

# **ENVIRONMENTAL STATEMENT SCOPING REPORT**

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**COVENTRY and WARWICKSHIRE GATEWAY**

**On behalf of**

**Coventry and Warwickshire Development Partnership**

**May 2012**





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## 1.0 Introduction

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- 1.1 This is a request to Warwick District Council and Coventry City Council for an Environmental Statement scoping opinion.
- 1.2 Coventry and Warwickshire Gateway Development Partnership is to apply for part outline, part detailed planning permission for a Strategic Employment site together with strategic highway improvement works and structural landscape works on land at and adjacent to the Middlemarch Estate, Coventry Airport and Jaguar Whitley.
- 1.3 A Site Location Plan and a Draft Framework Plan are attached to this document. They show the proposed site boundary and broad approach to the development of the site.

### **The Requirements for Environmental Assessment**

- 1.4 Planning applications for certain types of development in England and Wales need to be accompanied by an Environmental Statement in order to comply with the Town and County Planning (Environmental Impact Assessment (England and Wales) Regulations 2008 (“2008 Regulations”). An Environmental Statement (ES) is to be prepared as part of the planning application for development of this site. The ES will contain the findings of the Environmental Impact Assessment (EIA) and will be prepared in accordance with the requirements of the Regulations.
- 1.5 The principle objective is to identify the potential for significant environmental effects arising from the proposed development.
- 1.6 The ES will include information required by the 2008 Regulations i.e:
  - A description of the development, comprising information on the site, design and size of the development.
  - A description of the measures envisaged in order to avoid, reduce and if possible remedy significant adverse effects.
  - The data required to identify and assess the main effects which the development is likely to have on the environment.

- An outline of the main alternatives studied and an indication of the main reasons for the choice, taking into account the environmental effects.
- A non-technical summary of the information set out above.

1.7 Each environmental issue will be considered in the following way:

- A description of baseline conditions.
- An assessment of potential effects that may arise during construction and operation.
- Detail of the mitigation measures proposed to remove, reduce or remedy any potentially significant adverse effects.
- A description of any significant adverse effects that may remain following implementation of the mitigation measures.

### **Scoping Opinion**

1.8 The purpose of this request is to seek a “scoping opinion” from the Local Planning Authority (LPA) pursuant to Regulation 10. This is the formal opinion of the LPA on the information to be supplied in the ES and enables the applicant to be clear about what the LPA and other appropriate consultees consider the main effects of the development are likely to be and therefore the topics on which the ES should focus.

1.9 The following information is therefore provided:

- A site location plan;
- A brief description of the nature and purpose of the proposal;
- An indication of the possible environmental effects and a broad indication of their likely scale;
- Details of the EIA scope and methodologies proposed to be employed for the various environmental topics.

## 2.0 Project Description

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### 2.1 Site Address

The site is identified by the Location Plan. It consists of land to the north and south of the A45 between the Stonebridge and Tollbar Island junctions of the A45 and A46; land within, to the north, west and south of Coventry Airport. Works are also proposed to land at junctions on the surrounding highway network, namely the junctions of the A45 and A46 at Stonebridge and Tollbar Islands, the junction of the A444 (Stivichall & Cheylesmore By-Pass) with the A4114 (London Road) and the junctions of the A46 with Stoneleigh Road and the A428 (Brandon Road/Rugby Road).

### 2.2 Description of Development

Comprehensive redevelopment of land to the north and south of the A45 between the Stonebridge and Tollbar Island junctions of the A45 and A46 and land to the north, west and south of Coventry Airport comprising demolition of existing structures and the erection of new buildings to accommodate offices, research & development facilities and light industrial uses (Use Class B1), general industrial uses (Use Class B2), storage and distribution (Use Class B8), hotel accommodation (Use Class C1), car showroom accommodation, replacement airport buildings, small scale retail and catering establishments (Use Classes A1, A3, A4 and/or A5), new countryside park, ground modelling work including the construction of landscaped bunds, construction of new roads/footpaths/cycle routes, remodelling of junctions on the exiting highway network, associated parking, servicing and landscaping (Outline application discharging means of access only).

### 2.3 Detailed description of the development for the purposes of the Environmental Assessment:

#### **Zone A: Logistics Park**

- Demolition of existing structures;
- The remediation of the land at and around the former sewage treatment works and former land fill sites:

- Ground modelling including the creation of development plateau and landscape bunds;
- The development of up to 343,740 sqm (3.7m sq ft) of B2/B8 floorspace, of which the B2 floorspace will be a up to 104,000 sqm;
- Associated access, parking, servicing, infrastructure and landscaping;
- Strategic landscaping including the creation of publicly accessible open space in a Countryside Park
- The relocation of the Railway Museum.

#### **Zone B: Technology Hub**

- Demolition of existing structures;
- The remediation of former landfill areas together with ground modelling including the creation of development plateau and landscape bunds;
- The development of up to 83,794 sqm (900,000 sq ft) of mixed B1b/B1c buildings intended primarily for Automotive, Aerospace and digital technologies, Hotel(s) Use Class C1, Retail unit(s) Use Class A1, A3, A4 and A5 and car showroom (s), comprising:
  - Up to 65,032 sqm (700,000 sq ft) of B1b/B1c space
  - Up to 4,645 sqm (50,000 sq ft) of car showroom space
  - Up to 2,500 sqm (26,900 sq ft) of ancillary A1, A3, A4, A5 floorspace
  - Up to 11,617 sqm (125,000 sq ft) of C1 floorspace.
- Associated access, parking, servicing, infrastructure and landscape;
- Strategic landscaping including the creation of publicly accessible open space in a Countryside Park.

### **Zone C: Highway Works**

- New highway works including:
  - (i) Works to A45/A46
  - (ii) Works north of A45
  - (iii) Works to access the development south of A45
  - (iv) Associated off-site highway works.

### **Zone D:**

- Demolition of existing hangars/office block on the Airport;
- Replacement of hangar, office buildings and fuel storage;
- Associated access and infrastructure works.



## **3.0 Environmental Issues and Scope of Assessment**

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### **Scope of Studies**

3.1 The following topic areas are proposed to be covered in the ES:

- Development proposals
- Planning Policy
- Socio-economic aspects
- Landscape and visual effects
- Ecology and nature conservation
- Geology, soil and groundwater
- Water resources and drainage
- Noise
- Air quality
- Cultural heritage
- Lighting
- Transportation (separate Transport Assessment will be submitted)
- Cumulative effects
- Non-technical summary.

- 3.2 An indication of possible environmental effects and methodologies for each of the respective environmental issues is outlined below. The Development Proposals section would provide a comprehensive statement on the nature of the development and would address all component parts of the proposal.
- 3.3 The planning policy section will detail the overall development plan and policy context for the development, this will include reference to national and local policies and guidance as well as any relevant strategies or studies. A separate Planning Statement will assess the suitability of the proposals having regard to relevant policies, the conclusions of the ES and other material considerations.

### **Socio economic issues**

- 3.4 This section will place Coventry and Warwick Gateway (CWG) in a socio-economic context, and describe the property market conditions in which they are set.
- 3.5 Against this background the proposals for CWG, the nature of the uses, and intended investment will be described and an assessment made of the potential effects of the development of CWG on the population and the economy.

It will, accordingly, consider:

- i) relevant legislative and policy context at national, regional and local levels;
- ii) the methodology and assessment criteria;
- iii) the baseline conditions, being an analysis of:
  1. the existing socio-economic data across the impacted sub-regional area; and
  2. property market demand and supply conditions across the potential use classes of property included in the CWG proposals, including an assessment of whether there are comparative sites available;

- iv) an assessment of the potential impacts of, and outputs, from the proposed development, including consideration of anticipated investment and, employment creation, and the particular alignment of the proposals with sectoral growth areas and educational and research institutions which directly address the growth agenda being set by the LEP;
- v) a summary and conclusion.

## Landscape and Visual Impact Assessment

### Introduction

- 3.6 A landscape and visual impact assessment of the proposed scheme would be conducted encompassing the “Guidelines for Landscape & Visual Impact Assessment” (GLVIA) published by the Landscape Institute and the Institute of Environmental Management and Assessment 2002, and “Landscape Character Assessment. Guidance for England and Scotland” (LCA) published by the Countryside Agency and Scottish National Heritage 2002.
- 3.7 These documents do not provide a prescriptive approach to assessment but identify principles and good practice. The methodology for this assessment will be based on this approach. The detailed assessment would enable the potential landscape and visual effects to be determined and a landscape design and mitigation strategy to be put forward as part of the planning application.

### Baseline Conditions

- 3.8 The site is located on the edge of two adjoining landscape character areas, namely the *Dunsmore and Feldon* (LCA; Area No. 96) and the *Arden* (LCA; Area No. 97), as defined in the Character Map of England (Countryside Agency/ Natural England). At a countywide scale the *Warwickshire Landscape Guidelines* will provide a relatively more detailed but still contextual appraisal of the landscape to the west of the site. Within the *Warwickshire Landscape Guidelines*, the landscape to the west of the site falls within *Arden Parklands* Landscape Type. The site includes land within the *Plateau Farmlands* Landscape Type, within the Dunsmore Character area.

3.9 Baseline studies will include a full review of these and all other relevant documents and publications, including Green Infrastructure Strategies or Studies where present. The following documents will be consulted and reviewed as part of the baseline conditions:

- *Character Map of England, (Countryside Agency/ Natural England)*
- *Coventry Green Infrastructure Study, 2008*
- *Coventry Greenspace Strategy, 2009*
- *Joint Green Belt Study, 2009*
- *Coventry Green Belt Review, 2009*
- *Coventry Urban Fringe and Landscape Assessment Study, 2007*
- *Warwickshire Landscape Guidelines*
- *Warwick Green Infrastructure Study, 2010*
- *Warwickshire Historic Landscape Characterisation Project (HLC)*

3.9 Desk based reviews would be followed by more detailed site based analysis and assessment to comprehensively determine the existing conditions.

#### Scope of the Landscape and Visual Impact Assessment

3.10 The landscape character assessment will consider the effects on both the local landscape resource and the wider context of the site i.e. from the physical effects on site based features and characteristics to the potential effects on wider landscape character. Similarly, the visual impact assessment will consider the potential visual effects upon receptors bordering the site (rights of way and properties) and within its context.

3.11 In respect of the proposed development, the scope of the assessment will comprehensively address the potential effects of the development during the construction and operation phases. The potential landscape and visual effects of the proposals will be detailed for each of these phases.

3.12 The landscape and visual assessment will include:

- **Landscape character assessment** - addressing the site and its landscape context and character, with reference to land use, topography, condition and quality.
- **Visual impact assessment** - detailing the visual receptors and respective visual effects of the proposed development, representative photo viewpoints, including assessments of the potential construction effects.

3.13 A detailed Visual Effects Schedule would be produced, setting out the potential effects on all receptors with views to the scheme. This would consider the visual effects during construction, at the completion of the development (in winter) and after 10 years (in summer).

3.14 A fully illustrated landscape and visual reporting section would be produced within the ES and would include a series of plans, cross sections and photo viewpoints, together with supporting appendices.

#### Likely Effects

3.15 Likely landscape and visual effects arising from the proposals would extend from changes to the landscape character of the site and its immediate context to specific visual effects upon surrounding receptors. The latter are likely to include some surrounding properties, public rights of way and existing roads and development around the site.

3.16 All effects would be assessed in accordance with the GLVIA and would combine sensitivity and magnitude of change to determine the significance of the respective effects.

#### 3.17 Key Potential Landscape and Visual Assessment Issues

- Effects upon landscape character, quality and individual features
- Effects upon relevant planning policies, strategies and designations
- Visual effects upon surrounding receptors, including construction and operation.

#### Sensitive Receptors

3.18 The sensitivity of the landscape and visual receptors will be assessed in accordance with the GLVIA. Relative sensitivity will reflect the degree to which the resource affected can accommodate change without detrimental effect. The GLVIA states;

*“The sensitivity of the landscape is dependent on both the attributes of the receiving environment and the characteristics and effects of the proposed development and can only be established by carrying out the assessment. However, landscapes with a high value and sensitivity to the type of change*

*proposed are likely to be more seriously affected by development than those with a lower sensitivity.”*

- 3.19 In the context of visual receptors, the GLVIA states that sensitivity will be dependant on:
- *“The location and context of the viewpoint;*
  - *The expectations and occupation or activity of the receptor;*
  - *The importance of the view”.*
- 3.20 The sensitivity of the landscape of the site is likely to be relatively low, reflecting the dominance of the surrounding existing development the absence of designated or statutorily protected areas or features and presence of fewer positive landscape features and attributes. It is however, recognised that there are relatively more sensitive landscape areas and features beyond the site boundaries and these will be fully considered and assessed as part of the impact assessment process.
- 3.21 In terms visual receptors the most sensitive receptors are likely to be the users of any public rights of way or visitors to sites of landscape or heritage interest, or for occupants of residential properties with views towards the proposed development. These receptors will be of a high or medium visual sensitivity. Existing users of commercial or industrial development and the surrounding roads would be of a relatively lower visual sensitivity.
- 3.22 The visual impact assessment would include not only consideration of the effects arising from the proposed built development but also from those highway and infrastructure proposals forming part of the application; particularly from the loss of any existing planting and features along the highway corridor(s) and from the highway related infrastructure (eg overhead gantries, bridges, earthworks/ retaining walls). Potential key and/ or sensitive visual receptors are likely to include:
- Properties and locations within Baginton and Bubbenhall;
  - Properties and locations on the southern edge of Whitley and Willenhall;
  - Other scattered or more remote properties to the west and/ or south of the site;
  - The Lunt Roman Fort Scheduled Ancient Monument and any other listed buildings/ heritage assets within the Zone of Visual Influence;
  - Rights of Way within the River Avon valley to the south of the site;

Other receptors will include the road, airport and existing employment area users.

- 3.23 All receptors potentially affected by the proposed development would be assessed in terms of the magnitude of change to the existing view and the significance of the resultant effect. A series of photo viewpoints will be prepared to convey the general character of the existing landscape and views towards and around the site. In addition, a number of photomontages will be prepared to depict the proposed development from certain key viewpoints and receptors. The photomontages will be prepared in accordance with the Landscape Institute *“Photography and Photomontage in Landscape and Visual Impact Assessment”* (Advice Note 01/ 11). The photomontage locations will be agreed in advance.

#### Likely Mitigation

- 3.24 The planning, layout and design of the proposed development and Landscape Framework will consider the existing landscape and visual receptors and seek to minimise any potential adverse effects whilst maximising opportunities for improvements.
- 3.25 Matters that are likely to be considered and addressed as part of the design and mitigation considerations are;
- Screening and filtering the built development and the active parts of the proposals (eg vehicular movements). This includes seeking to minimise the potential visual effects upon surrounding receptors;
  - Conserving perimeter landscape areas, planting and features and designing alongside these to contribute positively to the Green Infrastructure (GI) benefits of the site, both locally and more widely;
  - Assimilating any ground modelling and landscape mitigation proposals with the existing site`s characteristics and that of the surrounding landscape; and
  - Establishing a Landscape Framework that will form an appropriately robust structure and setting to the built development and associated highways and infrastructure.
- 3.26 Likely mitigation measures during the construction period would include attention to the location and design of temporary site compounds, lighting, signage etc and would need to be combined with effective project management to mitigate and minimise potential adverse effects during this phase.

- 3.27 The design and implementation of a robust and substantial landscape scheme as an integral part of the GI and overall proposals would minimise any potential adverse effects. Consequently, the requirement for any specific mitigation measures during the operational phase of the development are not currently envisaged.

#### Consultation

- 3.28 The following bodies (relevant landscape officers) have or will be consulted as part of the assessment and design process:

*Warwick District Council*

*Coventry City Council*

*Natural England*

Any other relevant bodies identified by this scoping process.

## Ecology and Nature Conservation

### Introduction

- 3.29 This report details the proposed approach for the Ecological Impact Assessment Chapter for the Environmental Statement for the proposed development and associated infrastructure works at Coventry and Warwickshire Gateway. The Ecological Impact Assessment will include a survey of flora and fauna that could potentially be associated with the site to inform such an assessment.

### Scoping Methodology

- 3.30 The scoping report is based on information from an initial desk study including:
- Consultation with the local biological records centre for information on non-statutory sites and records of protected and notable species
  - Consultation of the National Biodiversity Network Website for additional information on species within 1km of the site boundary
  - Consultation of the Multi Agency Government Information for the Countryside (MAGIC) website and Natural England's Nature on the map for information on sites of statutory importance including Sites of Special Scientific Interest (SSSI) within 2km of the site boundary

- Consultation of the MAGIC websites for information on sites of international importance such as Special Protection Areas (SPA) and the Special Areas of Conservation (SAC) within 5km of the site boundary

3.31 An initial walkover survey of accessible land was carried out in May 2011 recording habitats present and potential habitat for or evidence of species protected under the Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2010 and the Protection of Badgers Act 1992 including badger, bats and great crested newt.

#### Baseline Conditions

#### Desk Study

#### Statutory Sites

3.32 There are no statutory sites of international nature conservation importance (e.g. Special Protection Areas (SPA), Special Areas of Conservation (SAC) or, Ramsar Sites) present within the proposed development site. The closest statutory site is Herald Marsh located approximately 600m to the north east of the proposed road improvement works, this site is designated for its range of wetland communities which are scarce in the county supporting a range of invertebrates which are rare in the county. Ryton and Brandon Gravel Pits is located approximately 1km to the east of the proposed works and is designated for its geological importance. Brandon Marsh SSSI is located approximately 1.3m to the east of the proposed works and is designated for its open water and surrounding fen which is of regional importance for several species of breeding and over-wintering bird species. The invertebrate fauna is also particularly rich. Ryton Wood SSSI is located approximately 1.7km to the south east of the site.

3.33 Stonebridge Meadows Local Nature Reserve (LNR) and Willenhall Wood LNR both lie immediately adjacent to the A46 proposed improvement works.

#### Non-statutory Sites

3.34 Figure 1 provides locations of Ecosites, Local Wildlife Sites (LWS) and potential Local Wildlife Sites (pLWS) within 1km of the site boundary. This includes Rock Farm Ecosite and pLWS and the Siskin Bird Sanctuary.

### Protected / Notable Species

- 3.35 Records for grass snake, otter, badger and water vole exist for areas within 1km of the site and whiskered bat, Daubentons bat, common pipistrelle and great crested newt have been recorded in the wider area.

### Summary of Habitats Present

- 3.36 Rock Farm Sewage works includes large sludge lagoons being colonised by large areas of common reed and scrub, improved and semi-improved grassland, woodland and open water. The western most section of Rock Farm consists of improved grassland and hedgerows. The now derelict vehicle testing track provides greater interest supporting a more species rich neutral grassland community with damper areas and scattered scrub.
- 3.37 The majority of the habitats present within the line of the proposed road improvements include typical highway planting including grassland and native shrub and tree planting. The proposed spur off to the north crosses the River Sowe and associated habitats including areas of pasture, wetter grassland and scrub, whilst land to the south of the A45 includes an area of arable land, improved and semi-improved pasture.

### Receptors

- 3.38 Based on the initial ecological survey work, discussion with Warwickshire County Council's ecologists David Lowe and Lois Browne, Richard Wheat of Warwickshire Wildlife Trust and Allison Crofts of Natural England and consultation carried out to date, the following are considered as potentially valuable ecological receptors:
- Semi-improved grassland within Rock Farm pLWS and areas to the north and south of the A45
  - Rock Farm Ecosite and pLWS
  - Stonebridge Meadows LNR and LWS
  - Siskin Drive Bird Sanctuary
  - Hedgerows
  - Habitats associated with the River Sowe and River Avon
  - Grass snake

- Little ringed plover
- Skylark
- Great crested newt
- Water Vole
- Badger
- Otter
- Invertebrates

#### Potential Environmental Effects

##### 3.39 Potential effects include:

- Loss of Rock Farm Ecosite and pLWS
- Loss of access to Stonebridge Meadows LNR and LWS
- Loss of riparian habitat for the access road to the north of the A45
- Loss of amenity, improved and semi-improved grassland
- Loss of hardstanding
- Loss of shrubs and trees
- Loss of open water
- Impacts of habitat loss on species potentially associated with the site including grass snake, skylark, little ringed plover, otter, water vole, bats, badger and great crested newt.
- Direct and Indirect damage to retained habitats and habitats outside the site boundary including Stonebridge Meadows LNR
- Reduction in water vole population due to increased numbers of mink along the River Avon due to changes in accessibility
- Impacts of other potential developments in the area in combination with scheme impacts

## Assessment Methodology

### Review of Relevant Planning Policy Guidance

- 3.40 Existing and emerging planning policies will be reviewed as part of this assessment including the following:
- National Planning Policy Framework (NPPF)
  - Coventry and Warwickshire Biodiversity Action Plans
  - Local Authority green infrastructure plans from Warwick District Council, Rugby Borough Council and Coventry City Council.

### Desk Study

- 3.41 The following organisations / individuals have been/will be approached for existing information regarding the site and surrounding area and responses will be collated and fully considered to identify potential receptors and environmental effects within and surrounding the site.
- Biodiversity Records Centre
  - Warwickshire Wildlife Trust
  - Amphibian and Reptile Recorder
  - Otter and Water Vole Recorder
  - Local Badger Recorder
  - Local Bird Recorder
  - MAGIC
  - NBN

### Field Surveys for Flora and Fauna

- 3.42 Habitats will be surveyed using standard Extended Phase 1 Habitat Survey methodology (JNCC 2003). Habitats will be marked on a base plan and where

appropriate, target notes made. This survey work combined with consultation results will inform the extent of further survey work required to inform the Ecological Impact Assessment, surveys proposed to date are listed below:

- Hedgerow survey
- Great crested newt survey
- Breeding bird survey
- Winter bird survey
- Reptile survey
- Otter survey
- Water vole survey
- Bat survey of trees and buildings
- Bat activity survey
- Badger survey including bait marking where required
- Invertebrate survey if any habitats within Rock Farm and areas of semi-improved grassland are identified as having good potential for invertebrates
- Phase 2 habitat survey where necessary
- LWS criteria assessment for Rock Farm pLWS and pLWS grasslands along the River Sowe

3.43 All methodologies will follow published guidelines as accepted by statutory and non-statutory agencies including Natural England.

#### Reporting

3.24 Reporting will follow guidelines as set out in the Guidelines for Ecological Impact Assessment (EclA) (IEEM, July 2006). This will include:

- An evaluation of habitats and species present on site including an assessment of their importance at local, regional, national and international level.

- The potential impacts on the habitats and species present will be assessed and will include potential operation and construction effects and any combined effects from other developments in the area
- Proposed mitigation and compensation measures will be detailed and residual impacts summarised
- All potential impacts and mitigation will be assessed against and informed by national and local planning guidance including NPPF and national and local biodiversity action plans.

## **Geology, Soils and Groundwater**

### Introduction

3.45 This chapter will consider the potential environmental impact of the proposed development on the geology and soils beneath the site and the local area.

3.46 The environmental impact assessment will be undertaken in accordance with the requirements as set out within the National Planning Policy Framework (NPPF) and relevant Local Development Plan Policies.

### Scoping Methodology

3.47 A review of current regional and local development plan policies will be undertaken to confirm the potential impacts of the scheme on the site and wider area where they relate to the geology, soils and groundwater.

3.48 Information from the various sources listed below will be used to allow assessment of the proposed project upon the site and surrounding area. These sources are expected to include but not be limited to:

- Environment Agency
- Coventry City Council
- Warwick District Council
- Highways Agency
- Landowners
- British Geological Survey

- Defra

- 3.49 It is intended that information pertaining to relevant local and national policy strategies will be reviewed to confirm the expected effects of the proposed development upon the geology and soils.
- 3.50 Available investigations, background geology and historical mapping of the area will also be obtained and reviewed. This will be used to confirm baseline conditions and existing environmental impacts and risks. From the ground model it will then be possible to predict the potential impacts and receptors resulting from the construction and operational phases of the proposed scheme. Positive and negative impacts will then be identified and options may then be outlined for mitigating any potential negative impacts from the scheme construction and operation allowing the final impact to be confirmed. Cumulative impacts of the proposed scheme in relation to other known proposed schemes will also be addressed where necessary.

#### Baseline Conditions

- 3.51 The current baseline conditions at the site will be established by means of undertaking a detailed Geo-environmental **Desk Study** including a detailed site walkover survey. The study will be undertaken and reported in general accordance with BS5930 'Code of Practice for Ground Investigation' (Desk Study) and will also be in line with the Environment Agency CLR 11 'Model Procedures for the Management of Land Contamination' (Conceptual Site Model and Preliminary Risk Assessment). This will include development of a basic ground model which takes account of past and current land uses, geology, hydrogeology, topography and geomorphology and will aim to confirm the sensitivity of the site and surrounding area and confirm existing hazards risks and constraints that might affect the proposed development of the site.
- 3.52 In addition to the Desk Study it is intended to undertake a **Preliminary Geo-environmental Appraisal**. This will assess all available historical ground investigation information for the Site to determine the ground model and state of the site. This will be undertaken in general accordance with the requirements BS5930 'Code of Practice for Ground Investigation', Environment Agency CLR 11 'Model Procedures for the Management of Land Contamination' (Risk Assessment) Association of Geo-environmental Specialists 'Guidelines for the Preparation of the Ground Report' 2003 (Interpretative Report). The assessment will include the collation and presentation of all available data using current

standards and guidance to provide a coherent and comprehensive evaluation of the baseline geo-environmental ground conditions for the whole site.

- 3.53 Where gaps in information are identified, and available data is not current or where risks are considered significant, further investigative works may be commissioned subject to existing constraints, to confirm baseline conditions. The information from the additional investigations will then be used to supplement and confirm the ground model.

Where particular areas of the site are of specific concern separate site specific reports may be developed.

These reports used together will define the baseline conditions for the site allowing the identification of existing environmental impacts and risks.

#### Receptors

- 3.54 The Baseline Ground Model will allow confirmation of the likely construction techniques required to be used and thus will ensure that all potential receptors are identified for the construction phase of the works. The Baseline Ground Model will also allow the determination of how the final proposed scheme will change the existing ground model. Thus it will be possible to identify environmental receptors that might potentially be affected during the completed operational phase of the proposed scheme. Receptors that will be considered will include:

- Human end users
- Controlled waters
- Property, buildings and structures
- Neighbours and public
- Site workers
- Ecology.

#### Potential Environmental Effects

- 3.55 The Baseline Ground Model together with the proposed works identified to be necessary to construct the proposed scheme will be used to identify and confirm the potential environmental impacts that might occur during the construction and operational phases of the scheme.

- 3.56 A qualitative risk matrix will then be used to confirm the magnitude of the assessed impacts to identified potential receptors. Where necessary mitigation measures will be identified and their final impacts assessed in the same manner. It is expected that construction effects will be mitigated by means of the development of a site specific Construction Code of Practice (CCoP).

#### Proposed Assessment Methodology

- 3.57 The methodology for assessing impacts will follow standard procedures and is expected to involve the following tasks:

- Review of local, regional & national planning strategies and development plan policies (including but not limited to contaminated Land, Aquifer protection, Mineral Resources).
- Review of published documents, current standards, and current best practice guidance.
- The Desk Study will involve obtaining information from and liaison with all relevant statutory bodies including the Local Authority (contaminated land), Environment Agency (Aquifer protection), Defra (animal burials), BGS (geological Information), Highways Agency (Geo-environmental investigations), along with any other bodies identified.
- The walkover will be conducted to confirm desk based information and identify and confirm the current state and use of the site.
- The Geo-environmental Appraisal will collate all available site specific ground investigation data. This will be used to prepare detail section and plan drawings which define the geology, ground and groundwater conditions and main existing environmental hazards and risks. Any available contamination testing data will be assessed against current generic assessment criteria to determine potential risks. The geotechnical information will also be used to determine the likely construction methods required to construct the proposed scheme. This baseline information will then be used to determine any resultant potential environmental impacts that might arise. Where gaps in information are identified, and it is considered necessary and possible, further investigative works may be commissioned and undertaken subject to existing constraints, to confirm ground conditions. The

information from the additional investigations will then be used to supplement and update reports and confirm the ground model.

- Preliminary consultations with the Environment Agency and Coventry CC and Warwick District Council contaminated land and groundwater protection teams will be undertaken throughout the process.
- It is proposed that the assessment of impacts will be undertaken using Qualitative Risk Assessment Matrices developed from the baseline condition ground model and updated to reflect the impact during both construction and operational phases.
- Where necessary suitable mitigation options will be detailed and their residual impact measured in the same manner using updated and extended qualitative risk assessment matrices to demonstrate the impact, mitigation effects.
- Cumulative impacts will also be considered where other schemes are planned that might affect the site.

## Water Environment

### Introduction

3.58 This chapter of the Environmental Statement will be prepared by BWB Consulting Limited.

3.59 The assessment within the Environmental Statement would enable the potential flood risk, drainage and hydrology impacts to be clearly determined and comprehensive mitigation measures to be put forward as part of the planning application. The chapter will be supported by a Level 3 Flood Risk Assessment (FRA) which will be appended as a technical appendix.

3.60 This chapter will assess the effects of the proposed development on the surface water and foul water resources at the site. It will focus in particular on:

- The significant environmental impacts and potential mitigation required;
- The potential for flood risk at the site and the impact on the wider catchment;
- The effects of the proposed surface water management on the site drainage in terms of surface water runoff, volumes and flows;
- Water quality impacts for both surface and ground water;
- Drainage characteristics;
- Impacts providing foul sewerage to the development;
- The capacity, connections and consents required to use the local drainage and sewerage works;
- An assessment of flow rates and water attenuation, including consideration of methods of sustainable drainage; and
- Groundwater vulnerability as applicable to legislation and standards.

3.61 A review of the existing drainage conditions on the site will be undertaken and presented in the form of an Environmental Statement.

### Scoping Methodology

3.62 The scoping study has been informed by the following data sets:

- Environment Agency flood mapping
- Output from Environment Agency models of the River Avon, River Sowe and River Sherbourne
- Coventry Strategic Flood Risk Assessment

We have also engaged with local authority drainage officers to gain an understanding of historic flooding issues in the area.

#### Baseline Information

- 3.63 The proposed development is in the catchment of the River Avon. It is encircled by watercourses in the form of the main channel of the River Avon bordering the south and eastern boundaries of the site and its tributary, the River Sowe and River Sherbourne, to the north and west.
- 3.64 In addition to these Main Rivers, there are a number of minor field drains issuing from the site.
- 3.65 The designated development areas of the wider site are identified as falling within Flood Zone 1 (Low Probability). However, elements of proposed infrastructure comprising the improvements to the A45 trunk road and the bridge link to the north of the A45 do encroach on Flood Zone 3 (high probability) of the River Sowe.
- 3.66 The wider development area is greenfield in nature and existing runoff rates to the receiving watercourses are attenuated by the permeable characteristics of the sub-soil. The Rock Farm STW site to the south comprises a series of sludge lagoons with containment drainage which effectively mimics the runoff characteristics of a greenfield site.

#### Receptors

- 3.67 Being surrounded by significant watercourses and field drains, there are a number of sensitive receptors with respect to additional flood risk and potential pollution. In addition the remediation of the Rock Farm STW site (described in a different chapter) will need to be undertaken with consideration to the groundwater level and floodplain extents of the River Avon.

#### Potential Environmental Effects

- 3.68 In terms of the construction and operational phases of the scheme, the encroachment of the A45 bridge crossing and access provisions has the potential to constrain the floodplain on the River Sowe and cause flood risk and erosion impacts elsewhere. This will be fully analysed and mitigated as part of the Flood Risk Assessment.

- 3.69 The development will increase the impermeable area and hence has the potential to increase rates and volumes of runoff. An indicative surface water drainage strategy will be prepared which limits surface water runoff from the proposed development to a 20% reduction from existing rates as a minimum and a greater level where feasible and will provide attenuation in the form of various SUDS features. These features will be placed outside the floodplain to prevent impacting on their long term operation. These features can be designed sympathetically to further enhance the habitat potential of the area. In line with the Strategic Flood Risk Assessments for Coventry City and Warwick District, surface water drainage arrangements will have a design standard to attenuate a 1 in 100 year (with allowance for climate change) storm event.
- 3.70 The development will increase foul flow loads on the local area which has the potential to exacerbate capacity issues in the local sewerage and sewage treatment infrastructure. Consultations will be carried out with the Water Company to ensure that any impact caused by the development is minimised.

#### Proposed Assessment Methodology

- 3.71 An evolution of the above in context of national and Local Plan Policy will be included to address the Local Development Framework for the area. The development proposals will be assessed in terms of the constraints set out in these documents.
- 3.72 The potential impacts of the development on surface water drainage, water quality and flood risk will be evaluated during the construction phase and operational phase and where necessary, mitigation measures will be proposed to address and identified potential adverse impacts and will be assessed within the ES as part of the EIA process.
- 3.73 Appropriate mitigation, including consideration of pollution control technologies, will be promoted where necessary in consultation with the Environment Agency and other relevant organisations.
- 3.74 During construction, where works are to be undertaken in or adjacent to watercourses and floodplain, there is risk of sediment or accidental spillage of fuels entering watercourse systems. During construction there may be also be temporary alteration to the existing surface water and overland flow runoff regime.

- 3.75 During and after construction, any impedance on river and floodplain flows due to the proposed highway works could impact on flood risk in the area. This requires some hydraulic assessment of the impact and flood mitigation in the form of floodplain compensation and/or appropriate bridge and embankment design. Existing hydraulic models of the watercourse features will be obtained from the Environment Agency as appropriate baseline data and development proposals and associated mitigation will be tested within these models.
- 3.76 In addition an increase in hard surfaces on the site has the potential to reduce infiltration and therefore increase rates of surface water runoff. Impacts of this include reducing ground water recharge affecting the groundwater table and increasing rates and volumes of surface water leaving the site, thus increasing the risk of flooding. However a suitable surface water drainage strategy can over attenuate flows and reduce peak runoff rates from the site to actually improve the existing situation in terms of reduced flood risk, improved water quality and increased habitat potential. Local Authority drainage officers will be consulted to ensure the SuDS features proposed are to an acceptable standard for possible future adoption.
- 3.77 ES will consider the effects of the proposed development in comparison to the existing site conditions. These will be preserved where possible and will be considered as possible receptors when assessing the environmental impact of the proposed development.
- 3.78 All potential environmental impacts can be reduced by suitable mitigation and management and will be considered within the assessment and presented within the Flood Risk and Drainage ES chapter.

## **Noise & Vibration**

### Introduction

- 3.79 The noise chapter of the scoping report outlines the assessment that will be undertaken to inform the EIA. The noise assessment will consider the likely significant effects of the Proposed Development in terms of the effects on noise and vibration. The assessment will consider the methodology; the baseline conditions currently existing at the application site and surroundings; the likely significant environmental effects of operational and construction noise and vibration; the mitigation measures required to prevent, reduce or offset any

significant adverse effects; and the likely residual effects after these measures have been employed.

#### Scoping Methodology

- 3.80 This scoping Chapter has been based upon the Roxhill Parameters Plan P4 and Roxhill Masterplan P6. These plans indicate the extent of the road improvements and size and potential locations of the Proposed Development in Zones A and B and significant areas of green buffer. A traffic improvement scheme and a second hybrid scheme containing an alternative arrangement for the A45/A46 roundabout will be considered. This information along with traffic data both with and without the development and details regarding day and night-time operational activities will inform the assessment.
- 3.81 The assessment will also consider construction noise and vibration effects at nearby sensitive locations.
- 3.82 Any changes to the frequency of flights using Coventry Airport and resulting changes in noise levels attributable to flights and ground noise from the airport fall outside of the scope of this assessment and therefore will not be assessed.

#### Baseline Conditions

- 3.83 The baseline noise climate is considered to be dominated by traffic noise, especially from the A46 and A45 and noise from aircraft at Coventry Airport. The existing industrial/commercial areas of Middlemarch Business Park, Stonebridge Trading Estate, Siskin Parkway and the Jaguar site will also contribute to the baseline noise climate.
- 3.84 A noise survey will be undertaken to determine the baseline noise conditions at the nearest noise sensitive properties and the locations for the measurements will be discussed with the local authority. This survey will be carried out during 'typical' conditions, specifically this is outside of school and public holidays and not during predicted adverse or extreme weather conditions.

#### Receptors

- 3.85 Based on the information available at this stage the following residential receptors will be considered in the impact assessment:

- Residential receptors to the North of A45, Sedgemoor Road, Selsey Close
- Residential receptors in Bagington including Rowley Road and rear facades of properties on the east side of Coventry Road and Oak Close.
- Lone properties on Buddenhall Road
- Bubbenhall, residential receptor representing properties on Church Road and Lower End.
- Residential receptor for properties on London Road close to the A45/A46 roundabout.
- Receptor representing Whitley Schools and College buildings and rear facades of properties on the south side of Ashington Grove.
- Residential receptor for properties close to the A45/A444 roundabout including Mylgrove and Leaf Lane.
- Residential receptor for properties along section of Leaf Lane parallel to the A444.
- Residential receptor for properties along The Parking Paling.
- Any individual properties located close to the development areas.

3.86 There may also be elements of the commercial/business parks that are noise sensitive in the daytime period and these will also be considered.

3.87 As further information becomes available the noise effects at additional receptors may need to be considered and these receptor locations will be agreed with the Local Authority.

#### Potential Environmental Effects

3.88 The following potential significant effects have been identified and this considers both temporary and permanent effects.

- Construction Phase – The noise effect of construction traffic will be considered and may have a slight adverse effect on residential properties. However, it is likely that the noise effects of construction traffic will only take place in the daytime and will be a temporary effect. Target noise levels will be to BS 5228:2009 and outline mitigation will be considered. Noise effects due to the construction of the development units and any associated service yards are not likely to be significant due to the large distances from the development areas.

- Operational Phase – The noise effects of traffic accessing the development sites may provide a slight to moderate adverse effect. It is assumed that the development will have 24 hr working so the day and night effects of operational activities including lorry movements on the site and loading activities will be assessed. The daytime operational noise effects are unlikely to provide a significant effect and the night-time effects are likely to provide a slight to moderate adverse noise effect and noise mitigation measures may be required. The operational noise will be a permanent noise effect. In addition to the effects upon existing noise and vibration sensitive locations the impacts upon proposed buildings will also be considered.

3.89 With regard to the Operational Phase it is anticipated that noise mitigation measures are likely to be necessary at locations where existing residential properties are relatively close to the improved highways within the development area. The assessment will determine the benefit any such measures may have and residual impacts.

#### Proposed Assessment Methodology

3.90 The methodology for assessing impacts will follow standard EIA procedures and will be likely to involve the following tasks:

- Consultation with the local authority regarding the assessment methodology, noise criteria and baseline noise monitoring locations and duration.
- Obtain the relevant traffic, construction and operational data to enable an assessment of the noise effects in the day and night-time periods at the nearest noise sensitive properties.
- Undertake a baseline noise survey at measurement locations to be agreed with the local authority over a representative period and include both long and short term measurement positions.
- Assess the noise effects of construction activities, traffic movements and operational activities against appropriate noise criteria including:
- BS5228-1:2009 – Code of practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise (Ref. 8.2);
- Calculation of Road Traffic Noise (CRTN) HMSO 1988 (ref 8.3);
- Noise Insulation Regulations 1975 (Roads) (ref 8.4);
- The Noise Insulation (Amendment) Regulations 1988 (Ref. 8.5);

- Institute of Acoustics/Institute of Environmental Assessment, Noise Impact Assessment Working Party (Ref. 8.6);
- BS8233:1999 Sound Insulation and Noise Reduction for Buildings (Ref. 8.7);
- World Health Organisation (WHO) Guidelines for Community Noise, 2000 (ref 8.8);
- BS4142:1997 Method for Rating industrial noise affecting mixed residential and industrial areas (ref 8.9)
- National Planning Policy Framework
- Noise Policy Statement for England
- BS 7385:1993 'Evaluation and measurement for vibration in buildings' Part 2. Guide to damage levels from ground-borne vibration 1993 (ref 8.10); and
- BS6472-1:2008 Evaluation of human exposure to vibration in buildings – Part 1: Vibration sources other than Blasting (Ref. 8.11).
- Consider any noise mitigation measures that may be required to reduce the noise effects to within acceptable levels.

#### Data Requirements

3.91 In order to undertake this assessment the following data and information are required:

- Baseline traffic flows
- Assessment year AADT 18-hour traffic flows 'without' development
- Assessment year AADT 18-hour traffic flows 'with' development for both the improvement scheme and hybrid option
- Traffic data to include percentage of HGVs.
- Autocad plan of development in .dwg format showing layout of proposed buildings and improved roads including vertical and horizontal alignment
- Information regarding height of proposed buildings and plot levels.

## Air Quality

### Introduction

- 3.92 The air quality chapter of the scoping report outlines the assessment that will be undertaken to inform the EIA. The assessment will consider the likely significant air quality effects of the Proposed Development.

### Scoping Methodology

- 3.93 This scoping Chapter has been based upon the Roxhill Parameters Plan P4 and Roxhill Masterplan P6. These plans indicate the extent of the road improvements and size and potential locations of the Proposed Development in Zones A and B and significant areas of green buffer. A traffic improvement scheme and one hybrid option containing an alternative arrangement for the A45/A46 roundabout will be considered. This information along with traffic data both with and without the development and details of any other significant emissions sources (such as centralised power and/or boiler plant) will be assessed.
- 3.94 The geographic scope of the air quality assessment will include areas where traffic generation and/or point source emissions resulting from the scheme might affect nearby sensitive locations. Temporary construction emission sources will also be assessed.
- 3.95 The scope of the assessment will also be informed by the outcomes of the local authority's ongoing Local Air Quality Management (LAQM) review and assessment work, as required by obligations under the Environment Act 1995. It is noted that the whole of Coventry City is declared an Air Quality Management Area.
- 3.96 The entire construction period will be examined for the potential for air quality impacts. The spatial area affected is likely to include properties or other sensitive locations within 100m to 200m of the construction site boundaries, including haul and access routes on the local highway, within a reasonable distance. It is noted that Stonebridge Meadows Local Nature Reserve is located opposite the site to the north of the A45.
- 3.97 The operational assessment of the scheme will focus on the opening year and any subsequent years to which existing, proposed or potential Air Quality

Standards and Objectives might apply. If a phased assessment is required to take account of proposed development phasing over a number of years, then these will also be assessed accordingly.

- 3.98 The geographical locations to be assessed will include sensitive receptors such as housing and schools where the public is likely to be exposed to pollutants over the various averaging periods to which the Air Quality Standards and Objectives apply. These locations will be agreed with the local authorities before the assessment is undertaken.

#### Baseline Conditions

- 3.99 Baseline conditions will be established using existing sources of air quality data. These include reports published for the purpose of LAQM review and assessment, the UK Air Information Resource (UK-AIR, formerly the National Air Quality Information Archive) and any other relevant published sources.

#### Receptors

- 3.100 Receptors to be assessed will be discussed and agreed with the local authorities and will include those areas where changes in traffic flows and/or dispersion of pollutants are likely to result in significant impacts on air quality. This could include pollution hotspots in the wider area, including adjacent administrative areas, if traffic from the Proposed Development might be directed towards them.

#### Potential Environmental Effects

- 3.101 Potential impacts from the construction of the Proposed Development will predominantly include emissions to air from the raising of dusts. These will arise from construction vehicle movements and specific activities such as demolition works, ground preparation and handling of construction materials. Additional impacts could include releases of odorous materials and exhaust fumes from construction vehicles and driven plant.
- 3.102 Potential impacts during the operation of the Proposed Development will arise from exhaust fumes emitted by vehicles accessing the site. There are also likely to be some emissions of gaseous pollutants from gas fired boilers associated with some units that form the Proposed Development.

### Proposed Assessment Methodology

- 3.103 Due to difficulties in estimating precise emission factors and sources of pollution, construction impacts will be assessed using a qualitative approach. This will establish the most sensitive receptors to potential impacts in the area surrounding the site and will then seek to gauge the likelihood and significance of such impacts.
- 3.104 The air quality assessment for traffic sources of pollution will use the DEFRA approved Breeze Roads suite of USEPA Caline air dispersion models which use hourly sequential meteorological data. The assessment will focus on sensitive receptor locations that will be chosen following consultations with the local authorities.
- 3.105 A qualitative approach will be adopted for assessing emissions from small, commercial gas-fired boilers associated with the scheme. If initial assessment reveals that more detailed modelling might be required, this will be undertaken using an approach approved by the local authorities.
- 3.106 The significance of air quality impacts will be determined by comparison of results from the model outputs with the Air Quality Standards and Objectives in the UK National Air Quality Strategy. Guidance from Defra and Environmental Protection UK will also be followed, where appropriate.
- 3.107 Appropriate mitigation measures for the reduction of any adverse effects will be discussed, if necessary.

## Cultural Heritage

### Introduction

- 3.108 The value of the historic environment, and the contribution it makes to our cultural, social and economic life, is acknowledged by the Government in their Statement on the Historic Environment for England 2010. The Cultural Heritage Chapter for the ES will assess the significance of heritage assets within and adjacent to the proposed development site and consider the impact of the proposed development on these assets and, where relevant, their setting.

## Scoping Methodology

- 3.109 A full desk-based assessment in accordance with the Institute of Field Archaeologists Standards and Guidelines for Archaeological Desk-Based Assessments (DBA) will be produced. This will establish the presence of statutory protected heritage assets (Scheduled Ancient Monuments, Listed Buildings, Conservation Areas, Registered Historic Parks and Gardens and Registered Battlefields) and known non-statutory protected heritage assets, as well as the potential for as yet unknown heritage assets within and adjacent to the proposed development site. It will comprise a review of the archaeological planning context (i.e. NPPF and Local Plan policies), an assessment of the archaeological background utilising data held on the Warwickshire County Council and Coventry City Historic Environment Records (HER) and other relevant sources, a review of historic land use through a map regression exercise and an assessment of the potential archaeological implications of the proposed development. This will include a site walk-over survey to assess ground conditions, etc. The DBA would form the archaeological technical appendix of the ES.
- 3.110 Preliminary consultation regarding the parameters required for the DBA and potential requirement for further fieldwork has been implemented with the LPA's archaeological advisors and close consultation will be maintained with them throughout the baseline data gathering process. Initial discussions have identified that the area of proposed development situated to the north of the A45, within Coventry City, has been subject to prior assessment and subsequent partial field evaluation as part of a separate planning application. On this basis, and in view of the results produced by this earlier work, the LPA's archaeological advisor has confirmed that, whilst further assessment of this area will be necessary in relation to proposed development, should any further field investigation of this area be necessary, this could be appropriately implemented and secured through a suitably worded planning condition attached to any planning permission granted. The archaeological advisor to Warwickshire District Council has confirmed that such similar detailed assessment or field investigation has not been implemented within the area of proposed development south of the A45, wherein significant archaeological remains may be potentially present on the basis of known records on the HER. Critical to the understanding of this potential is determination through assessment and map regression of the likely presence of remains and/or their absence due to previous impacts, the results of which will inform the scope

of any further fieldwork that is likely to be necessary in order to further clarify the potential for significant archaeology.

- 3.111 Consultation will be implemented with English Heritage to assess the proposed development in relation to a number of known Scheduled Ancient Monuments that lie within its proximity.

#### Baseline Conditions

- 3.112 There are no statutory protected heritage assets within the proposed development site. However, four Scheduled Ancient Monuments (SAM 30057: Roman fort at The Lunt, SAM 21540: Baginton Castle and associated settlement remains, ponds and mill sites, SAM WA154: Prehistoric pit alignment and SAM WA169: Deserted Medieval Village remains at King's Hill), lie to the immediate west and north of the proposed development site. The Baginton Conservation Area and a number of listed buildings are also noted to lie in close proximity to proposed development. The presence of other statutory or non-statutory protected heritage assets will be established by the DBA.

#### Receptors

- 3.113 All statutory and non-statutory protected heritage assets within 500m of the proposed development area identified by the DBA will be considered as part of the impact assessment as agreed with the LPA's archaeological advisors.

#### Potential Environmental Effects

- 3.114 Identification of likely potential significant effects (if any) to include both temporary and permanent significant effects.

- Construction Phases – removal/truncation of heritage assets;
- Operation Phases - effect of setting of statutory protected heritage assets.

- 3.115 The methodology for assessing impacts will follow standard EIA procedures and will likely involve the following tasks:

- Review of baseline conditions at the site, the surrounding locality and the wider area
- Analysis of how the site is currently used.

- Consultation with the following organisations/ bodies: Warwickshire County Council and Coventry City Council Historic Environment Services and English Heritage.
- Review of the following documents and sources: NPPF, Coventry Development Plan, Warwickshire District Council Local Plan, Warwickshire and Coventry Historic Environment Records, National Monuments Record, English Heritage Schedule and Registers.
- Undertaking an initial desk-based assessment including a walkover survey, which will inform the need for, and scope of, any further field surveys that may be required.

## Lighting

### Introduction

- 3.116 This chapter of the ES assesses the likely significant effects of the Proposed Development in terms of external lighting.
- 3.117 The chapter will describe the assessment methodology, the baseline conditions currently existing at the application site and surroundings, the likely significant environmental effects, the mitigation measures required to prevent, reduce or offset any significant adverse effects and the likely residual effects after these measures have been employed. This chapter has been prepared by Wright Design.
- 3.118 The application site previously had a mix of lighting installations dependant on the area within the boundary. The land previously in the ownership of Severn Trent Water employed lighting in association with its operational use as a waste treatment facility. The proposed development presents the opportunity to enhance the site with a lower lighting impact.

### Planning Policy Context

#### National Planning Policy

- 3.119 The National Planning Policy references the following documents:

Institution of Lighting Engineers (ILE) Guidance Notes.

The 'Guidance Notes for the Reduction of Obtrusive Light', Institution of Lighting Engineers, 2005 (referred to hereunder as the ILE Guidance Notes), contains the following:

- Best practice principles for lighting design and control of obtrusive light
- Definitions of night-time Environmental Zone categories based on sensitivity
- Gives guidance on the limitation of obtrusive light in terms of sky glow, glare and light trespass.

### 3.120 Lighting In the Countryside – Towards Good Practice

Lighting in the Countryside – Towards Good Practice' available from the Department of Environment.

This sets out guidelines for planning, environmental assessment, effect mitigation and design of lighting schemes in rural locations, drawing on the recommendations in the ILE Guidance Notes.

Office of the Deputy Prime Minister (ODPM) Planning Factsheet 2: External Lighting

- 3.121 The ODPM Planning Factsheet 2: External Lighting, - this fact sheet summarizes the available recommended documentation. In addition it provides guidance to all parties on the application of the appropriate documentation in particular using the guidance contained in ILE Guidance notes. It does not specify any particular conditions which remain the responsibility of the local planning.

'Light Pollution and Astronomy', Report

- 3.122 The 'Light Pollution and Astronomy', House of Commons Science and Technology Committee, Seventh Report of Session 2002-03:

- Recommends that Local Planning Authorities should impose conditions relating to the lighting type, positioning and hours of use (paragraph 103); and
- Endorses the use of well-controlled light sources, including Full Cut Off lighting where appropriate (paragraphs 75-82).

Regional Planning Policy

3.123 There are no policies relevant to the lighting.

#### County & Local Planning Policy

3.124 Both Coventry City Council and Warwick County Council have policies in respect of lighting, these are:-

- Warwickshire Local Plan policy DP9
- Coventry City Council Plan policy EM8

3.125 In preparing Lighting schemes for this development both of these policies will be addressed and a joint agreement agreed with both authorities.

#### Other Parties

3.126 The location of the development adjacent to Coventry Airport requires that the design addresses the requirements of the Civil Aviation Authority (CAA) matters relating to lighting adjacent to Airfields are covered in CAA Document CAP 738.

3.127 Whilst this relates specifically to the impact of lighting on aircraft operations it does conflict with any of the requirements of local or national guidance.

3.128 Any works within the boundary of the airfield will be dealt with on an individual submission basis to the CAA who have the overriding responsibility for safety in that location.

#### Assessment Methodology

3.129 Light pollution is a general term that covers several types of adverse effect caused by artificial lighting at night. Table 1.0 below summarises the different receptors and the types of lighting effect that have been assessed for the Proposed Development.

**Table 1.0: Receptors**

	Residential receptors adjacent to the site	Residential receptors overlooking the site (beyond 100m)	Wider environment (beyond 500m)	Ecology
Glare – visual discomfort arising from a bright light source with a dark background	N/A	N/A	N/A	(1)
Light trespass – light falling outside the target area	N/A	N/A	N/A	Assessed
Light presence – visibility of lit elements (both sources and illuminated surfaces), affecting the character of the nightscape	N/A	N/A	Assessed	Assessed
Local sky glow – localised glow over lit development, affecting the character of the nightscape	N/A	N/A	Assessed	Assessed
Sky luminance – general brightening of the night sky, impairing views of the stars	N/A	N/A	Assessed	Assessed
Notes:	(1) Controlled to acceptable level by compliance with ILE			

3.130 The methodology used for assessing lighting effects is as follows:

- Determine the general baseline conditions of the surrounding area;
- Define the applicable Environmental Zone category of site and surroundings in accordance with the ILE Guidance Notes, taking into account the general sensitivity of the area to lighting impacts; The

Environmental Zone Category is an assessment of the area in respect of its location and type of occupancy

- Assess potential impacts on each identified receptor resulting from lighting using the guidance within the ILE Guidance Notes, taking the baseline condition into consideration.
- Assess local sky glow, sky luminance (degradation of views of the night sky) and ecological impacts.
- Consider the possibility for mitigation to minimise adverse effects; and
- Assess the residual impact resulting from effective implementation of the mitigation measures proposed.

3.131 The receptor sensitivity to various types of changes due to lighting are detailed in Table 2.0.

**Table 2.0: Receptor Sensitivity**

Sensitivity to new lighting impacts (night-time)	Locations and receptors	Mitigation potential
High sensitivity to change	Rural and dark landscape environments.  Views over significant water bodies and large unlit spaces.  Astronomical observatories.	Design to comply with recommendations in ILE Guidance Notes.  Lighting which emits all its light downwards can moderate impacts, as can baffles/shields and planted or built barriers.  Control hours of use where possible (e.g. sports floodlighting).
Medium sensitivity to change	Views with existing lighting visible but distant by more than 200 metres.  Larger villages.  Conservation Areas.	Design to comply with recommendations in ILE Guidance Notes.  Lighting which emits all its light downwards can moderate impacts, as can baffles/shields and planted or built barriers.  Control hours of use where possible (e.g. sports floodlighting). Conservation Areas: equipment selected to

		accord with location.
Low sensitivity to change	Urban and suburban environments.	Design to comply with recommendations in ILE Guidance Notes.  Control hours of use where possible (e.g. sports floodlighting).

Baseline Conditions

General

- 3.132 The existing overall light environment is determined by the sources of artificial lighting in the surrounding areas. In the immediate locality to the Application Site, the existing sewage works, airport, industrial estates and trunk roads are the primary sources with a sky glow generated by the proximity to Coventry.
- 3.133 This is distinctly visible in many views and relatively intrusive for the most part, typically angled flood lights on the local industrial facilities.
- 3.134 Under hazy conditions local sky glow is very distinct.

Environmental Zone for Assessment

- 3.135 Referring to the ILE Guidance Notes, these recommend that a site is classified according to the prevailing lighting conditions in the immediate surrounds for the purposes of assessing its general sensitivity to lighting impacts. These classifications are as follows:
- E1 - Intrinsically dark areas (e.g. National Parks or AONBs);
  - E2 - Low district brightness areas (e.g. rural or small village locations);
  - E3 - Medium district brightness areas (e.g. small town centres or urban locations); and
  - E4 - High district brightness areas (e.g. town/city centres with high levels of night time activity).
- 3.136 It has been assessed that almost all surrounding potential receptors within 500m, in Environmental Zone E3 or E4 as defined in the ILE Guidance Notes as medium or high.

- 3.137 For the Lighting Strategy and Assessment of Effects we have chosen to apply the tougher constraints in respect of Environmental Zone E3 throughout. This limits the back spill from light fittings.

#### Likely Significant Effects

##### Installation

- 3.138 External lighting will be located within service yard areas, loading bays, internal access roads and car parking.
- 3.139 The provision of lighting will incorporate directional luminaires that prevent sky glow, glare and light spillage. As far as is practicable the lighting scheme will be designed to minimise upward light pollution and visual effect on the night time landscape and will be designed to comply with the ILE Guidance Notes and relevant planning policy.
- 3.140 Lighting will be located to focus specifically on areas where it is required. Luminaires will be mounted on buildings and columns at a maximum height of 8 metres and the design will optimise the space to height ratio and keep the number of luminaires to a minimum.
- 3.141 Particular consideration has been made in this regard to the reduction of lighting effects throughout the boundaries of the Application Site and sensitive areas of wildlife habitat.
- 3.142 All roads will be lit in accordance with local, county and national guidance, in particular the need and light level will be assessed in respect to the latest guidance in regard to safety and nuisance, i.e. omitting lighting may create great nuisance due to drivers employing high beam.

##### Construction

- 3.143 In all cases the effect of temporary lighting associated with the construction phase are assessed as being no greater than the effects from the completed development.

3.144 This lighting will consist of necessary illumination for safe access to the works, operation of equipment and carrying out of works. In addition there will be lighting for security during none working periods.

3.145 Generally the luminaires will be a mix of fixed fluorescents both compact and T8 and fixed and mobile halogen flood lights.

#### Completed Development

3.146 Due to all existing views towards the Application Site already being dominated by industrial and commercial developments it has been assessed that generally the effect of external lighting to the Application Site will be negligible.

3.147 In a few cases minor adverse effects will be experienced In terms of ecology, this is confined to the landscaping facing the B1 Class development area where it is impossible to completely eliminate back spill. it has been assessed that the effect will not exceed minor adverse and in order to achieve this it is recognised that particular care will be needed in designing external lighting in the vicinity of any car parks.

3.148 The road mitigation measures being applied to Baginton Village have the additional beneficial effect of shielding the village from any additional lighting from the development.

3.149 The B1 Class development will be visible from the housing located to the north of the A45, however at night the current lighting to the A45 provides a bright line source which will mask the new development to some extent, notwithstanding this the design as previously explained will prevent any direct illumination towards the housing from the external lighting.

## Mitigation Measures

### Construction

- 3.150 During construction lighting usage will be minimised and switched off when not in use. The contractor will instigate a mitigation strategy as part of the overall construction method statement.
- 3.151 Any lighting which is required permanently through the night for security or safety reasons will be of a type, typically compact fluorescent or T8 fluorescent that does not cause glare or upward light spill and will be controlled in a way that minimises light trespass into areas that do not require lighting.

### Completed Development

- 3.152 The lighting will be confined to the development site and will employ lighting units that have zero upward spill and provide defined outputs in order to minimise both back spill and line of sight intrusion.
- 3.153 In order to minimise energy consumption the lighting is controlled via daylight sensors.

## Residual Effects

### Construction

- 3.154 Through the careful selection of equipment and appropriate operation the residual effect of external lighting will not exceed minor adverse.

### Completed Development

- 3.155 By minimizing mounting heights and utilising fully horizontal fittings and by the careful selection of equipment. It will be possible to ensure that the residual effect of external lighting does not exceed minor adverse.

## Summary

- 3.156 Due to all existing views towards the Application Site already being dominated by industrial and commercial development it has been assessed that generally the effect of external lighting will be negligible.

- 3.157 Through careful design and mitigation the effects on sensitive, including ecological, receptors close to the Application Site have been assessed as minor adverse.
- 3.158 Table 1.0 contains a summary of the likely significant effects of the Proposed Development in terms of external lighting.

**Transportation (see separate document)**