

Eco Impact Checklist

Title of report: Bristol Arena Project				
Report author: Hannah Bush / Oliver Roberts				
Anticipated date of key decision: 4 th September 2018				
<p>Summary of proposals: To consider the overall position of the Bristol Arena project and decide whether to proceed and enter into the building contract with Buckingham Group Contracting Limited (BGCL); To receive the Value for Money (VfM) Study produced by KPMG.</p> <p>This assessment considers the impacts associated with the Arena proposal at Temple Meads. Proposals for the alternative proposal are considered in a separate assessment.</p>				
Will the proposal impact on...	Yes/No	+ve or -ve	If Yes...	
			Briefly describe impact	Briefly describe Mitigation measures
Emission of Climate Changing Gases?	Yes	-ve	<p>During construction there will be direct emissions from construction vehicles and indirect emissions through energy consumption and staff travel.</p> <p>During operation: indirect emissions from energy consumption and staff travel, visitor travel, generation of waste to landfill.</p>	<p>The project is committed to delivering a 20% reduction in carbon emissions through the use of on-site renewables, including a large photovoltaic array on the building roof. These measures have been designed to meet BCS 14 planning policy objectives.</p> <p>A Construction Environment Management Plan (CEMP) has been developed for the project, which takes account of all mitigation measures identified within the Environmental Impact Assessment submitted alongside the Arena planning submission. The CEMP will be submitted for approval against condition 9 of planning permission (PP) 15/06069/F.</p> <p>The building contractor has set out commitments to local employment within a Skills and Employment Plan, which will be incorporated into the construction contract. The Arena Operator has similarly produced a Local Impact Programme, which</p>

			<p>includes measures for local employment. Both documents will be submitted for approval against condition 16 of PP 15/06069/F.</p> <p>The Arena will achieve a minimum of BREEAM 'Very Good', which will place the building at an equal or higher standing as the most sustainable arenas constructed in the UK to date. The assessment includes consideration of construction materials used and the energy efficiency of the building.</p> <p>The site is well connected to the existing public transport network, located next to Temple Meads train station and on multiple bus routes.</p> <p>A Public Transport Strategy will be produced to encourage and maximise use of public transport for staff and visitors to the Arena. This will include a Full Travel Plan and Event Management Plan, which will be led by a steering group involving stakeholders including transport providers, such as Network Rail and a Park and Ride Strategy, which will detail arrangements for increased bus provision for Arena events.</p> <p>The site is to be connected to Bristol heat network, it is expected the site will be supplied by an energy centre within the University of Bristol's proposed zero carbon campus.</p> <p>A Waste Management Scheme will be submitted in accordance with condition 23 of PP 15/06069/F.</p>
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				Landscaping measures, including tree and low ground level planting may have some positive benefit for air quality.
Bristol's resilience to the effects of climate change?	Y	+ve & -ve	<p>The site's main access route is within flood zone 3.</p> <p>The proposal may increase the risk of flooding through increased impermeable surfaces.</p> <p>The proposal will increase mains water and energy consumption.</p> <p>The Arena could provide shelter in an emergency situation, therefore a positive factor for community resilience.</p>	<p>A full flood risk assessment was undertaken for the project. Improvements are proposed to the A4 slip road to create an emergency vehicular access; in addition a new southern access (alternative pedestrian access) will be developed. These access points are located to the south of the site outside of the flood zone.</p> <p>Engagement has taken place with BCC Flood Risk Officers and the Environment Agency to agree drainage discharge strategy that minimises any impact of the development.</p> <p>The site is located in the city centre, within cycling and walking distance of many residential areas of Bristol. The site is well connected to the existing public transport network, located next to Temple Meads train station and on multiple bus routes.</p> <p>The site is to be connected to the Bristol heat network.</p> <p>The Arena design has been developed to maximise water efficiency and minimise energy and resource consumption, this is reflected in the in the project's BREEAM assessment.</p> <p>With its city centre location, the Arena is included in BCC's civil contingency plans and could</p>

				therefore be used in a severe public crisis situation.
Consumption of non-renewable resources?	Y	-ve	<p>In the short-term, there is potential for the consumption of fossil fuels and other non-renewable materials arising through the use of energy and materials during the construction works.</p> <p>In the long-term, there will be consumption of fossil fuels for heating and power, and also for travel to and from the site.</p>	<p>Sustainability of building materials has been considered in the design and reflected in the BREEAM assessment.</p> <p>A Public Transport Strategy, Park and Ride Strategy and Full Travel Plan are being developed for the project and will be submitted against conditions 24, 25 and 27 of PP 15/06069/F.</p> <p>The site is to be connected to the Bristol heat network.</p> <p>Reduction in consumption of non-renewable resources through on-site renewable energy generation.</p>
Production, recycling or disposal of waste	Y	-ve	<p>Waste will arise from construction works.</p> <p>Waste will arise from the normal operation of the site.</p>	<p>A Site Waste Management Plan will be prepared by BGCL to minimise the level of waste produced and maximise the amount of waste that is recycled and diverted from landfill. The plan will be submitted alongside the CEMP under condition 9 of PP 15/06069/F.</p> <p>A Waste Management Scheme will be submitted against condition 23 of PP 15/06069/F.</p>
The appearance of the city?	Y	+ve	<p>The site is currently derelict / vacant and inaccessible to the public. The proposal will alter the appearance of the city, creating a new destination and public realm on a prominent gateway site in the city.</p>	<p>A full assessment of the landscape and visual impact of the project was undertaken as part of the Environmental Impact Assessment submitted alongside the planning application 15/06069/F.</p>

<p>Pollution to land, water, or air?</p>	<p>Y</p>	<p>+ve</p> <p>-ve</p>	<p>The development is located on a brownfield site, previously occupied by a diesel depot. The proposals will help treat residual contamination.</p> <p>Activities such as pilling have the potential to disturb and create new pathways for the movement of residual contamination.</p> <p>There is a risk of hazardous materials (e.g. fuels or paints) being accidentally released during construction works.</p> <p>Construction works may generate mud, dust and noise.</p> <p>The site is adjacent to a watercourse.</p> <p>Once operational, the site will be connected to the sewage network.</p> <p>An increase in traffic will potentially impact on air quality within the city.</p>	<p>A thorough Remediation Strategy has been prepared in accordance with condition 12 of PP 15/06069/F. The Pollution Control team have input into this strategy and construction will not start until the strategy has been formally approved by this team and the Environment Agency.</p> <p>A CEMP will be produced and submitted in accordance with condition 9 of PP 15/06069/F. The CEMP includes detailed controls and measures for the Control Of Substances Hazardous to Health (COSHH); and for minimising and mitigating the resulting effects of construction activity, such as the generation of mud, dust and noise.</p> <p>During the construction phase the site(s) will be registered to the Considerate Constructors Scheme. Measures for engagement with local community and stakeholders will ensure that any arising issues are quickly identified and dealt with.</p> <p>A third party consents matrix has been prepared identifying all permits/consents, including consent from the Environment Agency for discharge of surface water drainage into the River Avon and from Wessex Water for connection to the sewer network.</p> <p>The site is well connected to the existing public transport network, located next to Temple Meads train station and on multiple bus routes. A Public Transport Strategy, Park and Ride Strategy</p>
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				(and Full Travel Plan will be developed to maximise use of these forms of travel over car use.
Wildlife and habitats?	Y	-ve & +ve	<p>The site is derelict and sparsely vegetated. The on-site vegetation will be cleared prior to construction and replaced with new planting, selected to complement and enhance the existing riverside habitat.</p> <p>Potential for disturbance of protected species: wild birds' nests within and on the site boundaries. No bats were recorded as roosting during the last ecological survey, however there is evidence of foraging activity, which could be impacted by the development.</p>	<p>An ecological survey has been completed. Retention of habitats and clearance of vegetation will be controlled through conditions 11, 14 and 15 of PP 15/06069/F.</p> <p>Landscape design has been developed to enhance and preserve existing habitats in accordance with BCAP 22. Scrub corridors along the riverbanks will be retained.</p> <p>Works to structures or vegetation which birds use to nest on or in, will be scheduled from September to March, outside of the bird nesting season. Bird and bat boxes will be installed as part of ecological enhancement works on the site.</p> <p>External lighting design retains dark corridors for bats around river edge perimeter through minimising lux levels, placement and direction of lights.</p> <p>Engagement has taken place with the BCC Planning Nature Conservation Officer on ecological enhancement and mitigation measures in the design.</p>
Consulted with: Giles Liddell - Environmental Project Manager and Nicola Hares - Environmental Project Manager.				
Summary of impacts and Mitigation - <u>to go into the main Cabinet/ Council Report</u>				
This proposal will create short term negative impacts from construction, and long term negative impacts from travel to and use of the arena. A range of effective mitigation measures is proposed to address construction, energy and travel, and positive impacts will arise from bringing a currently derelict area into the public realm.				

The significant impacts of this proposal are:

Short-term increase in environmental impacts through the consumption of fossil fuels and raw materials in constructing the Arena and pollution from potential release of residual contamination into the adjacent watercourse. Longer term, there will be on-going consumption of energy for heat and power, generation of waste and travel to the site. An increase in traffic may reduce air quality within the city.

Significant potential exists for mitigating the negative impacts of this proposal, and also for positive effects.

The proposals will also have positive impacts. The currently inaccessible and derelict site will be opened up and a new destination and public realm created on a prominent gateway site into the city. The building will also provide an addition to BCC's civil contingency plans and will provide considerable direct local employment opportunities. Landscape design will preserve and enhance existing habitats and tailored remediation work will reduce contamination and improve the site.

The proposals also include opportunities for low carbon energy generation via connection to the Bristol heat network and installation of solar PV on the building roof.

The proposals include the following measures to mitigate the impacts:

Mitigation measures have been considered throughout the design and planning process, which included a full Environmental Impact Assessment. The proposals were granted planning permission in April 2016 and substantial work has since been completed to discharge the planning conditions (for full details of the planning conditions and the deliverables required, please refer to Decision Notice 15/06069/F – included as **Appendix F1**). The planning process has involved thorough consultation with internal BCC teams including transport, planning, contamination, flood risk, economic development and ecology as well as external organisations such as the Environment Agency. This consultation and engagement has been fundamental in shaping the mitigation proposed.

The site is located adjacent to Temple Meads train station and is served by multiple bus routes that link both the north and south of the city. This provides for significantly reduced travel impacts, maximising sustainable travel options and reducing reliance on private car use. To further mitigate air pollution and traffic congestion impacts from staff and visitor travel, a Public Transport Strategy, Park and Ride strategy and Full Travel Plan will be operational once the facility opens.

The site is located within walking and cycling distance from numerous residential areas of the city, improving its resilience, making it less vulnerable to disruption from bad weather and accessible via sustainable means of transport from the central, south and northern areas of the city. Staff travel to the site during construction and operation will be minimised by focusing on local employment.

To mitigate the potential pollution impacts from residual diesel depot contamination on the site

from entering the adjacent watercourse, a comprehensive remediation strategy has been prepared and will be implemented at the appropriate time during construction. During the construction phase the site will be registered to the Considerate Constructors Scheme and a Construction Environment Management Plan (CEMP) produced to control other potential pollution sources such as noise and dust. A site drainage plan has been produced to ensure any releases can be controlled and contained.

Waste generation will be managed and minimised during construction via the CEMP and during operation by a Waste Management Scheme.

To help mitigate impacts from consumption of non-renewable resources, the proposal will be connected to the Bristol heat network, providing resilience to any future resource scarcity and supporting local energy centres, thus contributing towards Bristol's target to become carbon neutral by 2050. On site renewables, such as solar PV, will reduce carbon emissions from the building's energy demand by 20%.

The project is targeting BREEAM 'Very Good' as a minimum for the Arena building to improve energy efficiency and reduce consumption of resources. This will place the building at an equal or higher standing as the most sustainable arenas constructed in the UK to date.

To mitigate the impact that any site clearance of vegetation may have, the landscape design has been developed to enhance and preserve existing habitats and dark corridors retained for bats along the river edge perimeter by designing external lighting schemes accordingly.

A Planning Supporting Statement was submitted and approved as part of the planning application, this details the policies from the Bristol Core Strategy, Bristol Central Area Plan and National Planning Policy Framework that the project is compliant with.

The net effects of the proposals are: Positive as negative impacts can be mitigated and the proposals provide multiple opportunities for positive impacts.

Checklist completed by:

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Date:	10 th April 2018
Verified by Environmental Performance Team	22 nd June 2018