

Appendix D – Risk Register

Hereford Eastern River Crossing (ERiC) (SOC)

Herefordshire Council

ID	Category	Risk Description	Impact	Status	Likelihood	Impact Cost Impact	Risk Owner	Mitigation	Revised Likelihood	Revised Impact
1	Financial	Inability to secure funding, resulting in the project not going ahead.	Project does not go ahead. The construction of the Eastern River Crossing would not occur and the resiliency issues that Hereford faces as a result of only having one river crossing (namely the A49 Greyfriars Bridge) would remain.	Open	Medium	High	Project team	Development of a robust business case for the project has been undertaken to ensure a successful funding outcome.	Low	High
2	Financial	Increase in capital costs (materials, equipment)	Capital costs exceed capital budget, leading to a funding shortfall which would result in either the scheme being de-scoped or further funding required.	Open	Medium	Medium	Project team	Large contingency included in the cost estimate to allow for potential cost overruns. Early engagement with designers and contractors to ensure scope is clear and costs remain within budget will also help to mitigate cost overruns.	Low	Low
3	Delivery	Land acquisition risks	If the land is unable to be acquired then the project cannot go ahead or it would need to be significantly re-scoped.	Open	Medium	High	Project team	Early engagement and agreement with the relevant landowners to agree costs and build in suitable timeframes to minimise disruption to the project.	Low	High
4	Delivery	Contractor availability	Potential delay to project delivery; or impact on quality	Open	Medium	Medium	Project team	The MHA framework (MSF4) could be used to engage contractors, which supports a speedy mobilisation of contractors.	Low	Low
5	Delivery	Cold and wet weather	The weather impedes the delivery of construction activities	Open	Medium	Low	Project team	Sufficient time allowed in the design and construction programme to mitigate any delays caused by unfavourable weather over the construction period.	Low	Low
6	Delivery	Change in Council priorities	Scheme delivery is a long time into the future. In this time, priorities for investment may change, leading to the ERiC being discarded / other alignments considered	Open	Medium	High	Project team	Development of a robust business case for the project to confirm the suitability and benefits of the scheme.	Medium	High
7	Delivery	Unexpected identification of statutory undertakers' apparatus, potential damage to unchartered services underground	Additional SU works, unable to leave SU apparatus in situ without diversions, leading to cost and programme overruns.	Open	Medium	High	Project team / Principal Contractor	Ground investigation will be undertaken early in the design stage to inform design and construction methodology. All excavation operations carried out under operation of 'Permit to Dig' and under supervision by an appointed qualified & experienced supervisor. Appointed supervisor to inspect excavations at the start of each day, when anything changes and prior to any works taking place. Early engagement with utility companies.	Low	High
8	Delivery	Unforeseen ground conditions including contamination	The scheme cannot be delivered in the location as intended or significant remedial work required leading to cost and programme overruns.	Open	Medium	Medium	Project team	Ground Investigation will need to be undertaken in the next design stages to assess the soil conditions and recommend mitigation. Ground Penetrative Radar (GPR) surveys will be undertaken to determine presence of STATS and buried structures particularly within the built-up areas along the corridor. Contingency built into the costings and programme to allow for the identification of any such risk(s).	Medium	Medium
9	Delivery	Delay to the existing delivery timescales to planned start of works due to design activities requiring increased durations, delay to deal with additional stakeholder	Delays to the project could lead to a prolongation of design work, delays to the start of construction and additional inflation	Open	Medium	Medium	Project team	Sufficient time allowed in the design and construction programme to mitigate any delays caused by unforeseen circumstances.	Low	Medium

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		requirements, unforeseen changes, failure to meet seasonal windows for surveys and / or delay to funding approvals								
10	Delivery	Russian conflict may cause delays to build timing and/ or cost	May be a delay in materials or an increase in costs	Open	Medium	Medium	Project team/ Principal Contractor	Work with contractors to look for alternative material sources and create the budget to absorb any additional costs	Low	Medium
11	Delivery	Associated risks with construction due to working on a live carriageway, at a height, and close to a watercourse and floodplain (risk of seasonal flooding during construction)	Without proper mitigation these risks can lead to serious injuries for members of the construction team and lead to delays in the project	Open	Medium	High	Project team	Depending on the level of workmanship and the substructure option pursued, different site activities will need to be planned (some of which will require thorough planning). Mitigation to protect the workforce from traffic on existing roads, as well as prefabricated sections with temporary edge protections will be required to protect those working at a height/ over water, as well as liaisons with the Environmental Agency at regular intervals to ensure the anticipated water levels permit planned site works and avoid closure of navigation during peak times.	Low	High
12	Delivery	Bridge foundations: Unknown ground conditions	Complex bridge foundations increasing costs and programme. Foundations washed out/undermined by flood water	Open	Medium	High	Project Team	Use of higher cost rate in build-up. Structures team to liaise with Geotechnics team when specifying the GI (Ground Investigations) to ensure enough quality data is obtained. GI to be undertaken in a timely manner to feed into Structures options report.	Low	Medium
13	Delivery	ERiC Alignment Option 1: Flood relief culverts proposed between chainages 550 and 750m due to limited headroom in the flood plain.	EA might require further conveyance of floodplain; requiring raising the highway alignment and increasing costs while also tying in into existing roads	Open	High	High	Project Team	Flood compensation has been identified and counted in the costing. Further discussions with EA required at next phase of the scheme.	Medium	Medium
14	Delivery	Local diversion of footpaths along the river banks (ERiC Alignment Option 1), to achieve required headroom	Increasing the vertical alignment of the proposed road and possibly the overall lengths of the bridge. There may be local opposition to the diversion of footpaths.	Open	Medium	Medium	Project Team	Stakeholder engagement and discussions with local communities to get their by-ins. Minimising lengths of diversion / possible footpath improvement / viewing/sitting areas	Low	Low
15	Delivery	Transportation of long span steel beams. Length up to 30m can be transported without special measures.	Shorter length of steel beams to be transported to site and joined together	Open	Medium	Medium	Project Team	Liaison with steel fabricator and investigation of transport routes, including barges on river, to minimise on-site beams connections	Low	Low
16	Delivery/ Financial	Due to the nature of the existing topography as obtained from LIDAR data, the gradient of the existing ground is hilly exceeding 20% in some sections. On the approach to proposed junctions, the proposed road vertical profile should not exceed 2% over the desirable stopping sight distance as per DMRB CD 116. Otherwise, the desirable maximum vertical	Such significant cut/fill quantities have both financial and delivery consequences. Financially, the large cut/fill depth at some sections means that there is significant earthwork required to be imported which increased the construction cost. On the other hand, the large cut sections as well as deep fill sections could be challenging during construction.	Open	High	High	Project team/ Principal Contractor	Early Contractor Involvement is recommended in the next design stage to discuss delivery options.	Medium	Medium

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		profile gradient is 6%. This resulted in significant cut/fill depth for the road construction which exceeds 5 metres in some sections								
17	Operational	Scale of benefits unlocked is less than expected. The new river crossing may not lead to a mode shift from private vehicles to public transport and active modes	The scheme does not bring tangible benefits in encouraging the use of alternative modes other than private vehicles. This would also conflict with the aims set out in documents such as Hereford LTP which outlines a desire to increase the mode share of public transport and active modes.	Open	Medium	Low	Project team	Complementary promotional campaigns should be run alongside the delivery of the route to highlight the active travel infrastructure and new public transport routes to encourage behaviour change. Also, completion of the supporting LUF2 active travels schemes will help to provide a joined-up network around ERIC that will increase the likelihood of the route being well-used.	Low	Low
18	Operational	The scheme proposals could negatively impact on the safety for all users	A worsened safety record in the vicinity of the scheme and public opposition towards the Council following the delivery of the scheme.	Open	Medium	High	Project team	Road Safety Audits (RSAs) will be undertaken to confirm the suitability of the proposals in terms of their impact upon safety and collision rates. Scheme design can be adjusted as appropriate dependent upon the outcomes of the RSAs.	Low	Medium
19	Environmental	The scheme crosses the River Wye and falls within Flood Zones 2 and 3	The scheme crosses the River Wye and is located in a Flood Plain (Flood Zones 2 and 3) which could result in adverse impacts upon the watercourse and increased flood risk.	Open	Medium	High	Project team	Extensive and detailed flood modelling will be required as part of a Flood Risk Assessment (FRA), and flood compensation measures will need to be agreed with the Environment Agency. Scheme design, including bridge crossing may change subject to the outcomes of the modelling. A drainage strategy, water quality risk assessment and a Water Framework Directive assessment would also be required.	Low	Medium
20	Environmental	The River Wye at the crossing point is designated a Special Area of Conservation (SAC) and Site of Scientific Interest (SSSI)	A number of environmental designations are in the vicinity of the scheme including the River Wye Special Area of Conservation (SAC) and Site of Scientific Interest (SSSI) where a number of species and habitats covered by European Directives could be adversely impacted.	Open	Medium	High	Project Team	A detailed ecological survey protocol will be followed, informed by a phase 1 habitat survey. Impact assessments will be undertaken (to include an ecological impact assessment and a habitats regulations assessment) and mitigation strategies will be developed. These workstreams will be developed in liaison with Natural England.	Low	Medium
21	Environmental	The scheme passes a Scheduled Monument / Listed Buildings at Rotherwas	The Scheme could adversely impact on the setting of these and other designated heritage assets, with the potential to disturb or remove archaeological remains associated with the designated heritage assets which extend beyond the scheduled area. The scheme could also impact upon other non-designated heritage assets	Open	Medium	High	Project Team	Engagement with Historic England will be required with the potential for archaeological investigation being needed to understand any scheme impacts on designated heritage assets including at Rotherwas. A full impact assessment will be undertaken.	Low	Medium
22	Environmental	The scheme could be result in increased greenhouse gas emissions	Increased greenhouse gas emissions due to the scheme could conflict with the Hereford LTP and hinder the council's efforts to reduce carbon emissions to meet their Net Zero targets.	Open	Medium	High	Project Team	Detailed climate impacts assessments will be undertaken ensuring that modal shift effects are accounted for.	Low	Medium
23	Environmental	Other environmental constraints in the vicinity of the scheme	There could be further adverse environmental effects with respect to e.g air quality, noise, landscape and visual impacts.	Open	Medium	High	Project Team	Detailed environmental assessments will be undertaken, informed by surveys where necessary, and mitigation strategies will be developed where needed in liaison with the relevant consultees.	Low	Medium

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24	Reputational	Scheme does not receive stakeholder support and is opposed by local public groups, threatening the viability of the scheme, and negatively impacting upon the reputation of the Council	A lack of stakeholder support could threaten the viability of the scheme and negatively impact upon the benefits forecast to be generated.	Open	Medium	Medium	Project team	Stakeholder Engagement Strategy produced as part of the SOC to ensure that a robust approach for engaging with stakeholders is in place. Stakeholder engagement at the preliminary design stage to informed detailed design. Early political approval and engagement with those affected throughout the construction phase in order to minimise and manage disruption	Low	Medium