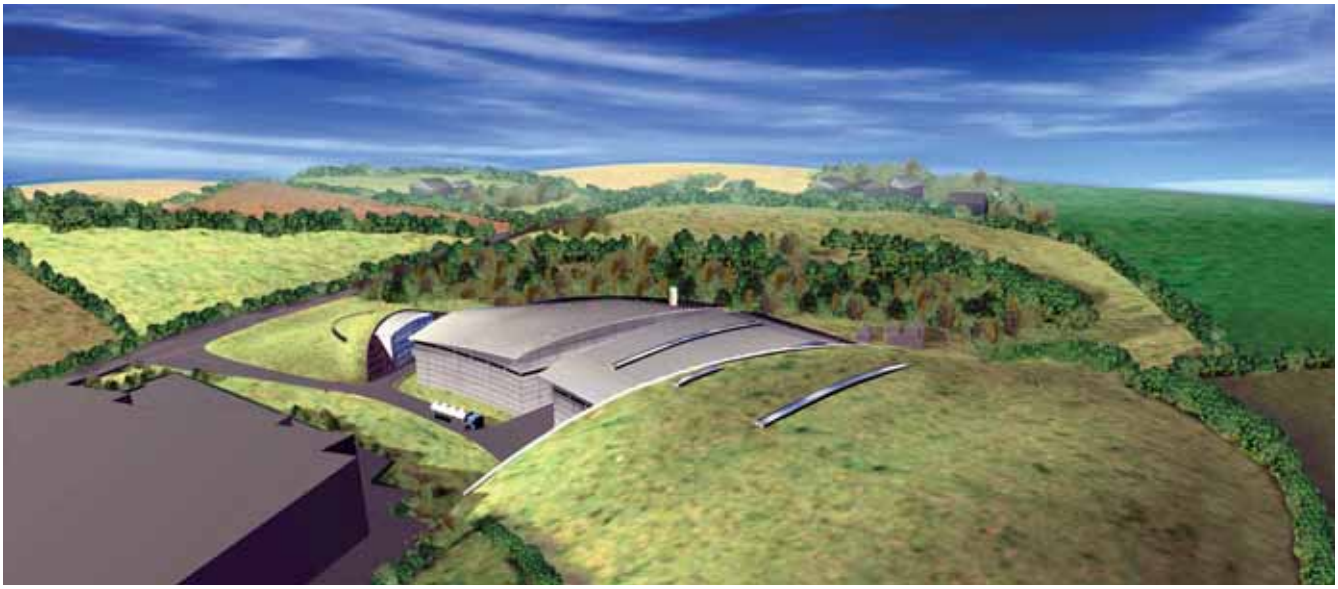
North Down & Ards WwTW scheme

site selection and methodology - a review

by **Robin Newlove LLB, DipTP, MRTPI**

This article examines how a controversial Waste WaterTreatment Works gained planning permission without recourse to a public inquiry despite public opposition to the scheme. The key to steering a successful route through the centralised planning system of Northern Ireland was to focus from the outset on a transparent and robust site selection process, evolved and implemented from its earliest stages with the prospect that, in the final analysis, it would need to withstand the most rigorous scrutiny.



North Down & Ards WwTW scheme - computer generated image *photo courtesy Ferguson McIlveen LLP*

Ferguson McIlveen was appointed by Water Service in November 1997 to carry out an Appraisal Study that would help deliver a site with planning permission for a new wastewater treatment works to serve Bangor and its surrounding hinterland, subsequently known as the North Down/Ards WwTW.

Site search criteria/appraisal process

The search area was defined by identifying all of the catchments that would either contribute to, or potentially might contribute to, the WwTW. The site search criteria were established by Water Service and endorsed by Planning Service. Other factors aimed at optimising the engineering solution, minimising the capital and running costs, and mitigating the adverse environmental impacts and effects were taken into account and included the need to:

* site the WwTW on land with reasonable foundation characteristics i.e. suitable geotechnical and geological indicators;
* avoid disturbance of important or significant archaeological sites;
* locate the WwTW as close as reasonably practicable to a suitable road;
* optimise the distance from the major contributing catchments,

Sieving process

The primary criteria were then applied to a map of the search area using graphical techniques as suggested by McHarg in 'Methods of Environmental Assessment'. Some of these criteria were absolute and had the effect of eliminating areas from further consideration. Other criteria were qualitative and had to be considered in conjunction with additional factors in order to find sites that offered a "best fit" to the overall criteria.

Initial Sieving

The criteria that defined areas to be excluded from further consideration were applied graphically in layers using computer techniques in accordance with the McHarg principles. The initial sieve layer reflected Planning constraints. Areas identified include those zoned for housing developments, Areas of Outstanding Natural Beauty (AONB) and any areas of high ecological or geological value which are designated as Areas of Special Scientific Interest (ASSI). This had the effect of excluding most of the urban developments around the identified catchments, as well as part of the coastline around the study area. The application of these constraints addressed the need to be compatible with the statutory Area Plan.

Secondary sieving

The remaining qualitative criteria were then applied to the areas still under consideration, in a graduated manner, in order to sieve the area and identify potential site search zones.

The layers used were:

* topographical elevation;
* distance from Eastern Bangor;
* agricultural land classification;
* geological/geotechnical conditions.

These layers were combined as appropriate to help find the areas or zones which represented the best fit with the site selection criteria.

Selection of potential site locations ("Long List)
By combining all four sieving layers and identifying the areas which represented the best fit with the criteria, a long list of potential sites was established. A sensitivity analysis was carried out to confirm the most desirable search zones. Once defined, these site search zones were visited by a number of multi-disciplined teams comprising Civil Engineers and Landscape Architects, each of which identified a number of discrete potential site locations. During these visits, the teams looked for locations within the identified zones which met basic engineering, visual, landscape character and environmental criteria.

The outcome was that 14 potential site locations formed the "long list".

Appraisal of 'Long-list' to produce 'Short-list of locations
In order to reduce the 'long list' to a short list of potential locations, a matrix was used to plot each of the locations against each of the selection criteria. Two approaches were adopted for the analysis of this matrix, a Numeric Assessment and a 'three-scale analysis allied with an assessment of 'black marks'.

In both approaches, the scores were analysed in a variety of ways to test the robustness of the procedure, and a sensitivity analysis was applied, to ensure that no single criterion unduly outweighed or influenced the overall findings.

To strengthen the robustness of the appraisal even further, each site was assessed in relation to the others. This approach reflected requirements of Area Plan policies that the availability of alternative sites be taken into account. Having reviewed all 14 locations it was possible to draw broad comparisons between them to try and establish where it can clearly be demonstrated that there were more suitable alternatives worthy of further deliberation. In this regard, the overall ranking achieved by each location was a sound indication of the potential for further consideration. Whilst this process, in itself, would not necessarily isolate a single location, it did help narrow the field and focus the 'fine grain' analysis on the most appropriate group of sites.

Summary
The robust appraisal and analysis techniques employed in the early stages of the study led to two potential site options being the subject of detailed EIA procedures, following which Water Service decided to pursue the preferred option at Donaghadee, that location having consistently outscored all others.

In 2002, after a lengthy and exhaustive process, a planning application accompanied by an Environmental Statement was submitted and planning permission was finally granted in 2004. The longevity of the process reflects the centralised planning process in Northern Ireland. But, there is no doubt that the thorough and robust approach adopted from the outset to site selection was instrumental in demonstrating to the decision-makers that the right site had been chosen. Whilst the evidence had been gathered and appraised in the anticipation of needing to undergo rigorous examination at a public inquiry, that early spadework paid dividends in enabling the scheme to gain planning approval without going to tribunal.■

Note: *The author of this article Robin Newlove, is Senior Town Planning Associate, with Ferguson McIlveen LLP.*