

## 4 Assessment Methodology

### 4.1 Introduction

The principal objective of an EIA is to provide the Local Planning Authority (Birmingham City Council in this instance), statutory consultees and the public with a clear and systematic assessment of the potential environmental effects that the proposed development could have if implemented as planned. It is also designed to provide a robust and technically sound document (Environmental Statement) that provides sufficient information on the proposed development and its likely environmental effects to enable the Planning Authority to be able to make an informed decision on whether planning permission should be granted, taking into account public opinion and other stakeholder views on the environmental impacts of the proposals where relevant.

There are three basic steps used in the EIA process in order to meet this objective, as follows:

1. Establish existing baseline environmental conditions including any current environmental problems or environmental sensitivities and vulnerabilities in the area that could be affected by the development. This task is divided into two phases:
  - a. collection and review of existing data relating to the site and surrounding area, including consultation with statutory and non-statutory bodies; and
  - b. the enhancement of existing data, where necessary, with information collected through further site investigation or survey following recognised and technically valid techniques;
2. Identify, predict and assess the significance of the likely environmental impacts (positive and negative, direct, indirect and cumulative), which could be expected as a result of the development proposals being implemented as planned, focussing on those environmental issues that were considered to be potentially significant during the Scoping Study; and
3. Design mitigation and management measures, which would be adopted to prevent, reduce or remedy any significant adverse effects to an acceptable. Consideration is also given to enhancement measures that would be implemented to promote positive environmental benefits as a part of these proposals.

## 4.2 Legislation and Policy Context

This EIA has been carried out in accordance with the *Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011*, as amended (hereafter referred to as the EIA Regulations) and associated guidance set out online via the Planning Portal EIA Guidance Pages (last updated 06/03/14). The EIA has also taken into account guidance provided within the former DETR's document '*Environmental Impact Assessment – A Guide to Procedures: 2000*'.

The EIA Regulations require that before consent is granted for certain types of development, an EIA must be undertaken. The EIA Regulations set out the types of development which must always be subject to an EIA (Schedule 1) and developments which may require assessment, if they are likely to give rise to significant environmental effects (Schedule 2).

The proposed development falls within the criteria set out in Schedule 2 of the EIA Regulations, being 'Infrastructure projects - urban development projects, including the construction of shopping centres and car parks, sports stadiums, leisure centres and multiplex cinemas' where the development is in excess of 0.5 hectares, as defined under Schedule 2 Part 10b.

The EIA was commenced as a matter of policy by the applicant who felt from the outset that the development proposals would benefit from consideration of the key environmental issues in accordance with prevailing EIA practice. Subsequently, Birmingham City Council screened the proposals against their 'Environmental Effect Test' and due to the visual sensitivity of the area (*i.e.* the development site is in a conservation area, is located close to the Grade II\* listed St Martins Church and the iconic Selfridges Building) and because the impact of the proposed development scheme is of more than just local interest, having a noticeable potential impact on the City's skyline and on buildings of national significance, an EIA was required.

Specific technical guidance has been used, where appropriate, in the assessment of the impacts of the proposed development on several aspects of the environment. These include the use of British Standard methodologies and adherence to the policies set out in UK Government National Planning Policy Framework (NPPF). A summary of the relevant national planning policies is provided in Section 5 and detailed descriptions of assessment methodologies and standards and guidelines utilised are given in the relevant assessment sections of the ES.

### 4.3 Assessment Methodology and Significance Criteria

A number of criteria have been used to determine whether or not the potential effects of the proposed development are considered to be significant, as follows:

- international, national and local standards;
- relationship with planning policy;
- sensitivity of the receiving environment;
- reversibility and duration of effect;
- inter-relationship between effects; and
- the results of consultation.

The effects that were considered to be significant prior to mitigation are identified within the ES. The significance of these effects reflects judgement on the importance or sensitivity of the affected receptor(s) and the nature and magnitude of the predicted changes. For example, a large adverse impact on a feature or site of low importance will be of lesser significance than the same impact on a feature or site of high importance.

Environmental impacts may be both negative and positive. Quantification of these impacts, particularly in relation to comparative assessment between environmental disciplines, requires consistent assessment criteria to be used throughout. The criteria used in this assessment are as follows:

- **Major Positive or Major Negative effect** – where the development would cause a significant improvement (or deterioration) to the existing environment;
- **Moderate Positive or Moderate Negative effect** – where the development would cause a noticeable improvement (or deterioration) to the existing environment;
- **Minor Positive or Minor Negative effect** – where the development would cause a barely perceptible improvement (or deterioration) to the existing environment; and
- **Insignificant** – no discernible improvement or deterioration to the existing environment.

The determination of each of these criteria for the various environmental aspects of this development is summarised and in the conclusions. The individual discussions and detail are provided in the relevant chapters.

#### 4.4 Scope of the EIA

The scope of the EIA was established during the Scoping Study and the subsequent issue of a Scoping Report to Birmingham City Council. A summary of the results of this study and key issues raised in the Scoping Report are presented in *Table 4.1*. Copies of the initial Screening Opinion, the Scoping Report and relevant consultation responses are presented in *Appendix 1*.

**Table 4.1:** Summary of the Results of the Scoping Study

Discipline	Environmental Sensitivity	Significance (pre-mitigation)	Proposed Methodology
Air Quality and Climate	Emissions of pollutants to air from demolition and construction activities.	Moderate adverse effect – dust generation during demolition and construction	Undertake a qualitative assessment of dust emissions during construction and make recommendations for mitigation measures to control the emission of dust and other pollutants during the construction period.  ADMS Roads will be used to accurately model air emissions impact.  Emission levels to be compared to Air Quality Objectives (designed to be protective of health)
Archaeology and Cultural Heritage	The site is located within a designated Conservation Area. There are no Scheduled Monuments located within the immediate vicinity of site. Areas of known archaeological importance are located both on site and in the surrounds.	Moderate beneficial impact pre-development as a result of the opportunity to complete detailed archaeological excavation.  Moderate adverse impact - Disturbance during construction.	Site desk-based assessment, trial trenching and detailed archaeological excavation prior to development involving consultation with Birmingham City Council.

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<b>Discipline</b>	<b>Environmental Sensitivity</b>	<b>Significance (pre-mitigation)</b>	<b>Proposed Methodology</b>
Ecology and Nature Conservation	The site is an area of low ecological interest in itself.	Minor adverse impact – during construction. Moderate beneficial impact through provision of brown and green roofs and landscaping during the operational phase.	Phase 1 Habitat Survey and Protected Species Surveys of development footprint. Environmental enhancement measures to be adopted in landscape plan.
Townscape and Visual Character	The site is not located in Green Belt or any other landscape designation. However, the site is sensitive to visual impacts from sensitive receptors in the local environment and main transport routes.	Moderate adverse effect on visual appearance of site and local views during construction. Moderate/high beneficial impact through redevelopment of the site.	Undertake landscape and visual impact assessment to identify key views, impacts and mitigation.
Noise and Vibration	The site is located adjacent to the city centre of Birmingham and is adjacent to a major road which runs in and out of the city. As such, the area is currently exposed to relatively high levels of noise from transport sources. Residential properties are within close proximity to the site.	Moderate adverse effect on sensitive receptors through increase in ambient noise and vibration during demolition and construction. Potential minor adverse effect due to loading and unloading of vehicles, and building services plant associated with the operation of the proposed development.	Baseline noise monitoring and assessment of potential construction and operational noise impacts.
Socio-Economics	Employment and economics	Moderate to Major beneficial impact through job creation during construction and operation. Minor impact through provision of housing and associated impacts on community facilities (education, healthcare, open space and play space).	Assessment of impacts on surrounding community's employment and amenity.

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Discipline	Environmental Sensitivity	Significance (pre-mitigation)	Proposed Methodology
	Recreation and amenity	Moderate/major beneficial impact through the provision of cafes/bars, restaurants, local retail outlets.	None required.
Soils, Geology and Contamination	Risk of localised soil contamination	Potential moderate adverse impact during construction and as contaminated soils (if present) are exposed and managed.	Phase II ground investigation strategy developed in accordance with prevailing DEFRA/EA/LA guidance. Control measures will be put in place to minimise the risk of contamination occurring during the construction phase.
	Handling of hazardous materials (e.g. asbestos)	Potential moderate adverse impact during demolition and construction.	Assessment of the means of storing, handling and disposing of hazardous materials as part of a materials management strategy.
Water Quality and Hydrology	The site is not within a designated flood risk area and is not in close proximity to surface waters. The site is located on a major aquifer; groundwater at the site is relatively shallow.	Minor adverse impacts related to site drainage are possible.	Pollution control and water protection issues to be addressed and storm water generation and management options to be considered.
	Risk of contamination from accidental spillages.	Potential minor adverse impact on local groundwater and/or surface watercourses during the construction phase.	Construction environmental management measures to be adopted.
	Increased surface runoff.	Moderate impact during operation as increased surfaced areas and hardstanding will minimise natural infiltration to ground.	Establish additional surfacing extent and assess runoff management techniques to ensure all foreseeable rainfall events can be handled.

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Discipline	Environmental Sensitivity	Significance (pre-mitigation)	Proposed Methodology
Traffic and Transport	Capacity of local highway network.	Moderate adverse impacts from additional traffic during construction but this will be counterbalanced by road/site access improvements during operation.  Once operational traffic is expected to be less than occurs at present so should represent a minor positive impact.	Transportation Impact Assessment to be undertaken.
Sustainability	Consumption of natural resources	Minor adverse impacts on resource efficiency during construction although materials will be re-used on site where possible.  Minor adverse impact during operational phase on resource efficiency as buildings will have energy and water demands but will have high levels of environmental design to minimise resource consumption.	Basic qualitative assessment to be included in Sustainability Statement.
	Sustainable construction techniques.	Moderate beneficial impacts – reuse and recycle of materials and use of energy / water efficient techniques in construction, etc.	Measures to increase energy and water efficiency and reduce landfilling of waste will be part of the design brief and sustainable design principals will be considered for all aspects of the development.
Telecommunic - ations	Disruption to the distribution and reception of radio and television services.	Potential moderate adverse impact - the taller element of the development may potentially adversely affect radio and television services.	Signal interference impact assessment to be undertaken including pre and post development signal monitoring.

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<b>Discipline</b>	<b>Environmental Sensitivity</b>	<b>Significance (pre-mitigation)</b>	<b>Proposed Methodology</b>
Wind	Creation of wind turbulence.	Moderate adverse impact during operation through the creation of wind vortices.	Wind study to be undertaken to enable optimal design of the development to avoid turbulent flow and vortices.
Daylight and overshadowing	Reduction of sunshine and daylight, and creation of over shadowing of adjacent land users and site users.	Moderate adverse impacts during operation on availability of daylight and sunlight and possible overshadowing on existing, neighbouring buildings, residential properties within the proposed scheme and the surrounding area, as well as open space and public amenity areas.	Daylight and overshadowing assessment to be undertaken.
Night light	Impact of additional lighting causing elevated lighting levels at night disturbing other nearby land-users and habitats.	Minor/moderate adverse impact during operation on neighbouring residential properties if the additional lighting causes increases in night light levels.	The orientation, location or design of the lighting and/or the times of lighting operation to be assessed and potential for contribution to baseline night light levels to be considered.
Aviation	Potential to create a physical obstacle to aircraft and existing operating procedures (inc RADAR) at Birmingham International Airport	Minor adverse impacts during construction and operation as a result of taller aspect of the development	Low intensity steady red lighting (for illumination at night) to be fitted at the top corners of the tallest tower.  During construction similar aeronautical obstacle lighting in accordance with the safety requirements of the CAA, will be used at the top of the highest crane during construction.  Relative elevation of tallest elements of the development will be considered in relation to Birmingham Airport operating parameters.

**SECTION 4: ASSESSMENT METHODOLOGY****Environmental Statement**  
Beorma Quarter (Phase 2 & 3), Birmingham

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The respective technical assessments were undertaken by experts in their field utilising appropriately experienced and qualified specialists from firms with a demonstrable track record in their respective fields. The Companies utilised for each assessment are identified in each of the *Introduction* chapter of the ES.