

# Design Review Report

A456 Sections 5 and 6,

Dowlais Top to Hirwain

**DCFW Reference: N99**

Meeting of 19<sup>th</sup> May 2016



## Declarations of Interest

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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

### PUBLIC

Meeting date	19 <sup>th</sup> May 2016
Issue date	2 <sup>nd</sup> June 2016
Scheme location	A465 Dowlais Top to Hirwain
Scheme description	Highways/infrastructure
Scheme reference number	N99
Planning status	N/A

## Declarations of Interest

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None declared

## Consultations to Date

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Public consultation on the 1997 scheme was completed in December 2015. There is ongoing consultation with NRW.

This scheme was previously reviewed by Design Commission for Wales on 18th February 2016. This report should be read in conjunction with the report from that review.

## The Proposals

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The proposed scheme involves online widening of an existing 2-3-lane trunk road between Dowlais Top roundabout in the east and Hirwaun Industrial Estate in the west, approximately 16km. The A465 Heads of the Valleys trunk road links south and west Wales to the English Midlands and was constructed in the 1960s. Currently, the majority of the trunk road consists of a two to three lane carriageway between Dowlais Top and Hirwaun. Surrounding land uses are varied and include residential towns and villages including Hirwaun, Cefn Coed, Gurnos, Pant, and Dowlais Top; the Brecon Beacons National Park; agricultural uses; and industrial estates. Works would include some small off-line sections, grade separated junctions, replacement and new structures and major earthworks. The scheme is part of a broader dualling of the entire 40km of A465 between Abergavenny and Hirwaun. Previous sections are now completed or under construction. The team is aiming to publish Draft Orders in October 2016. It may be useful to read DCFW's reports on the earlier phases to learn lessons for this section.

## Main Points in Detail

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The following points summarise key issues from the review and should inform work and procurement discussions ahead of publication of Draft Orders or further review of the scheme:

### **Design Approach & Communication**

The Design Commission continues to support the general design approach being taken, in which members of the design team are working collaboratively to understand and integrate different issues. Work since the previous review was presented clearly; the additional physical modelling was particularly useful.

It is important that this good work is not eroded through the procurement process but that important precise design ideas and qualities become essential requirements in the construction contract documents.

### **Approach to redundant roads**

Strategies for dealing with stretches of road which will become redundant should be defined, including information on what should be removed, what should be retained, what should be added and the rationale for doing so. For example, there are important grasslands around the Hirwain junctions which could be visually emphasised and biologically enhanced.

There are many issues to consider in setting out these strategies, including ecological value, drainage, views and appreciation of landscape character and land use. It will be important to consider ownership and management responsibilities in relation to control of ideas.

### **Lighting strategy**

The presenting team stated that they have been instructed to challenge the lighting standards to minimise lighting along the route and at junctions where safe to do so. The Design Commission supports this approach and agrees with the team that carefully designed lighting provides the opportunity to improve the quality of the experience of those using the road and the surrounding environment. Minimising standard street lighting will also help reduce light pollution, which is a particularly positive step near to the National Park. The Commission also supports the approach to amenity lighting as an integrated design opportunity.

### **Positive drainage strategies**

The Commission encourages the design of positive drainage strategies. Drainage solutions have the potential to add or take away value from adjacent foot and cycle paths and therefore require careful design. As far as possible attenuation ponds or ditches should be designed so that safety fencing is not required. This could be done through careful positioning of areas of water in relation to publically accessible routes, shaping of topography and landscape design, such as ha-ha's. The design of each drainage solution should take account of the landscape in which it will sit.

### **Art strategies**

Where artwork is being considered a good brief and the right artist - who can demonstrate experience of the scale and type of work – will be required. There should be an intimate relationship between the artwork and its locality and it should be integrated with the design of surrounding landscape and/or structures, which will require the early involvement and collaboration of the artist(s).

### **Hirwain Junction**

This junction and its landscape and structures are being carefully designed and a successful solution is emerging.

### **Nant Hir Bridge**

It is important that enjoyment of the existing bridge structure is maintained. This may require detailed specification of requirements to be included in contract documents.

### **Baverstock Junction**

The physical model of this junction usefully demonstrates the potential for road users to experience a new rock-face cutting, although now this proposal needs to be considered in more detail, including provision of guard rails at the edge of the cutting.

The proposal would benefit from further simplification of the landscape design and planting strategy, taking into account the scale and character of the landscape and views from the road and avoiding planting only for mitigation. Proposals could be usefully checked through site visits.

### **A470 Junction & National Park Link**

The option which was being considered at the previous review is no longer deemed feasible due to negative environmental impact and cost. This will be an important junction as it will be one of the busiest and act as a link to the National Park.

The team presented a good landscape design concept to mark this junction as the route to the National Park. Thought needs to be given to how the subtleties of the concept can be accurately carried through to the delivery stages, including whether on-site control will be required.

Sculpture installations seem appropriate at this location but a good brief and the right artist will be required to ensure they are of good quality.

### **Taf Fawr bridges**

The proposal here requires retention of an existing bridge and two additional bridges, which must all work as a composition in the landscape. Modelling the forms of the bridges and surrounding landscape in a computer package would be a useful way to check views from different points and refine the composition. A simple design tool model, rather than a highly rendered model, would be appropriate at this stage.

The existing bridge is seen against a substantial background of trees which provide a very simple background for the bridge structure. There is a risk that this background will become disrupted and cluttered by the earthworks needed for the remodelled junction, making it much more difficult for the new bridges to be successfully integrated into this composition.

The impacts during and after construction now need to be considered in more detail. These will include, but are not limited to, earthworks, retention or felling of trees, new planting, how structures meet the ground or rock face, the composition of safety barriers and street lighting, access to structures for maintenance and the composition of bridge supports from different angles. This should all be part of the LVIA design process.

It would be useful to explore the different safety barrier manufacturers available as they will be an important visual element of this part of the scheme.

### **High Street Bridge & Taff Trail**

Designs for the High Street bridge are in progress but appear to have the right ambition to provide a better experience for those using the environment above the bridge on the High Street.

Realignment of the Taff Trail, to remove the existing pinch point and provide new connections to the existing settlement, would be a positive move. It is good that the team are considering ways to improve the experience of this stretch of the trail as part of a longer journey. The 'cliff-hanging' path and 'corner outlook' proposals would add new highlights to the journey and maximise the benefits resulting from the works.

Management responsibilities for the new elements of the Taff Trail should be clearly defined.

The composition of the three proposed elements in this section (High Street bridge, Taff Trail bridge and cliff-hanging walkway) appear to work well with each structure appropriate to its function and responding to its location.

### **Ty Fechan**

A pedestrian desire line following the route of the existing bridge has been identified at Ty Fechan. The idea of threading a suspended pedestrian bridge under the deck of the existing bridge is being explored and has the potential to provide an exciting and appropriate solution. Care will need to be taken to provide a pleasant, safe environment along the pedestrian route whilst building in restrictions to vandalism.

### **Goitre Road & James Street underpasses**

The ambition to improve the environment of underpasses to provide safer, more pleasant routes is good.

Exaggerating the width of the Goitre Road underpass, taking the stone walling through, providing subtle lighting and using a contrast textured stone surface either side of the path are positive steps to achieving this ambition. Care should be taken to minimise opportunities for vandalism.

There is a change in the underlying geology in this location compared to other parts of the scheme, which could be reflected in the stonework. This may be an appropriate location to involve an artist (to work with stone and light) to add interest along the length of the underpass.

### **Pant Viaduct**

The impact of proposals is currently being studied and was not presented at this meeting.

### **Five roundabouts junction**

This is a challenging junction to resolve as it will have a significant impact on the communities and businesses which are very close to the roads. The current proposed solution, which would require a series of five roundabouts, could cause confusion for road users and introduce considerable highway signage. It is understood that a simpler road layout would have a greater impact on the businesses. However, more detailed studies are required to assess and balance the impacts of different solutions, using professional judgement to find the best layout, as the current proposal is far from ideal.

### **Retaining design strategies & quality through procurement**

It is good to see that time, effort and skills are being properly invested in from the early design stages to address the complexity and variety of conditions to which this scheme will need to respond. The design team are working well together to deal with each element of this complex scheme at a strategic level, before moving into the detail design. Both the strategic concepts and detail design quality must be retained through procurement to the delivery of the scheme to maximise the value and benefits of this early investment in design.

It will be important to identify which elements of the proposal need to be firmly fixed in the tender documents so that they cannot be undermined by the contractor. Getting the right level of detail and specification will be crucial. The large bridge structures and landscape design at key junctions are visually important and are areas where specific details should be fixed. There may be other areas where flexibility for the contractor will be beneficial.

It will be important that contractor-proposed changes which would reduce the design quality and value of the scheme are rejected. Although DCFW involvement in schemes usually ends at the planning permission stage, in this case, we believe there will be value in reviewing the contractor's detailed proposals so that the good design work that is taking place now is not eroded through delivery of the scheme.

### **Further Review**

The Design Commission welcomes the opportunity to review large schemes a number of times as designs progress. It is suggested that the next meeting takes place at a stage where contractual details and commitments are being decided.

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

## Attendees

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Agent/Client/Developer: Fil Pamment, Welsh Government (Project Engineer)

Designers/Contractors: Gareth Protheroe, Jacobs (PM)  
Voirrey Costain, Jacobs (Environmental Consultant)  
Frank Klaptocz, Jacobs (Structures)  
Thomas Darcy, Jacobs (Landscape)  
Adam Priestley, Jacobs (Environmental Consultant)  
Ric Russell, Nicholl Russell Studio(Architect/Bridges)

Statutory & Local Authorities: Jackie Walters, NRW  
Olwen Maidment, NRW  
Scott Hand, NRW  
Tom Bramley, Merthyr Tydfil CBC  
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Design Review Panel:  
Chair Ewan Jones  
Lead Panellist Andrew Linfoot  
Cora Kwiatkowski  
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