

Design Review Report

A487 Caernarfon to Bontnewydd
Bypass

DCFW Ref: 81

Meeting of 20th August 2015



Declarations of Interest

Panel members, observers and other relevant parties are required to declare **in advance** any interests they may have in relation to the Design Review Agenda items. Any such declarations are recorded here and in DCFW's central records.

Review Status

Meeting date
Issue date
Scheme location
Scheme description
Scheme reference number
Planning status

Public

20th August 2015
11th September 2015
Gwynedd
Road
81
Pre-application

Declarations of Interest

Ben Sibert is a DCFW panel member and is also commissioned by Welsh Government on a number of other schemes.

Consultations to Date

The scheme objectives have been derived through studies and public consultation over a period February 2007 to May 2013, with consultations in winter 2010/2011. The consultations demonstrated that public accepted the need for the improvement. The scheme objectives relate to journey time improvements, resilience and traffic in residential communities. Members of the public have also been involved with two Public Information Exhibitions in 2015.

The Proposals

The existing A487 is a single-carriageway rural trunk road. Increasing volumes of traffic have led to congestion in Caernarfon, community severance and poorer quality of life for those communities living in close proximity to the road. Surrounding roads are also experiencing adverse effects. The lack of connectivity from Bangor and the A55 southwards is seen to be hindering economic development in the region.

A bypass route is proposed which would achieve 2+1 standards. The proposed alignment involves two river crossings and a number of other smaller bridges and structures. There are a number of designated sites in the area, including the Glynllifon Bats Special Area of Conservation (SAC) and the Afon Gwyrfai SAC. An Environmental Impact Assessment (EIA) will be carried out as part of the design process.

Main Points

The following points summarise key issues from the review, and should be considered to inform work ahead of submitting Draft Orders:

General Approach

A comprehensive approach to the route and technical aspects of the scheme was demonstrated. Many features are defined by ecological requirements for bats. The structure designs need some refinement.

Landscape

Much of the landscape design has been driven by the focus on providing a bat-friendly environment, required because the NRW consider the whole area to be a bat landscape.

It would be worth considering a variety of slopes and grading for the cut-and-fill along the length of the road, by identifying areas where slopes could be graded out into adjacent fields. Whatever is proposed the thought process behind the grading of the cut-and-fill should be clear.

The attenuation ponds are indicative at this stage, but should be sited and shaped in response to their context and surrounding boundaries and landforms. Any opportunities for the ponds to add value (ecology, biodiversity, amenity, visual) should be considered.

Where planting is designed to provide visual screening or noise mitigation, both immediate impact and future management should be considered. It would be good to consider both fast and slow growing tree species.

It is encouraging that the team are open to considering innovative ideas for planting. Green/living walls might also be considered, and have been used effectively in road schemes elsewhere in Wales and Europe. Any ideas should be analysed and tested against the objectives of the scheme in order to refine them and the design stage.

The larger earthworks proposed for the Bethal Road section and the cutting at the north end were explained and justified by the team.

Structures

The minor structures proposed are rational and well-justified, so comment in the review focussed on the larger structures and finishes.

The design of the over-bridges requires some refinement to make the different components work together more elegantly. Different options should be tested. For example, pushing abutments back might lead to a more elegant solution. This refinement will require some attention to the detail design at this stage, including consideration of finishes and material specifications.

Concrete is proposed as the finish to most of the structures in the scheme. Concrete is a versatile material, and there are many options in terms of colour, texture, pattern and finish. Careful consideration should be given to finding the right finishes and

specification for this scheme, and this should be done with reference to the landscape context. Different possibilities should be tested to find the most appropriate solution.

The team should be able to demonstrate that all options have been considered, and that the chosen solutions are the most appropriate for this context. It would be worth the team looking at the structures which are proposed for the Newtown bypass, where successful solutions to the same type of crossings have been developed. All acknowledged that these examples would be appropriate in steel. The panel urged the design team to consider the long lasting legacy of the scheme's bridges and in balance with a small number of maintenance activities in the bridge's lifetime.

The proposed Seiont Viaduct, with its simple, thin columns and irregular spans works well. The colour of the steel work has not yet been chosen, and it is suggested that an earthy or grey colour might work best in this rural setting, rather than a shade of bright colour. The form of the proposed embankments should be considered in more detail, as varying the slope to make it less straight might be more successful. Options should be explored using 3D modelling.

Proposals for the Gwyrfai Viaduct are currently not working as well as the Seiont Viaduct, and the Design Commission suggests different options are explored. These might include an approach which is more similar to the Seiont bridge, including variation of span, although it is recognised that the conditions here are different.

Environment and Ecology

The environmental objectives of the scheme should be made clear, and it may be useful to revisit them at this stage in the design process. The Design Commission would like to see a clear ecological enhancement strategy, rather than simply a focus on mitigation.

Road Safety and Signage

A road safety and signage strategy will be developed by the team. Signage and lighting should be designed-in as much as possible to avoid unnecessary clutter.

Further Review

The Design Commission would welcome the opportunity to review this scheme again after Draft Orders have been made, the inquiry has taken place, and when detail design is commencing.

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A Welsh language copy of this report is available upon request.

Attendees

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