans, Construction Environmental Management Plans and Method Statements at the detailed design stage.
- 7.1.3 Close communication and liaison with WMU at the detailed design stage can save time when seeking agreement on the content of CEMPs and method statements. It can also reduce the likelihood of water quality problems during the pre-construction and construction of the scheme.

8. PRE-CONSTRUCTION AND CONSTRUCTION PHASE

8.1 WMU Action: Review the Pre-Construction Environmental Management Plan, Construction Environmental Management Plan and Method Statements prior to works commencing.

- 8.1.1 Pre-construction investigative works that involve the removal of vegetative cover for the digging of trial pits or trenches, archaeological investigations etc, have the potential to lead to the mobilisation of sediments during rainfall events or the pollution of waterways from oil or fuel spillages from vehicles or machinery.
- 8.1.2 The mobilisation of sediment, spillages of fuel, oil or cement, dewatering activities or the disturbance of contaminated land are examples of activities that may result in the release of pollutants to waterways or groundwaters during the pre-construction phase as well as the construction phase.
- 8.1.3 WMUs recommendation that there should be a contractual requirement for the contractors to forward a Pre-Construction Environmental Management Plan, Construction Environmental Management Plan and Method Statements to WMU prior to works commencing will enable WMU to provide advice and guidance and to also be on-site to ensure good practice is being followed and that there is no significant risk to the water environment.
- 8.1.4 The scheme contractor should ensure that the work programme for the scheme has adequate timescales built in for consultation with WMU on Environmental Management Plans and Method Statements.
- 8.1.5 WMUs response time to consultations on Environmental Management Plans and Method Statements can be agreed with WMU as part of the scheme contractors Communications Strategy.

8.2 WMU Action: To ensure activities that require statutory permission are identified and regulated under the relevant legislative controls.

- 8.2.1 A discharge consent, issued under the Water (Northern Ireland) Order 1999, is required for any discharges of surface water or pumped groundwater to any waterway as a result of pre-construction or construction works.
- 8.2.2 The consent will set strict conditions and limits which the consent holder must meet. Failure to meet the requirements of a consent is an offence and will result in enforcement action being taken and may result in prosecution.
- 8.2.3 It is an offence under the Water (Northern Ireland) Order 1999 to fail to comply with the conditions of a consent.

- 8.2.4 Certain activities may require an Abstraction/Impoundment Licence or Authorisation issued under the Water Abstraction and Impoundment (Licensing) Regulations (Northern Ireland) 2006⁶ or a Marine Licence issued under the Marine and Coastal Access Act 2009⁷. For further advice contact WMU (see Section 10)

8.3 WMU Action: Discharge Consent Compliance sampling.

- 8.3.1 WMU Water Quality Samplers will lift regular samples from consented discharge points on site, in line with a pre-defined discharge consent sampling programme.

8.4 WMU Action: Attending pre-arranged and unscheduled site visits.

- 8.4.1 WMUs Pollution Prevention Team and Regional Operations staff will meet with the sites Environmental Manager on site on a regular basis in line with an agreed Communication Strategy.
- 8.4.2 WMU may also make unscheduled site visits to monitor the application of the environmental mitigation methods detailed in the Pre-Construction Environmental Management Plan, Construction Environmental Management Plan and method statements.

8.5 WMU Action: Pollution incident response.

- 8.5.1 Following any reports of water pollution WMU will respond as appropriate to investigate the report and, where required, attempt to put in place measures to prevent any further pollution, limit and remediate the damage already caused and investigate the source and cause of the pollution.
- 8.5.2 It is an offence under the Water (Northern Ireland) Order 1999 to discharge or deposit, whether knowingly or otherwise, any poisonous, noxious or polluting matter so that it enters a waterway or water in any underground strata. Conviction of such an offence may incur a fine of up to £20,000 and / or three months imprisonment.

8.6 Additional Guidance

- Environmental Good Practice for Archaeological Excavations – Technical Guidance Booklet, available for download at http://www.doeni.gov.uk/niea/env_good_practice_for_archaeological_excavation_s-2.pdf

9. OPERATIONAL PHASE

9.1 WMU Action: To review maintenance/minor works plans .e.g. emptying of gully pots, interceptors and maintenance of SuDS features.

9.1.1 WMUs Pollution Prevention Team is always willing and available to provide advice and guidance on good practice for protecting the water environment during the planning and carrying out of maintenance and minor works. WMU also have a series of published Pollution Prevention Guidelines that can be viewed and downloaded at <http://www.environment-agency.gov.uk/netregs/links/107968.aspx>

9.2 WMU Action: To assess water quality monitoring results.

9.2.1 WMUs existing water quality monitoring network and sampling regime may enable WMU to indirectly monitor the short and long term impacts, if any, of a new or upgraded road on the water environment.

9.3 WMU Action: To schedule operational site visits.

9.3.1 Once the road is operational WMUs Pollution Prevention Team and Regional Operations Staff will visit the site to assess the performance of surface water runoff control features, such as SuDS features or oil interceptors.

9.3.2 Should any aspect of the roads operation be found to be unsatisfactory, in relation to its impact on water quality, WMU will liaise with the road operator to resolve the issue.

9.4 WMU Action: Pollution incident response.

9.4.1 See section 8.5.

10. CONTACTING WATER MANAGEMENT UNIT

- 10.1 WMU holds a variety of water quality related information. If you require any water related information you should first check our website at:-
www.ni-environment.gov.uk/index.htm

Particularly our River Basin Map Viewer at:
<http://maps.ehsni.gov.uk/wmuviewer/>

- 10.2 If the required information is not available on our website you should then email the details of your specific water related information request to:-
waterinfo@doeni.gov.uk
- 10.3 Environmental Impact Assessment Scoping requests, or requests to meet the WMU Major Client Interface Group, should be sent to the following address:

Planning Co-Ordination Team
Water Management unit
17 Antrim Road
Co Antrim
BT28 3AL
Or alternatively email: wmuplanningconsultations@doeni.gov.uk

- 10.4 Specific advice and guidance on pollution prevention is contained within NIEAs Pollution Prevention Guidelines (PPGs). PPGs can be downloaded at
<http://www.environment-agency.gov.uk/netregs/links/107968.aspx> .

Alternatively you can email WMU's Pollution Prevention Team:
nieapollutionprevention@doeni.gov.uk

- 10.5 To apply for Consent to Discharge Tel: 028 92 623 119.
- 10.6 If you become aware of a water pollution incident you should immediately call the **24 Hour Water Pollution Hotline (Freefone): 0800 80 70 60.**
- 10.7 Other Units within NIEA who should be contacted for advice, guidance and statutory approvals, if required, can be contacted using the following contact details:

- Natural Heritage Directorate – (email cdp@doeni.gov.uk , Tel: 028 90 569 515)
- Built Heritage Directorate – (email bh@doeni.gov.uk , Tel: 028 90 543 095)
- Land and Resource Management Unit – (email LRMLandQuality@doeni.gov.uk , Tel: 028 9056 9348)