

A Sustainable Urban Extension to the North East of Leicester

Supplementary Environmental Statement: Non-Technical Summary

August 2014

COMMERCIAL ESTATES GROUP



1.0 Introduction & Methodology

Purpose of Document

1.1 This document is a summary in non-technical language of an Environmental Statement ('ES') ('ES December 2013') and a Supplementary ES ('Supplementary ES (August 2014)') prepared on behalf of Commercial Estates Projects Limited (the 'developer') and Mr A J Pochin and The Trustees of the Pochin 1997 Accumulation and Maintenance Settlement (the 'landowner') (together 'the applicant'). It accompanies an application for part outline and part detailed planning permission (a 'hybrid' application) for the development of a residential-led mixed use sustainable urban extension ('SUE') on land to the north east of Leicester ('NEoL').

1.2 In August 2014, in response to consultation and further survey work, various amendments to the scheme were made and the Supplementary ES (August 2014) was submitted. This document provides a summary in non-technical language of the updated Environmental Statement; comprising the ES (December 2013) and the Supplementary ES (August 2014); and replaces a previous Non-Technical Summary covering only the ES (December 2013).

1.3 The proposed development ('the NEoL SUE') falls within part 10(b) (Infrastructure Projects) of Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (the '2011 Regulations'). Part 10(b) relates to "urban development projects" where sites are over 0.5 hectares. For such developments, EIA is required in situations where the development could give rise to significant environmental effects. The applicant has determined to undertake an EIA in respect of the proposed development.

1.4 The document includes the following information: -

- Section 1.0 – background to the assessment process and the scheme;
- Sections 2.0 to 3.0 – description of the site and the current proposals;
- Sections 4.0 to 12.0 – a topic by topic review of the findings of the EIA;
- Section 13.0 – a review of whether other direct or indirect effects may arise when the scheme is considered with other schemes in the area;
- Section 14.0 – details of how to obtain a full copy of the ES;
- Section 15.0 – key scheme plan.

The EIA Process

1.5 The ES (December 2013) and Supplementary ES (August 2014) sets out the findings of an Environmental Impact Assessment ('EIA') of the development.

- 1.6 The EIA process aims to ensure that any significant effects arising from a development are systematically identified, assessed and presented to help a local planning authority, statutory consultees and other key stakeholders in their understanding of the impacts arising from development. If measures are required to minimise or reduce effects then these are clearly identified in the document.
- 1.7 For the NEoL SUE scheme, EIA has been carried out to consider the likely significant effects that may arise during the construction and operation of the development and due to its potential relationship to future developments in the area. It has been completed with regard to best practice and relevant legislation and has addressed the following matters agreed with CBC and LCiC as being required to assess the impacts of the development:-
- | | |
|-------------------------------|------------------------|
| 1. Landscape & Visual Effects | 6. Noise |
| 2. Ecology | 7. Socio-Economics |
| 3. Water Environment | 8. Heritage |
| 4. Transportation | 9. Agriculture & Soils |
| 5. Air Quality | |
- 1.8 Likely effects are identified based on current knowledge of the site and surroundings, desk top assessment, survey and fieldwork and information available to the EIA team. All those matters that could be reasonably required to assess the effects of the proposals are set out in the ES; this includes effects arising from the scheme itself as well as those temporary effects arising during the construction of the proposed residential development.
- 1.9 The EIA team has worked with the design team to ensure that the scheme for which planning permission is sought incorporates those revisions or modifications that are necessary or appropriate to avoid or reduce significant adverse effects on the environment.
- 1.10 Consultation has also informed the EIA process in relation to the methods by which the EIA has been carried out, as a means to seek environmental data, to review the effectiveness of any identified mitigation measures and as a means to keep interested bodies informed on the process of EIA undertaken. The Supplementary ES (August 2014) assesses changes to the scheme following further consultation on the submitted ES (December 2013) and associated hybrid planning application.

Background to the Scheme

- 1.11 The process of identifying the NEoL site for development commenced in 2006 in response to the publication of the draft East Midlands Regional Plan ('EMRP'), which proposed that a SUE to the north of Leicester in Charnwood Borough (and totalling some 4,875 homes) would be required to meet the level of growth that was envisaged. The draft EMRP indicated that one of the best opportunities for a SUE would be to the east of Thurmaston (albeit locational

references were subsequently deleted by the Proposed Changes to the EMRP).

- 1.12 The EMRP approved in 2009 (referred to as the 'Regional Strategy') established a housing target for Charnwood of circa 15,800 homes over the period 2006 – 2026 (equivalent to 790 units per year). Of this total, almost 42% i.e. 6,600 homes (330 units per year) would need to be provided within or adjoining the Leicester Primary Urban Area ('PUA'), including via SUEs, as necessary. The EMRP has now been formally revoked.
- 1.13 CBC is continuing to apply the housing targets set by the EMRP. In order to deliver these anticipated levels of growth, the Pre-Submission Local Plan Core Strategy (June 2013) identifies land in the south of Charnwood and on the edge of the Leicester PUA to accommodate large scale housing development. There is little capacity provided by previously developed sites so the only realistic and most sustainable option is to plan for the development of a SUE.
- 1.14 The Leicester City Core Strategy was adopted in November 2010 and so does not consider the development strategy that has recently been approved by CBC. It does, however, acknowledge that the Regional Strategy (the East Midlands, Regional Plan, 2009) identifies Charnwood Borough as a suitable location for a SUE within or adjoining the Leicester PUA and identifies an 'area of search' for such development which includes the NEoL site. The Leicester City Core Strategy provides support in principle, subject to integration with existing communities and infrastructure.

2.0 **Site Description**

Site Location

- 2.1 The proposed NEoL SUE is located immediately to the east of Thurmaston and to the north of Hamilton. Leicester City Centre is approximately 6km to the south and Loughborough is approximately 16km to the north-west.
- 2.2 The southern and western boundaries of the site adjoin or are close to the existing communities of Hamilton and Thurmaston with a range of types of residential properties including bungalows to the west, two-storey semidetached homes to the south-west and large detached properties off Barkby Lane to the north-west. Industrial units are located to the south off Hilltop Road and Waterside Road.
- 2.3 To the west beyond the built up area of Thurmaston is the Watermead Country Park. The Country Park includes three designated local nature reserves. A non-statutorily designated Local Wildlife Site is also located between Barkby Thorpe and Barkby (Barkby Hall Parkland).
- 2.4 To the north and east of the site are areas of open countryside, and to the north-east are the villages of Barkby and Barkby Thorpe. The north eastern

boundaries are contained within the prevailing topography of the area with the land rising to Barkby Thorpe and then falling away to Barkby. To the north is open land dividing the site from the settlement of Syston.

- 2.5 The East Midlands Mainline Railway runs alongside part of the western boundary. The nearest railway station is Syston Railway Station (approximately 3 kilometres to the north). Nearby primary vehicular routes are the A607 Newark Road running to the west of Thurmaston and the A563 Hamilton Way running to the south through the north-eastern corner of the main built up area of Leicester.
- 2.6 The Barkby and Barkby Thorpe Conservation Area was designated in May 1976 and covers the village of Barkby to the north-east of the site boundary.

The Site

- 2.7 A plan showing the extent of the site is included at Appendix A1 to this ES. The site encompasses an area of approximately 360 hectares. The site falls in part within the administrative boundary of Charnwood Borough Council ('CBC') and part within the boundary of Leicester City Council ('LCiC').

the west and north-west as Barkby Thorpe Lane and continues towards Thurmaston (crossing the main railway line). The road joins the A607 at a fivearm roundabout.

3.0

Description of Development

3.1

The hybrid application seeks part detailed and part outline consent for the following development:-

- 1 Detailed permission for the construction of the southern link road connecting in to Sandhills Avenue including footpaths/cycleways, landscaping and associated engineering works (including SUDs).
- 2 Outline permission for a mixed use residential-led development, to be developed in phases, including; preparatory works including demolition as necessary; up to 4,500 residential units (Use Class C3, including affordable homes); Class C2 (specialist) housing; up to 13 hectares of employment land (Use Classes B1(a), (b) and (c), B2 and B8); two local centres and one district centre (including uses in Use Classes A1 - A5, B1, C1, D1 and D2 and including a food-store (up to 4,500sqm gross) with associated car parking); provision for school facilities (including a 'reserve' site for secondary school); healthcare facilities; a reserve site for gypsies and travellers; open space including allotments; parks; natural and semi natural green space; amenity green spaces; facilities for children and young people; outdoor sports provision including playing pitches and tennis courts; associated infrastructure including footpaths/cycleways, a north west link road between Barkby Lane and the A607 with a bridge across the railway line; and associated engineering and landscaping works (including SUDs).

3.2

The form of development will create three communities centred around the two local centres and a district centre to assist in the creation of a sense of place.

3.3

A plan showing the form of development is provided at Section 16.0 of this Non-Technical Summary.

Construction Methodology

3.4

As well as assessing the environmental effects of the development once it has been built ('operational effects'), the EIA has assessed the effects that may arise during the construction period. The information and parameters assessed in the EIA will form part of the tender documentation to be issued to potential contractors and they will be required to comply with the outline methodology described, as well as any relevant planning conditions and measures prescribed in a Construction Environmental Management Plan ('CEMP'). It is considered that sufficient information is available to enable an assessment of the potential effects during the construction phase to be carried out.

3.5 Construction of the development is proposed to be phased as follows:

Phases of Delivery for the Purposes of the NEoL SUE EIA

Phase	Broad Timescales	Assumed Key Deliverables for the Purposes of Assessment
1	Years 1 to 3	<ul style="list-style-type: none"> Up to 575 residential units Initial stages of proposed district centre
2	Years 4 to 6	<ul style="list-style-type: none"> Up to 1,725 residential units Highway improvements to southern access Remainder of district centre plus open space and employment uses and primary school
3	Years 7 to 13	<ul style="list-style-type: none"> Up to 3,750 residential units Northern link road Eastern local centre and second primary school Decision taken on need for secondary school on land reserved for this purpose Early stages of northern employment development
4	2027-2029	<ul style="list-style-type: none"> Up to 4,500 residential units Remainder of development to completion

Alternatives Considered

3.6 As part of the EIA, alternative forms of the development have been considered and also the relevance of reviewing alternative sites. This helps in clarifying the main advantages for taking forward the current scheme, taking account of the environmental effects.

3.7 Consideration of a scenario where the development does not proceed and the site remains in its current agricultural use has been dismissed as it is considered that the emerging allocation of the site and the significant demand for housing in the area means that it is likely that a similar form of development would proceed in this location.

3.8 The design of the development has emerged through an analysis of a form of development that can be accommodated on the site to best meet the objectives of delivering a SUE whilst minimising effects on surrounding uses, users and features. A systematic process of identifying options for development, testing and analysing the positive and negative features of each proposal and consultation has been used in the development of the form of the development stand for which planning permission is now sought.

Consultation and Design Evolution

3.9 Consultation has been undertaken in a number of different formats:-

- 1 meetings with ATLAS (the Advisory Team for Large Applications), CBC, LCiC and LCoC through a main Steering Group and a number of themed sub-groups to consider specific points;
- 2 meetings with a range of statutory consultees including English Heritage, the Environment Agency, the Highways Agency, Sport England, utilities companies and Network Rail;

- 3 three public exhibitions held in May 2009 and three in July 2013;
- 4 meetings with BABTAG (Barkby and Barkby Thorpe Parish Action Group);
- 5 a meeting with OPUN (East Midlands Design Review Panel).

3.10 Following consultation with relevant steering groups, the masterplan for the site has been refined to account for responses received from the consultation.

3.11 Key landscaping changes enabled the amendment of the open space strategy along the edge of the site to Thurmaston, increased the open space perimeter to Barkby Thorpe, integration of landscaping with view corridors, schools, open space and allotments and amended woodland planting. Consultation also necessitated the requirement for a new district centre, larger primary schools, a potential location for a secondary school, integrated employment locations and a revised access strategy.

4.0 **Landscape and Visual Impact**

4.1 An assessment has been carried out to identify the potential implications of the proposed development on the existing landscape character and on views towards the site. It has been carried out with regard to guidance in:-

- 1 *'Guidelines for Landscape and Visual Impact Assessment - Third Edition'*, Landscape Institute and Institute of Environmental Management and Assessment (2013); and
- 2 *'Landscape Character Assessment'*, the Countryside Agency and Scottish Natural Heritage (2002).

4.2 Landscape character has been defined by the Landscape Institute and the Institute of Environmental Management and Assessment:-

"A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse."

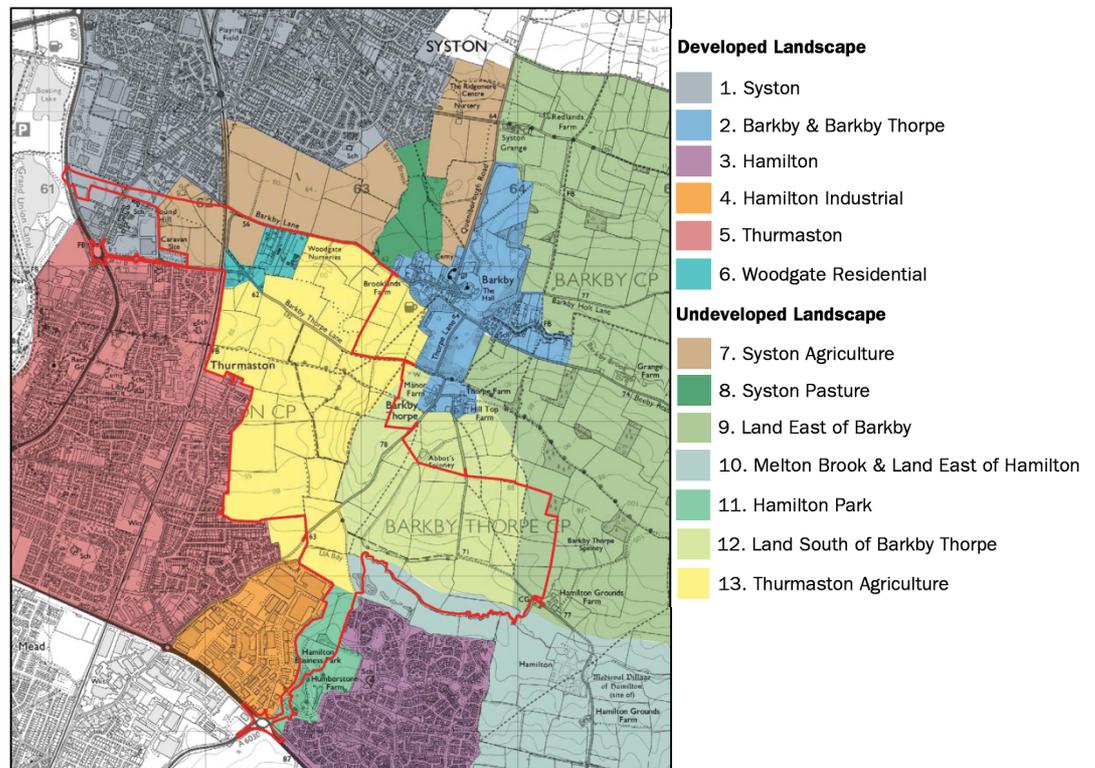
4.3 Changes to the landscape character can arise as a result of changes to the fabric of a landscape (e.g. through the loss of key elements or features) and from changes to the way in which the landscape is perceived or appreciated. Changes to a view occur when changes occur to the dominance of particular features, to a skyline, due to the creation of a new visual focus or from other changes relating to scale or enclosure.

4.4 Paragraph 109 of the NPPF states that valued landscapes should be protected and enhanced; that local authorities should be encouraged to allocate land *"with the least environmental or amenity value"*; and that criteria should be set as to how landscape areas will be judged. Both existing and emerging local policies for CBC and LCiC have regard to these policy objectives.

4.5 The existing landscape character and identification of views to be assessed were established through a review of available policy and documentary evidence (including published landscape character assessments), GIS visual mapping (to establish the area within which the site would be visible) and site visits (which were carried out in March 2013).

4.6 At a broad level, the site falls within the 93 'High Leicestershire' National Character Area profile as defined by the Countryside Agency's Landscape Character Map of England. This Character area is defined by broad rolling ridges and valleys, 'well-treed', mixed farming, sparse settlements, ironstone and limestone churches and a quiet country character. However, this definition covers a very large area of Leicestershire and does not provide enough detail to assist with the assessment of the development site. Therefore a site specific landscape character assessment was carried out which defined 13 landscape character areas:-

Site Specific Landscape Character



4.7 The character areas can be summarised as follows:-

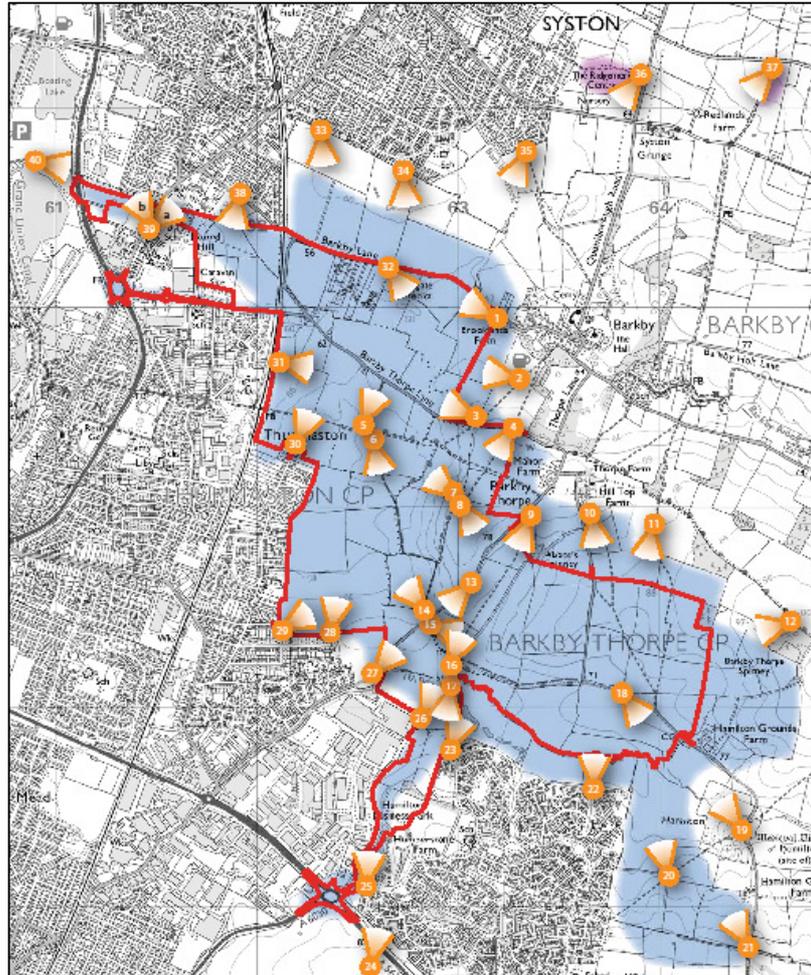
- 1 Syston – predominantly residential; Conservation Area to the north comprising brick built properties; majority of remaining properties are 20th Century; Barkby Brook runs through settlement; notable green spaces are the Village Green, Deville Park and sport pitches close to railway line;
- 2 Barkby & Barkby Thorpe – mainly designated Conservation Area; Barkby Thorpe occupies a hilltop location with Barkby on lower ground; properties are predominantly a mix of terraced and detached brick built properties from 17th or 20th Centuries; the 13th Century Church of St Mark

- includes a spire which is prominent from many local views; the Parkland Estate of Barkby Hall makes a significant contribution to the landscape;
- 3 Hamilton – new residential area in an elevated position above the Melton Brook corridor which runs to the north; mix of detached properties to 5/6 storey apartment blocks; integrated sustainable urban drainage system;
 - 4 Hamilton Industrial Estate – network of estate roads with associated lighting and incidental grass, shrub and tree planting; densely arranged small and medium industrial units with larger units to the north;
 - 5 Thurmaston – predominantly residential area with some small scale industrial and employment units; split into three areas by dominant transport routes; regular pattern of development built mid/late 20th Century; many large private gardens but limited public planting and lack of vegetation in south east corner creating abrupt transition to adjacent farmland;
 - 6 Woodgate Residential – area of large detailed properties with large gardens containing many mature trees creating a wooded feel compared with the intensively farmed arable fields which surround it; Barkby Lodge is a prominent building visible from Syston to the north;
 - 7 Syston Agriculture – large to medium sized intensively farmed arable fields; well-maintained hedgerows and associated mature vegetation; relatively flat topography creating open and expansive landscape;
 - 8 Syston Pasture – low lying pasture divided by mature hedgerows and trees; Barkby Brook runs along western boundary; intimate rural feel;
 - 9 Land east of Barkby – rural landscape of lower intensity agricultural operations; undulating landscape with panoramic views; distinct landscape features including blocks of mixed woodland;
 - 10 Melton Brook and land east of Hamilton – primarily arable fields and pasture; low lying floodplain of Melton Brook with land gently rising to the south; diverse array of landscape features;
 - 11 Hamilton Park – area of public open space on elevated and undulating land above the Melton Brook floodplain; areas of scrub grassland, mature trees and blocks of woodland; large lake; sports pitches and Humberstone Farm; network of tarmac paths;
 - 12 Land south of Barkby Thorpe – medium scale undulating landscape of mainly arable fields; intensively farmed with well-maintained hedgerows; prominent ridgeline towards Barkby Thorpe; distinctly rural feel;
 - 13 Thurmaston Agriculture – mix of large and medium sized arable fields; intensively farmed with well-maintained hedgerows; distinct lack of landscape features; land rises towards the north-east.

4.8 In summary, the existing landscape character has been defined as having a *“strong countryside and landscape character”* with substantial areas which are intensively farmed and a current harsh urban edge between existing built areas and farmland. In addition, the topography creates open and expansive views

albeit the areas from which the development site can be seen is limited quite close to the site boundary. This has been assessed as part of a visual impact assessment using a series of representative views from a variety of locations within and around the site plus four long range viewpoints assessed further to the north, west and south-east.

Viewpoints assessed around site boundary (with four further long range views – not shown)



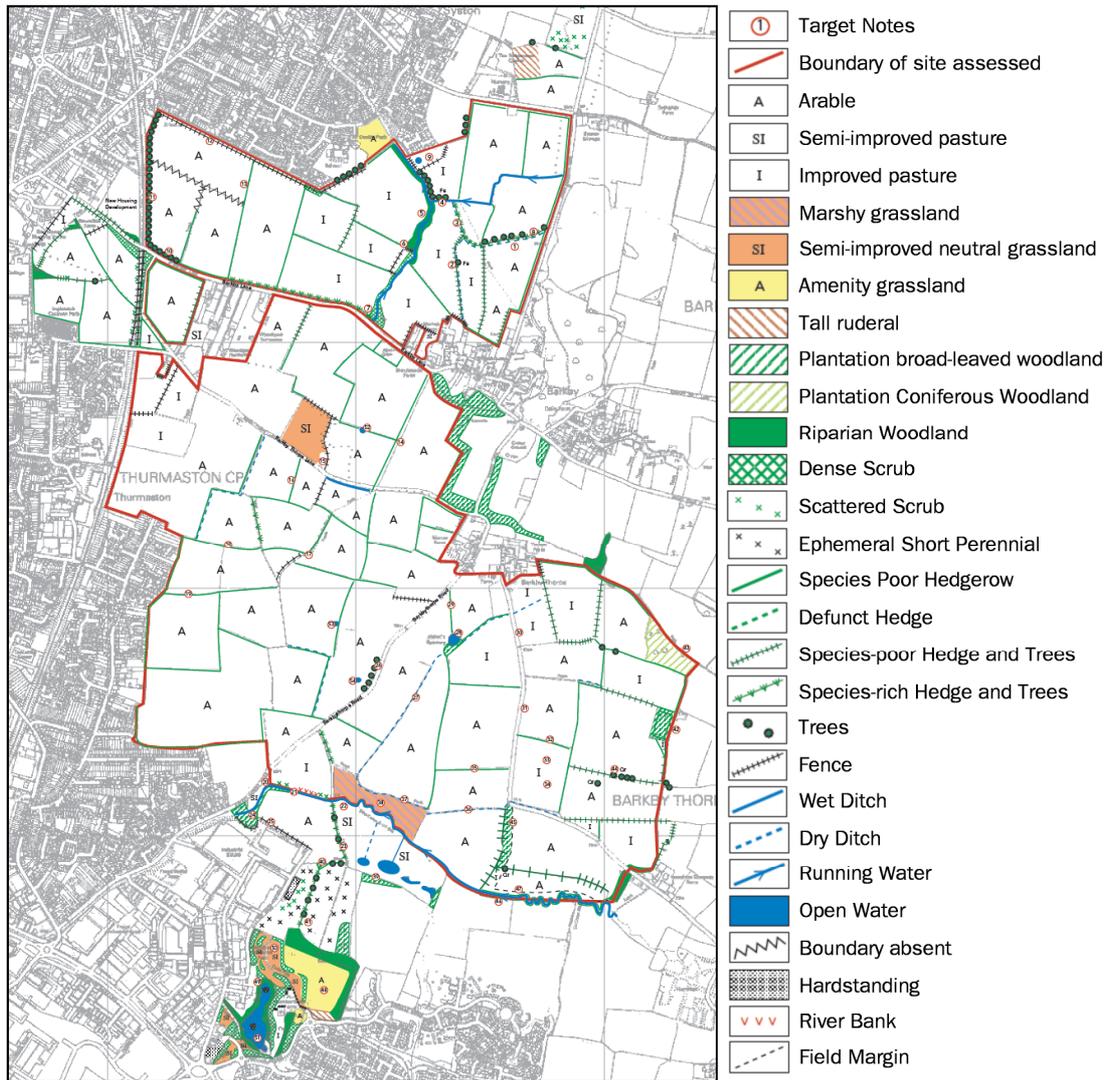
- 4.9 The assessment of effects concluded that, during the construction phase, there will be a short-term, minor adverse, local effect on the landscapes of Barkby and Barkby Thorpe, Syston Pasture, and Melton Brook and Land East of Hamilton. A short-term, moderate adverse, local effect will occur for the landscapes of Woodgate Residential, Syston Agriculture, Land East of Barkby, Hamilton Park, Land South of Barkby Thorpe, Thurmaston Agriculture and existing settlement edge of Thurmaston. Following assessment in the Supplementary ES (August 2014) it was identified that there would be a short-term, high adverse, local effect on Hamilton and Hamilton Industrial Estate due to extended engineering works, however this should be considered in the context of the beneficial environmental effects following the completion of development.

- 4.10 Once the development is constructed, there will be a long-term negligible, local effect on Syston Pasture, and a long-term, minor adverse, local effect on Barkby and Barkby Thorpe, Woodgate Residential, Syston Agriculture and the settlement edge of Hamilton and Hamilton Industrial Estate. A long-term, moderate adverse, local effect will occur for Land East of Barkby and Land South of Barkby Thorpe and a long-term, high adverse, local effect on Thurmaston Agriculture. Whilst Melton Brook and Land East of Hamilton and the existing settlement edge of Thurmaston a long-term, minor beneficial, local effect will occur. Following assessment in the Supplementary ES (August 2014) it was identified that there would be a change from long-term, minor adverse, local effect to long-term, minor beneficial, local effect on Hamilton Park as a result of the changes to the scheme.
- 4.11 In terms of views there will be a short-term, high adverse, local effect during the construction phases for all public rights of way within the application site and from public highways assessed. On completion there will be a long-term change in experience and views from the public rights of way but this will not necessarily mean that a negative effect will occur for all routes. For the public highways, the effects are identified as long term local effects of between negligible and moderate adverse.
- 4.12 From southern residential edge of Syston there will be a minor local effect on views during the construction phase and on completion. From the northern edge of Hamilton there will be a short-term, moderate adverse, local effect during construction and on completion a long-term, minor adverse, local effect will occur. From the eastern edge of Thurmaston there will be a high adverse local effect during construction and following completion.
- 4.13 A range of mitigation measures have been built into the proposals to address potential effects including a strong green infrastructure network and seeking to ensure that lower density housing will be located on the edge of the development with natural planting to act as a transition zone to surrounding countryside. Key landscape features within and outside the new development areas will be retained and enhanced whilst new landscape features will be created that reflect the local landscape character. Local topography has been respected by building below the ridgeline to the east. It is acknowledged that mitigation measures will need to be put in place to minimise the effects of lighting pollution.
- 4.14 It has been concluded that the development will, on the whole, complement, respect and fit within the existing scale, landform and pattern of its surroundings. Whilst there will be impact on the land use the proposed development will enhance the settlement edge and address policy and landscape character aspirations.

5.0 Ecology & Nature Conservation

- 5.1 A number of statutory Acts and Directives provide legal protection for habitats and species in this country including:-
- 1 Wildlife and Countryside Act (WCA) 1981 (as amended)
 - 2 Countryside and Rights of Way (CRoW) Act 2000
 - 3 Natural Environment and Rural Communities (NERC) Act 2006
 - 4 Conservation of Habitats and Species Regulations 2010 (as amended)
 - 5 Hedgerow Regulations 2007
 - 6 Protection of Badgers Act 1992
- 5.2 This suite of legislation provides protection for designated sites, such as Sites of Special Scientific Interest, and prevents harm to a range of species and their habitats. Specific measures are set out for breeding birds, rare flora and fauna, and European Protected Species (EPS). There are also requirements for lists of 'Habitats and Species of Principal Importance for the Conservation of Biodiversity' to be maintained for England and Wales. This domestic legislation also brings into effect underlying European law, such as the EU Birds Directive 1979 and the EU Habitats Directive 1994.
- 5.3 In addition, the NPPF states that *"the planning system should contribute to and enhance the natural and local environment by ... minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity"* (Paragraph 109). The same policy objectives are taken into existing and emerging policy for Charnwood and Leicester City.
- 5.4 The assessment of the effects of the development on ecology and nature conservation has been undertaken in line with current guidance produced by the Institute of Ecology and Environmental Management (IEEM, 2006). It consists of a number of stages:-
- 1 Collection of existing site data using information from national and local organisations including Natural England and from a Phase 1 habitat survey carried out in 2008 and updated in 2013. Surveys were also carried out of hedgerows, badgers, bats, water voles, otters, reptiles, great crested newts, breeding birds, winter birds and invertebrates;
 - 2 Identification and evaluation of ecological receptors and classification according to a scale from International through to Site; and
 - 3 Assessment of the potential for impacts with regard to whether the effect is positive/negative/neutral and then with reference to the magnitude, extent, duration, reversibility, timing and frequency and potential for cumulative impacts.
- 5.5 The key habitats on site have been identified as shown below:-

Phase 1 Habitat Survey Plan



5.6 The study area consists mainly of arable farmland (of site value) with fields separated by hedgerows (of mainly site or local value). There are a number of ponds, two streams (the Melton brook and the Barkby Brook), two wooded copses and a number of mature and veteran along boundaries – most of these features are identified as being local value. To the south is a country park.

5.7 There are no Sites of Special Scientific Interest (SSSIs) within 2km of the site boundary but there is a Local Nature Reserve (Watermead Country Park) 2km to the west and four non-statutory Local Wildlife Sites (plus a further site proposed for designation). There is also one County level Wildlife Site located close to the western site boundary - Thurmaston Railway Cutting. The designated sites near the proposed development are considered to be of county value.

5.8 In terms of species:-

- 1 There is no evidence of water voles, otters, reptiles;

- 2 No confirmed bat roosts have been recorded on site but there is evidence that a number of species may use the site for commuting and foraging;
- 3 There is evidence that badgers may use the site occasionally but there are no confirmed badger setts;
- 4 There is evidence of the presence of great crested newts, smooth newts, common frogs and common toads;
- 5 Brown hares have been observed in the northern part of the site;
- 6 The site is used by several species of birds for the purposes of breeding and for wintering with a number of the species being identified by legislation as being of high or moderate conservation concern;
- 7 The site is of low conservation importance for invertebrates.

5.9 The effect of the proposals on the features and species identified a number of potential effects with adverse impacts arising during the construction phase, but for the majority of receptors at construction and operational phases, the residual impact of development will be neutral or positive. A range of mitigation measures have been identified including careful scheme design combined with appropriate construction and operation phase mitigation measures. The provisions made within a CEMP, a LEMP and any European Protected Species licences as required, will ensure that such mitigation measures are fully incorporated into the development in the appropriate manner.

5.10 The findings from the assessment is summarised below:-

Ecological Assessment Summary

Receptor	Value	Construction Phase		Operational Phase	
		Before Mitigation	Post Mitigation	Before Mitigation	Post Mitigation
Designated sites	County	Neutral	Neutral	Neutral	Neutral
Arable	Site	Adverse at site level	Adverse at site level	Neutral	Neutral
Hedges	District/Local/Site	Adverse at local level	Neutral	Positive at site level	Positive at local level
Scrub	Site	Adverse at site level	Neutral	Neutral	Positive at site level
Mesotrophic grassland	County	Adverse at County level	Adverse at Site level	Neutral	Positive at site level
Semi-improved neutral grassland	Site	Neutral	Positive at Site level	Neutral	Positive at site level
Woodland	District/Local	Neutral	Positive at Site Level	Adverse at site level	Positive at site level
Veteran trees	Local	Neutral	Neutral	Neutral	Neutral

Receptor	Value	Construction Phase		Operational Phase	
		Before Mitigation	Post Mitigation	Before Mitigation	Post Mitigation
Ponds	District/Local	Neutral	Positive at site level	Adverse at site level	Neutral
Ditches	Site	Neutral	Neutral	Adverse at site level	Neutral
Barkby Brook	Local	Neutral	Neutral	Neutral	Neutral
Melton Brook	District	Adverse, at site level	Neutral	Neutral	Neutral
Bats	Local	Neutral	Positive at site level	Adverse at site level	Neutral
Badgers	Site	Neutral	Neutral	Adverse at site level	Neutral
Amphibians	Local	Neutral	Positive at site level	Adverse at site level	Neutral
Brown hare	Local	Adverse at local level	Adverse at local level	Neutral	Neutral
Breeding birds	District	Adverse at local level	Adverse at local level	Adverse at site level	Neutral
Wintering birds	District	Adverse at site level	Adverse at site level	Adverse at site level	Neutral
Invertebrates	Site	Neutral	Positive at site level	Positive at site level	Positive at site level

6.0 Water Environment

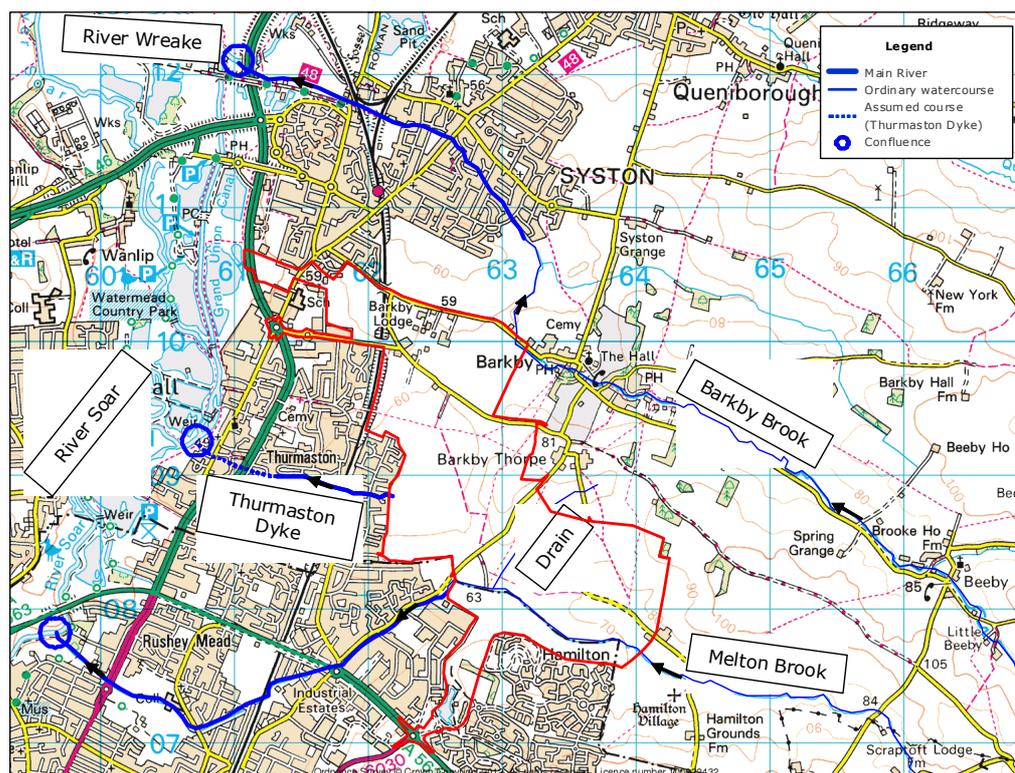
- 6.1 An assessment has been carried out of the effect of the development on surface water (hydrology), groundwater (hydrogeology) and flood risk. The assessment has been informed by a site specific Flood Risk Assessment and hydraulic models of Melton Brook and Barkby Brook which have been based on topographic and channel survey information. A drainage survey of Thurmaston Dyke was supported by site visits, CCTV surveys (where possible) and dye tracing with groundwater, pluvial (rain) and flood risk from other sources assessed using information secured through a desktop review.
- 6.2 There is a wide range of international and national legislation relevant to the assessment of potential impacts to hydrology and drainage. In addition, there are many guidance and policy documents concerned with mitigating potential impacts.
- 6.3 The potential effects of the development have been identified using professional experience guided by the baseline assessment, professional judgement and stakeholder consultation. Mitigation measures have been

developed for each identified impact based on professional experience and informed by best practices.

6.4

In terms of existing conditions, there are three principal watercourses in the vicinity of the application site, Barkby Brook to the north, Melton Brook to the south and Thurmaston Dyke to the west. There are also several small drainage ditches on the site and a number of ponds within and in the vicinity of the site. The River Soar and Grand Union Canal are located approximately 1,000 metres west of the application site.

Water Bodies in Vicinity of the Site



6.5

In relation to water quality, both Melton Brook and Barkby Brook have been assessed as being of moderate water quality. No information is available on the quality of Thurmaston Dyke.

6.6

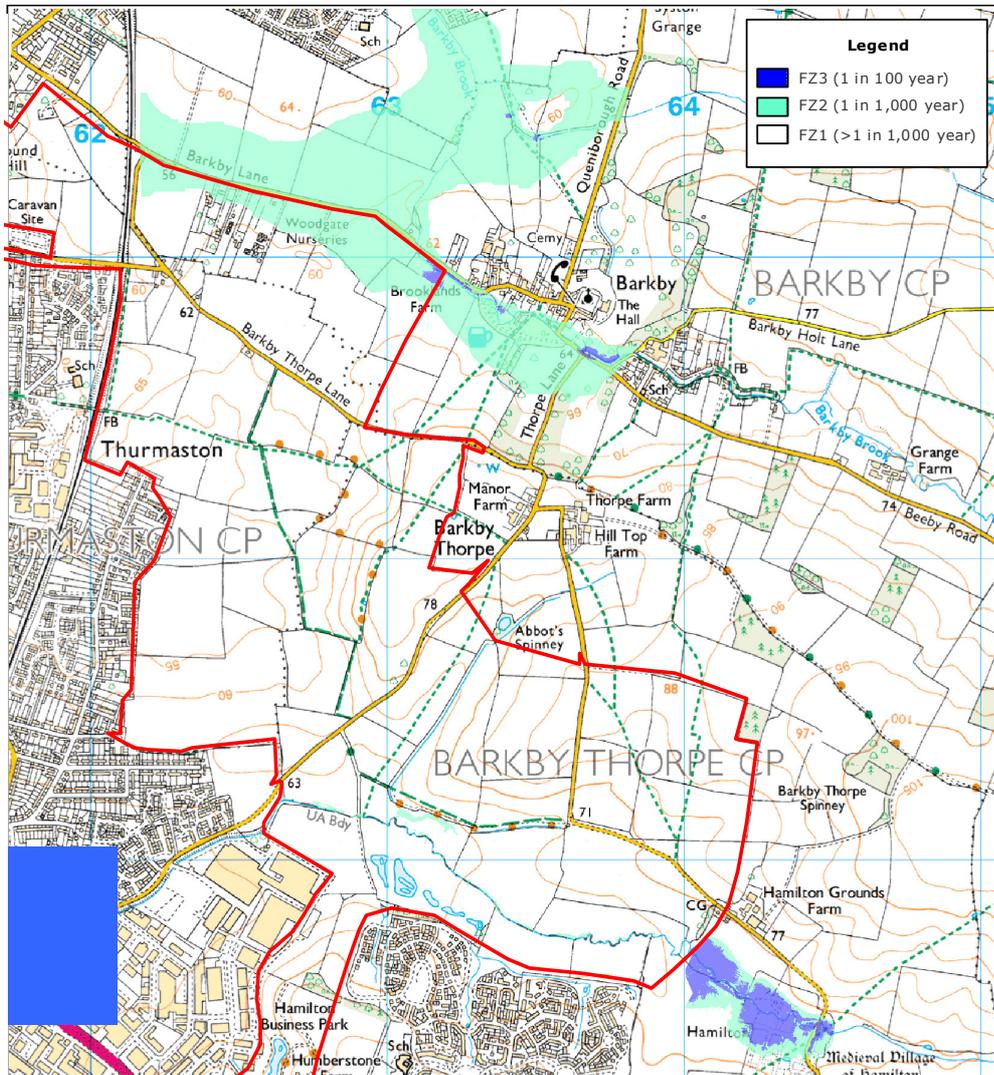
There is a licensed surface water abstraction from Melton Brook approximately 400 m south-west of the site. The use of the abstracted water is not known. The site is not within an Groundwater Source Protection Zone and there are no groundwater abstractions within the site boundary.

6.7

The site is underlain by Secondary B and/or Secondary undifferentiated superficial and bedrock aquifers. Secondary B aquifers have relatively low permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. The main pressures facing the aquifer are due to hazardous substances and other pollutants from farming activities (e.g. from pesticides).

6.8 In relation to flood risk, a small area of the site (far north-east corner) is at risk from Barkby Brook during a 1 in 1,000 year flood event whilst flood flows in Melton Brook (1 in 100 year and 1,000 year flood events) are completely retained in the channel. The remainder of the site is within Flood Zone 1 (low probability of flooding).

Flood Zone Map



6.9 The risk from groundwater flooding has been identified as low or not susceptible. There may be a risk for some parts of the site from surface water flooding during heavy rainfall with areas in the low lying west being most at risk as well as northern and southern fringes of the site. There are, however, no records of flooding events on the site.

6.10 The assessment of the effects of the development on the water environment identified a range of minor and moderate adverse effects on all features during both the construction and operational phases and, as a result, a comprehensive mitigation package has been identified to address the various impacts. The mitigation measures include:-

- 1 Measures in the CEMP will set out the methods by which construction will be managed to avoid, minimise and mitigate any adverse effects on the water environment. Measures will include best practice methods by the contractor, agreeing method statements with the Environment Agency and local authorities and avoiding storage of potentially polluting plant or materials close to a watercourse or within a flood zone;
- 2 Division of the site into 18 sub-areas for the delivery of appropriate drainage and flood risk mitigation measures in the completed development. Measures including fixing recommended finished floor levels and a comprehensive Sustainable Drainages System (SuDS);
- 3 a maintenance and management regime would be implemented to prevent the build-up of debris and rubbish in the water bodies which would otherwise block natural flows and increase flood risk either on-site or further downstream; and
- 4 an undeveloped buffer strip of 9 m along Barkby Brook and Melton Brook will be provided for operational maintenance purposes (and to offer ecological benefit).

6.11 The assessment has shown that once the mitigation measures have been implemented, the potential effects on the water environment will be reduced or eliminated.

7.0 **Transportation**

7.1 An assessment has been carried out of the potential environmental implications arising from traffic generated onto the local highway network as a result of the construction and operation of the proposed development. The assessment previously drew from an interim Transport Assessment ('TA') which uses an old version of Leicestershire County Council's traffic model (the 'LLITM').

7.2 Following submission of the planning application, the final LLITM (Version 5) was completed and the scheme was assessed against this model. A replacement TA was submitted with the Supplementary ES (August 2014) (Appendix 6) which accounts for this further survey work.

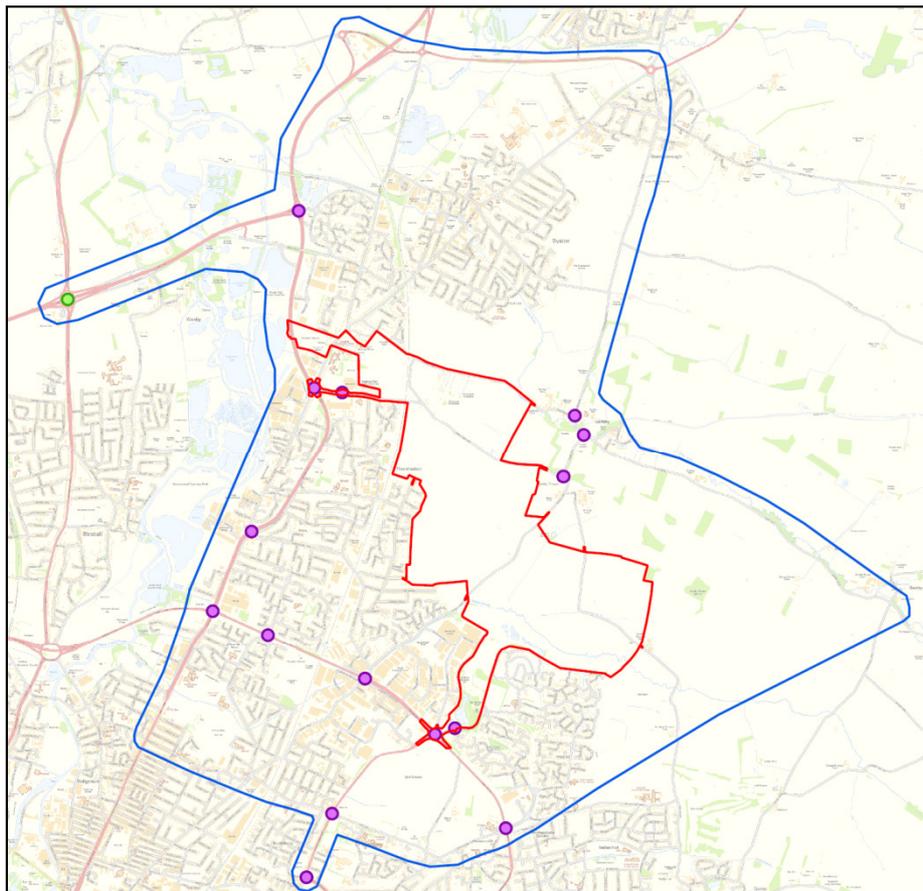
7.3 The 1998 Transport White Paper set policies for the future of focused on sustainability and the integration of transport systems and modes. The document states that authorities and developers are responsible for reducing congestion, providing safer streets, improving air quality, giving real transport choice and raising the quality of life for all. Achieving these goals means people using their cars less often, more people walking, cycling and using public transport, and everybody thinking harder about their transport choices. This policy objective remains in the NPPF (2012) and local guidance for both Charnwood and Leicester including in Leicestershire's third Local Transport Plan (covering the period to 2024).

7.4 The methodology applied in the replacement TA follows the principles set out in the *'Guidance on Transport Assessment'* (DCLG, 2007) and the assessment of environmental effects has been carried out with regard to the *'Guidelines for the Environmental Assessment of Road Traffic'* (IEMA, 1993). The IEMA guidance states that an assessment of environmental effects is needed for:-

- 1 Highway links where traffic flows are predicted to increase by at least 30% should be included within the assessment (or where the number of HGVs is predicted to increase by 30%); and
- 2 Areas that are considered to be specifically sensitive to increases in traffic volumes should be included where traffic flows are predicted to increase by at least 10%.

7.5 The assessment considers the effects of traffic flows with regard to severance, driver delay, pedestrian delay, pedestrian amenity, fear and intimidation and accidents and safety. The effects of the flows on noise, landscape and visual issues, air quality, dust and dirt, ecology and heritage are considered elsewhere in the ES.

Area studied as part of the TA



7.6 The main roads closely associated with the site are:-

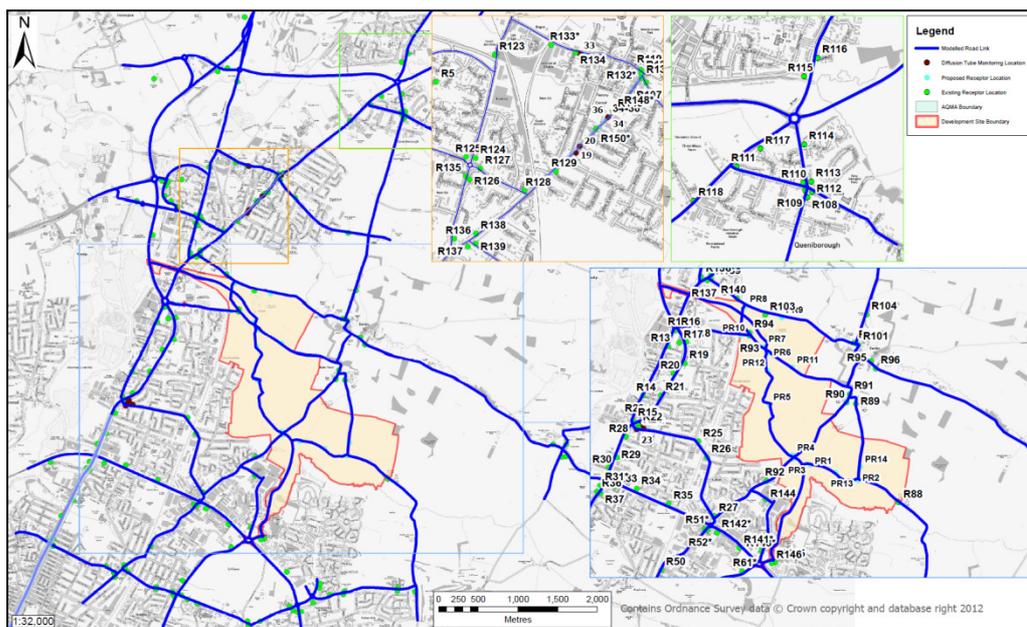
- 1 A46 Trunk Road to the north-west of the site
- 2 A607 Melton Road - Newarke Road to the west of the site

- 3 A563 Watermead Way - Troon Way - Thurmaston Lane - Hamilton Way – Hungarton Boulevard – Colchester Road to the south of the site
- 7.7 There are also a number of local roads including Barkbythorpe Road, Barkby Thorpe Lane, Hamilton Lane, Barkby Lane, Humberstone Lane, Melton Road, Fosse Way, Victoria Road East and Gypsy Lane.
- 7.8 The peak hours for traffic in the area were found to be 08.00-09.00 and 17.00-18.00 for the AM and PM peak hours respectively.
- 7.9 An analysis of accident data has been carried out and identifies two points of note:-
- 1 A563 Troon Way / Barkby Road / Humberstone Lane - of the 18 recorded injury accidents over the past 5 years, 10 involved cyclists.
 - 2 A563 Thurmaston Lane / A6030 Victoria Road East - of the 11 recorded injury accidents over the past 5 years, at least 7 of the accidents involved vehicles entering or leaving Sandhills Avenue.
- 7.10 In relation to public transport, the site is not currently served by buses but areas closest to Thurmaston will have access to services 6 and 21. The nearest train station is at Syston with hourly services to Leicester to the south and Loughborough, Nottingham and Lincoln to the north.
- 7.11 The site is criss-crossed by existing public footpaths linking Thurmaston to Barkby and Barkby Thorpe, and connecting Barkbythorpe Road to Barkby Lane. Beyond Thurmaston, there are recreational connections through to Watermead Country Park. The site is within a 25-30 minute cycle ride of Leicester city centre.
- 7.12 The assessment of effects arising from transport generated by the construction of the NEoL SUE development has reviewed traffic associated with the transportation of construction plant and materials to and from the site, movement of heavy goods vehicles and traffic generated by the transportation of staff to and from the site. The assessment shows that the effects would be short term, negligible adverse significance, and any effects will be minimised by the implementation of a Construction Environmental Management Plan.
- 7.13 Once the NEoL SUE is developed, the assessment shows that there will be a long term, minor beneficial effect on severance, pedestrian delay, fear and intimidation and accidents and safety and a long term, moderate beneficial effect on pedestrian amenity and driver delay. Various mitigation measures are proposed, including the implementation of a Framework Travel Plan for the site and other traffic management proposals(which has been updated and included at Appendix 7 of the Supplementary ES (August 2014)), which leads to a marginal improvement in terms of effects.

8.0 Air Quality

- 8.1 An assessment has been carried out of the potential for effects on air quality arising from the development to ensure that, if necessary, mitigation can be identified to minimise those effects. The assessment has focused on dust emissions during construction and air quality effects arising from changes to transport flows.
- 8.2 In the UK, the Air Quality Standards Regulations (2010) consolidate European legislation with other national standards and sets various limits/standards for air quality. The Air Quality Strategy for England, Wales, Scotland and Northern Ireland sets out methods for implementation the air quality limit values and provides a framework for improving air quality and protecting human health. For each nominated pollutant, the Air Quality Strategy sets clear standards and target dates when these must be achieved. In addition, and under the Environment Act 1995 all local authorities are required to periodically review and assess air quality under the system of Local Air Quality Management (LAQM) including the declaration if required of Air Quality Management Areas (AQMA) in areas where standards for any particular pollutant may be breached.
- 8.3 The main controls with respect to dust are set out in Part III of the Environmental Protection Act (1990), which contains the legal framework for regulating “statutory nuisances” which includes dust, steam or odour.
- 8.4 For the NEoL SUE site, the nearest designated AQMAs are at Syston High Street (approximately 500 metres to the north) in relation to nitrogen dioxide and at Leicester City Centre and main routes leading from the centre (the nearest part of the area is approximately 1 km east of the NEoL SUE site), also for nitrogen dioxide. Monitoring stations for these areas are established by the Councils and the NEoL SUE team have examined the data from the stations. Some of the stations also rest within a ‘study area’ designated for the purposes of this EIA which covers a broad area to the north, west and south of the site.

Copy of Plan showing broad area around site studied as part of an Air Quality Assessment



8.5 Particular regard has been given to local weather conditions and the location of any particularly sensitive receptors including ecological designations.

8.6 The findings of the assessment are summarised below:-

Summary of Air Quality Assessment of the NEoL SUE development

Summary description of the identified impact	Sensitivity of Receptor	Impacts prior to Mitigation	Additional Mitigation	Residual Effects (post mitigation)
Construction processes	Low to High	Negligible to moderate adverse	Various measures implemented through a CEMP	Negligible
Nitrogen Dioxide generated during operation	Low to Very High	Negligible to slight adverse	Management of road traffic emissions through Travel Plan measures	Negligible to slight adverse
Particulates generated during operation	Low	Negligible		Negligible

8.7 In summary, the assessment has shown that the air quality impacts after mitigation measures are implemented through a CEMP will be negligible. After the scheme has been constructed and occupied, the effects are anticipated to range of slight adverse to negligible.

9.0 Noise

9.1 An assessment of the noise effects of the NEoL SUE has been carried out. Government planning policy seeks to avoid adverse noise effects but, as it does not set specific noise measures such as limits or thresholds, the assessment has used relevant criteria from currently available guidance

documents and standards such as the World Health Organisation Guidelines and Calculation of Road Traffic Noise to inform the methodology used.

- 9.2 Standards from British Standard ('BS') 8233: 1999 and the World Health Organisations "Guidelines for Community Noise" (1999) set similar noise criteria levels in and around buildings as summarised below:-

Summary of Noise Criteria for proposed internal habitable rooms and external amenity areas in accordance with the guidance provided within BS 8233 and the WHO 'Guidelines for Community Noise'

Location	Recommended Noise Criteria
Living Rooms (07:00 – 23:00)	Between 30 and 40 decibels (WHO state 35)
Bedrooms (23:00 – 07:00)	30 decibels
Gardens (07:00 – 23:00)	Between 50 and 55 decibels

- 9.3 The study area considered within the assessment comprises the site and its immediate surroundings including local roads. To assess effects, regard has been given to the sensitivity of existing and proposed land uses (notably residential premises) and the change in noise levels during construction and operation of the NEoL SUE (measured in decibels). The work has been informed by the findings from monitoring of existing noise levels at 35 locations in and around the site.

- 9.4 Assuming a worst case scenario, if not suitably controlled, significant environmental effects associated with the development are likely to occur during the construction and operational phases with regard to noise. The effects include causing high levels of noise which could be unacceptable but are capable of mitigation to reduce the levels anticipated. No significant vibration impacts are predicted during the construction or operational phases of the Proposed Development.

- 9.5 The findings from the assessment are summarised below:-

Summary of Noise Assessment during both the construction and operational phases

Summary Description of the Identified Effect	Significance and Nature of Effect	Additional Mitigation	Residual Significance and Nature of Effect
Construction Effects			
Noise	Potentially significant adverse	Best practice measures to be implemented as part of a CEMP.	Not significant
Vibration	Not significant	None required	Not significant
Operational Effects			
Operational Noise (BSP, Deliveries, etc)	Neutral to Minor	Detailed design and layout of buildings	Neutral to Minor (Not significant)
Road Traffic Noise	Moderate - substantial beneficial to Moderate -	Detailed design measures	Moderate - substantial beneficial to Moderate - substantial adverse (*assuming worst case –

	substantial adverse		primarily close to link road)
Operational Vibration	Not significant	None	Not significant
Proposed Residential Receptors	Neutral to moderate - substantial adverse	Standard measures including enhanced glazing and alternative ventilation, barriers, orientation of gardens etc.	Not significant

- 9.6 The assessment has concluded that the noise effects are unlikely to have an adverse effect on health or quality of life. The potential adverse effects are based on various worst case scenario assumptions for a small number of specific receptors – the overall conclusions attributed to the change in noise when the development is considered as a whole indicate that the change in road traffic noise levels will be barely, if at all, perceptible.

10.0 Socio-Economics

- 10.1 The assessment of the effects on socio-economics has examined population, education, shopping, health and other community facilities as well as the impacts of employment generated by the development on the local labour market and commuting patterns. Since there are no generally accepted criteria for assessing the significance of socio-economic impacts, these have been assessed based on the scale of any increase over the existing position, as well as the nature and context of the impact. The assessment has been based on the assumption that the main effects from the NEoL SUE will be felt in the local authority areas of Charnwood and Leicester.
- 10.2 Based on a review of existing social and economic characteristics, the analysis has highlighted:-
- 1 There is a shortage of employment land in the area with an increased demand for offices and a decline in demand for industrial space;
 - 2 The rate of population growth in the area between 2001 and 2011 occurred mainly in Leicester and at a faster rate (13.5%) than experienced in the region (8.3%) or nationally (7.0%);
 - 3 In the same time period, employment growth in the area was lower (at 3%) than regionally (9.1%) and nationally (5.4%) and with stronger growth in Charnwood than in Leicester;
 - 4 The main employment sectors in the area are education and health with growth in business and professional services;
 - 5 In May 2013, unemployment in the area ranged from 2.1% of the workforce in Charnwood to 5.6% in Leicester City. The average (4.5%) was above both the East Midlands (3.5%) and national rate (3.8%);

- 6 Over the past decade, the housing stock in this area has grown by 10%, slightly less than the regional average (10.9%);
- 7 There is no surplus capacity in existing school provision in the area at primary level, but some capacity at secondary levels. There is no indication of significant shortages of places at a Higher Education level;
- 8 Information suggests an above average level of GP provision at present in the area but an overall shortfall in dental provision;
- 9 There are no existing community facilities (halls, churches, libraries and emergency services) within a 1.5 km of the site and some albeit limited leisure facilities. Accessibility to open space is identified as a current issue;
- 10 The nearest main retail centre is the regional centre of Leicester City Centre, with Loughborough, Coalville, Ashby-de-la-Zouch and Castle Donnington ranked as lower order centres. Thurmaston (a purpose built district centre) is the centre closest to the site.

10.3 The assessment has shown that the most significant effects of the development on the local economy would be:

- 1 a capital investment of approximately £445 million over 15 years;
- 2 a total of 3,030 direct permanent job opportunities based on the site equivalent to over 4% of current employee numbers in Charnwood Borough, and 1.2% of those in the main impact area;
- 3 over 3,200 net additional direct and indirect job opportunities in total in the local area; and
- 4 about 3,650 net additional direct and indirect job opportunities spread across the region (including those in the local area and on the site).

10.4 With increased local spending due to increased residents in the area, the assessment indicates a minor beneficial impact as a result of the development.

10.5 The development will provide a range of types of housing and improve local choice. On this basis the impacts on housing are assessed as major beneficial, reflecting the importance of the scheme in meeting the dwelling targets in the emerging Charnwood Core Strategy.

10.6 The proposed retail facilities within the NEoL SUE have potential for some impacts on nearby shopping centres. However, the new facilities are planned to be at a scale which meets the needs of the new population only rather than any wider catchment area and this should minimise impacts. Overall, impacts on existing shopping provision in the area are assessed as negligible.

10.7 A number of potential adverse impacts are identified across a number of community infrastructure (e.g. on education, health, recreation provision etc.). These can be mitigated through the provision of new facilities proposed as part of the development and the impacts are therefore expected to be neutral.

11.0

Heritage

11.1

An assessment has been carried out to review the effects of the development on both archaeology and cultural heritage (historic landscapes and historic buildings). It incorporates a summary of an archaeological desk-based assessment (incorporating the results of an aerial photographic assessment, includes a scheduled monuments impact assessment and historic hedgerow assessment); the results of a geophysical survey conducted at the site, an archaeological evaluation and a Historic Built Environment Assessment.

11.2

Planning policy in relation to heritage seeks to increase understanding of the wider social, cultural, economic and environmental benefits brought by the conservation of the historic environment, conserve heritage assets in a manner appropriate to their importance and recognise that heritage contributes to knowledge and understanding of the past.

11.3

No designated heritage assets are present within the Application Site. The Scheduled Ancient Monuments of Hamilton Deserted Medieval Village and adjacent Roman Villa are located 280m and 600m southwest of the site. The significance of the monuments derives primarily from the earthworks and below ground archaeological remains of the sites themselves.

11.4

None of the site is within a conservation area but three lie outside the site (the Barkby and Barkby Thorpe Conservation Area to the north east, the Syston Conservation Area to the north and the Queniborough Conservation Area to the north east. Due to distance and topography in the area the site does not form part of the settings of any of these conservation areas.

11.5

No statutorily-listed buildings are present within the Application Site. There are 15 listed buildings within 500m of the Application Site boundary, but the site is not considered to form part of the settings of all of these, with the exception of no. 32 Main Street (National Heritage list entry no. 1074504) and its barn (1307501).

11.6

There is known Prehistoric, Roman, Anglo-Saxon and Medieval activity in the area with most of this being of no more than local interest. The Humberstone, a natural glacial feature, is located about 120m south of the site. Local tradition and folklore suggest that the stone provided a focus of *'primitive worship and belief'*. The stone itself is not of archaeological significance but has associated social and folklore traditions.

11.7

The majority of the effects during both the construction and operational phases are identified as negligible or minor adverse. A package of mitigation measures have been identified to ensure that effects are reduced as far as is possible.

11.8

It is proposed that a programme of archaeological work will be carried out prior to the start of construction to record any archaeological features from within the site. Temporary alterations to the settings of the identified designated built

heritage assets during the construction phase, together with construction noise and dust, can be mitigated through appropriate fencing and screening around the site, together with appropriate controls on working hours. It is anticipated that mitigation during the construction phase would also include appropriate traffic management measures. No archaeological mitigation will be required once the proposed development is occupied.

- 11.9 The impacts of the development on the setting of the designated built heritage features will be minimised at detailed design stage through separation, and by limiting the predominant height of the houses closest to Barkby and Barkby Thorpe to two storeys. Further mitigation will be achieved through sensitive design, the use of appropriate materials and boundary treatments, and appropriate landscaping.
- 11.10 The resultant effect on heritage is identified to be not significant or negligible.

12.0 **Agriculture and Soils**

- 12.1 An assessment has been carried out to determine the existing quality of agricultural land and the effect of the development in terms of the loss of the land for agricultural purposes. Planning policy seeks to ensure that the retention of the best and most versatile agricultural land is taken into account when considering proposals for development.
- 12.2 In determining the quality of the land for agricultural purposes, the assessment has had regard to climate and flooding and soils, geology and topography. This concluded that the site contains 19.7 ha of Best Most Versatile agricultural land.
- 12.3 The site is currently predominantly in use for arable cropping (mainly in fallow at the time of survey with some winter cereals). An area in the south of the site was in use as temporary horse pasture. Non-agricultural land uses include residential areas in the north west, public highways, farm tracks, several small woodlands (both mature and recently planted) watercourses and ponds.
- 12.4 The agricultural land classification according to the MAFF (1983) map indicates that ALC Grade 3 across the site. The loss of agricultural land to development is permanent and cannot be mitigated.
- 12.5 This large site is mainly covered by natural soils and unmitigated construction practices have the potential to result in damage or loss to a very large volume of this finite resource. An appropriate soil handling strategy will mitigate this potential impact, such that the residual impact will be of negligible significance.

13.0 Cumulative Effects & Summary of Findings

13.1 The table below reviews whether the inter-relationship between effects arising from the development may give rise to additional impacts not previously identified. It also considers whether effects may arise when the development is considered alongside other schemes or proposals in the surrounding area, the likelihood of the other developments proceeding and the ability or necessity of the applicant to mitigate any such effects for those other sites. The developments to be assessed were agreed with CBC and LCiC.

Summary of Effects with Mitigation in Place

Environment I Topic	Effects during Construction	Effects during Operation	Cumulative Effects
Landscape & Visual Effects	Short term, minor to moderate adverse effects	Range of beneficial and adverse effects softened through detailed design and as landscaping matures	None anticipated
Ecology	Minor to moderate adverse	Positive/neutral	None anticipated
Water Environment	No significant effects	No significant effects	None anticipated
Transport	Short term negligible adverse	Long term minor beneficial/negligible effects	Negligible
Air Quality	Negligible	Slight adverse to negligible	None anticipated
Noise	No significant effects	No significant effects	None anticipated
Socio-Economics	Moderate positive effects	Negligible/neutral	None anticipated
Heritage	Negligible and minor adverse effects	Minor beneficial/negligible	None anticipated
Agriculture and Soils	Moderate adverse to negligible effects	negligible	None anticipated

13.2 A range of mitigation measures have been identified throughout the ES (December 2013 and ES Addendum (August 2014) which are capable of being enforced through planning conditions or a s106 Legal Agreement in relation to the development.

13.3 Some minor negative residual effects remain in relation to specific sensitive receptors in relation to landscape and visual impact, noise and vibration and above ground heritage assets. However, these must be balanced against the significant beneficial environmental effects on ecology, socio-economics, below ground heritage assets and transport.

13.4 The relationships between the effects identified on site do not give rise to a need for additional mitigation measures in relation to the development. There are no cumulative effects arising from the development when considered with other developments in the surrounding area.

14.0 **Availability of the Environmental Statement**

14.1 If you would like to purchase a paper copy or CD Rom of the ES, please contact:

- Nathaniel Lichfield & Partners, 14 Regent's Wharf, All Saints Street, London N1 9RL (Tel: +44 (0)20 7837 4477

14.2 Alternatively, information on the ES can also be viewed on the CBC website at <http://www.charnwood.gov.uk/> and the LCiC website at <http://www.leicester.gov.uk/>.

15.0 **Scheme Plans**