Proceedings of the Institution of Civil Engineers
Water & Maritime Engineering 148
March 2001 Issue 1
Pages 59–60

Elsewhere in ICE *Proceedings*

Simon Fullalove, Editor

The following are summaries of papers published in other parts of ICE *Proceedings* during 2000 that readers of *Water and Maritime Engineering* may find of interest. You can get copies of individual papers posted to you for £5 or faxed to you for £2 a page from the ICE library (telephone +44 (0)20 7665 2251, fax +44 (0)20 7976 7610, e-mail library@ice.org.uk). In all cases you need to complete a copy request form which can be downloaded from the ICE website at www.ice.org.uk/library/icepbprq.html. Summaries of all papers in ICE journals are also freely available and fully searchable at the 'journals online' section of the ICE website at www.ice.org.uk/jol.

Regeneration of the Forth & Clyde and Union canals, Scotland
R. A. Paxton, J. M. Stirling and G. Stirling
Proceedings of the Institution of Civil Engineers—Civil Engineering, 2000, **138**, May, 61–72

The 56 km Forth & Clyde ship canal across Scotland set a new international standard for inland waterways when completed in 1790. Linking Glasgow and the Irish Sea in the west to Falkirk and the North Sea in the east, it was joined in 1822 to Edinburgh by the 50 km Union Canal. But, as traffic moved to rail and then road, the waterway fell into disuse and eventually closed in the 1960s—though it soon became apparent that reopening it for recreational use was vital to regenerating this strategic national corridor. With National Lottery funding, the £78 million Millennium Link scheme—including a spectacular rotating boat lift at Falkirk—is at last underway and set for completion in 2001. This paper reports on the historical, planning and environmental aspects of this landmark regeneration project.

Riverside renewal at Greenwich peninsula
A. Micklam, J. Gibbins, S. Proctor, A. Braham
Proceedings of the Institution of Civil Engineers—Civil Engineering, 2000, **138**, SI, 36–41

Redevelopment of Greenwich peninsula in east London required repair or renewal of over 2 km of the mostly steel sheet-piled frontage to the River Thames and its extensive low-tide beaches. A range of options was examined to improve the river-edge environment, including cladding the existing wall in timber, reducing its height or removing it completely and replacing it with stepped terraces featuring aquatic and other planting. All were tried, resulting in extensive lengths of ecological terraces complementing a new river walk along the physically stronger yet visually softer bank. The project is now being promoted as a model for future environmental improvements to the Thames and other urban rivers.

A water recycling plant at the Millennium Dome
B. Lodge, T. Seager, T. Stephenson, P. English and R. Ford
Proceedings of the Institution of Civil Engineers—Civil Engineering, 2000, **138**, SI, 58–64

The water recycling treatment plant at the Millennium Dome in Greenwich is the largest of its kind in Europe and a showcase for water treatment processes of the future. It is designed to provide 500 m^3/day to flush all the toilets and urinals in the Dome. The water is 'reclaimed' from three sources—rain water from the Dome roof, greywater from the handbasins in the Dome and groundwater from a borehole on the site. This paper describes the development from the design stage through to construction of this unusual engineering project, and details the Cranfield water treatment processes in use in the plant.

Impact of climate change on water resources planning
D. Crookall and W. Bradford
Proceedings of the Institution of Civil Engineers—Civil Engineering, 2000, **138**, S2, 44–48

Water companies have a pivotal role in the delivery of sustainable development. In providing safe drinking water, supplying water to industry and commerce and treating wastewater before returning it safely to the environment, they are also at the forefront in dealing with the impact of climate change. As explained in this paper, when dealing with something as complex as the global climate, we cannot wait for a perfect model to find solutions to the problems that we could soon be facing. It is vital to ensure that all water resource development plans, whether from the water companies or the regulators, are robust against a range of possible future climates.

Assessment of settlements caused by groundwater control
M. Preene
Proceedings of the Institution of Civil Engineers—Geotechnical Engineering, 2000, **143**, Oct., 177–190

Lowering of groundwater levels by pumping increases vertical effective stress in the soil around an excavation. The resulting ground settlements are

Downloaded from http://ftp.nowpublishers.com/jwmee/article-pdf/148/1/59/2784732/wame_2001_148_1_59.pdf by guest on 01 June 2026

normally small, but in certain circumstances may be large enough to cause damage to surrounding structures. This paper describes the mechanism of these settlements and presents a simple risk assessment methodology for initial identification of zones where buildings may be at varying degrees of risk of damage. These risk zones can help to determine the extent of pre-construction building condition surveys needed, or to assess the need for settlement mitigation or avoidance measures. Potential uncertainties in the assessments are discussed.

Best value for coastal defence services
A. C. Coy and J. R. Walker
Proceedings of the Institution of Civil Engineers—Municipal Engineer, 2000, **139**, June, 91–96

The Local Government Act 1999 introduces, among other things, a requirement to demonstrate best value in the provision of council services. This paper describes the outcome of a study, by a working group of municipal engineers involved in the coastal sector, of how best value can best be demonstrated in the delivery of coastal defence services. The requirement to challenge, compete, consult and collaborate is considered. Guidance is given on the service review process and the development of a coastal defence strategy is advocated.

Making decisions for upgrading wastewater systems
D. J. Blackwood, R. M. Ashley, M. Petrie, C. Oltean-Dumbrava and C. Jones
Proceedings of the Institution of Civil Engineers—Municipal Engineer, 2000, **139**, Sep., 171–180

Decision-making to determine the preferred way of upgrading or constructing new developments is becoming more complex. In the drive towards sustainability, the social, economic and environmental aspects now share equal weighting with the technical and cost-effective elements of each option. The process of evaluating trade-offs between, say, cost benefits and environmental or social disbenefits, has always been difficult, and it is now also important to demonstrate openness in decision-making, so that stakeholders can see the option selected is in fact the best possible within the constraints set. A simple multi-criteria approach, known as WISPS (wastewater integrated system performance score) has been applied in a theoretical study using actual data to decide which of four catchments in a Scottish water authority area should be prioritised for improvement. This approach follows closely the process which the engineers would use implicitly to make decisions, but has the benefit of formalising the process, thus showing how these decisions were achieved. The robustness of the approach has been tested using two software packages: one for risk assessment (@RISK) utilising Monte Carlo simulation; and the other, a complex multi-criteria decision support tool (ELECTRE). The more complex analytical approaches demonstrated that the simple WISPS method produced reliable results.

Langstone oysterbeds restoration
S. Mountain
Proceedings of the Institution of Civil Engineers—Municipal Engineer, 2000, **139**, Dec., 217–225

This paper describes a major environmental enhancement project to remove builders' rubble from the internationally important but sensitive waters of Langstone Harbour in Havant, Hampshire. The civil engineering work was carried out at no cost to the borough council in an innovate partnership scheme whereby the contractor retained income from the sale of the recycled aggregate which resulted from the work. The problems encountered in carrying out such a project are described, together with the unexpected opportunities. The success of the project was a direct result of the teamwork approach to management which involved a significant number of non-contractual but carefully chosen parties within the management team, working together with a single overall aim but each willing to consider views of the rest. The future of the site as a local nature reserve and recipient of subsequent European Community 'Life' funding is also considered.

Regeneration through restoration: the Huddersfield Narrow Canal project
A. Stopher
Proceedings of the Institution of Civil Engineers—Municipal Engineer, 2000, **139**, Dec., 233–242

The Huddersfield Narrow Canal transformed the economy of the Colne and Tame Valleys when it was built 200 years ago. Its restoration at the start of the third millennium will be the key to the revitalization of the same communities. This paper deals with the history and heritage of the canal and its corridor, the restoration over the last 25 years, the regeneration and other benefits which will accrue from the completed project, assembly of the Millennium Commission/English Partnerships funding package and management of the restoration works.

Cost-effective management of scour-prone bridges
J. E. Whitbread, J. R. Benn and J. M. Hailes
Proceedings of the Institution of Civil Engineers—Transport, 2000, **141**, May, 79–86

This paper discusses the nature of scour at bridge structures and reviews the available methods of assessing scour potential and the risk of failure. A management system based on the authors' practical experience of bridge scour assessments is also proposed as a means of identifying this risk and minimising it in an efficient and economic manner.

Downloaded from http://ftp.nowpublishers.com/jwmee/article-pdf/148/1/59/2784732/wame_2001_148_1_59.pdf by guest on 01 June 2026