Record of officer decision

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<tr><td>Decision title:</td><td>Departure from Standard - Bridge Deck Replacement at BB0301 Storesbrook Bridge</td></tr>
<tr><td>Date of decision:</td><td>12 October 2017</td></tr>
<tr><td>Decision maker:</td><td>Head of Highways and Community Services</td></tr>
<tr><td>Authority for delegated decision:</td><td>Directorate scheme of delegation: Directorate: Economy, communities and corporate, item 30.

To act on behalf of Herefordshire Council in respect of the legislation specified in the Highways Act 1980.

Delivery to be carried out where appropriate by the Council's Public Realm Provider in accordance with the contract in place for the service.</td></tr>
<tr><td>Ward:</td><td>Ledbury North</td></tr>
<tr><td>Consultation:</td><td>None.</td></tr>
<tr><td>Decision made:</td><td>To approve departure from BD100/16 – The Eurocode for the design of highway structures. This to enable an expedient, effective and economic solution for the replacement of the existing bridge deck.</td></tr>
<tr><td>Reasons for decision:</td><td>Project Details
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<tr><td>Description</td><td>BB0301 Storesbrook Bridge is located to the north of Ledbury and carries the B4214 road over the River Leadon.
An assessment of this bridge has identified that various elements of the steel bridge deck are now failing and are beyond economic repair. The bridge deck is currently a Half Through Steel Truss carrying a composite steel and concrete deck slab with blacktop surfacing supported on brick abutments. The intention to replace the bridge deck with a modern propriety steel deck with a 'blacktop' surface reusing the existing abutments but installing a new bearing plinth. This proposal is similar to the refurbishment of BB0390 Criftinford Bridge carried out by Herefordshire in 2003 using a Mabey Atlas replacement bridge deck.</td></tr>
<tr><td>Location</td><td>B4214 Ledbury to Bosbury road crossing the River Leadon.</td></tr>
<tr><td>Design Speed and Speed Limit</td><td>The site is signed as national speed limit of 60mph, but there are sharp 90 degree bends either side of the bridge. A recent traffic survey has shown that the 7 day average speed is below 30mph with no vehicles recorded exceeding 45mph.</td></tr>
<tr><td>Other</td><td>We have considered whether to widen the bridge or</td></tr>
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considerations	replace the deck at its existing width. Concluding that the bridge deck would be replaced at its existing width.
Traffic and NMU flows	Traffic flow data is available from a recent traffic survey. The average weekday daily flow is 3218 vehicles with a 7 day average of 3075 and a peak flow of 103 vehicles per hour.

Departure Details

Discipline	Bridge Deck Replacement
Type	Steel girders and deck plate
Relevant Standards	BD100/16 – The use of Eurocodes for the design of highway structures
Clause	Annex A Table A.1 – Design Working Life
Difference between standard and proposed design	The recommended design working life for bridges is category 5: ≥120 years. The proposed replacement bridge would have a design working life to category 4: 50 to 120 years
Reason for departure	The proprietary steel bridge deck manufacturers indicate that a replacement steel bridge deck would not achieve the category 5 design life due to fatigue loading of the steel deck plate.
Associated Project Departures	None.
Other Options considered	The use of a Reinforced concrete and precast concrete deck replacements has been considered. Both options will be much heavier than the existing steel bridge deck and as such the existing abutments would require strengthening or replacement to accommodate these options. The section depth for either of these alternative options would be deeper resulting in the need to raise the road level to maintain the same opening under the bridge for the river to flow through. Raising the road level would result in the need to replace the existing approach parapets and in additional works to raise/replace the existing upstream left hand retaining wall that supports the carriageway.

Justification (Potential Positive and Negative Impacts)

Safety	The road alignment either side of the bridge reduces the actual speed that vehicles can cross over the bridge, the narrow nature of the existing bridge deck and the lack of footway over the bridge act as a passive road safety measure resulting in the majority of approaching vehicles slowing down to potentially give way to oncoming traffic. The replacement bridge deck would therefore be designed to be a similar width and fit

		in line with the extents of the existing approach brick parapets The proposed replacement bridge deck would not result in any reduction in safety to the road users.
	Congestion/ Delay	The existing bridge deck width acts as a passive traffic calming measure resulting in the bulk of the traffic giving way to oncoming vehicles although it is possible for two cars to pass each other over the bridge. Due to the traffic levels on this road this does not create any significant delay or congestion. The proprietary bridge deck solution is preferred as it is significantly quicker to install than other forms of deck replacement. This will reduce the period for which the road is closed to around 6 weeks.
	Environmental/Sustainability	The reuse of the brick abutments will result in minimal disturbance to the ground around the bridge and allow the flow of the river to remain under the bridge with minimal environmental impact. The steel deck plate has lower levels of embedded carbon than other solutions. Steel has a high recycled content and is fully recyclable at the end of its working life.
	Capital and Whole Life Cost/Value	By replacing the bridge deck and reusing the existing abutments we can keep the structure within its existing boundaries, if we were to fully replace the bridge we would need design the bridge, its abutments and approach ramps to the Design Manual for Roads and Bridges and Eurocodes which would require the purchase of additional land and the replacement of the upstream road retaining wall. The scheme costs would be significantly higher than the proposed solution and the road closure would be significantly longer causing greater inconvenience to the travelling public.
	Accessibility	The proposal has no impact on accessibility.
	Integration	The proposal has no impact on integration.
	Structural	The proposal will be not impact on the structural design of the structure with the exception of a reduced fatigue design life for the deck plates.
	Network Resilience & Maintenance	The proposal will not affect network resilience and maintenance and inspection requirements will be no more onerous than other design options.
Highlight any associated risks/finance/legal/equality considerations:	See above.	
Details of any alternative options considered and rejected:	See above.	

Details of any declarations	None

of interest made:	

Signed…… Date: