Beorma Quarter, Birmingham, UK
Environmental Statement
Non-Technical Summary

On behalf of:
Salhia Investments (Birmingham) Limited

Salhia Investments (Residential) Limited

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Earth & Marine Environmental Consultants Ltd
58 Low Friar Street
Newcastle
NE1 5UE

enquiry@eame.co.uk
www.eame.co.uk

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Contents

1 Background

1.1 Introduction

Earth and Marine Environmental Consultants Ltd (EAME) was commissioned by Salhia Investments (Birmingham) Limited and Salhia Investments (Residential) Limited (The Developer) to compile an Environmental Statement (ES) as defined by the *Town & Country Planning (Environmental Impact Assessment) Regulations 2011* (as amended) in relation to its development proposals. The Developer is proposing to create a high quality mixed use development on land located in Digbeth, Birmingham (NGR: SP 0748, 8656). This development is located at 123-143 Digbeth, 3-5 Park Street & 81-93 Allison Street plus adjoining land in Birmingham, will be known as the Beorma Quarter. The site location is shown on *Figure 1.1*.

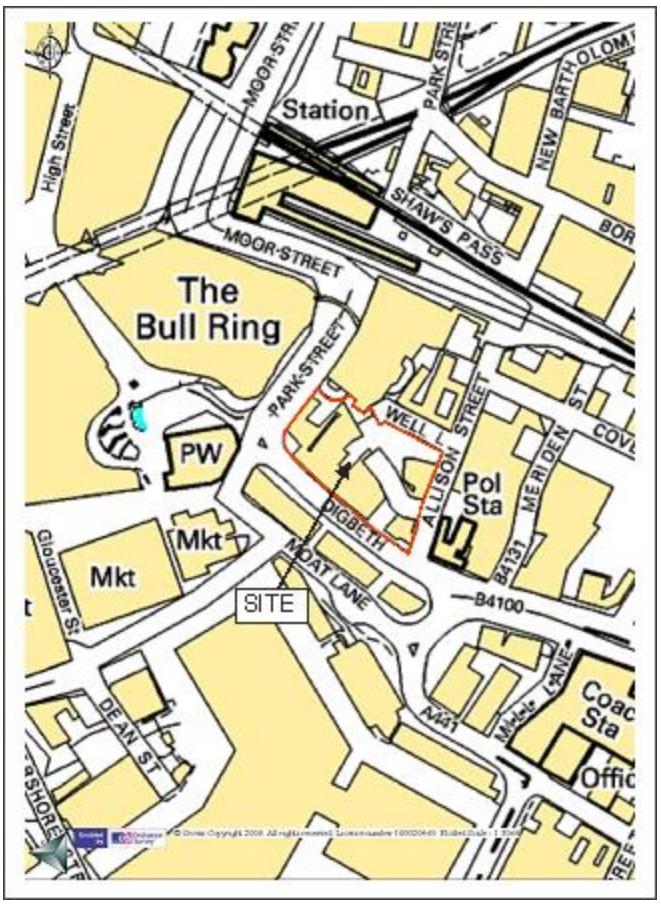

Figure 1.1: *Site Location Plan*

The development proposals were deemed sufficient in scale and potential environmental impact to warrant an Environmental Impact Assessment (EIA) in accordance with the above

regulations. The EIA and its findings and conclusions are summarised in an Environmental Statement (ES). This document presents a Non Technical Summary (NTS) of the ES, as required by the regulations. The full ES and associated appendices should be consulted for a fuller discussion of the issues.

At the outset of the EIA, an Environmental Scoping Study was carried out to identify the key environmental issues associated with the proposed development and to prepare and agree an assessment methodology. The Scoping Report comprised the collective input of a number of key specialists employed by Salhia to undertake the necessary technical studies and was submitted formally to Birmingham City Council who consulted a number of statutory consultees on the proposals.

1.2 Structure of the Environmental Statement

This Non Technical Summary is volume one of a three volume set of documents that comprise the following:

- Volume 1 – Non Technical Summary (this document)
- Volume 2 – Environmental Statement and Supporting Technical Appendices
- Volume 3 – Supporting Appendices

Section 2 of this non-technical summary comprises an outline of the current local and regional planning regime and policy in respect of the site and surroundings. *Section 3* comprises a summary of the main findings of each of the technical areas assessed in relation to the proposed development, together with the potential impacts and mitigation measures and conclusions, for each of the sections where relevant. An overall summary and conclusion is provided in *Section 19* of the ES and replicated in this document in *Section 4*.

Given the iterative nature of the EIA process, some of the drawings have of necessity changed during the process so for avoidance of doubt all drawings in the main planning submission should take precedence where this is a discrepancy between drawings and site statistics in the application package and the ES and NTS. This does not materially affect the appropriateness or robustness of the ES or EIA process as such differences if they exist will be matters of detail and of negligible significance environmentally.

1.3 Site Description

The site is located on the south eastern edge of Birmingham city centre. The site is set in an area in retail, commercial and light industrial usage, and is bound to the north west by the Bull

Ring car park; to the north east by Well Lane, beyond which is the former RTP Crisps building, which has recently been redeveloped as residential apartments, and a number of buildings in light industrial use; to the west by Park Street, beyond which is Selfridges, the Bull Ring and other retail outlets; to the south west by the A41 beyond which are buildings in commercial/retail usage and St Martin's Church, and to the east by Allison Street, beyond which is a Police Station and a building in industrial use, beyond which are buildings manly in commercial/retail usage.

The proposed development area is approximately 0.63 hectares (approximately 1.8 acres) and is currently made up of a number of properties with a variety of former uses including residential flats, retail outlets, a public house, offices, disused former Cold Store (ice manufacture), disused public house, disused picture house, unoccupied unit, disused lock up garage building and a pay and display car park (unsurfaced). Orwell Passage, a cobbled lane, extends onto the site from Allison Street. An aerial photograph of the site and surrounding areas is presented as *Figure 1.2*.

It should be noted that a planning application was submitted for the development of this site in 2009 involving a very similar scheme. This was approved and after a series of amendments Phase 1 of that Scheme (A hotel and renovation and redevelopment of the Cold Store primarily) was commenced and now occupies part of the site. The Phase 1 development is not addressed in this ES which only focuses on Phases 2 and 3. The relative areas are the phases are illustrated in *Figure 1.3*.

Figure 1.2: *Aerial Photograph of Site*

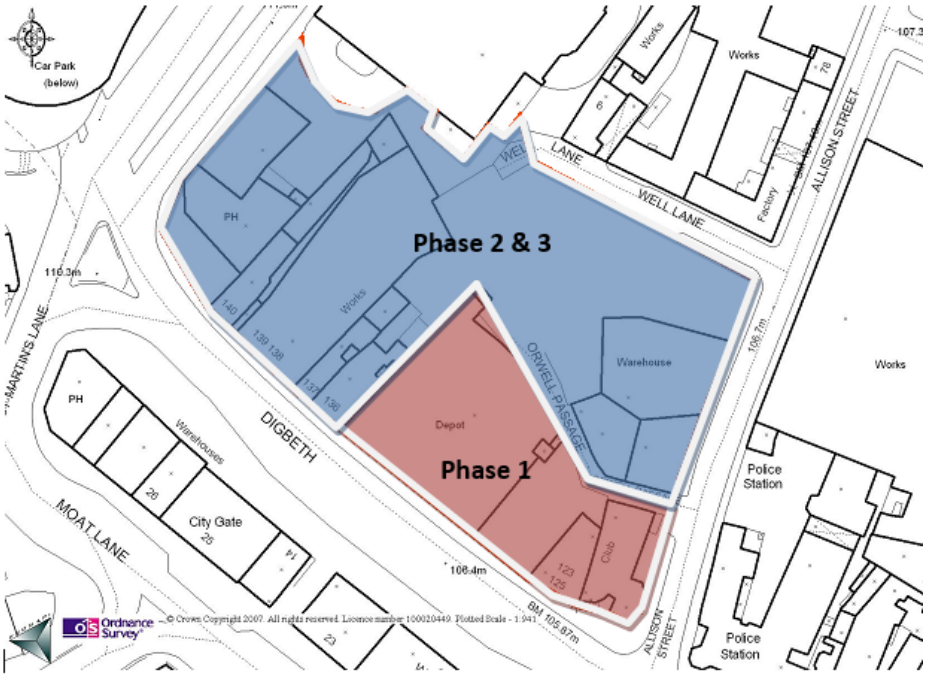

Figure 1.3: *Phase 1 and Phase 2 & 3 Areas Respectively*

A topographical survey indicates that ground elevations vary across the site from circa 111.0m above Ordnance Datum (AOD) in the northwest corner to circa 106.0m AOD in the south eastern area of the site; this equates to a 5.0m difference in level across the site in a north west to south east direction.

The site's setting can best be characterised as being urban, with a mixture of retail, commercial and to a lesser extent light industrial land uses, but it is recognised that there are potentially sensitive residential areas in the locality that need to be taken into account in the assessment and implementation of the development.

1.4 Development Proposals

The intention of the proposed development is to provide a mixed used development, which will include retail, residential and office elements. In particular the proposed scheme details are:

Locally-listed Nos 135-136 Digbeth (Grade A) and 137 Digbeth (Grade B) will be converted from A2 to A1/A3 Retail use (circa 470 sqm GIA) and the main Digbeth street facade of the locally listed Nos 138-139 Digbeth (Grade B) – the BVSC building, will be incorporated into the design of Building 2, as per the 2009 approval.

Building 2, at the corner of Digbeth and Park Street, and directly opposite St Martin's Church, the Bullring and the iconic Selfridge's department store, comprises a 30 storey tower with 154 private apartments (circa 13,531 sqm GIA) split over the upper 17 storeys. These are located over the double-height 12th floor plant space; 11 storeys of B1 office space (circa 18,181 sqm GIA); residential lobbies, back of house & servicing areas; and A1 retail and/or A3 restaurant space (circa 679 sqm GIA). It is envisaged that a plant basement level below the footprint of the building (circa 2,258 sqm) will serve not only Building 2 itself, but also the locally-listed Digbeth buildings, the Coldstore and Buildings 3A & 3B. A double-height passage cuts through the ground floor plan to provide pedestrian access from the corner of Park Street and Digbeth to the newly formed public square, Orwell Place. The Digbeth frontage to the building also incorporates the retained facade of the existing Grade B locally-listed 138-139 Digbeth.

Building 3, fronting on to Well Lane, is made up of three elements. The first element – Building 3A, adjacent to Building 2, comprises a 14 storey tower section with 69 private apartments (circa 5,574 sqm GIA) sitting above an A1/A3 retail unit (circa 356 sqm GIA. A living wall sits both sides of the lower levels providing privacy to residents overlooking Orwell Place. The second element, Building 3B, comprises 10 storeys of B1 office space (circa 5,270 sqm GIA) with its entrance on Allison Street. The third element comprises 4 No live/work units (631 sqm) located between 3A and 3B, and facing on to Well Lane.

The proposed layout of development is presented in *Figure 1.4*.

Figure 1.4: *Proposed Development Layout (not to scale)*

1.5 Site Management

The site will be managed by a property management company, who will be responsible the maintenance and control of issues such as:

- Site Drainage
- Roadways Management and Maintenance

- Landscape and Environmental Management
- Buried Services
- Security
- Community Liaison

In addition a Tenants Handbook will be produced and agreed with the Local Authority that will set the conditions of operation on the site for commercial and residential tenants and spell out the site's environmental charter. This will include legislative compliance requirements such as controlling nuisance such as noise and odours, and sustainability provisions such as adhering to waste management principles (promoting recycling and recovery).

1.6 Environmental Assessment Criteria

Environmental impacts may be either negative or positive and both outcomes are considered for each of the technical disciplines assessed in the EIA. 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.

All potentially significant impacts are considered in the EIA whether they be direct, indirect, short-term, long-term or additive and cumulative with other similar impacts that may prevail in the area.

2 Planning Policy

Due to the location and mixed use nature of Phases 2 & 3 of the Beorma Quarter development, the latest proposals are required to address a wide range of issues in many different areas of planning policy. The planning consultant, AGA, has concluded that the amended scheme (a

variation of the 2009 approved scheme) is successful in meeting the majority of these policy requirements and also succeeds in achieving an appropriate balance between occasionally-competing demands. Crucially, as with the consideration of the original & approved scheme in 2009, AGA considers that the exceptional design quality of the latest design, and the gateway nature of the site, justify the location of the 30 storey, mixed use tower in Building 2, adjacent to the existing City Centre.

Overall, AGA concludes that the current application largely conforms to prevailing national, regional & local policy and where it doesn't, it meets the exception criteria set out in those policies. These are discussed in detail in Chapter 5 of the ES.

3 Baseline Conditions and Mitigation of Identified Impacts

For each of the technical issues the technical team has considered the baseline conditions, *i.e.* those conditions that would prevail if the development did not take place. The potential impact on those baseline conditions that would arise as a consequence of the proposals being implemented has then been assessed. Finally, where potentially significant impacts have been identified the necessary mitigation measures are presented to reduce the impacts to an acceptable (insignificant) level. These aspects are discussed below in relation to each technical discipline assessed with the EIA.

3.1 Socio-economic Issues

Baseline

The proposed Development is in the Digbeth area of Birmingham, just 100m from The Bull Ring. The immediately adjacent area is very deprived and particularly in terms of crime, employment, health, housing and income.

In the immediate area (Inner Impact Area) there is a predominantly young population, with a high level of ethnic diversity and a large proportion of the residents having no or very few qualifications. The economic activity in the immediate area is generally low.

The current site operations provide negligible employment (excluding Phase 1) compared to the size and potential of the site.

The site is effectively disused and moribund at present and makes no socio-economic contribution to the local area or region.

The development will provide temporary and permanent jobs and bring about productive use of the site and create a net positive contribution to local socio-economic conditions.

Impact Assessment

It is estimated that the construction phase of the project will provide limited temporary job opportunities for around 66 people associated with the site clearance and building construction works.

Once developed the Beorma Quarter will provide a significant contribution to the office market in Birmingham city centre. Additionally, the provision of the tall building in a central business location is expected to have a positive economic impact through then provision of increased employment density.

The low number of residential units proposed, there will be a small positive impact on local community facilities from residential dwellers, but the office workers population will provide a significant financial boost to the local economy in terms of additional expenditure on local goods and services.

3.2 Townscape and Visual Impact

Baseline

The proposed development site is located within a townscape area which is designated as a conservation area with a distinctive historic and industrial character which is sensitive to change.

Views of the site are generally limited around Birmingham city due to the topography, surrounding buildings and road layout. The widest ranging views of the site are from the south west, particularly from the Irish Quarter. When approaching from the north, the site is hidden by the natural topographic ridge running through the city centre and intervening city centre buildings.

The site itself is in a run down, visually degraded state and whilst there are some architecturally interesting buildings the overall visual impression presented by the site is poor and visually unattractive. This is at odds with the historical St Martin's church and the iconic Selfridge's building.

Impact Assessment

During the construction period the majority of existing buildings will be demolished and a number of new buildings will be constructed. This work will involve the use of tower cranes and other related plant necessary for the construction process. The site will be closed off during the works with hoarding to reduce the visual impact of the works. High level crane activity and other construction operations will be visible from many of the views. The

construction phase will be temporary and short lived and the impacts will be minimised by the use of robust and attractive hoardings and by control of construction vehicle movements and the prevention of dust.

The proposed development site is located within a townscape area which is designated as a conservation area with a distinctive historic and industrial character that is sensitive to change. However the impact of this high density mixed-use development has to be considered within the context of the drive for redevelopment of this area as an extension to the city centre core. Overall, the completed development will have a moderate beneficial impact on the townscape character of the area.

Views of the development from long distance vantage points are often blocked by intervening buildings or have a noticeable but insignificant impact on the vista as the development merges into the existing urban skyline. The significance of visual impact in this regard is considered to be neutral.

3.3 Archaeology & Cultural Heritage

The buildings that occupy the study area today range in date from the mid-19th century to the mid-20th century, though it is possible that some earlier fabric might survive in the party walls. Several buildings are of good architectural quality, one (No. 124-134 Digbeth) being statutorily listed, and three others along the Digbeth frontage being locally listed (No 135-6, 137, and 138-9). The Digbeth buildings are a coherent part of the larger architectural grouping of Digbeth and Deritend High Street, a largely later 19th and early 20th century collection of buildings that line the northeast side of this ancient thoroughfare, and which form one of the most significant groups of historic buildings in Birmingham.

The site has the potential for the survival of archaeological remains relating to medieval period, and potentially prior to human settlement at the site, along with post-medieval remains. Previous site truncation during the 19th and 20th centuries would have destroyed to some degree such potential archaeological remains at the site.

Impact Assessment

There is potential for disturbance of archaeological remains during construction of the proposed development but this also presents an opportunity for examination and assessment of the archaeological resource on the site.

Once construction is complete there will be no further ground disturbance; therefore it is considered that there will not be any direct or indirect impacts upon remaining archaeological

resources at the site or the surrounding area but they will be sealed from further investigation opportunities.

In terms of historic buildings, the majority of listed buildings and the facades of such buildings at the site are to be retained and incorporated into the proposed development scheme. The impact of the proposed development scheme on these historic structures during the construction and operational phases is thus insignificant.

3.4 Traffic and Transport

Baseline

The site is located close to Birmingham City Centre within 100m of the Bull Ring and 300-700m from Moor Street and New Street railway stations respectively. The site is served by bus and is also accessible by walking and cycling.

The site is located adjacent to the north of Digbeth (A41) dual carriageway which runs between the A45 and Birmingham City Centre.

The permitted use of the site comprises of a wide mix of commercial uses and some residential. There is parking provision for up to 57 vehicles within two car parks on the site, although there is little activity there now (other than construction traffic associated with Phase 1).

Impact Assessment

The proposal would provide improvements in terms of pedestrian activity and connectivity of the site to the Bull Ring and Birmingham City Centre by means of a new pedestrian route from Allison Street to Park Street; wider footways on Digbeth; wider crossing areas at the Digbeth/Park Street pedestrian crossings; and pedestrianisation of Orwell Passage including resurfacing.

The proposed development would result in a significant increase in walking and public transport trips to the site. This level of increase is not considered to result in a material impact.

Proposed measures include widening the footway on Digbeth to accommodate additional waiting bus passengers and widening the pedestrian crossings on Digbeth/Park Street to accommodate additional pedestrians.

It has been predicted that there will be no increase in traffic generated by the proposal. In fact the proposed development would result in a reduction in vehicle trips (two-way) as the

amount of available parking on the site will reduce from what is available at present. The proposal would therefore have an insignificant impact on traffic once it is fully operational.

The developed site will have the benefit of a travel plan and the applicant will make a financial contribution towards transport improvements in the vicinity of the site.

The construction phase of the development will also have traffic impacts associated with it as there will be a need to bring construction materials on to the site during the construction phase. This will involve an increased volume of HGV traffic, especially associated with bulk soil removal but this more intensive period of traffic will be relatively short lived. It will nonetheless have an impact for a temporary period which will need to be mitigated by appropriate scheduling and traffic management. The impact will be moderately negative.

3.5 Air Quality

Baseline

Birmingham City Council has declared the whole borough an Air Quality Management Area (AQMA) due to high concentrations of nitrogen dioxide, the pollutant primarily associated with road vehicles. The development site is located to the east of the city centre and therefore falls within the AQMA.

The site is located adjacent to Birmingham city centre, on the A41, this being one of the main arterial roads into Birmingham city centre.

There are widespread exceedences of the nitrogen dioxide objective within the centre of Birmingham close to the site, at both roadside and background locations.

Impact Assessment

Impacts of the construction phase on both nuisance dust and local air quality have been assessed with regards to the location of locally sensitive receptors. Whilst the construction activities (especially earth moving) have the potential to cause local nuisance, this can be controlled and minimised by effective environmental management on the site. The works will be carried out in accordance with a Construction Environmental Management Plan (CEMP). The impacts during the construction phase are thus predicted to be moderate to minor at all receptors if not adequately controlled but insignificant with the implementation of a CEMP and the associated.

Impacts during the operational phase are predicted to be insignificant. Traffic volumes will not increase as a result of the development and hence will have an insignificant impact on local air quality. The air emissions will not bring result on the designation of a new Air Quality

management Area (AQMA) or the extension of an existing AQMA. However the proposals would introduce new exposure into an area of poor air quality, in the form of residential units. Residential units in Building B are predicted to experience annual mean nitrogen dioxide concentrations below the annual mean objective, and therefore the impact is considered to be insignificant.

The energy plant will have emissions that meet regulatory standards (and is gas fired with a significant heat contribution coming from the Ground Source Heat Pump which has no emissions) and there are no other activities on the site which have significant air emissions associated with them.

3.6 Noise and Vibration

Baseline

The identified main source of noise at the site is from road traffic flow, mainly from Park Street, Digbeth High Street and Allison Street. The noise characteristics are a reflection of the site setting being located on one of the main arterial routes into the City centre.

The site in not considered to be in a particularly noise sensitive setting, however it is recognised that there are residential properties, in close proximity to the site (approximately 10 metres from the northern boundary) which could be impacted by noise.

Impact Assessment

Noise levels from the construction of the development have been predicted at noise-sensitive receptors in the vicinity of the site and impact of the noise assessed. Impacts are predicted to be of significance, however with the implementation of mitigation measures and a Construction Environmental Management Plan, noise and vibration impacts, which will be for short durations only and will not be continuous. They will be noticeable however and are considered to represent a moderate negative impact.

The noise impacts from road traffic during the construction phase are not considered to be significant, with the estimated levels of noise from construction haulage at the nearest noise receptor being well below the respective noise criteria.

The impacts from road traffic during the operational phase are considered to be insignificant given that there is very little difference between the car parking provision for the existing development and that for the proposed development. The road traffic noise that prevails at present will continue to be the road traffic noise that dominates in the future.

3.7 Ecology & Nature Conservation

Baseline

The development site does not support a wide variety of ecological species and is not so important from a nature conservation perspective. Given that the majority of the site is occupied by buildings and hard standing there is little space for natural habitat to occur; where such habitats do occur these are restricted to neglected areas at the base of walls or along individual property boundaries.

It was assessed that the site has little potential to support bats. The buildings on-site present a number of potential roosting opportunities for bats, however the lack of foraging habitat locally and the high night time light and noise levels reduce the potential for them to be present.

Impact Assessment

The proposed development will result in direct habitat loss of buildings and hard standing, as well as ephemeral herbs and scrub restricted to neglected areas at the base of walls or along individual property boundaries. As these habitat types are of negligible integral biodiversity value, their loss is predicted not to be significant. The provision of green and brown roofs, green walls and landscape planting will result in a minor positive local impact, as significant habitat suitable for notable species will be created in the context of the local environment.

Disturbance to breeding birds during construction will, where possible, be avoided by undertaking the works outside the bird breeding season. Where this period cannot be avoided, all suitable sites would be made 'unsuitable' before the breeding season commences, and any retained habitats would be surveyed prior to demolition/disturbance. If breeding birds were found their nests would be retained in situ and disturbance avoided until the young had fledged. Additionally, a survey to confirm the presence/likely absence of breeding black redstarts would be undertaken at the appropriate time of year before works commenced. The potential impact on breeding birds during the construction phase is predicted to be minor.

3.8 Water Quality and Hydrology

Baseline

The nearest surface watercourse to the development area is the River Rea. The River Rea flows approximately 364m to the east of the site, at its closest point. The water quality of the river is classified by the EA under the General Quality Assessment scheme as Grade D, i.e. of poor water quality, during the last monitoring round in 2000. There is no direct link between the

site and the river via drainage conduits but groundwater beneath the site could be in continuity with the river.

The Environment Agency's floodplain map for Digbeth indicates that the site is not located within an area that may be affected by flooding; being located within Flood Risk Zone 1 i.e. where the risk of flooding from rivers or the sea is classified as low (assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any year (<0.1%)..

According the Groundwater Vulnerability Map of South Staffordshire and East Shropshire (Sheet 22), the site is located on a major aquifer. The ground investigation indicated that a normal fault traverses through the site, with Mercia Mudstone encountered beneath the south eastern third of the site and Bromsgrove Sandstone outcropping beneath the larger north western part of the site. The fault passes through the site somewhere beneath the Cold Store and could either be the Birmingham Fault, or possibly a separate fault associated with and running parallel to the Birmingham Fault. The fault is not considered to be geologically active and no significant movement is anticipated.

Impact Assessment

The site is not located within an area that may be affected by flooding, being located within Flood Risk Zone 1 i.e. where the risk of flooding from rivers or the sea is classified as low, as such the site is not at risk of flooding.

The majority of the site will be covered in hardstanding which will reduce infiltration rates on site, which will reduce the potential for percolating rainwater potentially containing contaminants (if they are present but this appears not to be the case).

The on-site disused borehole will be decommissioned in accordance with Environment Agency guidance document 'Decommissioning Redundant Boreholes and Wells' prior to demolition and construction activities. A method statement for the decommissioning of the borehole will be agreed beforehand with the Environment Agency.

All construction activities will be carried out in accordance with the EA's pollution prevention guidelines, notably PPG 6 'Working at Construction and Demolition Sites'. This will reduce the risk of surface water or groundwater contamination during construction. As such impacts on water quality will be insignificant.

SUDs techniques will be used at the site to manage surface water runoff. It is proposed that surface water runoff from all areas of the site, with the exception of trafficked areas, will be discharged, via a silt trap, to the major aquifer via a dedicated on-site borehole. The small volume of surface water runoff from trafficked areas will be discharged to the municipal storm

water drainage system. Prior to discharge into this municipal sewer the runoff will be passed via an oil water interceptor.

A feasibility assessment for the proposed surface water discharge borehole will be undertaken.

The assessment will be presented to and discussed with the Environment Agency. Recharge of the aquifer with clean water would generally be regarded as a positive attribute.

There are no activities within the proposed development that have to potential to significantly contaminate soil and groundwater. The overall impact of the development on surface and groundwater will be insignificant and the recharge of the aquifer and avoidance of large scale run-off into the local municipal system would be regarded as a minor positive impact.

3.9 Soils, Geology & Land Contamination

Baseline

A comprehensive site investigation undertaken for this planning application has shown that there is localised relatively minor contamination present at the site including asbestos (limited to an asbestos pit), metals (arsenic and lead), PAHs, hydrocarbons, trace VOCs, trace SVOCs and sulphate, in the ground and to a lesser extent in the groundwater. The soil contamination identified is localised in nature and does not present a significant pollution source that would require remediation.

Slightly elevated carbon dioxide concentrations have been detected at the site but within the range that could be expected naturally.

Impact Assessment

The nature and level of contaminants identified at the site are not considered to pose a significant risk to current and future occupants. In effect the proposed development will lessen the risk of exposure of site users to these marginally contaminated soils once developed as there will effectively be an impermeable physical barrier (hardstanding and managed landscaping) between the contaminants and site users. Furthermore, the isolated occurrences of low levels of contamination are mainly attributable to the Made Ground (shallow disturbed horizon) the majority of which will be removed from site during the construction phase to enable the basements to be constructed.

As the planned redevelopment activities will involve excavation and earthworks during the construction phase and may bring construction workers and archaeological contractors into direct contact with the site soils and groundwater, appropriate personal protective equipment (gloves, goggles, etc) will be used and site hygiene practices adopted (no eating, drinking or smoking in excavation areas). As such the risk of exposure and harm is low. There will be no potential for off-site impacts as a result of these works but there is the potential for on-site minor negative impact if contaminants are uncovered.

Based on the site investigation findings specific remedial measures will not be required on the site and the development overall will have a minor positive impact by removing the few contaminants that are present to an appropriately authorised facility.

Following redevelopment, the site will be under predominantly hardstanding and the residual contaminants contained within the site (if any) will be sealed in.

3.10 Wind and Microclimate

Baseline

The meteorological data for the site indicates that the prevailing winds blow from the south westerly quadrant throughout the year.

The buildings at site currently are low-rise and are partially sheltered by the surrounding buildings.

For the existing site, wind conditions at all the measured locations are safe and unlikely to generate nuisance. With regards to pedestrian comfort, wind conditions within the Site are suitable for standing/entrance or better. Wind conditions in the immediate surrounds of the site are suitable for leisure walking or better during the windiest season (winter).

Impact Assessment

During the construction phase, after part of the site is cleared, there would be potential for wind to blow into the open construction site, although site hoardings would provide partial shelter around the edges of the site. As construction works progress, the wind microclimate at the site will gradually adjust to conditions measured for the complete development.

The proposed buildings are relatively tall with respect to the immediate neighbours (especially the tower which is directly exposed to the prevailing south-westerly winds). There could be localised wind eddy effects on strong wind days and localised mitigation may be required at a

number of entrances during the winter season. Recessing or screening entrances on these areas of the site would generate a sheltered buffer zone directly in front of these, allowing pedestrians entering/leaving the building to acclimatise to the windier external environment.

All thoroughfares within the development are suitable for leisure walking or standing/entrance during the windiest season, which represents insignificant to minor beneficial impacts in that more shelter will be provided by the proposed development than exists at present.

3.11 Daylight, Sunlight, Overshadowing and Nightlight

Baseline

Currently there is a limited amount of nightlight generated at the site. The light intensity given off from the site and immediate surroundings is relatively subdued compared to the general dominance of light scatter from Birmingham city centre, which is a dominant light feature at night.

The buildings are generally low rise and there is no significant over shadowing evident at the site nor limitations on daylight accessing the neighbouring properties.

Impact Assessment

There are no nightlight implications for the construction phase as significant nighttime floodlit working is not anticipated so other than security lighting to as similar level as occurs at present there will be no night time light sources.

Due to the nature and scale of the proposed development, there will be an increase in night light generated at the site which could be noticed by occupants of neighbouring buildings and residential properties within the proposed scheme itself and the surrounding area, but the lighting scheme will aim to avoid unnecessary lighting, primarily through intelligent specification and the location of lighting equipment. The intensities of all light sources will be kept as low as is practical whilst still meeting the technical, aesthetic and safety requirements of the design. A sensible strategy for control will ensure that lighting is turned down to a minimal safe and secure state at a suitable "curfew" time, with feature-lighting elements and building façade lighting being switched-off at an agreed time, depending on the functions of the building's tenants.

The proposed redevelopment of the site together with the new lighting installation will help enhance and improve the quality of the site, whilst providing a safe environment, in-line with current guidance and codes of practice.

The overshadowing and daylight assessment has utilised methodologies recommended by the Building Research Establishment and identified that the majority of the residential properties adjacent to the site will be unaffected by the development but a small minority will suffer a minor adverse impact in terms of reduced daylight levels, but not to an extent uncharacteristic of a built up city centre environment.

3.12 Telecommunication Interference

Baseline

Terrestrial television was the traditional method of television broadcast signal delivery prior to the advent of cable and satellite television. Terrestrial television was transmitted in both analogue and digital formats, but since 2012, analogue services have been withdrawn.

Viewers in the area surrounding the proposed development are receiving their terrestrial television signals from the Sutton Coldfield Transmitter located to the north. The low rise nature of the site at present will have little effect on the signal quality on neighbouring sites.

Impact Assessment

The assessment has determined that there will be no effect on neighbouring properties from the completed development during either its operation or construction phases.

3.13 Waste Management

Baseline

Current wastes generally comprise small quantities of non-hazardous wastes such as cardboard, plastics and paper. Waste management is ad-hoc and tenants are generally responsible for managing their own wastes.

The level of recycling and recovery is not known, however it is possible that Some tenants may segregate wastes for recycling.

There are no site-wide recycling, segregation or recovery initiatives and no overall waste management philosophy.

Impact Assessment

During the construction phase there will be significant quantities of soils, some of which may potentially be contaminated. Where possible this excavated material will be reused, on or off

site, however some may require off-site disposal. Waste construction materials will be re-used or recycled where possible.

Once operational the residential tenants will have their waste collected as part of the Council's municipal waste collection services. A dedicated area with appropriately sized waste receptacles will be provided for the disposal of tenant's general wastes and will facilitate segregation and recycling to match the Council's approach in this regard. Commercial tenants will have their own bespoke contracted arrangements but will have dedicated waste storage areas and will have to comply with the site's waste charter.

The concluding statements regarding the predicted impacts are presented in the next section of this report.

4 Conclusions

This section of the NTS concludes the EIA and summarises the relative magnitude and significance of the predicted impacts and an overall impact assessment of the proposed development. This is summarised in *Table 4.1*. The criteria that have been used to differentiate the relative impacts are as follows:

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 O** no discernible improvement or deterioration to the existing environment.

The impact assessment also implicitly includes consideration of whether or not the impacts are permanent, temporary, direct or indirect. Furthermore, where there are other potential sources of similar impacts that could affect the local environment then cumulative impacts have been considered also. Consequently, this concluding chapter of the NTS provides an overview of the overall potential effect of the development proposals on the environment that would otherwise prevail if the proposals did not proceed.

The development proposals have been assessed in relation to their potential to impact upon the environmental conditions that currently prevail on the site and in the surrounding area.

Implicit in this assessment has been the need to understand the environmental sensitivity of the area around the proposal site.

The environmental impacts of the construction phase of the project are typically minor and negative and are largely a function of the inevitable disruption caused by a major redevelopment project and especially the initial demolition and earthworks phases which are unavoidably intrusive. The long lasting/permanent impacts associated with the development are, on the whole, either neutral (environmentally insignificant) or, more frequently positive. In terms of specifics in addition to the obvious developmental improvements and employment opportunities therein, the following concluding points are pertinent with regard to environmental impact:

- The proposed mixed use development is intended to improve the townscape character of the area, being an extension to the core of Birmingham city centre;
- The site is important in terms of archaeology within Birmingham, dating back to the medieval period. This development will enable the detailed examination and assessment of archaeological resource at the site;
- The development will retain, refurbish and incorporate the majority of listed buildings and facades into the proposed development scheme, some of which are in a poor state of repair and visually re-instate the medieval burgage plots which had been lost;
- The proposals will provide improvements with regard to pedestrian activity and connection to the Bullring and Birmingham City Centre, increasing the use of public transport and walking trips to the site;
- The development will involve substantial construction works that will generate noise. The potentially negative aspects of these works will be controlled and minimised via a construction management plan that will implicitly involve environmental protection measures;
- The construction works will generate waste materials but these will be removed from site and where possible, recycled;
- The completed development may have a slight negative environmental impact in terms of shading or reduction in received daylight intensity at a small number of adjacent properties at certain times. This is unavoidable given the density of development in the area and the need to optimise the land area developed with multi-storey buildings and find a balance between building orientation, massing and development practicalities. The

level of shading is considered to fall only marginally below acceptable levels in the few properties affected;

- The new development will incorporate new habitats and improve the ecological value of the site through the creation of brown and green roofs, and the provision of nest boxes, specifically for protected species, and roosting facilities; and
- The new development will bring into use the site as a whole and will generate new employment in the relatively deprived area of Digbeth and form a key link in the wider regeneration objectives.

The overall environmental impact of the proposed development post-mitigation is considered to be beneficial. The majority of the potentially negative environmental impacts assessed during the EIA can be removed through the design and implementation of appropriate mitigation measures and those that remain associated with the long term operational life of the site and are low in impact. As such the main negative impacts are transient and generally short lived (during the construction phase) and the overall conclusion is that the development would constitute an environmentally beneficial scheme if implemented and would improve the environmental status of the site and its surroundings.

The relative positive and negative impacts and their magnitude are summarised in Table 4.1 below.

Table 4.1: *Construction and Operational Environmental Impact Summary*

Issue	Size and Nature of Impact	
	Construction Phase	Operational Phase
Socio-economic	**+ + +** Major Positive Impact	**+ + +** Major Positive Impact
Townscape and Visual	**–**	**+ +**

Issue	Size and Nature of Impact	
	Construction Phase	Operational Phase
	Minor Negative Impact	Moderate Positive Impact
Archaeology and Cultural Heritage	**–** Minor Negative Impact	**+** Minor Positive Impact
Traffic and Transport	**– –** Moderate Negative Impact	**+** Minor Positive Impact
Air Quality	**–** Minor Negative Impact	**O** Insignificant Impact
Noise and Vibration	**–** Minor Negative Impact	**–** Minor Negative Impact
Ecology and Nature Conservation	**O** Insignificant Impact	**+** Minor Positive Impact
Water Quality and Hydrology	**O** Insignificant Impact	**+** Minor Positive Impact
Soils Geology and Contamination	**–** Minor Negative	**+** Minor Positive Impact
Wind and Microclimate	**O** Insignificant Impact	**O** Insignificant Impact
Daylight, Sunlight, Overshadowing and Night Light	**O** Insignificant Impact	**–** Minor Negative
Telecommunication Interference	**O** Insignificant Impact	**O** Insignificant Impact
Waste Management	**–** Minor Negative Impact	**+ +** Moderate Positive Impact