Sustainability Statement
Beorma Quarter, Birmingham, UK

On behalf of:
Salhia Investments (Birmingham) Limited and Salhia Investments (Residential) Limited

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1. Introduction

The Sustainable Development Commission (SDC) defines Sustainable Development as:

"Development that meets the needs of the present, without compromising the ability of future generations to meet their own needs"

At the national level the UK Government has defined four broad objectives for sustainable development:

- social progress, which meets the needs of everyone;
- effective protection of the environment;
- prudent use of natural resources; and
- high stable levels of economic growth and employment

These national objectives are reflected and built upon at a regional and local scale. The City of Birmingham has committed to sustainable development through its vision for Birmingham, setting out the City's position in relation to current key socio-economic trends, such as the North/South divide, urban to rural shift and social polarization. The aim is to provide continuity with the past as well as establishing a basis for the development of future strategy.

To demonstrate that the re-development of Beorma Quarter will fit in with the sustainable vision for Birmingham, Birmingham City Council requires a Sustainability Statement to be submitted with the application. This Sustainability Statement has been produced in line with Birmingham City's broader policy on sustainable development as outlined in the Birmingham Unitary Development Plan (2005).

Birmingham City Council has developed a Sustainability Checklist for sustainable design that can be applied to developments from house extensions to business parks. It is a self-assessment process, which can be completed easily by any applicant, developer, architect/designer or builder to establish how sustainable their development is and hopefully raise awareness of how it can be improved. This has been used, in conjunction with other sources, to generate an assessment framework.

2. Scope and Methodology

The development site has been appraised against a bespoke assessment framework consisting of sustainability objectives and targets organised in alliance with the Birmingham City Council Sustainability Checklist. The Sustainability Assessment (SA) process is as follows (*Figure 1.1*).

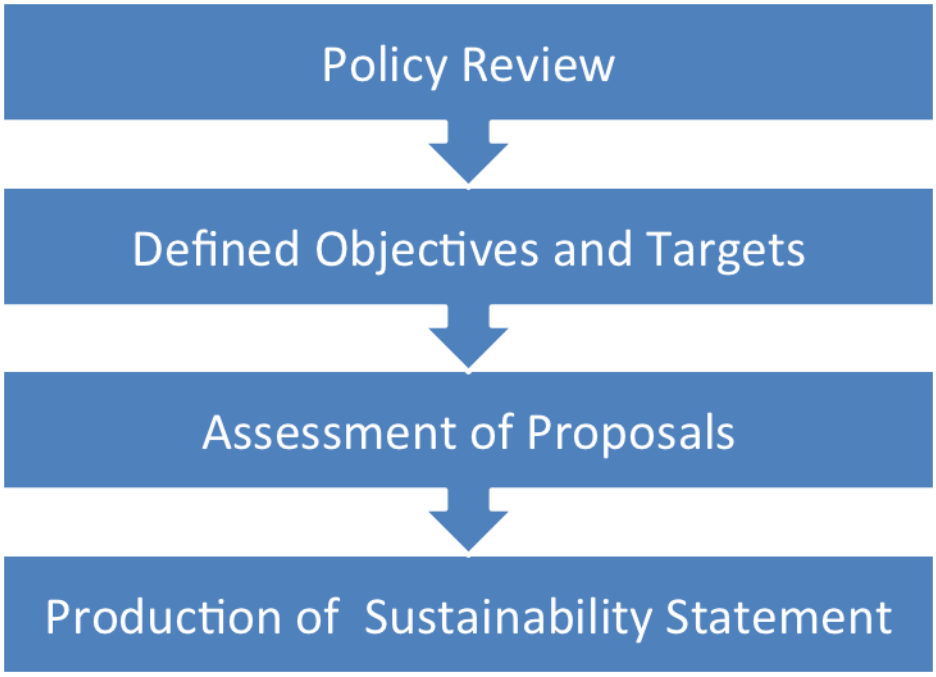

Figure 1.1*: Sustainability Assessment Process*

The SA process is outlined below in more detail.

2.1.1. Policy Review

A review is carried out of relevant sustainability policy documents for the region and local area. Good practice guidance is also taken into account.

2.1.2. Define Objectives and Targets

Objectives and targets identified in the review of policy and good practice guidance are assembled into a set of sustainability objectives and targets for Project. The objectives and targets are organised under of a set of headings for key sustainability issues that mirror the BCC Sustainability Checklist.

2.1.3. Appraisal of Proposals against Objectives and Targets

The sustainability deliverables of the development proposals are tested against these objectives, by means of:

- project design workshops held with the design team;
- review of the developing designs (architect's drawings, landscaping proposals, technical investigations, energy strategy and plant proposals, client commitments) to ensure there is evidence that the sustainability objective have been addressed within the design; and
- assessment of elements of the development against the appropriate standards.

2.1.4. Production of Sustainability Statement

Recording of the outcomes of the assessment uses a colour coding system to indicate performance and identify those aspects of the development which are performing well in terms of sustainability, those where the scheme does not comply with the criterion on the checklist or where improvement is necessary and those areas where the criterion is not applicable.

3. Legislation and Policy Context

The Sustainability Assessment (SA) methodology involves the completion of policy review of current and emerging international, national, regional and local policies relating to sustainability to provide a specific policy context for the assessment of the development. This exercise informs the content of a bespoke *'sustainability framework'*, which has provided the project team with a set of objectives and targets relevant to specific characteristics of the proposed development to take forward in to the final design process. To establish the policy context, a review of the following documents was undertaken:

3.1.1. National Policy

National policies include:

- The World Summit on Sustainable Development, Johannesburg Declaration of Sustainable Development 2002;
- United Nations Framework Convention on Climate Change, Kyoto Protocol (1992);
- Agenda 21, Rio de Janeiro 1992;
- The Convention on Biological Diversity, Rio de Janeiro 1992;
- Environment 2010: Our Future, Our Choice (EU Sixth Environment Action Programme);
- National Planning Policy Framework (NPPF) 2012;
- Securing the Future - Delivering UK Sustainable Development Strategy (2005);
- Planning Policy Statement 10: Planning For Sustainable Waste Management (2005);
- UK Government – Planning our electric future: a White Paper for secure, affordable and low-carbon electricity (July 2011);
- Our Energy Future – Creating a Low Carbon Economy (2003);
- Sustainable Communities: Building for the Future (2003);
- The UK Climate Change Programme (DEFRA 2000);
- A Better Quality of Life – A Strategy for Sustainable Construction (2000); and
- Sustainable Development Strategy (1999).

3.1.2. Regional Policy

The Government Office for the West Midlands was abolished in 2010. Previous policy documents included:

- Regional Planning Guidance for the West Midlands Incorporating Phase 1 (January 2008, Government Office for the West Midlands);
- A Sustainable Future for the West Midlands – A Regional Sustainable Development Framework (RSDF) – (Refreshed Draft, January 2008 Sustainability West Midlands);

- Delivering Advantage – West Midlands Regional Economic Strategy and Action Plan 2004 – 2010 (2004), Advantage West Midlands.

3.1.3. Local Policy

The City of Birmingham has committed to principles of sustainable development through its vision for Birmingham which sets out the City's position in relation to the key socio-economic trends, such as the North/South divide, urban to rural shift and social polarization, thereby providing continuity with the past as well as establishing a basis for the development of future strategy.

The built environment has an important role to play in supporting this aspiration. At present there is no specific guidance produced by Birmingham City Council with relation to sustainable design and construction, however there are a number of documents that can provide a framework for the consideration of sustainability within new developments, particularly the UDP Design Principles for Sustainable Development. Local policy documents include:

- Birmingham Unitary Development Plan (UDP) (Birmingham City Council, 2005);
- Birmingham Development Plan 2031 (Draft);
- Big City Plan (July 2011). The Masterplan is not a Statutory Planning document, but it is seen as the vision and framework for future development and regeneration of the City Centre.
- High Places, A Planning Policy framework, Birmingham City Council, March 2003; and
- Places for Living, Birmingham City Council, March 2001.
- Birmingham 2026 – Sustainable Community Strategy (which seeks to make Birmingham the UK's first Global Sustainable City and espouses Sustainable Development as one of its four principles defined as: *improving the quality of life of our citizens and achieving a sustainable economy while living within environmental limits.*

3.1.4. Good Practice Guidance

Good practice documents include:

- Adapting to Climate Change: A Checklist for Development. Guidance on designing developments in a changing climate (Three Regions Climate Change Group, 2005);

- BREEAM (2011);
- The Code for Sustainable Homes (BRE, 2007) – now withdrawn; and the
- Waste Resources Action Programme (WRAP) Recycled Content Toolkit.

Where relevant this guidance has been considered.

4. Assessment Methodology and Significance Criteria

The review of policy and good practice guidance has been assembled into a bespoke set of sustainability objectives and targets for the development to provide a framework for assessing the sustainability attributes of the development.

A reference number has been given to each objective, corresponding to the Birmingham City Council Sustainability Checklist. The categories have been derived from common practice in sustainability policy and assessment.

The progress of the development in meeting the sustainability objectives and targets is shown using a traffic light colour scheme illustrated below.

Criterion Achieved

Scheme not compliant with criterion

Not applicable to the development or To Be Determined

A brief summary is then provided to explain how this assessment was made and the progress made thus far on achieving the sustainability objectives.

For each objective under the categories above, the minimum standard which the development must meet has been taken from the local policies and standards (from Birmingham UDP, Supplementary Planning Documents and Supplementary Planning Guidance). Additional good and best practice standards are also considered. Good practice represents compliance with policy aspirations or guidance and best practice represents going beyond the preferred standards or demonstrating innovative technology or approaches.

5. Assessment of the Development Against BCC Checklist

BCC Sustainability Checklist Criterion		Description	Y/N	Additional Information
1	**Conservation & Energy**	Has the building been designed to benefit from solar gain, with larger main windows orientated towards the South and smaller windows to the North?	Y	In the apartments, the optimisation of façade glazing proportions is being targeted throughout the development in order to balance good daylighting and passive solar heat gains against winter heat losses, and to also reduce the risk of summertime overheating. The glazing proportions within the non-domestic areas of the scheme will also aim to reduce summer solar gains whilst maximising daylight. In order to help reduce the risk of summer overheating and avoid the need for comfort cooling to be specified, the incorporation of low emissivity solar control glazing is proposed throughout the development. This glazing will help to retain thermal energy over the winter period whilst reducing incoming solar gains during the summer months. All residential units will target compliance with Part L1A 2013 Criterion 3 (Limiting the Effects of Solar Gains in the Summer). This is detailed within the Part L1A 2013 assessment in Appendix 1. Solar control glazing and external shading features will also incorporated within the commercial areas of the development, which will be designed to minimise summer solar gains and reduce the cooling load. All occupied and/or conditioned nondomestic areas will target compliance with Criterion 3 of Part L2A 2013. Heat losses through the fabric and by infiltration will be further limited by the optimisation of U-values and building air tightness. Additional insulation is proposed for the external elements in order to help reduce thermal transmittances.
		Have you incorporated additional insulation into the building to raise the standard above the current building regulations requirement?	Y	
		Is the building designed to retain heat with thermal mass construction and maximise gain with a South facing glazed heated conservatory?	Y	

				In addition to the incorporation of low U-values, it is proposed that the residential units will also target an air tight construction standard with design air permeability of 3 m3/(h.m2)@ 50 Pa. This is expected to help reduce the space heating demand of the development and provide a significant improvement in energy efficiency. The building fabric U-values within residential, commercial, retail and commercial areas will aim to exceed the requirements of Part L 201
2	**Sources of Energy & Heating (Domestic)**	Are you using any renewable sources of energy on-site, such as solar collectors for water heating?	Y	A Ground Source Heat Pump (GSHP) will be utilized to provide heating for the Phase 2 apartments (underfloor heating) and cooling for the Phase 3 offices. This could provide up to 10% of the heating and cooling energy demand of the development.
		Have you been able to omit central heating in the building by increasing insulation and retaining photovoltaic panels, geothermal, heat pumps, bio- gas (methane) or light pipes?	N	Some of the heating for the residential units will be provided by the Ground Source Heat Pump but supplemental conventional heating will also be required from conventional energy (via a CHP plant).
		Are you buying electricity on a green tariff from a company generating renewable energy, heat gain from appliances, occupants and solar gain?	TBD	The energy procurement and contracting details have not been determined yet.
3	**Conservation of Buildings**	Does the project bring back into use an existing building that is derelict or has been vacant for over a year?	Y	The development site has been underutilized for several decades and in recent years has been moribund and dilapidated. Notwithstanding that the Coldstore and some of the buildings and facades along Digbeth High Street are of significant architectural interest. The development will preserve and enhance those buildings and bring them back in to
		Does the project involve improving the energy efficiency of the existing	Y	

		building?		use and accessibility whist at the same time providing new buildings and spaces on multiple levels within the site.
		Does the project preserve a building of value to the local community?	Y	
4	**Conservation of Materials**	Are recycled building materials being specified for significant part of this project?	TBD	Building material specifications have not been detailed yet but where possible and suitable recycled materials will be sourced but it is not a confirmed commitment at this stage.
		Are materials from the site being re-used in a specific project elsewhere in the city?	N	All demolition materials that are generated on the site will be taken into the secondary recycling market via a materials reclamation facility but there is no designated recipient project.
		Does the project involve the re- use of building structures or materials directly from the site?	Y	An intrinsic part of the design for this scheme is the retention and re-use of the architecturally significant elements of the Digbeth façade.
5	**Specification of Materials**	Are most materials specified in the construction either recyclable, biodegradable and non-polluting (eg. Not using CFC's in their manufacture in their production)?	N	Building material specifications have not been detailed yet but where possible and suitable recycled or biodegradable materials will be sourced. Selection of construction elements will take into account the ratings of different construction materials in the Green Guide to Specification (www.thegreenguide.org.uk), with the aim of specifying options with lower embodied environmental impact. Lower impact hard landscaping options will be considered by the landscape architect but these are detailed design and procurement issues that will not be completed until after the planning permission process. Façade and construction materials are likely to be sourced by the developer. Suppliers may not be ISO14001-accredited and materials may be procured from suppliers without a certified Environmental Management System. The requirement to procure finishing materials from manufacturers with IS014001/EMAS certification is

				under consideration and will be adhered to where possible but this needs to be balanced against the environmental attributes of the material and programme and logistics considerations also.
		Is all timber in the construction from a sustainable source?	Y	Only certified sustainably sourced timber will be procured and used in the development.
		Are the materials obtained from local source (eg. 30 miles – reducing the impact of excessive transport)?	**TBD**	The supply chain has not been secured and contracted yet but it is unlikely that all of the construction materials will be sourced within 30 miles of the site.
6	**Appliances and Equipment**	Have you reduced water consumption through the use of low flush toilets?	Y	All toilets and urinals will be water efficient designs.
		Have you specified 'A' rated electrical appliances (fridges, washing machines etc)?	Y	All provided appliances will be A rated.
		Have you specified condensing boilers for heating schemes?	Y	Condensing boilers will be used where installed.
7	**Passive Solar Design and Layout**	Does the development layout maximise the potential of solar gain with main elevations within 30° of South?	Y	A number of the main elevations are within 30 degrees of south but the layout is driven by the constraints of the urban block and site orientation. Where possible, however, solar gain has been maximised.
		Is the development designed to minimise overshadowing, taking account of landscape, topography and adjacent buildings?	Y	An overshadowing study has been completed (ES Chapter 16). The development has where possible within the site's physical and design constraints minimized overshadowing of neighbouring properties.
		Are these objectives achieved without	Y	The design optimizes use of the site for the range of proposed uses without

		compromising suitable densities, the local urban form or community safety?		compromising user safety or community integration on the site but remaining within an appropriate mass and height for the site.
8	**Transport**	Have you provided secure, sheltered storage for bicycles?	Y	Secure cycle stores will be incorporated into the development.
		Does the development maximise accessibility to public transport (eg. Providing viable bus routes in larger developments, suitable locations for bus stops, safe direct pedestrian routes to stops, or displays of local transport information?	Y	The development is in the heart of the city close to major public transport links and will provide enhanced pedestrian links to the city. A travel plan will be developed as part of the scheme that will include access to public transport facilities.
		Does the development minimise car ownership through reduced car parking provision, restrictive clauses in tenancy agreements or providing shared hire resources in car pools?	Y	The scheme only allows for 30 car parking spaces with the intention being that most people accessing the site will use public transport and pedestrian routes.
9	**Water Conservation**	Have you incorporated facilities for rainwater collection and re- use. To reduce dependence on treated mains water?	N	The design has not been able to incorporate rainwater harvesting and greywater recycling systems but water efficiency devices are built into the design.
		Does the scheme incorporate facilities for grey water recycling (eg. Filtering and re- using waste water for toilet flushing)?	N	
		Does the scheme deal with full sewerage	N	Site derived sewage will directed to the local municipal sewer system. There is

		treatment on-site (black water) by using reed bed treatment for example?		insufficient space on the development site to accommodate treatment plant and reed bed systems.
10	**SAP Rating (for new housing)** The standard assessment procedure rating is the Government's standard for energy rating of new homes, ranging from 1-100 to reflect their level of energy efficiency.	SAP 60	TBD	At the time of preparation of this statement the SAP rating for the residential units had not been determined.
		SAP 70	TBD	
		SAP 80+	TBD	
11	**Standards-Sustainable Homes (for new housing)** Are you able to achieve any of the following DETLR standards for sustainable homes. These are explained in the DETLR General Information Report 53 – Building a Sustainable Future.	**Zero CO2** A house that creates no net emissions of CO2 on an annual basis?	N	
		Zero Heating A house that obtains all its space heating requirements from its occupants and appliances. Also meet the requirements of Zero CO2 .	N	
		Autonomous Meeting both of the previous requirements by use of on-site energy generation. Not linked to external services except to export electricity to the grid during part of	N	The development will rely on bought in power but will utilize a CHP plant to optimize the energy efficiency of the development power supply.

		the year to balance any intake at other times.		
12	**Waste Recycling**	Have you incorporated facilities for occupants to sort and store waste at source?	Y	Recycling receptacle areas will be provided at strategic locations throughout the development.
		Are you providing services for the recycling of waste materials (eg. Collections)?	N	Collections will be provided by BCC for residential occupiers and commercial waste vendors for other tenants.
		Are you providing recycling facilities that can be used by the wider community?	N	It is assumed that all wastes will be taken away from the site.
13	**Accessibility**	Does the development provide improvements to accessibility for building (based on an Access Audit)?	Y	The development involves incorporating the facades or parts of existing architecturally significant buildings into the new buildings which will all be designed as accessible buildings thus allowing access to these former buildings or parts thereof.
		Does the design of housing meet the Lifetime Homes standard, ensuring homes will be more adaptable as peoples' lives may change?	N	Lifetime homes standard has not been adopted for the residential elements of this development.
		Does the housing development provide at least one fully existing wheelchair accessible unit for each fifty units developed?	Y	Wheelchair accessibility has been designed into the residential apartments.
14	**Neighbourhood**	Does the development	Y	The design is sympathetic to the local

		respect the local character in the design and materials used (layout of streets, scale and building form)?		protected buildings and the historical burgage layout.
		Does the development provide a mixed use scheme at appropriate densities to strengthen the local neighbourhood?	Y	The scheme provides for a variety of mixed use scenarios and will create a community of residential, retail and commercial users where presently there is no such integrated community.
		Does the development provide additional local facilities, in the right locations, to help to meet the wider community's needs?	y	The scheme provides a mixed use development on a formerly under-utilised and now moribund site that presently provides nothing to the local community.
15	**Community Involvement**	Are you aware of the local communities (or neighbours') concerns or aspirations for the development?	N	There has not been a formal public consultation exercise directly with the local community but a range of stakeholders and community representatives have been involved in the development of the scheme, particularly in relation to archaeology and building conservation, visual impact issues.
		Have you undertaken any consultation with the local community and taken into account their views, prior to finalising the design and submitting applications?	N	The planning application will form the basis of public consultation and engagement.
		Has a community group, or the new occupiers (ie, the actual users) fully participated in the development of the design?	N/A	There is no community or user group on the site as such as it is a moribund site at present.
16	**Biodiversity**	Have you assessed the	Y	Ecological surveys have been

		existing site, buildings and surroundings for trees and wildlife habitats?		undertaken on the site in 2009 and 2015 (reported in the ES Chapter 12).
		Have you made provisions for the preservation and enhancement of any identified trees or other habitats within or around the site?	Y	There are no habitats to be preserved (see ES Chapter 12).
		Have you created new habitats for wildlife through sensitively designed landscape and planting schemes, nesting or roosting sites within the buildings or strengthening habitats around the margins of the site?	Y	Green roof schemes will be incorporated into the development proposals providing new habitat.
17	**Adaptability**	Does the building have special provision to support working from home (study, workshop space, cabling for office use)?	Y	The residential units will be suitable for working from home activities.
		Has the building been designed to adapt easily to changing needs at minimal costs (eg. incorporating key structure and space for future expansion)?	Y	The floorplates will be designed to allow flexibility of occupancy if tenants change over the lifetime of the development. Whilst certain elements of the structures like the core and facades cannot be altered, the internal layouts can have alternative uses if this is a desirable or necessary option in the future.
		Does the building design allow for future subdivision to new uses at minimal cost (ie. Incorporating separate accesses to upper floors,	Y	

		fire and sound proofing to good standards?		
18	**Employment and Training**	Is the majority of your contractors' workforce from the local area?	TBD	The final build main contractor and supporting contractors and suppliers have not yet been selected but where possible and economically feasible these will be from the local resource pool.
		Are you implementing the City Council's Code of Practice for Employment and Training?	TBD	
		Are you working to key performance indicators such as the Movement for Innovations Respect for People to invest in your workforce?	TBD	

Of the 52 criteria set out in the BCC Checklist, the development is able to meet at least 30 of the criteria, 7 criteria cannot yet be assessed (insufficient information or progress in the design), one is not applicable and 14 of the criteria will not be met.

6. Assessment of the Development Against Best Practice

6.1. Efficient Use of Land and Buildings

BEST PRACTICE – 100% of development on previously developed land unless very special circumstances dictate otherwise, with accommodation density maximized while still allowing for use of external space by occupants and residents.

The development complies with this criterion by maximising use of the available land and re-utilising or preserving existing structures that are architecturally significant.

6.2. Energy

BEST PRACTICE – It is considered best practice to provide the building users and managers with easy access to energy consumption data through smart metering and active monitoring and real-time displays. Minimise the need for mechanical ventilation, heating and cooling through passive design in the first instance, and meet residual energy demand through low carbon servicing strategies where feasible. All new development should achieve a significant reduction in carbon emissions over and above the requirements of Building Regulations Part L, in excess of 25%. The sustainability objectives and assessment is outlined below.

The development will pass Criterion One for limiting carbon emissions by meeting the design standards detailed in the Stage C Report, including the following:

- *Improved U-values, over and above the minimum required for Part L compliance, are required to be installed.*
- *A controls system is provided to ensure reasonable energy efficiency standards are met for the heating and air-conditioning systems.*
- *Energy meters are installed to enable a minimum of 90% of each fuel type to be monitored.*
- *All plant and lighting efficiencies are improved over the NCM stated efficiencies in accordance with this report.*
- *Centralised boiler plant with Gas-fired CHP.*
- *The building will need to be provided with lighting with an average efficacy of 60 luminaire-lumens/circuit-Watt and lighting controls will need to be installed to avoid all unnecessary lighting during daylight and unoccupied hours. All office lighting is to include for PIR sensors and photoelectric daylight linked dimming.*
- *A Ground source heat pump system used to provide cooling to Phase 3 commercial section and underfloor heating to the Phase 2 residential units.*

6.3. Climate Change

BEST PRACTICE – Buildings to be designed for durability and adaptability to variations in climate allowing for flexibility of use over the predicted lifespan of the building, achieve 100% attenuation of the undeveloped site's surface water runoff at peak times and reducing urban heat island effect through passive design measures such as landscaping, shading, green roofs and walls, water bodies, adequate air flow between buildings.

The development will provide a combination of open space, shelter, green roofs and rainwater attenuation and soakaway (enabling aquifer recharge).

6.4. Pollution Prevention

BEST PRACTICE – Buildings should be designed to minimize emissions to air and water throughout their lifetime, through reduced energy and water consumption. Atmospheric pollutants (VOCs) should be minimized in all building materials (*e.g.* composite construction products, surfacing treatments, paints, varnishes, carpets). Only materials with a low embodied environmental impact as defined in the Green Guide to Specification 2007 should be specified. Contaminants to site run-off should be pre-treated through SUDS before discharge off site.

The building construction and fit out materials have yet to be specified in detail but non-polluting materials will be specified where possible and materials will be preferentially procured from ISO14001 Certified Organisations.

6.5. Water and Sustainable Urban Drainage (SUDs)

BEST PRACTICE – Use of collected rainwater and greywater for non-potable uses. Reduce water consumption to best practice levels through the specification of low water fittings, automatic water shut-down and comprehensive leak detection. Undertake a PPS25 complaint flood risk assessment and undertake a soakage test carried out to BRE365 or equivalent standard. Water emissions should be treated on site through SUDS prior to discharge to municipal drainage networks.

The development proposals have not incorporated rainwater harvesting and greywater recycling techniques, but incident rainwater will be discharged to the aquifer via appropriate attenuation and interceptor arrangements which will enable recharge of groundwater within the aquifer.

6.6. Transport

BEST PRACTICE – It is considered best practice that there is good provision for cyclists and electric vehicles, minimal supply of car parking and financial incentives for those using public transport or car sharing (*e.g.* travel pass subsidies, free parking for car sharers *etc.*).

The development will only provide limited car parking for 30 vehicles and there will be cycle racks, good access to public transport and pedestrian routes into central Birmingham. The Travel Plan should be consulted for fuller details.

6.7. Materials

BEST PRACTICE – It is considered best practice that no peat or weathered limestone should be used in buildings or landscaping and no insulation materials should be used which have a high global warming potential in manufacture (blowing agents) or composition. Construction products should be procured from manufacturers who manage their environmental impacts, demonstrated through a certified Environmental Management Systems (EMS) such as ISO 14001.

The building construction and fit out materials have yet to be specified. Where possible and materials will be preferentially procured from ISO14001 Certified Organisations. Materials deemed to be environmentally unsustainable will not be used in the construction.

6.8. Construction

BEST PRACTICE – It is considered best practice to promote community involvement in the design of the development, reduce the risk of statutory nuisance to neighbours as much as possible through site management and to ensure that 100% of construction new build projects on Government estate will meet BREEAM Excellent standard.

There has been community involvement in terms of engagement with residents affected by overshadowing associated with the initial proposals and tower and with representatives of the local community in terms of engagement with stakeholders associated with the site's architectural and archaeological value. There has not yet, however, been a formal public consultation exercise as this will be facilitated and applied through the planning process.

At present formal BREEAM certification is not being sought for the development.

6.9. Waste

BEST PRACTICE – It is considered best practice to incorporate access to new waste recovery facilities (*e.g.* anaerobic digestion/pyrolysis/gasification). Reduce construction waste sent to landfill by at least 75% through reclamation on-site or off-site, recycling, take-back scheme *etc.* Requirement to provide facilities to recycle 70% of commercial and industrial waste by 2020.

There will be waste segregation and storage facilities on the site that will enable downstream sorting and recycling of site generated wastes at municipal and commercial facilities. Construction wastes will be managed as part of a Site Waste Management Plan and Construction Environmental Management Plan (CEMP).

6.10. Health and Wellbeing

BEST PRACTICE – It is considered best practice to ensure that 10% of dwellings are wheelchair accessible. Provide access for 100% of residents of residential developments to high quality private or shared external spaces accessible only to residents. Achieve daylight levels in excess of 4% and a view of the sky from all occupied spaces.

There will be adequate levels of wheelchair accessibility to the residential areas and public spaces within the development which also provide high quality external spaces for residents. The development has in as far as possible on a constrained site such as this maximised solar exposure and access to daylight and sky views.

6.11. Historic and built environment

BEST PRACTICE – No best practice considerations exist.

Beorma Quarter has significant archaeological interest the exploration of which has been facilitated by the development and has some architecturally significant buildings and facades that will be preserved by and incorporated into the development.

6.12. Open Space

BEST PRACTICE – It is considered best practice that there should be a net gain of publicly accessible open space, and all building occupants should have access to high quality external space which is undisturbed by vehicle/operational activities.

The development allows for high quality pedestrianised areas for all site users to access.

6.13. Biodiversity

BEST PRACTICE – External realm should be designed in collaboration with an experience development-site ecologist who can advise on surface treatments and locally valuable plant species to maximize the habitat potential of the site. Percentage of soft landscaping should be maximized. Roof space should be used where practical to create green and brown roofs. A long-term habitat maintenance plan should be devised by the ecologist and implemented by the building owner and/or occupier.

The site has little if any ecological value at present but the developed site will provide green roofs and new habitat spaces that did not previously exist on the site.

7. Summary

The performance of the proposed development against the sustainability objectives has been assessed on the basis of information available at the time of the planning application.

The Beorma Quarter proposals meet the majority of the sustainability objectives established for the development and as set out on the BCC Sustainability Checklist. The development will make a substantial contribution to sustainable development in the Birmingham area.

Overall, the proposed development is found to be contributing positively to Birmingham City Council's vision and objectives with respect to sustainable development. The majority of local sustainability standards that can be addressed at this stage of design have been met or exceeded and the developer is committed to further exploration of these issues as the detailed design is developed and preparations for contracting commence.

It can be seen that the proposals perform well in particular in terms of Efficient Use of Land, Historic and Built Environment improvements, integration of the development into the wider Birmingham city centre environment and energy efficiency. As the design details are firmed up during the planning process further opportunities for sustainable development practices will be identified and considered.