Parapet Renewal Risk Assessment. **Scheme Name**: Swindon Kennels Strengthening..... Author: …MDW ….

Bridge ID number: …C180/01 …… Date: 11 September 2019

Severity of Identified Hazards to traffic

Hazard	Comment	Severity increasing ⇨								
Traffic volume	Typically low speed low volume traffic, but potential for farm traffic and increased traffic volume during the Summer months	Green lane				**X**				A Road
Upper quartile speed	60mph limit, actual max speed <60mph. No formal survey. Alignment does not permit speeds of above 50mph.	< 20 MPH					**X**			70 MPH
Ice or lying water	Surface water runs away from bridge, as the bridge is a high point. No formal drainage on site	Positive drainage					**X**			No formal drainage
Road geometry	Straight with humpback over bridge	Straight	**X**							Poor alignment
Accident record	0	None recorded	**X**							Serious incidents recorded
Drop from road to ground beyond parapet	Topography measures <3.0m drop	< 1.5 metres		**X**						> 6.0 metres
Obstacles/irregularities in collision zone	Field accesses to the NW, NE and SW of bridge, private dwelling to SE	None			**X**					Severe
Depth of water	Average depth ~ upto 0.8m	Minimal			**X**					> 2 metres
Designers overall assessment of identified hazards:	Low volume, low speed road with good horizontal alignment. No perceived risk of striking parapet, as any will be speeding up or slowing down from nearby junction to south.									

Likelihood of incident

Accident record (Details and any reasons)	There have been no reported injury accidents in the vicinity of the bridge.
Designers perceived likelihood of vehicle impact to parapet:	Very Low.

Constraints to containment proposals

Geometrical constraints (eg field accesses)	There are 2No field accesses which come into the road from the west and a further on the east. To the SE of the bridge there is a private dwelling.
Environmental constraints (eg only stone parapet accepted by local community)	None.

Input from Traffic Safety Engineer

Consideration of containment issues along length of road adjacent to bridge. (factors may include geometry, existing situations, accident records, public requests etc.	From your pictures and Google Street View the approach roads to the bridge are fairly straight and according to the accident database there have been no reported personal injury collisions at the bridge during the last 5 years, 1 January 2014 to 31 May 2019 however, this information does not include any damage only incidents which may have occurred for which you may have details? (I have saved the collision investigation into your scheme folder). Therefore, it can be assumed that the location appears to be low risk in terms of collisions with a lightly trafficked flow albeit, it forms part of the National Cycle Route Network (68). With regards to changing the metallic post parapet with a wooden post and rail construction our view would be that this would need to be maintained at a future date, (posts would become rotten and unfit for purpose) and would not afford the same standard of protection as perhaps the current galvanized metallic post and rail construction which would not require any future maintenance unless struck however, you would be best placed to determine this. If wooden post and rail parapets are to be adopted then it may be worth providing a set of reflective discs on the parapet posts either side of the bridge for each direction of travel (red nearside - white offside) to highlight the presence of the bridge especially during the hours of darkness. Alternatively, marker posts would serve a similar purpose. At present the difference in material, wood to metal gives you a little indication of its presence whereas, a new post and rail fence would simply blend in with the existing field boundary post and rail fences in the surrounding area. Kevin Brown, Email, 11/09/19.
Designer conclusion and any mitigation measures to reduce risk:	A tanalised timber post and rail parapet with reflective road disks would be suitable for this structure following strengthening works.