PROJECT PROFILE

Title	**Analysis and development of road drainage systems for different geological environments in Ireland**
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Status	On-going
Type of project	Research Fellowship: Post-doc
Project reference	NR/250/04 PO 6270

Description	The construction and operational phases of national road schemes have the potential to impact on the surface and groundwater quality and quantity if sufficient protection is not provided. This is of particular importance in vulnerable areas such as karstified limestone, where the bedrock aquifer is more susceptible to pollutants as pathways are exposed on the surface.This research project consists of a review of the different geological conditions encountered in Ireland, an evaluation of the performance of different road drainage systems, and the development of design guidelines for different drainage systems suitable for the different geological, hydrogeological and hydrological situations in Ireland.	 **Typical filter drain on Irish road**
Objectives	The objectives of this research are (a) Review the different geological conditions encountered in Ireland, (b) Evaluate the current road drainage design systems in use in national road schemes, and (c) Develop design guidelines for the different drainage systems that can be used in Irish road schemes. The project will examine the different drainage options available. including kerb and gully, french drains and a variety of different vegetated systems (SuDS) such as swales and constructed wetlands.	
Benefits	The research will enable the development of efficient and cost effective design options for road drainage system appropriate for the unique geological conditions encountered in Ireland.	
Outputs	Guidelines for the design of effective road drainage systems will be developed. This will include an evaluation of the different options available and techniques for selecting the most appropriate system for particular site conditions.	