

North West Leicestershire District
Council

**Leicestershire International
Gateway: Potential Strategic Sites
Infrastructure Study**

Final Report

Final | 30 June 2020

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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Contents

	Page
Executive Summary	1
1 Introduction	1
1.1 Overview	1
1.2 The Leicestershire International Gateway	1
1.3 Purpose of this study	3
1.4 Document structure	3
2 Policy and context	4
2.1 National infrastructure planning context	4
2.2 North West Leicestershire Planning context	6
2.3 The Leicestershire Strategic Growth Plan	7
3 Scope and methodology	8
3.1 Geographic scope of study	8
3.2 Infrastructure and constraints considered	15
3.3 Study methodology	16
4 Infrastructure capacity findings	19
4.1 Utilities	19
4.2 Community infrastructure	27
4.3 Healthcare and emergency service infrastructure	36
4.4 Other development constraints	40
5 Development implications for each site	48
5.1 Sites A and B: West and East of Isley Walton	49
5.2 Site C: West of Castle Donington	50
5.3 Site D: South of the A42/A453 Junction	50
5.4 Sites I and J: South of A50 J1, and West of the M1	51

Executive Summary

This study sets out the infrastructure implications of development on six potential strategic development sites in North West Leicestershire – four primarily residential, and two commercial. These are set within a study area focussed on the ‘*Leicestershire International Gateway*’, in and around Castle Donington, Kegworth and East Midlands Airport. The study has been produced in the context of North West Leicestershire District Council’s substantive review of its Local Plan which will cover a plan period through to around 2039, as well as the wider non-statutory Leicestershire Strategic Growth Plan which looks ahead to 2050.

The study considers 18 infrastructure types; covering utilities, community facilities, and healthcare and emergency services. It also considers flood risk, air quality, and noise pollution as key development constraints relevant to whether development can be accommodated on the sites. Through a combination of desktop assessment and stakeholder engagement we have sought to set out relevant policy and context for each and summarise the implications for future development for the Council to have regard to when it considers the likely future development strategy, as well as the suitability of individual sites.

For most of the infrastructure and constraint types considered, we establish that relatively typical levels of mitigation and investment are likely to be required to make development acceptable. We have not identified any fundamental barriers to development in the study area.

Nevertheless, the scale and distribution of development potentially envisaged means that strategic approaches to delivery will be required – particularly for sewerage provision, primary and secondary schools, and GP surgeries. Our engagement with Western Power Distribution has also identified that the electricity supply network within the study area is almost saturated, and therefore likely to necessitate the provision of a new primary substation at relatively significant cost to allow any of the sites to be developed.

For the individual sites considered, we have established the following conclusions:

- **Sites A and B, West and East of Isley Walton (Residential):** We have not identified any unmitigable constraints, but significant new infrastructure provision and/or mitigation is likely to be required for nine of the infrastructure and constraint types considered. Because Sites A and B are adjacent, a more holistic approach to infrastructure provision would be possible if both are developed together.
- **Site C, West of Castle Donington (Residential):** We have not identified any unmitigable constraints, but significant new infrastructure provision and/or mitigation is likely to be required for seven of the infrastructure and constraint types considered.
- **Site D, South of the A42/A453 Junction (Residential):** We have identified several significant constraints to development – whilst not totally insurmountable, these would be very difficult to mitigate and are therefore considered likely to impact the viability of development. This reflects the relatively isolated location of the site, at some distance from existing settlements and infrastructure provision.
- **Sites I and J, South of A50 J1, and West of the M1 (Commercial):** The commercial uses proposed for these sites mean they are less constrained in infrastructure terms. However, they are situated in Flood Zone 3. Whilst commercial development has come forward on comparable sites in the vicinity (with appropriate mitigation), the Environment Agency and Lead Local Flood Authority have urged a cautious approach. We therefore identify a need for detailed flood risk modelling in this area to establish the acceptability of development on these sites.

1 Introduction

1.1 Overview

North West Leicestershire District Council (referred to throughout as “NWLDC” and “the Council”) has commissioned Ove Arup & Partners Ltd (Arup) to produce a study assessing the infrastructure impacts of a number of potential future strategic development sites. The study is focussed on the northern part of the district, which forms part of a wider area referred to as the Leicestershire International Gateway in the Leicestershire Strategic Growth Plan.

This study has been undertaken in the context of the Council’s substantive review of its 2017 Local Plan, which covers a plan period through to 2031. The review is now underway and will look further forward to around 2039 – this study will form part of the evidence base underpinning it, particularly helping to inform decisions in respect of the future development strategy for the district and the selection of potential sites for development.

The study has also been produced within the wider context of the Leicestershire Strategic Growth Plan, a non-statutory process through which all Leicestershire authorities (including Leicester City Council) are collaborating to distribute growth over a longer period through to 2050. This work recognises that growth is likely to be more sustainable when concentrated in strategic locations (of which the Leicestershire International Gateway is one). It also reflects the need to distribute future growth needs, which are unlikely to be able to be accommodated within the boundary of the City of Leicester, to other locations elsewhere in Leicestershire.

By bringing together data and the views of expert stakeholders on current infrastructure provision, future infrastructure requirements, projected costs and funding mechanisms; this study sets out the infrastructure requirements likely to be necessary to support development on each of the potential development sites within the study area and to help inform future decisions. Within the context of limited and diminishing Council funding, establishing a reliable and concise infrastructure evidence base document is crucial to ensuring aligned investment decisions, which have the greatest effect and offer certainty to infrastructure providers, funders and developers. Whilst the infrastructure planning process is never perfect, this study should go a long way to ensuring that the right type and quantum of new infrastructure is provided to help to support new development.

Research and engagement with stakeholders for this study was primarily undertaken during February and March 2020, prior to there being a full understanding of the implications of the Covid-19 pandemic on public funding streams and infrastructure investment. All information is however, correct at the time of writing.

1.2 The Leicestershire International Gateway

The Leicestershire International Gateway is defined in the Leicester and Leicestershire Strategic Growth Plan¹ and encompasses the northern parts of the A42 and the M1. Figure 1 shows a diagram from the Strategic Growth Plan which illustrates the situation of the Gateway area. In this area there are major employment opportunity sites, including East Midlands Airport and East Midlands Gateway (strategic rail freight terminal). Development

¹ https://www.llestrategicgrowthplan.org.uk/download/pdf_document/final_plan_docs/Strategic-Growth-Plan-September-2018-Final-for-governance.pdf

of this gateway as an employment hub will be supported by delivery of strategic housing sites, both within North West Leicestershire and Charnwood Borough.

The Strategic Growth Plan estimates that overall, the Leicestershire International Gateway has the potential to accommodate approximately 11,000 new homes which will be supported by improvements to the A42 and M1 as well as railway lines and services as set out in the wider Midlands Connect Strategy².

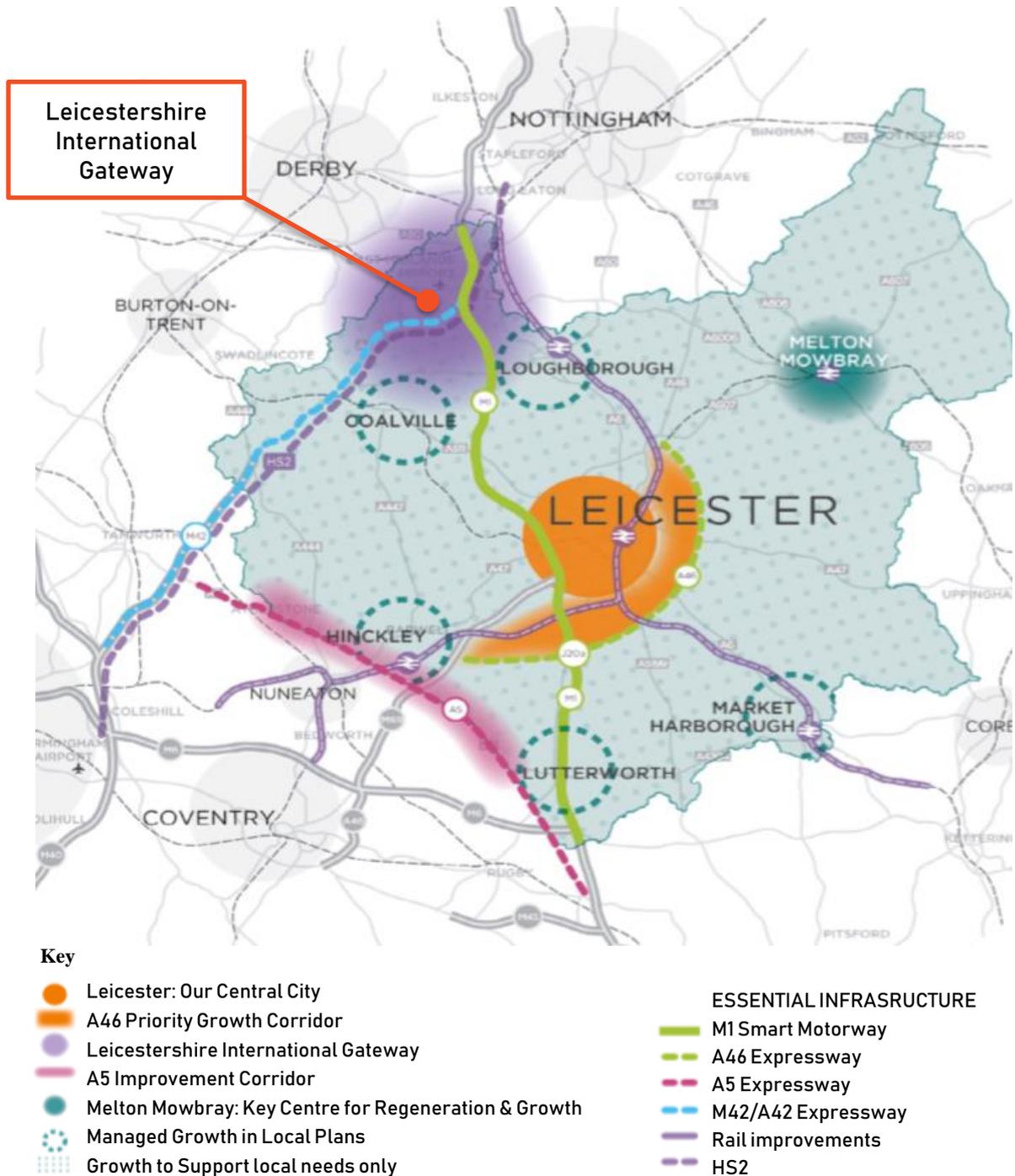


Figure 1. Location of the Leicestershire International Gateway within Leicestershire. (Source: Leicester and Leicestershire Strategic Growth Plan).

² <https://www.midlandsconnect.uk/media/1224/midlands-connect-strategy-march-2017.pdf>

1.3 Purpose of this study

Planning the delivery of infrastructure alongside new development is intrinsic to achieving sustainable growth that achieves well-being and economic prosperity. Development without proper infrastructure is unlikely to result in successful and harmonious places.

Since the production of the first National Infrastructure Plan in 2010, notably through the National Infrastructure Delivery Plan (2016 – 2021) which was produced in March 2016 and updated in December 2016, Central Government have sought to emphasise the importance of infrastructure in order to support growth and create jobs, raise the productive capacity of the economy, drive efficiency and boost international competitiveness.

Paragraph 16 of the National Planning Policy Framework (NPPF) requires Local Plans to be shaped by early, proportionate and effective engagement between plan-makers and infrastructure providers and operators as well as statutory consultees; and NPPF Paragraph 20 requires Local Plans to set out an overall strategy with sufficient provision for infrastructure.

National Planning Practice Guidance³ further indicates that local authorities should work to understand infrastructure deficits and requirements in their area at an early stage in the plan-making process. Planning Practice Guidance also emphasises the importance of evidence in demonstrating the deliverability and developability of large-scale strategic development sites in a Local Plan, having regard to infrastructure requirements among other matters.

This study responds to these requirements and will inform the review of NWLDC's Local Plan. It will provide evidence to underpin and justify policies and site selection decisions as it progresses through consultation, and its ultimate Examination in Public (EIP). As and when any planning applications arise for the sites considered, the study can also be used by the Council as part of the Development Management process – providing evidence to underpin negotiations for developer contributions and helping to inform the acceptability of proposals.

Whilst this study is separate to the Council's existing 2016 Infrastructure Delivery Plan⁴, it forms part of the same process of planning for infrastructure and should be read in conjunction with it (as well as any updates to it produced as part of the plan review).

1.4 Document structure

The remainder of the study is set out across four further chapters:

- **Chapter 2** sets out the local and national policy context for the study;
- **Chapter 3** sets out the study's scope (both in terms of the geographical study area and the infrastructure and constraint types considered), and the study methodology;
- **Chapter 4** sets out implications and capacity for future growth on the sites under consideration, based upon engagement with relevant stakeholders;
- **Chapter 5** sets out the infrastructure implications for each of the six sites considered within the study, based upon the baseline positions established in Chapter 4.

³ Planning Practice Guidance: Plan-Making (2018)

⁴ https://www.nwleics.gov.uk/files/documents/nwl_infrastructure_delivery_plan_2016/NWLDC%20IDP%20Final%20Version.pdf

2 Policy and context

2.1 National infrastructure planning context

The NPPF and its supporting Planning Practice Guidance strongly underline the need for the proper planning and delivery of infrastructure as part of the plan making process. The requirements of the NPPF, and the advice set out in the Planning Practice Guidance, have informed the approach undertaken in this study.

National Planning Policy Framework

The NPPF is founded on the need to deliver and achieve sustainable development. This means supporting strong and healthy communities, protecting and enhancing our built, natural and historic environment and contributing to building a strong, responsive and competitive economy by identifying and coordinating development requirements, including the provision of infrastructure.

The NPPF identifies the crucial role of the Local Plan process in planning appropriately to meet infrastructure needs, including those arising as a result of new development. Paragraph 20 states that:

“Strategic policies should set out an overall strategy for the pattern, scale and quality of development, and make sufficient provision for:

- a. housing (including affordable housing), employment, retail, leisure and other commercial development;*
- b. infrastructure for transport, telecommunications, security, waste management, water supply, wastewater, flood risk and coastal change management, and the provision of minerals and energy (including heat);*
- c. community facilities (such as health, education and cultural infrastructure); and*
- d. conservation and enhancement of the natural, built and historic environment, including landscapes and green infrastructure, and planning measures to address climate change mitigation and adaptation.”*

Specific references to infrastructure provision also runs as a thread through the individual topic chapters throughout the NPPF. These include:

- Chapter 6, Building a strong competitive economy – Paragraph 81 *“Planning policies should seek to address potential barriers to investment, such as inadequate infrastructure”*
- Chapter 8, Promoting healthy and safe communities – Paragraph 91: *“Planning policies and decisions should aim to achieve healthy, inclusive and safe places which enable and support healthy lifestyles, especially, where this would address identified local health and well-being needs – for example through the provision of safe and accessible green infrastructure”*
- Chapter 10, Supporting high quality communications – Paragraph 112: *“Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks”*

The NPPF also identifies the need for local authorities to work collaboratively to deliver new infrastructure. At Paragraph 16 it sets out the requirement for Local Plans to be *“shaped by*

early, proportionate and effective engagement” with infrastructure providers and operators. At Paragraph 26, it also states that:

“Effective and on-going joint working between strategic policy-making authorities and relevant bodies is integral to the production of a positively prepared and justified strategy. In particular, joint working should help to determine where additional infrastructure is necessary, and whether development needs that cannot be met wholly within a particular plan area could be met elsewhere.”

The NPPF also outlines the importance of the Local Plan process in the delivery of infrastructure – but at Paragraph 34 begins to hint at the challenges of balancing infrastructure requirements with the need for them to not render development unviable or undeliverable: *“Plans should set out the contributions expected from development [towards infrastructure]. Such policies should not undermine the deliverability of the plan.”*

The 2019 revision to the NPPF has also placed much greater emphasis on the importance of understanding viability at the plan-making stage (rather than on a case-by-case basis through the determination of planning applications). This allows it to be demonstrated from the outset that planning policies are realistic, and that the ‘costs’ to developers of those policies (such as infrastructure provision and affordable housing) do not render development unviable and unachievable.

National Planning Practice Guidance

National Planning Practice Guidance expands on the policy set out in the NPPF and provides an additional layer of advice in relation to the delivery of infrastructure. Paragraph 059 of the guidance on Plan-Making states the following:

“A plan is an opportunity for the strategic policy-making authority to set out a positive vision for the area, but the plan should also be realistic about what can be achieved and when. This means paying careful attention to providing an adequate supply of land, identifying what infrastructure is required and how it can be funded and brought forward.

At an early stage in the plan-making process strategic policy-making authorities will need to work alongside infrastructure providers, service delivery organisations, other strategic bodies such as Local Enterprise Partnerships, developers, landowners and site promoters. A collaborative approach is expected to be taken to identifying infrastructure deficits and requirements, and opportunities for addressing them. In doing so they will need to:

- *Assess the quality and capacity of infrastructure, and its ability to meet forecast demands. Where deficiencies are identified, policies should set out how those deficiencies will be addressed; and*
- *Take account of the need for strategic infrastructure, including nationally significant infrastructure, within their areas⁵.*

Following the publication of the 2018 and 2019 revisions to the NPPF, Planning Practice Guidance was also updated to reflect the new emphasis on understanding the viability of development at the plan-making stage. Paragraph 001 of the guidance on Viability states that *“policy requirements should be informed by evidence of infrastructure and affordable housing need, and a proportionate assessment of viability that takes into account relevant*

⁵ <https://www.gov.uk/guidance/plan-making>, Paragraph 059 – Reference ID: 61-026-20190315

*policies, and local and national standards, including the cost implications of the Community Infrastructure Levy and Section 106*⁶.

Paragraph 002 of the guidance of Viability emphasises the collaborative nature of this process – *“it is the responsibility of site promoters to engage in plan making, take into account any costs including their own profit expectations and risks, and ensure that proposals for development are policy compliant”*⁷. Accordingly, local planning authorities and developers should both now be able to emerge from the plan making process with certainty about each party’s requirements and commitments in terms of the funding of new infrastructure.

Recent changes to policy and legislation

Previously, Regulation 123(3) of the Community Infrastructure Levy Regulations 2010 imposed a ‘pooling restriction’ on local authorities seeking to fund infrastructure through Section 106 contributions on planning applications. Whilst intended to drive the take-up of the Community Infrastructure Levy (CIL) as a means to funding infrastructure, some infrastructure did still need to be funded through the Section 106 route – the restriction meant that a maximum of five developments could make a contribution to any one single item of infrastructure.

This pooling restriction was lifted on 1 September 2019, with the commencement of The Community Infrastructure Levy (Amendment) (England) (No. 2) Regulations 2019⁸. In its response to the consultation on the change, the Government reasoned that *“lifting the pooling restriction will address the uncertainty, complexity and delay that the restriction creates”*⁹.

The 2019 CIL Regulations also introduced a requirement of all local authorities to publish an Infrastructure Funding Statement by the end of December each year (starting from December 2020). This will replace the previous requirements for the publication of Regulation 123 lists setting out CIL expenditure by authorities with adopted CIL charging schedules (which NWLDC currently does not have) – the new Infrastructure Funding Statements will be required to report monies collected both through CIL charging and the Section 106 route.

2.2 North West Leicestershire Planning context

The Local Plan process

The North West Leicestershire Local Plan was adopted on 21 November 2017 and covers the period to 2031. Policy S1 of the Local Plan commits the Council to undertake an immediate review, to be submitted for examination within 2 years. This review was required to address a shortfall in employment land and the potential need to provide for unmet housing need from other Leicestershire authorities. The review is to be undertaken in two parts – a Partial Review and a Substantive Review. The Partial Review has now been submitted for examination¹⁰, and this Infrastructure Capacity Study will inform the wider Substantive Review.

⁶ <https://www.gov.uk/guidance/viability>, Paragraph 001 – Reference ID: 10-001-21090509

⁷ <https://www.gov.uk/guidance/viability>, Paragraph 002 – Reference ID: 10-002-20190509

⁸ <http://www.legislation.gov.uk/ukdsi/2019/9780111187449/contents>

⁹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/806284/Developer_contributions_government_response.pdf

¹⁰ https://www.nwleics.gov.uk/pages/partial_review_examination

Developer contributions

Development in North West Leicestershire is subject to Leicestershire County Council's Planning Obligations Policy¹¹. For relevant infrastructure types, analysis around provision in this report is based upon the standards or requirements set out in the Policy.

The Policy sets out the requirements for, and the approach to, the type and level of infrastructure the County Council will seek through planning obligations for those infrastructure types it has a responsibility for, in order to make the impacts on those infrastructure types acceptable in planning terms:

- Adult social care (Contributions on a case-by-case basis)
- Waste and recycling facilities (Contributions on a case-by-case basis)
- Primary and secondary education, including special educational needs provision (With established numerical formulae to calculate contributions)
- Highways and transport (Contributions on a case-by-case basis)
- Libraries (With established numerical formulae to calculate contributions)

Requirements for other infrastructure types are typically negotiated on a case-by-case basis – further information is available in the Council's Guidance on Developer Contributions¹².

The Leicestershire Strategic Growth Plan

The Leicester Strategic Growth Plan¹³ (SGP) has been prepared by the ten partner organisations in Leicester and Leicestershire –Leicester City Council, Leicestershire County Council, the seven boroughs and districts, and the Leicester and Leicestershire Enterprise Partnership. The SGP has been prepared to provide a long-term vision addressing future challenges and opportunities across the county, looking far beyond Local Plan timescales through to 2050. It is also to some extent 'blind' to the administrative boundaries within the county, with a number of opportunity areas. It identifies the Leicestershire International Gateway (which as already noted includes the northern part of North West Leicestershire) as a key area of opportunity and makes provision for significant investment in infrastructure and services to support it.

The Plan indicates a Vision that *'By 2050, Leicester and Leicestershire will have established itself as a driver of the UK economy, exploiting opportunities for linkages across its diverse economic base, supporting its urban and rural centres, and taking advantage of its exceptional location'*. It offers, in return for government investment in infrastructure, a commitment to maximise the benefits that can be achieved from commitments that are already made in the Midlands Engine and Midlands Connect Strategies

Growth projections set out in the SGP are not directly comparable with those in North West Leicestershire's existing or future Local Plan due to the difference in time period and in administrative boundary. Nevertheless, Local Plans will have a crucial role in interpreting and helping to deliver the SGP's vision and objectives.

¹¹ <https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2019/8/16/Planning-Obligations-Policy.pdf>

¹² https://www.nwleics.gov.uk/files/documents/guidance_on_developer_contributions_and_completing_section_106_agreements/Developer%20guidance%20for%20planning%20obligations%20-%20%20July%202010.pdf

¹³ https://www.lstrategicgrowthplan.org.uk/download/pdf_document/final_plan_docs/Strategic-Growth-Plan-September-2018-Final-for-governance.pdf

3 Scope and methodology

3.1 Geographic scope of study

This study has assessed the infrastructure constraints affecting six potential new sites (shown on Figure 2 below). For the purposes of establishing a wider baseline of infrastructure demand, this study has focussed on the Castle Donington and Kegworth sub-area, as defined in the Council's 2016 Infrastructure Delivery Plan. This can be considered as broadly representative of the possible extent of the area of the Leicestershire International Gateway which falls within North West Leicestershire.

There are a number of additional strategic development locations within the study area, such as the SEGRO East Midlands Gateway scheme adjacent to M1 J24. However, these sites already have planning permission in place, and therefore form part of the 'baseline' for the study. This is set out in further detail in the methodology (Section 3.3) below.

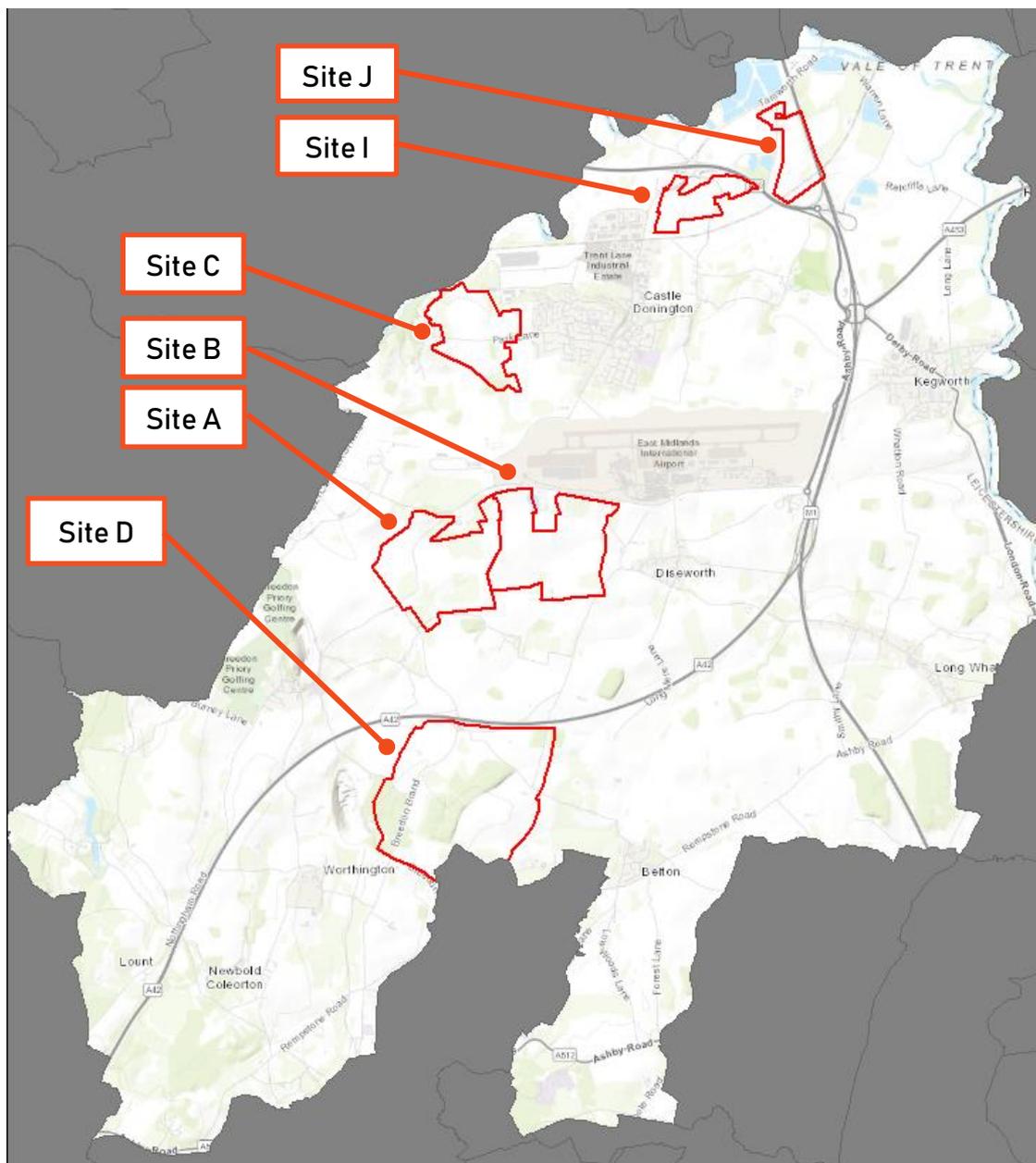


Figure 2 – Locations of the six sites considered in the study, within the wider study area

The specific details of each site being assessed are set out over the following pages. This includes site sizes and current uses, and conclusions from the Council's Strategic Housing and Employment Land Availability Assessment¹⁴ around the deliverability and developability of each site as well as any known constraints which have been identified.

The tables below also set out the indicated residential capacity for each site, as well as any specific quantum of commercial floorspace and/or other types of land use anticipated as coming forward on each site. These indicated quantum and uses have been provided by the Council specifically for the purpose of this study – whilst they are derived from the SHELAA's conclusions, they have presented in a range with upper and lower quantum to reflect the work still required to establish whether those quantum can be accommodated.

Site A - Land west of Isley Walton

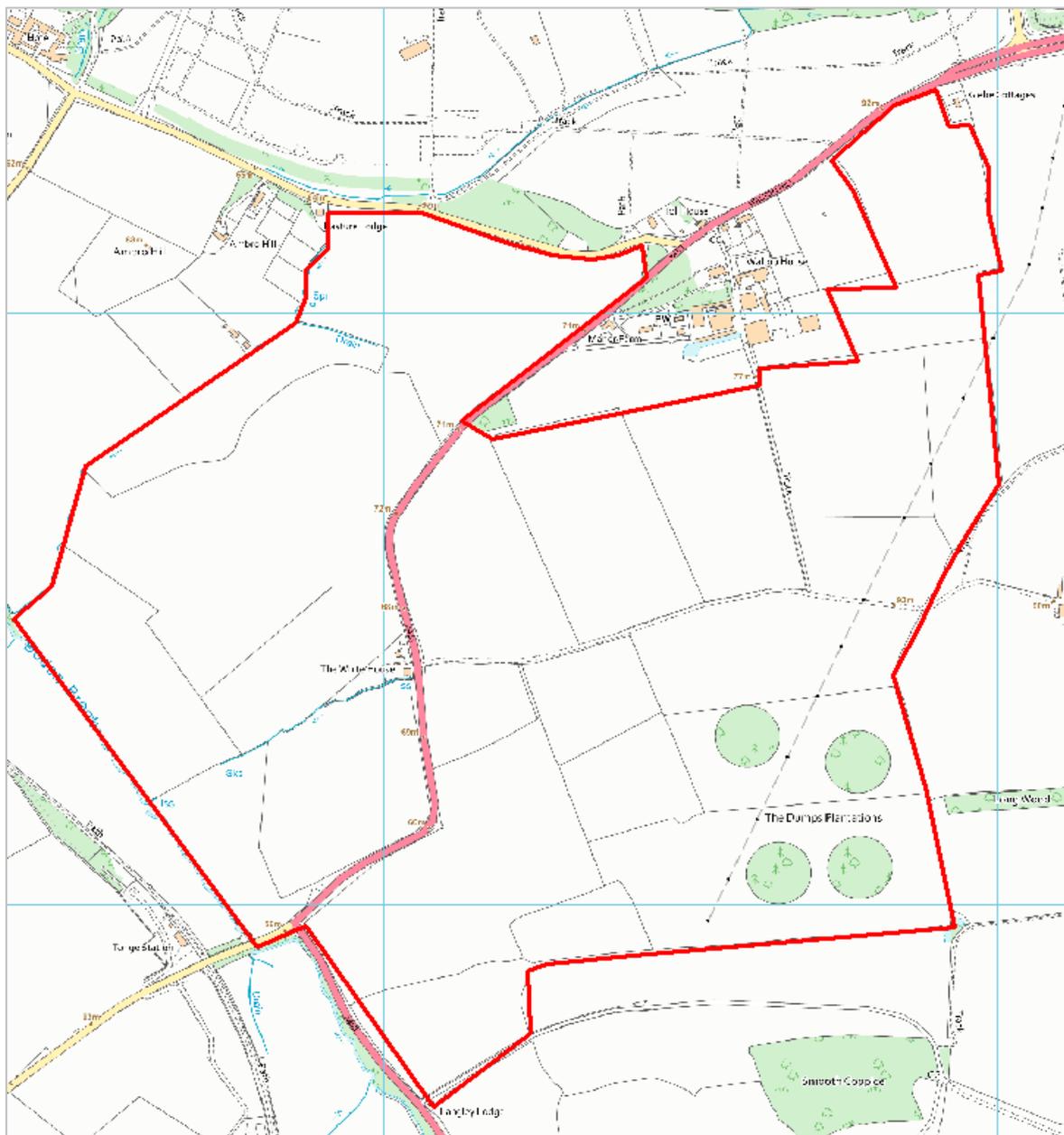


Figure 3 – Location of Site A, West of Isley Walton

¹⁴ <https://www.nwleics.gov.uk/pages/strategic-housing-and-economic-land-availability-assessment>

Site details	
Development type	Residential – new settlement (Potentially in conjunction with Site B)
Size	160 ha
Indicative residential capacity	1,200 – 2,400 dwellings
Indicative commercial and other uses	Local centre, including some limited B1 office/light industrial floorspace Primary school
Current use	Agricultural, adjacent land uses agricultural and residential. Bisected by A453.
SHELAA conclusions	Site ref IW1/EMP68 - potentially suitable, deliverable within 6-10 years (IW1) / 11-20 years (EMP68)
Known constraints	Currently situated outside the Limits to Development (adopted Local Plan Policies Map 2017) - requires change to Development Strategy to be considered suitable. Given the scale of Isley Walton, an understanding of infrastructure will be essential to understand potential implications to the relationship with nearby key settlements and attractors (e.g. EMA and East Midlands Gateway)

Table 1 – Site details – Site A, West of Isley Walton

Site B - Land east of Isley Walton

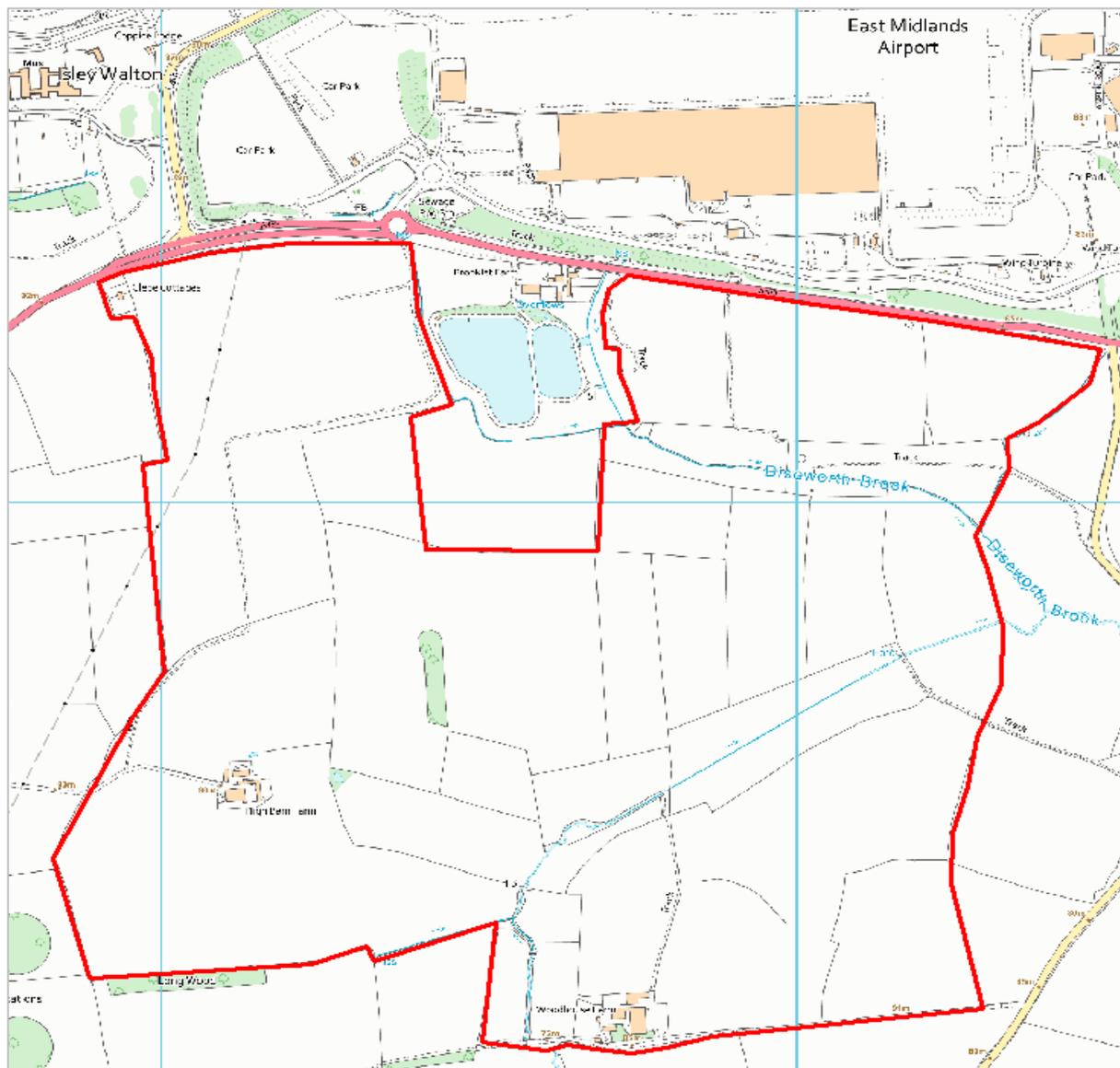


Figure 4 – Location of Site B, East of Isley Walton

Site details	
Development type	Residential – new settlement (Potentially in conjunction with Site A)
Size	156 ha
Indicative residential capacity	1,170 – 2,340 dwellings
Indicative commercial and other uses	Local centre, and potential for mixed employment uses (B1, B2 and B8)
Current use	Agricultural, predominantly arable. Bound to north by A453 and Airport.
SHELAA conclusions	Site ref IW2/EMP70 - potentially suitable, deliverable within 6-10 years.
Known constraints	Currently situated outside the Limits to Development (adopted Local Plan Policies Map 2017) - requires change to Development Strategy to be considered suitable. Given the scale of Isley Walton, an understanding of infrastructure will be essential to understand potential implications to the relationship with nearby key settlements and attractors (e.g. EMA and East Midlands Gateway).

Table 2 – Site details – Site B, East of Isley Walton

Site C – West of Castle Donington

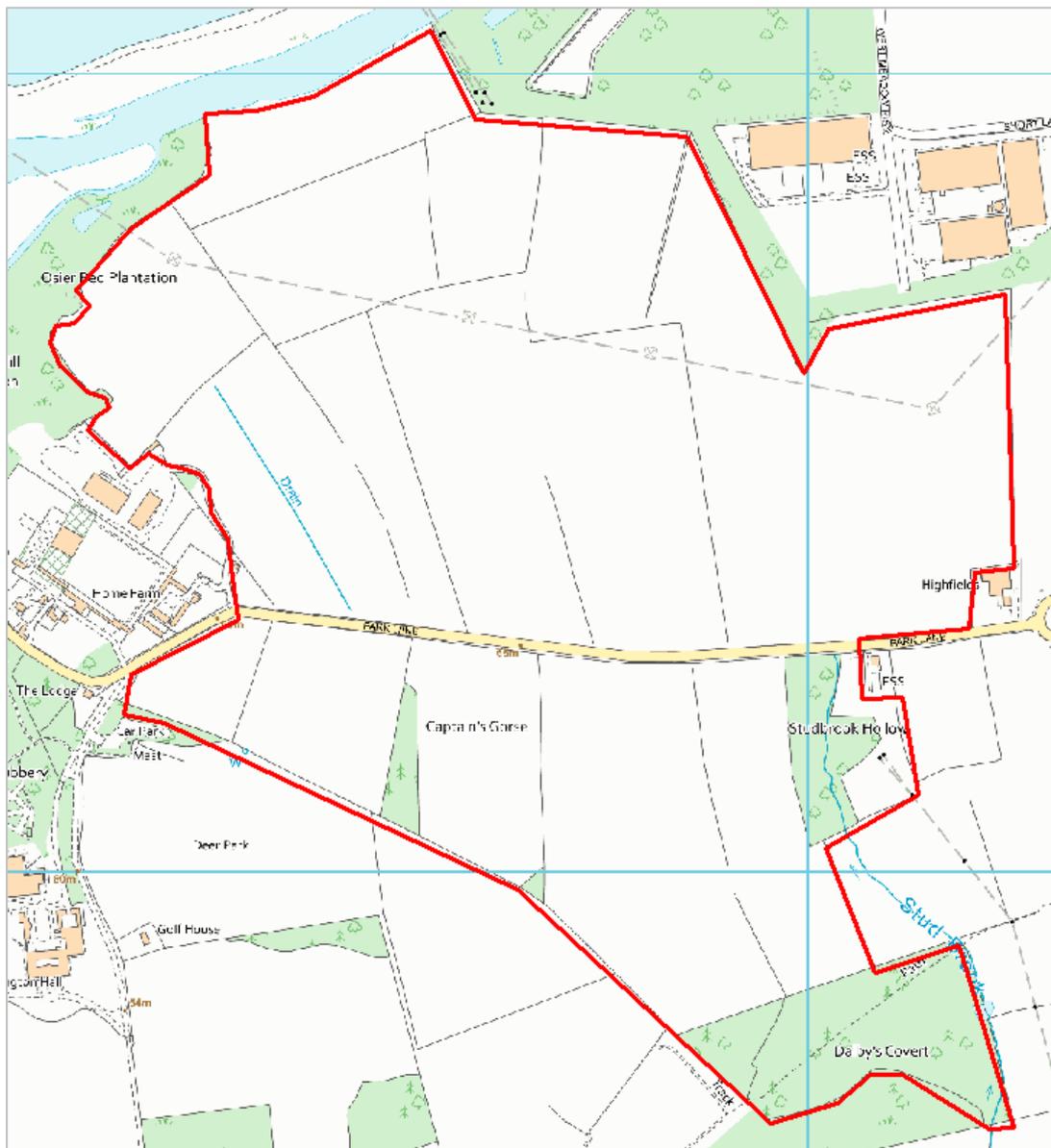


Figure 5– Location of Site C, West of Castle Donington

Site details	
Development type	Residential – urban extension to Castle Donington
Size	95 ha
Indicative residential capacity	713 – 1,425 dwellings
Indicative commercial and other uses	Local centre, with potential for mixed employment uses (B1, B2 and B8) and a hotel
Current use	Agricultural. Adjacent to residential allocation H1c (895 dwellings) in adopted Local Plan, which is now under construction.
SHELAA conclusions	Site ref CD10/EMP70 - potentially suitable, deliverable within 11-20 years.
Known constraints	Currently situated outside the Limits to Development (adopted Local Plan Policies Map 2017) - requires change to Development Strategy to be considered suitable.

Table 3 – Site details – Site C, West of Castle Donington

Site D– South of the A42/A453 Junction

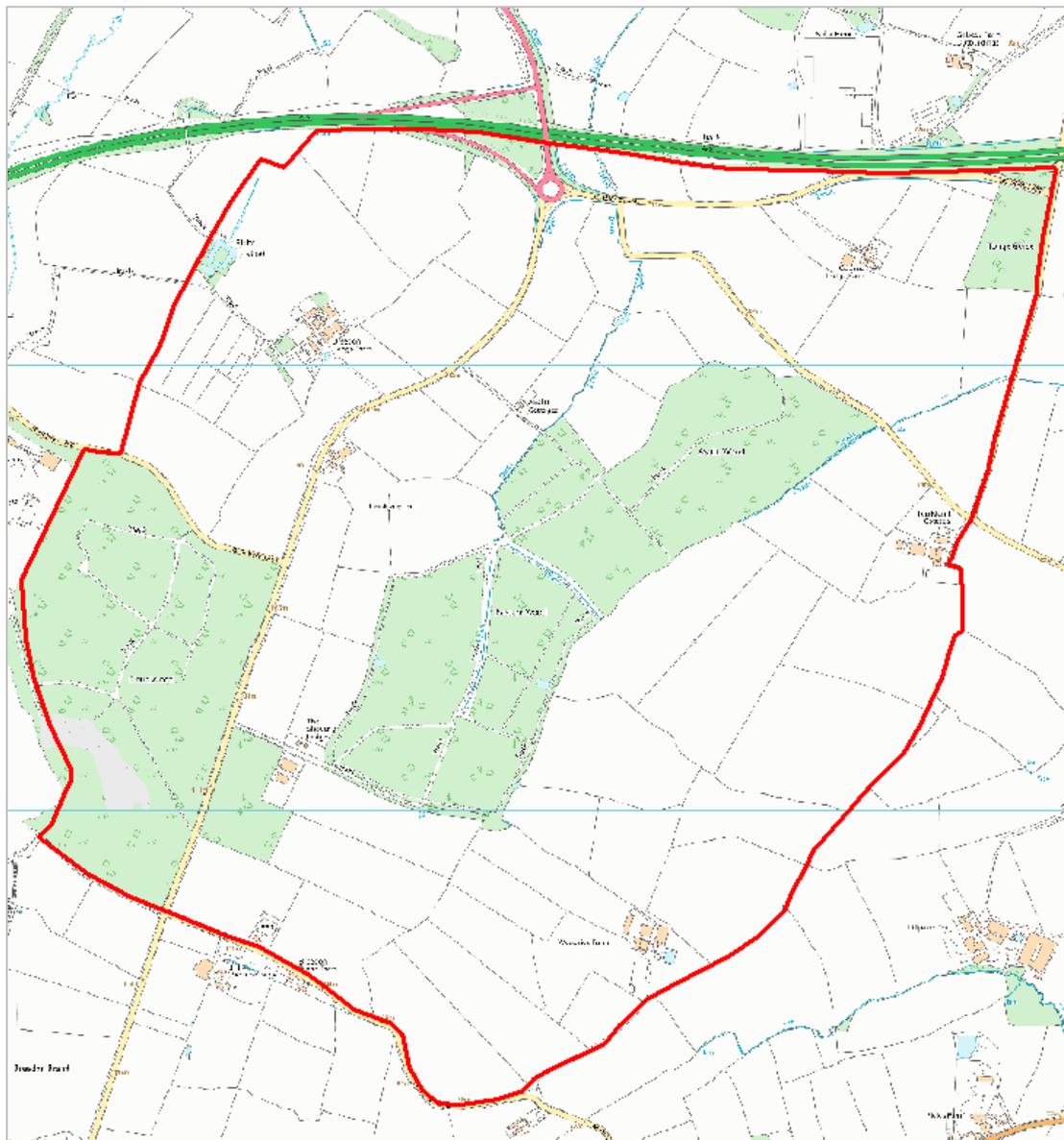


Figure 6 – Location of Site D, South of the A42/A453 Junction

Site details	
Development type	Residential – new settlement
Size	347 ha
Indicative residential capacity	2,600 – 5,200 dwellings
Indicative commercial and other uses	Local centre, with potential primary school and secondary school
Current use	Agriculture and open countryside. Bound to north by A42, and bisected by A447 (Top Brand)
SHELAA conclusions	Not considered as a whole by most recent SHELAA (contains sites EMP31, EMP32 and EMP33, but these only make a small part of the overall site area)
Known constraints	Currently situated outside the Limits to Development (adopted Local Plan Policies Map 2017) - requires change to Development Strategy to be considered suitable. To the north of the site there are two areas of woodland designated as Sites of Special Scientific Interest, one additionally designated as Ancient Woodland and (Pasture and Asplin Woods; Cloud Wood). Consideration will be required regarding the impact on the existing road network. The Eastern Leg of HS2 Phase 2b is also proposed to run directly north of the site, alongside the A42.

Table 4 – Site details – Site D, South of the A42/A453 Junction

Site I – South of A50 J1

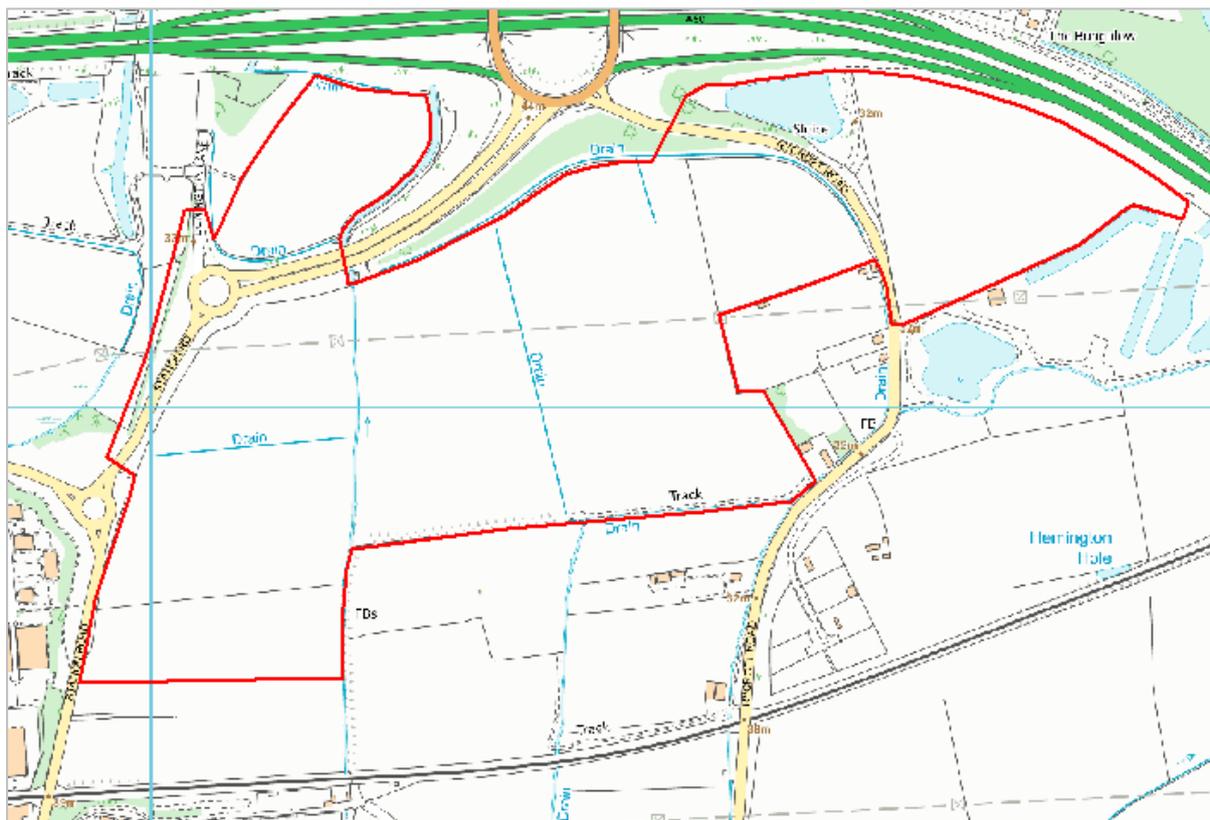


Figure 7 – Location of Site I, South of A50 J1

Site details	
Development type	Commercial
Size	45 ha
Indicative residential capacity	N/A
Indicative commercial and other uses	An outline planning application has been submitted for the site (Ref: 19/01496/OUTM) for development of up to 92,500 sqm GIA of storage and distribution units (B8), industrial units (B2) and light industrial units (B1c) as well as new vehicular accesses off Trent Lane / Station Road and Rycroft Road.
Current use	Agriculture and open countryside. Bound to north by A50 J1 roundabout.
SHELAA conclusions	Site ref EMP09 - potentially suitable, deliverable within 11-20 years.
Known constraints	Part (2) of Policy EC2 of the NWL Local Plan applies – where there is evidence of demand for additional employment land (B1, B2 and B8) that cannot be met from land allocated in the plan; the Council will consider favourably proposals that can be accessed sustainably; and that are not detrimental to the amenities of any nearby residential properties or the wider environment. The site is located within Flood Zone 3, so flood risk alleviation would be required.

Table 5 – Site details – Site I, South of A50 J1

Site J – West of the M1, south of Tamworth Road

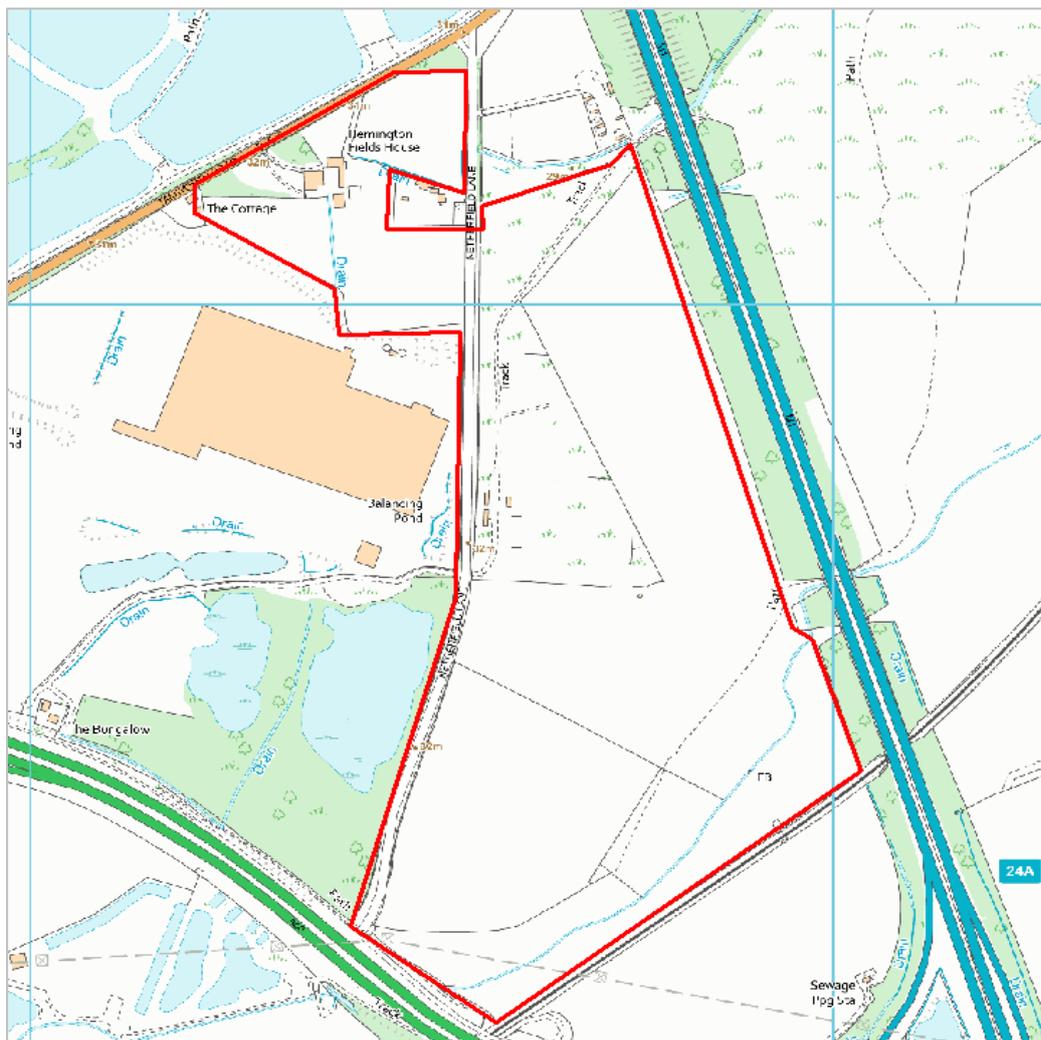


Figure 8 – Location of Site J, West of the M1 south of Tamworth Road

Site details	
Development type	Commercial
Size	26 ha
Indicative residential capacity	N/A
Indicative commercial and other uses	100,000sqm ¹⁵ of floorspace for B2 industrial and B8 warehousing and distribution
Current use	Agriculture and open countryside, including land used by a shooting school. Bound by new Aldi distribution centre to west, gypsy and traveller site to north, and roads and railway lines to south and east.
SHELAA conclusions	Site ref EMP62 - potentially suitable, deliverable within 11-20 years.
Known constraints	Part (2) of Policy EC2 of the NWL Local Plan applies – where there is evidence of demand for additional employment land (B1, B2 and B8) that cannot be met from land allocated in the plan; the Council will consider favourably proposals that can be accessed sustainably; and that are not detrimental to the amenities of any nearby residential properties or the wider environment. The site is located within Flood Zone 3, so flood risk alleviation would be required.

Table 6 – Site details – Site J, West of the M1, South of Tamworth Road

3.2 Infrastructure and constraints considered

This Infrastructure Study incorporates a broad range of infrastructure types within its scope. These have been identified by the Council, and we consider these to be a robust and comprehensive basis on which to consider the implications of development and, if one or more of these sites are deemed appropriate in the longer term, secure the proper delivery and funding of infrastructure over the plan period. The infrastructure types are set out in Table 7 alongside other development constraints that are also being considered as part of this study.

Category	Infrastructure Type
Utilities and Digital Infrastructure	Gas
	Electricity
	Water Supply
	Sewerage
	Digital Infrastructure
Community Infrastructure	Primary Education
	Secondary Education
	Special Educational Needs Provision
	Indoor and outdoor sports provision
	Libraries
	Cemeteries
	Community Spaces and Halls
Waste and Recycling Facilities	
Healthcare and Emergency Service Infrastructure	GP Surgeries
	Secondary Healthcare and Hospital Provision
	Adult Social Care
	Emergency Services
Other Development Constraints	Flood Risk Management
	Air Quality Mitigation
	Noise Pollution Mitigation

Table 7: Infrastructure types considered in the Infrastructure Delivery Plan

¹⁵ The calculations in this study have been undertaken based upon the expected commercial floorspace of Site J (100,000 sqm) initially indicated by the Council. A planning application has subsequently been submitted on the site for a floorspace of 79,000 sqm, and actual infrastructure demand will be therefore be marginally lower.

The council has commissioned separate studies to assess the potential implications in terms of transport and landscape character. It will also be seeking additional advice in respect of other matters such as biodiversity and heritage as well as viability.

3.3 Study methodology

The methodology for this study has included four main tasks:

Task 1: Establishing the inputs

To ensure a clear understanding of how future development will impact infrastructure provision in the study area, it is important to be clear on levels of provision now. We have therefore sought to understand the details of developments already committed (i.e. with planning permission in place) within the study area which have not yet been constructed.

In addition to the six potential future strategic development sites considered in this study, there are four strategic development sites within the study area which are already committed:

- 895 dwellings and 6 ha of land for employment, on land to the west of Castle Donington and east of Site C (Site E)
- The SEGRO East Midlands Gateway Strategic Rail Freight Interchange on land west of M1 J24 and north of East Midlands Airport, which has consent for up to 550,000sqm of floorspace across a site area of around 150ha (Site F)
- The East Midlands Distribution Centre on land north-west of Castle Donington and north-east of Site C, now largely completed (Site G)
- A recently-completed 55,000sqm Aldi Distribution Centre north of A50 J1 (Site H)

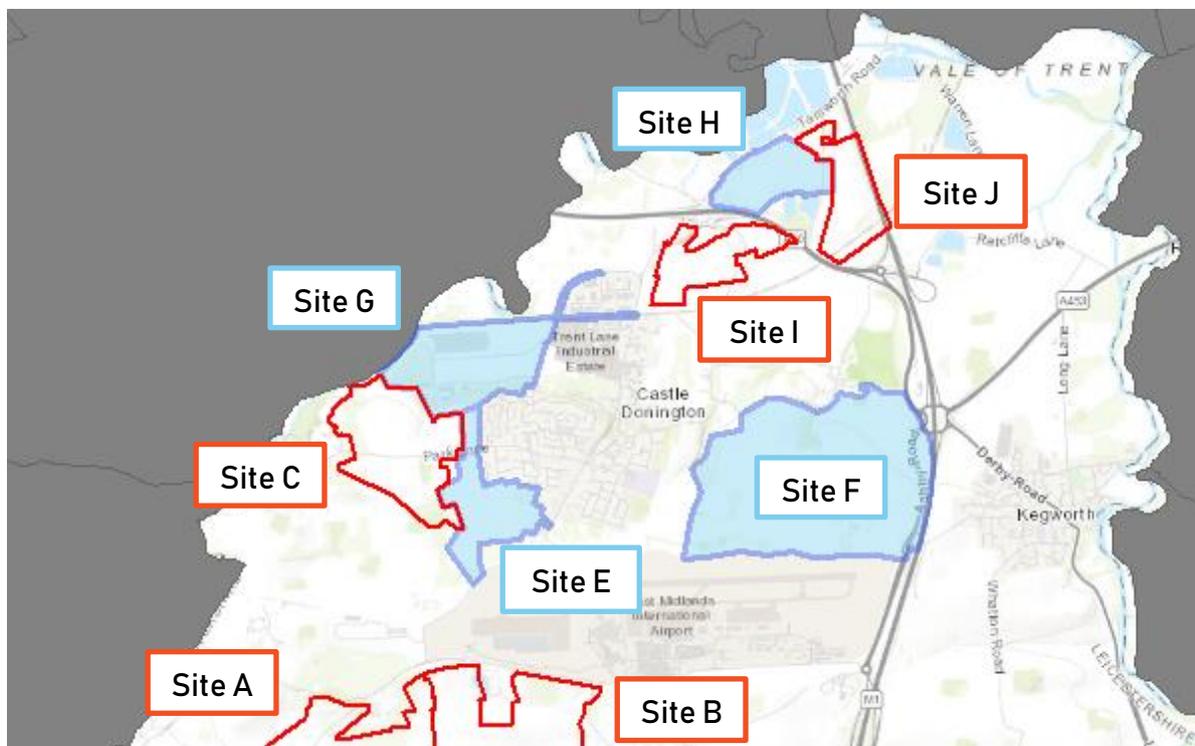


Figure 9: Strategic site commitments within the study area (blue)

Through our discussions with stakeholders in Task 3 (set out below), we have also sought to understand the nature of committed infrastructure improvements which already exist within

the study area – in some cases these are linked to the strategic development commitments set out above. This has allowed us to ‘isolate’ the infrastructure requirements which would be linked to the potential new sites under consideration in this study.

Task 2: Review of existing strategies

To begin establishing future infrastructure requirements, we have carried out a thorough desk-based review of published evidence and strategy documents relevant to the infrastructure types within the project scope and to the study area. We have also set out existing national and local policy context relevant to the production of the study.

This has helped us to establish any existing challenges with infrastructure provision within the study area, and any anticipated changes to levels of infrastructure provision already coming forward within the study area. It has also helped to establish the basis against which we have established the infrastructure demands arising from the six sites within the study.

Task 3: Engagement with infrastructure stakeholders

Our experience from similar studies to this demonstrates the essential nature of engagement with infrastructure providers. Given the consideration of other development constraints such as noise and flooding within the study scope, we have also sought to engage with relevant stakeholders for those disciplines. To do this we agreed a list of stakeholders with the Council and prepared a briefing note which was circulated to each stakeholder. This set out context around the study, and the levels of growth potentially anticipated on each site (the quantum set out in Section 3.1 above). To maximise engagement and build on the Council’s existing relationships with providers, the briefing note was circulated by the Council, alongside an invite for a discussion with Arup’s project team by email or phone call.

Through these discussions, we sought to understand:

- How the relevant infrastructure type currently performs, and any capacity issues;
- Details of any planned or emerging infrastructure interventions, including costs;
- The implications of levels of planned growth on infrastructure capacity;
- Any other issues that may impact the deliverability of development.

Discussions were held with the following stakeholders:

Category	Infrastructure/Constraint Type	Stakeholder
Utilities	Gas supply	Cadent Gas
	Electricity supply	Western Power Distribution
	Water supply	Severn Trent Water
	Sewerage	Severn Trent Water
Community Infrastructure	Digital infrastructure	Leics CC – Superfast Leicestershire
	Primary education	Leics CC – Education
	Secondary education	
	Special educational needs provision	
Healthcare & Emergency Services	Indoor and outdoor sports provision	North West Leics DC – Leisure
	GP Surgeries	West Leicestershire Clinical Commissioning Group
Other development constraints	Flood risk management	Leics CC – Lead Local Flood Authority
	Flood risk management	Environment Agency
	Air quality mitigation	North West Leics DC – Environmental Health
	Noise pollution mitigation	
	Noise pollution mitigation	East Midlands Airport
Noise pollution mitigation	Donington Park	

Table 8: Stakeholder engagement undertaken during the production of the study

Although all reasonable efforts were undertaken both by Arup and North West Leicestershire District Council to engage with stakeholders throughout the study period, there were a small number for whom appropriate contacts could not be identified and/or responses were not received. This may reflect other service pressures as a result of the Covid-19 pandemic, which was ongoing during the production of the study. These stakeholders are:

- Leicestershire County Council – Adult Social Care
- East Midlands Ambulance Service
- Leicestershire Police
- Leicestershire Fire and Rescue

For the infrastructure types covered by these stakeholders, our conclusions reflect an understanding from the review of published strategies in Task 2. The nature of these infrastructure types mean that they are not critical to the locations or deliverability of growth in particular locations, and we are therefore satisfied that an inability to engage does not adversely affect the validity of this study's findings. Nevertheless, the Council should continue to engage with these infrastructure providers throughout the rest of the Local Plan review process.

Task 4: Overall assessment of constraints and opportunities

Utilising the outcomes of Tasks 1-3, we have assessed the infrastructure and other constraints affecting each site. We have utilised benchmark infrastructure standards to do this wherever possible, or location-specific information provided to us through our discussions with stakeholders. This has allowed us to establish the anticipated infrastructure requirements for each of the sites set out in the brief, over and above the any baseline infrastructure capacity which already exists.

For each site we have set out a schedule of potential infrastructure interventions that were identified through previous tasks, and which may be necessary to support proposed levels of growth. The source of cost indications provided is the relevant infrastructure providers from whom we have generally been able to obtain a comprehensive set of infrastructure costs, but we have sense-checked these costs using our own expertise where necessary.

This has allowed us to form overall recommendations regarding the deliverability of each site, in the context of foreseeable challenges in bringing each site forward. Where relevant, we have also set out any potential cumulative issues which might be expected to arise based upon differing combinations of the sites coming forward, as required in the original brief.

4 Infrastructure capacity findings

This section will consider the resultant implications for accommodating future growth within the study area, for each of the infrastructure and constraint types within the scope of the study. This will complete the baseline position for the study area and form the basis from which the implications for development on each of the six potential strategic sites in the study can be established.

For each infrastructure type, we have set out the pattern of existing provision within the study area. For all infrastructure types and constraint types, we have then set out our view on the general implications for future growth. These help to inform the infrastructure implications for each site set out throughout Chapter 5.

These infrastructure and constraint types are split across four categories:

- Utilities (Section 4.1)
- Community infrastructure (Section 4.2)
- Healthcare and emergency service infrastructure (Section 4.3)
- Other development constraints (Section 4.4)

4.1 Utilities

4.1.1 Gas supply

Existing local provision

Cadent Gas owns and operates the gas supply network within North West Leicestershire. The study area is supplied via the National Transmission System (NTS) grid, both from Lubbethorpe near Leicester via the East Midlands Local Distribution Zone (LDZ) and Bacton in Norfolk via the Eastern LDZ. Cadent Gas have a duty to extend or improve the NTS where necessary, including to make provision to new development sites. Despite the ongoing investment proposed by Cadent to the NTS, no particular investment for the LDZs covering North West Leicestershire is noted.

Implications for future growth

According to the Cadent Long Term Development Plan¹⁶ (2018), annual gas demand is decreasing yearly and anticipated to continue to decrease with increased energy efficiency in the domestic sector and moves to restrict the provision of gas boilers in new homes. However, peak demands are forecast to remain high in response to cold weather snaps.

Through our discussions with them, Cadent Gas have not reported any significant stress within the local gas supply network. As such, **we anticipate no adverse implications for future growth** within the study area. There are however some implications for connections to the gas network on particular sites:

- **Sites A and B:** Development on either site would require investment in a section of gas main in the vicinity, to resolve a velocity issue. Cadent has estimated a cost of £375,000 for this work, irrespective of whether one or both sites is developed.

¹⁶ <https://cadentgas.com/nggdwsdev/media/media/reports/futureofgas/Long-term-development-plan-2018.pdf>

- **Site D:** This site will be challenging to connect to the gas supply network. The closest mains are several kilometres distant, and of a relatively small scale meaning that investment in local network reinforcement would also be required. At the time of writing Cadent Gas has not been able to provide indicative cost figures for connection, but these are understood to be significant.
- **Sites C, I and J:** No reinforcement will be required for the quantum of development indicated at these sites.

Cadent Gas has cautioned that these judgements are based upon the assumption that regulation equipment within the gas supply network can handle the additional loads from these sites, but that this cannot be confirmed until a formal connection enquiry is submitted. Should a regulator need upgrading, costs can range from £100,000, to around £6 million if a full site rebuild is required. These initial assessments are also based on an assumption that each site has a single connection on the gas supply network. These additional costs could be relatively significant, and would fall to developers.

4.1.2 Electricity supply

Existing local provision

Western Power Distribution (WPD) is responsible for electricity distribution across North West Leicestershire, which is part of WPD's wider East Midlands Distribution Area. Ratcliffe-on-Soar and Burton-on-Trent are the two closest National Grid Supply Points. Ratcliffe Power Station is due to close in 2024-2025, however, existing electricity supply infrastructure on the power station site will remain operational and is unaffected by this closure. The study area is served by primary substations in Castle Donington and at Trent Lane (north of Castle Donington). The under-construction SEGRO East Midlands Gateway is served separately by private network operator (UK Power Distribution), with its own primary supply network and substation connected to a bulk supply point at Toton in Nottinghamshire.

Implications for future growth

The Long Term Development Statement for East Midlands¹⁷ (2019), shows that during 2017/18, the peak demand recorded in the East Midlands was 5,079 megawatts and this is projected to rise to approximately 5,300 megawatts by 2022. Against this backdrop of increasing demand, WPD have identified a number of specific constraints within North West Leicestershire – both in overall grid capacity, and the capacity of individual substations.

WPD has set out the anticipated electricity demand that will arise from the development of the sites under consideration in this study, in order to establish impacts upon its network. Projections are based on a 'traditional' ADMD (After Diversity Maximum Demand) of 2kW per domestic dwelling, although it is noted by WPD that this demand would be greater if (for example) North West Leicestershire introduced planning policies which require the widespread provision of electric vehicle charging facilities. This increase could be offset by onsite renewables, depending on future policies and uptake. Therefore, we consider 1.8kW per dwelling to be a reasonable average starting point for new development, although the actual demand will depend on the mix of dwelling sizes coming forward – these calculations should therefore be treated with an appropriate degree of caution until this is known.

¹⁷ <https://www.westernpower.co.uk/partners/long-term-development-statements>

For commercial sites, more complex assumptions about electricity demand are required – these factor estimated electricity usage by sqm of building floorspace, estimated load factors and estimated power factors. Relative to the usage demand forecast by WPD, we forecast that actual potential demand could be slightly higher. A comparison of WPD’s calculations and our calculations is shown in Table 9 below:

Site	WPD estimate	Arup estimate
Site A – Residential (Up to 2,400 dwellings)	4.80MW	4.32MW
Site B – Residential (Up to 2,340 dwellings)	4.68MW	4.21MW
Site C – Residential (Up to 1,425 dwellings)	2.85MW	2.57MW
Site D – Residential (Up to 5,200 dwellings)	10.40MW	9.36MW
Site I – Commercial (32,000sqm B1, 30,000sqm B2, 32,000sqm B8)	2.76MW ¹⁸	4.37MW
Site J – Commercial (50,000sqm B2, 50,000sqm B8)	3.00MW	4.08MW
Total demand (All sites)	28.49MW	28.91MW

Table 9: WPD and Arup electricity demand estimates for the six sites in the study

Although our demand estimates vary from WPD’s for different types of land use, it is notable that the overall demand estimates for the six sites under consideration are virtually identical. We are therefore satisfied that the overall picture of electricity demand is robustly understood. Further consideration of the potential for installation of electric heating systems or renewable energy generation schemes within any new development is set out below, however our discussions with WPD have indicated that there remains significant levels of stress in the study area’s electricity network. Already committed development will take Castle Donington and Trent Lane substations up to their maximum capacity. As such, WPD has indicated that **new development of the scale indicated within the study area is likely to require the provision of a new primary substation**. In WPD’s view, this would most beneficially be located to the south of East Midlands Airport, in the vicinity of Sites A and B – this would ensure that new cabling (to Ratcliffe-on-Soar Bulk Supply Point) does not need to be routed through Castle Donington itself.

Irrespective of which sites were developed, WPD has indicated a cost of around £13.7m for the new primary substation – this assumes a cable routing to Ratcliffe-on-Soar broadly following the A453. This would be in addition to a cost of around £6.4m for necessary connection works at Ratcliffe-on-Soar Bulk Supply Point. WPD has then identified the following site-specific costs:

- **Sites A and B:** Because the new primary substation is proposed to be located within one of the two sites, the only costs indicated by WPD are onsite cabling and connection costs estimated at £5.7m for a total of 4,740 dwellings (across both sites).
- **Site C:** Because it would be an urban extension rather than a new settlement, this site would most efficiently be connected to the existing Castle Donington primary substation, with connections to other properties (e.g. in the vicinity of East Midlands Airport) being diverted to the new primary substation in the vicinity of Sites A and B. The cost of such diversion work has been estimated by WPD at £30,000. This is in addition to the cost of the new primary substation above, and onsite cabling and connection costs estimated at £1.7m for a total of 1,425 dwellings.
- **Site D:** Although located some distance to the south of Castle Donington, WPD considers that the most efficient connection to Site D would still be via a new primary substation in the vicinity of Sites A and B – the existing electricity network to the south of Site D (and Worthington primary substation) are considered incapable of

¹⁸ WPD did not provide an estimate for Site I, this figure is calculated on the basis of assumptions for Site J

upgrade to a sufficient capacity. WPD has estimated the cost of a cable route from Site D to the new primary substation in the vicinity of Sites A and B at £2.9m, in addition to the cost of the new primary substation above and on-site cabling and connection costs estimated at £6.2m for a total of 5,200 dwellings.

- **Sites I and J:** Given their proximity to Castle Donington, WPD considers the most efficient means of connection for these sites to be via the existing Trent Lane primary substation – with connections to other properties (e.g. in the vicinity of East Midlands Airport) being diverted to the new primary substation in the vicinity of sites A and B). The cost of such diversion work has been estimated by WPD at £30,000, in addition to the cost of the new primary substation above, and an estimated cost of £2.0 million to provide a cable route to Trent Lane.

There is an evident need for development of the sites to be considered holistically, particularly with regard to the apportionment of what are very significant costs. WPD has also noted a likely 3-5 year design and construction timeline for the new substation.

As the information provided is based upon the upper end of potential dwelling quantum on each site, we recommend that further work is done to understand and refine the proposed quantum and development mix for each site, and the likely phasing and timescales. This may enable the final remaining capacity within existing primary substations to be utilised instead, and avoid the need for a very expensive new primary substation; Ongoing dialogue with WPD will also be required.

Opportunities for future refinement of electrical supply needs

Demand for electricity arising from new development could be affected by a number of wider regulatory and demand changes in the future, helping to address climate change. The provision of solar photovoltaic panels within new development would decrease grid electricity demand, whereas increased electric vehicle usage and a switch away from gas boilers for heating would result in increased demand.

Because the potential implications of each are based on a number of externalities, we have not included these within the calculations set out above. However, the potential implications of each on electricity demand are set out below, and could be considered further as regulatory requirements and/or any new policy intentions in the Local Plan begin to emerge.

Solar Photovoltaic (PV) Panels

Solar PV is likely to become more attractive in the future due to technological improvements to increase power density and reduce the upfront cost of panel installation. It also provides a way for developers to attract prospective homebuyers via cheaper bills, and potentially lower development costs related to reduced need for wider electricity grid reinforcement. The exact potential of solar PV for each site in terms of annual energy yield would need to be further explored using industry standard software packages such as PVSyst¹⁹.

We anticipate that there will be some restrictions on the ability to install panels within Sites A, B and C due to their close proximity to East Midlands Airport – and concerns around the placement of panels were raised through our engagement with the Airport. However, this is not necessarily preventative. Any placement of panels within these sites would need to be considered through a glint and glare study at planning application stage, following which any panels could be oriented and tilted to mitigate any impact. Because of their greater distance

¹⁹ <https://www.pvsyst.com/>

from the Airport, glint and glare from solar PV panels are not anticipated to be a concern for Sites D, I and J.

Electric vehicle usage

The estimated electricity demands set out in Table 9 do not incorporate any significant future changes in the usage of electric vehicle usage. The uptake of electric vehicles is primarily influenced by external factors and is difficult to model, although this could be estimated more accurately if there was an intention to include a policy in the Local Plan to require (for example) a certain proportion of new homes to include vehicle charging points. WPD has indicated potential increases in electricity usage from 2kW up to 7kW in a typical dwelling with an electric vehicle – increases in electricity demand could therefore be significant.

Electric heating

The estimated electricity demands in Table 9 also do not account for any future transition away from gas boilers in new homes. In 2019, the Government set out an intention to ban the use of gas boilers in new development by 2025²⁰ - whilst this has not yet been enacted in building regulations, future developments are nevertheless more likely to start employing electric heating systems in place of gas. Electric-only heating would most viably be provided through panel heaters, or ground source heat pump (GSHP) systems.

Electric panel heaters have a higher electricity demand than heat pumps, but are often cheaper to install. Increasingly, the installation of GSHP systems are considered a viable pathway to deliver a more sustainable form of development.

Table 10 sets out high-level estimates of the potential increase in electricity demand in two scenarios; the first with residential buildings served with electric heating panels, and then the second with residential buildings served by heat pumps. In both scenarios it has been assumed that heat pumps are used in any non-residential buildings. Compared to the 28-29 MW demand for all six sites in Table 9, the additional 29 MW demand associated with a move to electric heating with heat pumps would equate to an approximate 100% increase. With electric panel heaters only, the additional 63 MW demand would equate to an approximate 220% increase. These are potentially significant implications for electricity supply, but will ultimately depend upon the exact nature of future national and local policy requirements.

Site	Estimated additional electrical demand with electric panel heaters	Estimated additional electrical demand with heat pumps
Site A – Residential (Up to 2,400 dwellings)	12 MW	4.8 MW
Site B – Residential (Up to 2,340 dwellings)	11.7 MW	4.7 MW
Site C – Residential (Up to 1,425 dwellings)	7.1 MW	2.9 MW
Site D – Residential (Up to 5,200 dwellings)	26 MW	10.4 MW
Site I – Commercial (32,000sqm B1, 30,000sqm B2, 32,000sqm B8)	3.0 MW	3.0 MW
Site J – Commercial (50,000sqm B2, 50,000sqm B8)	3.2 MW	3.2 MW
Total demand (All sites)	63 MW	29 MW

Table 10. Estimated additional demand as a result of transition towards electric heating.

The two main types of GSHP systems are closed loop or open loop. Open loop systems rely on appropriate ground geology, and transfer heat by circulating water into the water table, with potentially significant heat exchange yields. Closed loop systems are typically less

²⁰ <https://www.gov.uk/government/topical-events/spring-statement-2019>

efficient and less cost effective than open loop systems, but are less reliant on the presence of favourable geological conditions and can therefore be deployed more widely.

Table 11 below sets out our initial assessment on the potential for both closed and open loop systems on each of the sites considered within the study. We consider the provision of closed loop systems to likely be a viable option on all of the sites. For open loop systems Site C may have appropriate geology, however the hydraulic conductivity of the ground may be below the range where deployment would be commercially viable. A detailed feasibility study would be required to assess each of the sites' capacity for open loop GSHPs in more detail.

Site	Closed Loop	Open Loop
Site A	Likely to be viable	Some possibility, but unlikely to be viable
Site B	Likely to be viable	Some possibility, but unlikely to be viable
Site C	Likely to be viable	Likely to be possible, but may not currently be viable
Site D	Likely to be viable	Some possibility, but unlikely to be viable
Site I	Likely to be viable	Some possibility, but unlikely to be viable
Site J	Likely to be viable	Some possibility, but unlikely to be viable

Table 11 – Potential for each site to accommodate different GSHP systems

4.1.3 Water supply

Existing local provision

Severn Trent Water (STW) provides water to North West Leicestershire. The area is served on a comprehensive basis, via its Strategic Grid Water Resource Zone. This grid is supplied from a number of sources and distributes water across a significant part of the Midlands, meaning that increases in demand at particular times or places are readily managed.

Implications for future growth

STW's Water Resource Management Plan (WRMP) covers the period 2015-2040 and is updated every 5 years. The latest Draft WRMP²¹ outlines the strategy to support the strategic investments proposed for AMP7 (2020-2025 statutory management period). The WRMP identifies how potential increase in demand from new development can be accommodated, as well as plans to manage the existing supply of water and any changes that may be a result of climate change over the period to 2040.

The WRMP indicates that in the absence of future investment, supply and demand shortfalls within the Strategic Grid are likely. However, the Strategy aims to tackle this predominantly by reducing leakage and connecting the grid to new supply sources. Through our discussions with them, STW have not reported any stress within local parts of the Strategic Grid. As such, **we anticipate no adverse implications for future growth** within the study area or any site-specific issues to be addressed.

4.1.4 Sewerage and wastewater treatment

Existing local provision

STW also operates the sewerage network within North West Leicestershire. North West Leicestershire is located within the Soar Spatial Planning Area (SPA), which serves a population of approximately one million people, 9.8% of the STW total. There are 57 Wastewater Treatment Works (WwTW) across the Soar SPA – whilst some are of significant

²¹ <https://www.stwater.co.uk/content/dam/stw-plc/our-plans/severn-trent-water-resource-management-plan.pdf>

size, large parts of the catchment are rural and 61% of the area's population drains to 35 small WwTW which serve less than 2000 properties each.

The study area is served by four WwTW – Castle Donington, Kegworth, Long Whatton and Worthington. Each serves a small catchment, broadly limited to these settlements and surrounding villages only.

Implications for future growth

STW's Drainage and Wastewater Management Plan²² (DWMP) covers the investments proposed for the 5-year period 2020-2025 as well as setting out a 25-year long-term plan. For Castle Donington and Kegworth, issues are likely to arise from external sewer flooding, pressures of residential development and sewer collapses; whilst Kegworth is also at risk of sewer blockages. The North West Leicestershire District Council Detailed Water Cycle Study (2012)²³ further identifies constraints with the WwTW serving Castle Donington (from 2023 onwards) which will require future works to accommodate growth.

Whilst there are no fundamental constraints within the local sewerage network at present, through our discussions with STW we understand that **significant levels of development within the study area will necessitate network improvement**. For each site:

- **Sites A and B:** A connection to Castle Donington or Kegworth WwTWs would be required, with accompanying capacity increases in either case. Castle Donington WwTW is located on Trent Lane and is adjoined on all sides by build development, and STW therefore consider expansion challenging. By contrast Kegworth WwTW is surrounded by open fields beyond the edge of the settlement, meaning that this option may be more feasible. Alternatively, depending on other sites coming forward, it may be more appropriate for Castle Donington WwTW to be relocated (see Site C below).
- **Site C:** Because of its location, STW indicate that Site C would need to be served by Castle Donington WwTW – but that this is unlikely to offer sufficient capacity to serve sewerage arising from the site, and cannot realistically be expanded. Depending on other combinations of sites coming forward, it may therefore be necessary to relocate the WwTW.
- **Site D:** STW has expressed more fundamental concern about sewerage provision to Site D. Its closest WwTW is in Worthington, and the scale of development envisaged would necessitate significant enlargement. However, because of the small scale of the receiving watercourse from Worthington WwTW, STW has indicated that a significant influx of treated water may have adverse environmental implications.
- **Sites I and J:** These sites are separated from existing WwTWs by major transport infrastructure (the A50, M1 and Castle Donington Railway Line). The provision of suitable connections may therefore be costly, although this will depend on the nature of eventual commercial occupants and the amount of sewerage arisings anticipated.

²² https://www.stwater.co.uk/content/dam/stw/about_us/pr19-documents/sve_appendix_a9_drainage_and_wastewater_management_plan.pdf

²³ https://www.llstrategicgrowthplan.org.uk/download/pdf_document/2017s5956-Leicester-City-and-Leicestershire-Water-Cycle-Study-Final-v5.0.pdf

4.1.5 Digital infrastructure

Existing local provision

Superfast broadband (defined as connection speeds of 24Mbps or higher) are delivered commercially across North West Leicestershire by BT Openreach and Virgin Media. Currently, around 96% of properties within North West Leicestershire have a superfast level of provision. Figure 10 below sets out levels of provision across the study area – the majority of larger settlements have a superfast level of provision, with only the smallest hamlets and isolated properties having a below-superfast broadband speed (labelled as ‘seeking solution’).

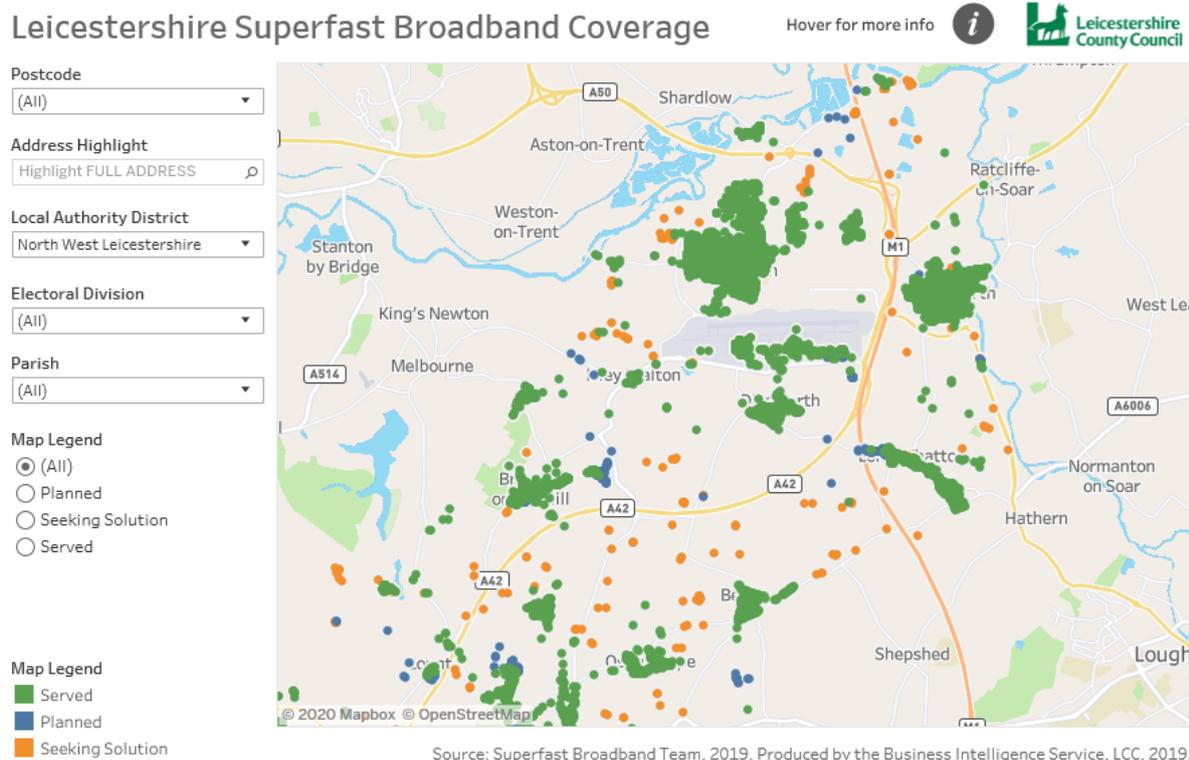


Figure 10: Superfast broadband connectivity across the study area (Source – Superfast Leicestershire, <https://www.superfastleicestershire.org.uk/when-and-where/>)

Superfast Leicestershire²⁴, is a partnership between Leicestershire County Council (LCC) and BT Openreach, with the intention of providing superfast broadband to the ‘final 4%’ – properties which are hardest to reach with superfast broadband connectivity. As part of the Government’s Rural Gigabit Connectivity programme, incentives are also being offered to connect more rural areas for which there is never likely to be sufficient financial incentive for private companies to provide fibre broadband.

In terms of mobile communication infrastructure, the entirety of the study area is covered by 4G cellular provision by the main commercial network operators. At the time of writing, the study area is also starting to receive some limited 5G cellular coverage – much of Castle Donington is covered by EE, and the vicinity of M1 J23a and parts of East Midlands Airport are covered by Three²⁵. The ongoing roll-out of 5G will largely be a commercial process – there is not currently any public sector focus on improved provision within the study area.

²⁴ <https://www.superfastleicestershire.org.uk/when-and-where/>

²⁵ <https://coverage.ee.co.uk/coverage/ee#5G> // <http://www.three.co.uk/Discover/Network/Coverage>

Implications for future growth

Because of the largely commercial nature of digital infrastructure provision, and the significant concentrations of potential customers which will exist within all of the sites under consideration, **we anticipate no adverse implications for future growth** within the study area relating to digital infrastructure provision. From our discussions with the Superfast Leicestershire team at Leicestershire County Council, the key requirement in new development should be a ‘dig once’ approach, whereby all necessary digital infrastructure is laid at the same time as other utilities. This significantly reduces cost, and ensures that challenges in trying to retrofit appropriate infrastructure will not arise.

Whilst it has not been possible for Superfast Leicestershire to provide an exact picture of the relative ease of providing superfast broadband to individual sites at this stage, it has noted that costs will be higher where sites are located at some distance from existing telephone exchanges. This will be particularly relevant for the ‘new settlement’ sites A, B and D.

4.2 Community infrastructure

4.2.1 Primary education

Existing local provision

In North West Leicestershire, planning and provision of education for children between the ages of 5 and 19 is the statutory responsibility of Leicestershire County Council.

Leicestershire’s strategy for education provision has not been updated since its last publication, which covered the period 2014–2018: *In the right place - A strategy for the organisation of school and other learning places in Leicestershire*²⁶. The strategy outlines changes to public service funding and the need to respond to movement away from the traditional structure of schools being under direct control of the education authority. The future landscape of education provision in Leicestershire is therefore likely to be characterised by a diverse range of provision. Leicestershire County Council’s role is as a ‘commissioner’ of school places, helping to ensure appropriate provision requirements as a result of new development (for example by engaging with Local Plan processes and negotiating education requirements in Section 106 agreements).

There are currently 11 state primary schools within the study area, as shown on Figure 11. The majority are small traditional village schools serving localised catchment areas, with 0.5 forms of entry or less (1 form of entry = 30 pupils in each year group = 210 pupils across the seven years of primary school from Reception through to Year 6). Only Castle Donington (Orchard and St Edwards Primary Schools) and Kegworth Primary School are larger.

A new school will also be constructed on committed development Site E at Park Lane, to the west of Castle Donington. This will serve the pupil yield being generated by that site.

²⁶ <https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2016/1/21/In-the-right-place-school-places-strategy.pdf>

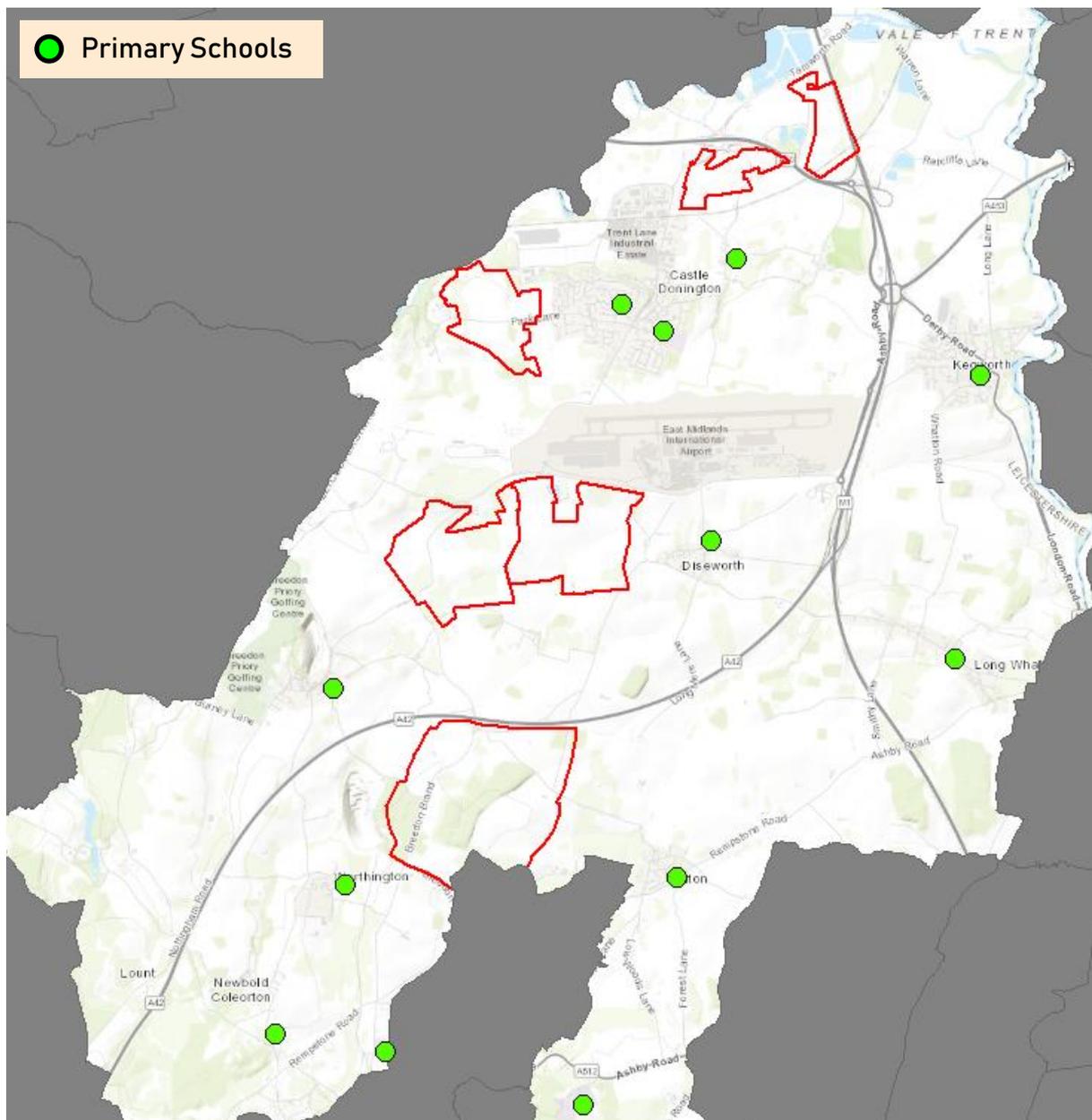


Figure 11: Locations of primary schools within the study area

Primary School	Settlement	2018/19 capacity		Projected future pupils			
		Stated	On roll	2021	2022	2023	2024
Orchard Primary School	Castle Donington	315	265	286	292	304	312
Kegworth Primary School	Kegworth	210	201	208	214	217	214
St Edward’s Primary School	Castle Donington	207	199	204	204	205	206
Griffydam Primary School	Griffydam	105	96	112	119	124	130
St Hardulph’s Primary School	Breedon	105	76	73	73	67	67
Belton CofE Primary School	Belton	105	104	105	101	96	95
Long Whatton Primary School	Long Whatton	105	104	106	109	108	108
Hemington Primary School	Hemington	84	57	52	48	50	49
Diseworth CofE Primary School	Diseworth	78	59	57	58	55	56
Newbold CofE Primary School	Newbold	70	53	44	38	36	35
Worthington School	Worthington	70	69	74	76	77	83

Table 12: Capacities of primary Schools within the study area (Data source: North West Leicestershire District Narrative Members Briefing – August 2019²⁷)

²⁷ <https://resources.leicestershire.gov.uk/sites/resource/files/field/pdf/2019/11/6/North-West-Leicestershire-narrative-primary-and-secondary-forecasts.pdf>

Implications for future growth

Table 12 on the previous page shows the capacity of primary schools within the study area, and LCC's estimates of future pupil demand growth. Pupil numbers highlighted in green show schools that are below 90% of their capacity, whilst those highlighted in orange show schools within 90-100% of their capacity. No primary schools are currently over capacity, but forecasts through to 2024 show that several primary schools will be (highlighted in red).

Whilst a new school 1 form of entry school (210 places) will be built on committed development Site E and it is intended to expand Kegworth Primary School by 0.5 forms of entry (i.e. 105 places, to a total capacity of 315 pupils), this capacity is anticipated to be utilised by other committed development. LCC has indicated that Orchard Primary School and St Edwards Primary School are unlikely to be capable of further expansion, and the small size of the various village schools generally make them unsuitable for expansion. As a result, LCC has advised that **all of the four residential sites considered in the study are likely to require the provision of new primary schools.**

LCC's Planning Obligations Policy sets out pupil yield ratios at generally 700 dwellings per 1 form of entry Primary School. Additionally, the *In The Right Place* Strategy, although due for review, sets out a minimum 1 form of entry, ideal 2 form of entry and maximum 3 form of entry standard for new development. The Department for Education and Education and Skills Funding Agency push for 2 forms of entry as a minimum. Therefore, the emerging strategy for new developments is to seek sufficient land for schools of 2 forms of entry to allow for future proofing. On each site, we consider this likely to translate to:

- **Site A:** Based upon the potential capacity of 1,200 to 2,400 dwellings, between 1.7 and 3.4 forms of entry would be required – unless site capacity were maxed out (meaning that two primary schools would be required), the likely response would be a new on-site 2 or 3 form of entry primary school. Greater flexibility in provision may be possible if sites A and B were to come forward together.
- **Site B:** Based upon the potential capacity of 1,170 to 2,340 dwellings, between 1.7 and 3.3 forms of entry would be required – unless site capacity were maxed out (meaning that two primary schools would be required), the likely response would be a new on-site 2 or 3 form of entry primary school. Greater flexibility in provision may be possible if sites A and B were to come forward together.
- **Site C:** Based upon the potential capacity of 713 to 1,425 dwellings, between 1.0 and 2.0 forms of entry would be required. The likely response would therefore be a new on-site 1 or 2 form of entry primary school.
- **Site D:** Based upon the potential capacity of 2,600 to 5,200 dwellings, between 3.7 and 7.2 forms of entry would be required. The breadth of this range could enable a range of options for the number and size of primary schools – but would mean at least two new schools are required.

4.2.2 Secondary education

Existing local provision

There is only one secondary school within the study area – Castle Donington College. This was formerly a middle school catering for ages 10-14, but has recently converted to cater for ages 11-16. Its published pupil capacity is relatively small for a secondary school at 645, with 539 pupils on roll (2018/19 data) – LCC estimates growth to around 572 pupils by 2024.

Implications for future growth

Although Castle Donington College has some unutilised capacity, it is understood from our discussions with LCC that **new secondary school provision will be required** to meet the levels of growth anticipated on each of the sites under consideration. LCC has indicated that Castle Donington College has sufficient space to expand on site – whilst this will clearly depend on the quantum of growth and which combinations of sites come forward, to meet demand from Sites A, B and C it is considered sensible to expand the College to accommodate the additional pupil yield from new development.

LCC has indicated greater challenges with Site D. In order for a secondary age student to be able to travel to school independently there needs to be an available walking or cycling route of less than 3 miles. The distance from the closest part of Site D to Castle Donington College is 4.5 miles, which is not considered to be sustainable and would result in a potential need for pupils to be transported to school at a considerable on-going cost to the Local Authority. It is therefore considered that Site D would require the provision of a secondary school on site.

Based upon the potential capacity of 2,600 to 5,200 dwellings, between 3.7 and 7.2 forms of entry would be required. The smallest Secondary School that would be considered by LCC would be for 600 pupil places (4 forms of entry), require a land take of 5ha and cost in the region of £18.5 million to construct.

4.2.3 Special educational needs provision

Existing local provision

There are currently no special schools within the study area – special educational needs are typically provided for on a wider geographical basis than individual local authorities, in this case on a countywide basis across Leicestershire. The closest special educational needs provision to the study area is in Loughborough, Ibstock and Hugglescote, although some pupils will also travel further depending on the nature of their needs.

Implications for future growth

There is increasing demand for additional special education needs, particularly in respect of Communication and Interaction (C&I) and Social and Emotional Mental Health (SEMH). The most recent forecast of demand anticipates a 22% growth in pupil places required over the next 5 years (North West Leicestershire District Narrative Members Briefing – August 2019).

To meet this current demand, LCC has implemented a High Needs Block Development Plan²⁸ which outlines proposals to provide an additional 653 SEND School places across Leicestershire. None of the proposed additional SEND places are located within the study area, and given the countywide approach to provision **we anticipate no adverse implications for future growth** within the study area.

LCC's Planning Obligations Policy calculates places and cost per pupil place based on the number of students who attend a special school or have enhanced resource provision as a proportion of the primary and secondary age pupils. For primary pupils, it is calculated at 0.363 SEN pupils per 100 dwellings, and 0.4 secondary age SEN pupils per 100 dwellings. A pupil in a special school requires between four and five times the space of a pupil in a mainstream school (Based on Building Bulletin No. 102 Page 52). Therefore the cost of providing a special school place is expected to be four and half times the cost of providing

²⁸ <http://politics.leics.gov.uk/documents/s145118/HNB%20Development%20Plan%20Update.pdf>

mainstream provision a. Cost multipliers per pupil place for SEN provision: Primary (4-11 years) £65,664 and Secondary (11-19 years) £81,531. On each site, we consider this likely to translate to:

- **Site A:** Based upon the potential capacity of 1,200 to 2,400 dwellings, between 4 and 9 primary school places and between 4.8 and 9.6 secondary school places would be required.
- **Site B:** Based upon the potential capacity of 1,170 to 2,340 dwellings, between 4 and 8 primary school places and between 5 and 9 secondary school places would be required.
- **Site C:** Based upon the potential capacity of 713 to 1,425 dwellings, between 3 and 5 primary school places and between 3 and 6 secondary school places would be required.
- **Site D:** Based upon the potential capacity of 2,600 to 5,200 dwellings, between 9 and 19 primary school places and between 10 and 21 secondary school places would be required .

4.2.4 Indoor and outdoor sports provision

Existing local provision

Leicestershire and Rutland Sports (LRS) is the County Sports Partnership for Leicester, Leicestershire and Rutland. The local authorities of Leicester, Leicestershire and Rutland have formed a partnership along with schools, National Governing Bodies of Sport, club coaches and volunteers to create a legacy for sports and physical activity. It aims to ensure that the national sport and physical activity resources have a local dimension. Whilst it has an oversight role, North West Leicestershire District Council is not generally responsible for local sports provision within the study area – most provision is made by town and parish councils and private sector providers.

Indoor and outdoor sports provision within the study area ranges from health clubs, school pitches and community clubs to recreation grounds and playing fields. A number of sites have multiple uses, such as King George V playing field in Kegworth which supports Kegworth Tennis Club, RFC, Cricket Club and Bowls Club.

Implications for future growth

The North West Leicestershire Community Facilities Framework²⁹ identifies a district wide theoretic unmet demand for sports halls, particularly for badminton, swimming pools and artificial grass pitches up to 2031. Additionally, there are a number of facilities that have been identified as requiring refurbishment. In the study area this includes Castle Donington College, for which increasing the size of the sports hall to accommodate more activities and refurbishing or replacing of the artificial grass pitches are considered high priority. The provision of greater community access to the College's facilities is also sought. Medium priority considerations include refurbishing the school's health and fitness facility, and refurbishment of its swimming pool (which is currently condemned).

²⁹ NWLDC. *The North West Leicestershire Indoor and Built Sports and Recreation and Community Facilities Framework 2016.*

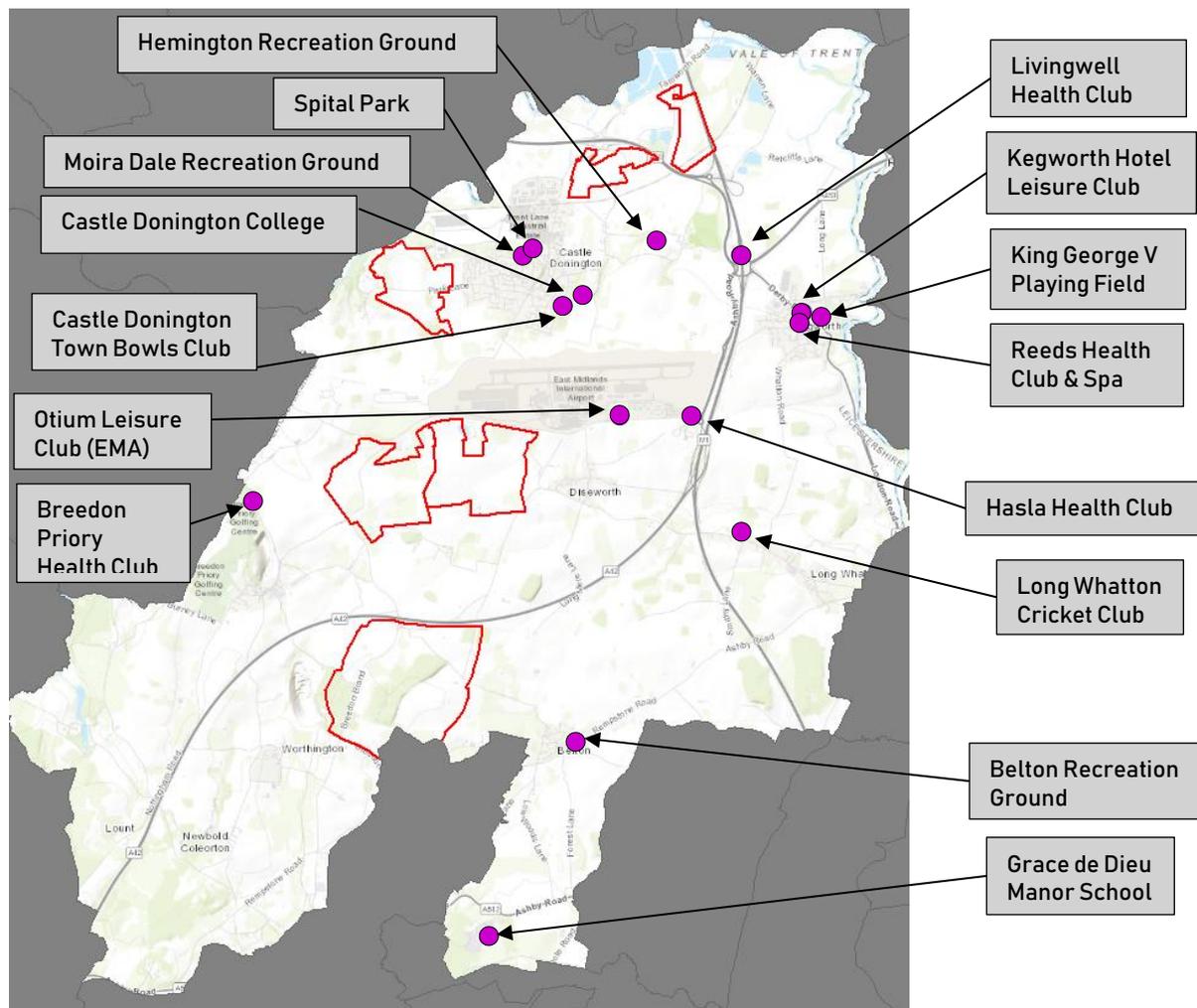


Figure 12: Indoor and Outdoor Sports Provision within the study area

Analysis undertaken as part of the North West Leicestershire Playing Pitch Strategy³⁰ indicates that facilities at Belton Recreation Ground, Spital Park, Moira Dale Recreation Ground and Long Whatton Cricket Club had spare capacity as of 2017 to accommodate some growth for most activity types. The strategy does not indicate any particular overuse at any of the facilities within the study area (although Castle Donington Town Council is understood to consider there to be a shortage of available pitches within the town). We therefore anticipate no adverse implications for growth within the study area, and no requirement for the development of sites within the study area to address existing shortfalls in provision. **Sites will therefore only need to address demands arising from within them.**

Through our discussions with the responsible officers at NWLDC, we understand that the Council does not have adopted policies or standards for the provision of sports facilities in new development. However, the Fields in Trust '6 acre standard'³¹ is utilised when negotiating developer contributions for outdoor sports – this equates to 2.4 hectares (6 acres) of provision per 1,000 population. Based upon a typical household size of 2.4 people, the standard equates to 5.76 hectares per 1,000 homes. For each site, this would mean:

³⁰ NWLDC. *Playing Pitch Strategy 2017*.

³¹ <http://www.fieldsintrust.org/guidance>

- **Site A:** Based upon the potential capacity of 1,200 to 2,400 dwellings, between 6.9 and 13.8 hectares of outdoor sports provision. Greater flexibility in provision may be possible if sites A and B were to come forward together.
- **Site B:** Based upon the potential capacity of 1,170 to 2,340 dwellings, between 6.7 and 13.4 hectares of outdoor sports provision. Greater flexibility in provision may be possible if sites A and B were to come forward together.
- **Site C:** Based upon the potential capacity of 713 to 1,425 dwellings, between 4.1 and 8.2 hectares of outdoor sports provision.
- **Site D:** Based upon the potential capacity of 2,600 to 5,200 dwellings, between 15.0 and 30.0 hectares of outdoor sports provision.

It is understood that requirements for indoor sports provision are likely to emerge on a case-by-case basis, as development of the sites progresses.

4.2.5 Libraries

Existing local provision

Library services in North West Leicestershire are overseen by Leicestershire County Council's Libraries, Heritage and Art (LHA) Service. There are two libraries within the study area – one in Castle Donington, and one in Kegworth – both are of relatively small size, with generally only part-day opening, and are now managed by local communities (reflecting recent changes in LCC's service model).

Demand modelling undertaken as part of North West Leicestershire's Infrastructure Delivery Plan³² shows that library provision within the study area is significantly below the Arts Council standard of 30 sqm per 1,000 people, at 22.2 sqm per 1,000 people (as per 2016 population).

Implications for future growth

The nature of library services mean that **a deficit in provision will not result in adverse implications for growth within the study area**. Nevertheless, it would be appropriate for development to make contributions to library service provision. Based upon the Arts Council 30sqm floorspace per 1,000 population standard (equivalent to 72 sqm per 1,000 dwellings), a potential need would exist for several hundred sqm of new library floorspace across the four residential sites.

In the context of LCC's switch to a community-operated model of library service provision, it is considered relatively unlikely that a new library would be provided in connection with any of the sites under consideration, unless a community group were identified in advance. The enlargement and/or enhancement of the existing libraries in Castle Donington and Kegworth may therefore be more likely as a target for developer contributions collected under Leicestershire County Council's Planning Obligations Policy³³. The amount of any funding for schemes should be based upon needs identified at the time planning applications are received.

³² NWLDC. *Infrastructure Delivery Plan 2016*.

³³ <https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2019/8/16/Planning-Obligations-Policy.pdf>

4.2.6 Cemeteries

Existing local provision

Cemeteries are run in partnership by North West Leicestershire District Council, local Parish Councils and churches. There are three cemeteries within the study area – Castle Donington Cemetery, Kegworth Cemetery and Worthington Cemetery; Castle Donington and Kegworth Cemeteries (maintained by the relevant Parish Councils) and Worthington Cemetery (maintained by the Church). There is no crematorium provision within the study area – the closest is the Trent Valley Crematorium south of Derby.

Implications for future growth

Across the three cemeteries, the collective area totals 2.3ha. As of the 2016 IDP, there was considered to be sufficient remaining capacity across these cemetery sites, with **no adverse implications for growth within the study area** and therefore no anticipated requirements for any of the sites considered in this study to need to accommodate new cemetery provision.

4.2.7 Community halls and spaces

Existing local provision

There are 13 community facilities within the study area, shown on Figure 13 on the following page. This total includes church halls, village halls, community rooms and sports pavilions.

Implications for future growth

The provision of community facilities can play an important role in the creation of sustainable new communities. It is therefore considered important for new community facilities to be provided at the heart of the three ‘new settlement’ sites – Sites A, B and D. Conversely, Site C would form an extension to Castle Donington and it would be more appropriate for any development to take steps to integrate with the existing community. Whilst new community facilities may therefore not be required within Site C, it would still be appropriate for contributions to be made to improve or enlarge existing facilities within the town. Overall, the provision of community facilities **is not anticipated to have any adverse implications for growth within the study area**.

Demand modelling undertaken as part of the 2016 IDP assumed a benchmark standard of 65sqm per 1,000 people for community facility provision (equivalent to 156sqm per 1,000 dwellings). Resultant demand would be:

- **Site A:** Based upon the potential capacity of 1,200 to 2,400 dwellings, community facility(s) of between 187sqm and 374sqm. A greater critical mass and/or consolidation of facilities could be achieved if Sites A and B are delivered together.
- **Site B:** Based upon the potential capacity of 1,170 to 2,340 dwellings, community facility(s) of between 183sqm and 365sqm. A greater critical mass and/or consolidation of facilities could be achieved if Sites A and B are delivered together.
- **Site D:** Based upon the potential capacity of 2,600 to 5,200 dwellings, community facility(s) of between 406sqm and 811sqm.

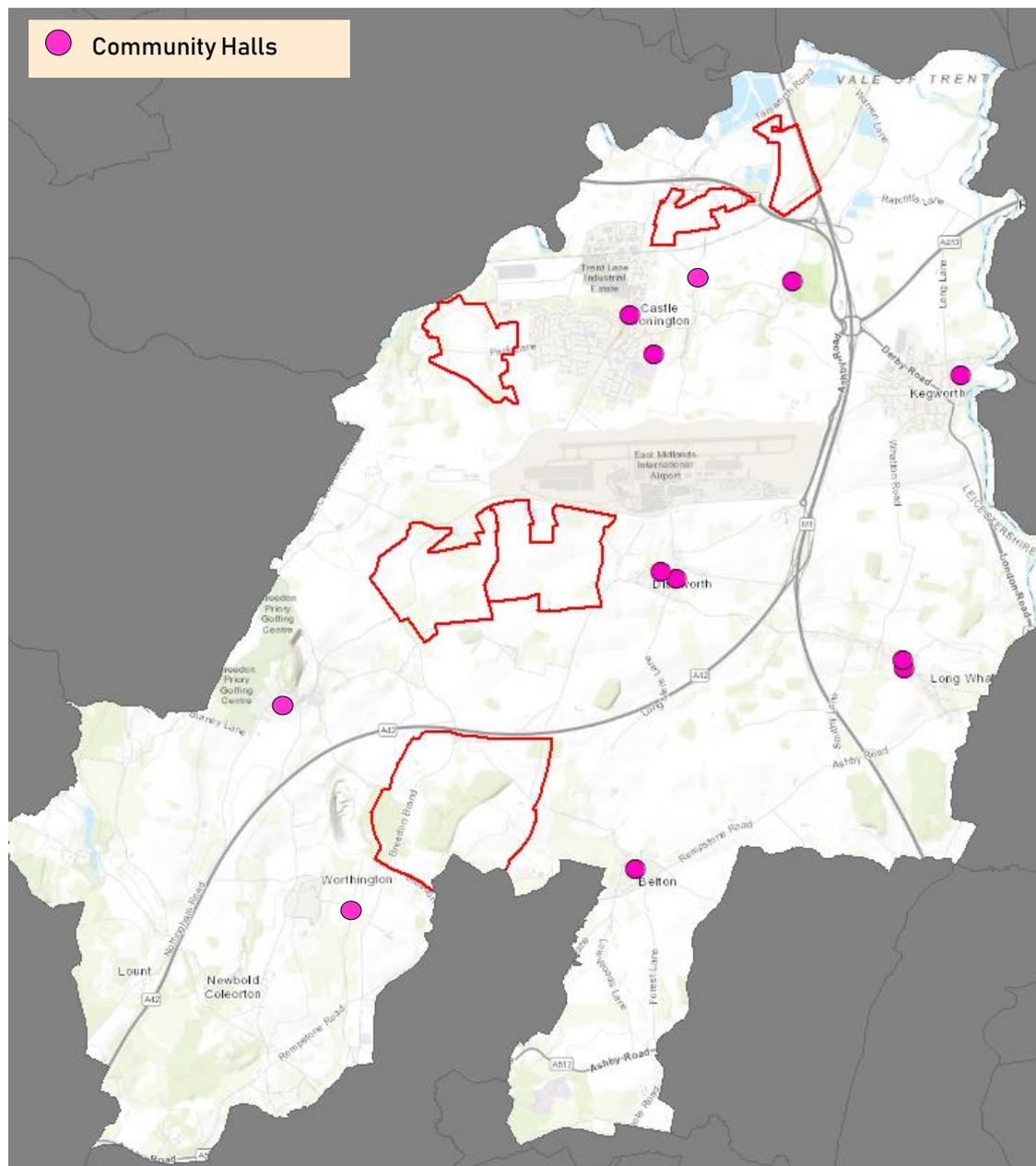


Figure 13: Community halls within the study area

4.2.8 Waste and recycling facilities

Existing local provision

In North West Leicestershire waste collection is the responsibility of North West Leicestershire District Council, whilst waste disposal is the responsibility of Leicestershire County Council. The Leicestershire County Council Minerals and Waste Local Plan was formally adopted in September 2019. It includes three facilities within the study area:

- Lockington Quarry Landfill Site (no longer accepting waste);
- Lount Recycling and Household Waste Site (LCC); and
- Lount Composting Facility (SITA).

There are no household waste and recycling centres within the study area.

Implications for future growth

Local authority collected waste (LACW) and commercial and industrial (C&I) are managed within the same waste stream. The 2016 IDP estimated a need for new facilities across the district to accommodate 51,000 tonnes per annum. For construction and demolition wastes (C&D), the 2016 IDP estimated a need for new facilities across the district to accommodate some 100,000 tonnes per annum. Sites I and J could potentially be suitable locations for the delivery of new capacity to meet this demand, although their relatively advanced status (in terms of site promotions and emerging planning applications) mean that this is unlikely. Sites A-D are not considered to be appropriate locations for new waste capacity, as this would be incompatible with their proposed residential use.

Leicestershire's Planning Obligations Policy notes that each proposed development will be assessed and considered on a case-by-case basis considering the wider impact on the local Household Waste Recycling Centres and waste transfer network. Where considered necessary to require contributions, these will be used towards existing site alterations, machinery and where appropriate construction of a new site.

As such, there are **no adverse implications anticipated for growth within the study area**. The only waste and recycling facilities of relevance to the development of each site will be the provision of localised facilities such as bottle banks and clothes banks, which can be readily accommodated during the detailed design of development.

4.3 Healthcare and emergency service infrastructure

4.3.1 GP Surgeries

Existing local provision

There are three surgeries within the study area, with a combined total of 14 GPs serving 22,929 patients. The West Leicestershire Clinical Commission Group (CCG) is generally responsible for the commissioning of GP services within North West Leicestershire, although its boundaries do not align with local authority boundaries – significantly, Kegworth falls within the area covered by the Nottingham and Nottinghamshire CCG and does not overlap with Castle Donington. Whilst the CCG's have an overarching role in provision, it is important to note that surgeries are self-governing and are in effect private businesses.

GP Practice	Number of GP's	Number of Patients
Castle Donington Surgery	6	9811
Orchard Surgery (Kegworth)	6	8686
Manor House Surgery (Belton)	2	4432

Table 13: GP surgeries in within the study area

Reflecting wider national changes in general practice provision, from July 2019 Castle Donington Surgery and Manor House Surgery practices began working together as part of the 'North West Leicestershire 1' Primary Care Network³⁴. Orchard Surgery has now joined the South Rushcliffe Primary Care Network. This approach to patient care allows surgeries within each network to collaborate, for example by providing weekend and evening appointments on a rota basis.

³⁴ <http://politics.leics.gov.uk/documents/s149411/PCN%20maps%20August%2019%20standard%20format.pdf>

Because of the nature of general practice provision, surgeries are only able to refuse new patient registrations in the most exceptional of circumstances. There is therefore no objective basis on which to establish whether a surgery is operating above capacity, although the CCG indicates that Care Quality Commission ratings can be a useful proxy of whether patients are being provided with an acceptable level of care. Currently, all three surgeries are rated “Good” by the CQC.

Implications for future growth

Discussions with the West Leicestershire CCG have highlighted that Castle Donington Surgery is unlikely to be capable of expansion on its existing site from a planning and amenity perspective – its premises are constrained, with challenges around car parking. Manor House in Belton is an extended former dwelling and therefore has no physical capacity for expansion. The ability of Orchard Surgery in Kegworth to expand is not known, but the distance of Kegworth from the sites under consideration (and its location within a different CCG area) mean that it is not an option for new patient needs arising.

As such, the CCG indicates that the **development within the study area is likely to require the provision of new surgery capacity**. Because of the way primary care is commissioned, it cannot necessarily be assumed that this would take the form of an entirely new practice – it would be more likely to be a branch surgery within the new Primary Care Network, or potentially the relocation (and enlargement) of an existing surgery within one of the new sites under consideration. The exact approach to be taken will depend on the combination of sites brought forward in the new Local Plan, and require discussion with existing surgeries at that time, but for the purposes of this study we have established the following:

- **Site A** – Based upon the potential capacity of 1,200 to 2,400 dwellings, patient yield (using the CCG standard of 2.4 patients per dwelling) would be between 2,880 and 5,760. At the upper end this site could likely support the provision of a new surgery, but at the lower end is likely to be reliant on demand from other sites (B or C) to provide the critical mass to make a new surgery viable.
- **Site B** – Based upon the potential capacity of 1,170 to 2,340 dwellings, patient yield (using the CCG standard of 2.4 patients per dwelling) would be between 2,800 and 5,600. At the upper end this site could likely support the provision of a new surgery, but at the lower end is likely to be reliant on demand from other sites (A or C) to provide the critical mass to make a new surgery viable.
- **Site C** – Based upon the potential capacity of 713 and 1,425 dwellings, patient yield (using the CCG standard of 2.4 patients per dwelling) would be between 1,710 and 2,420. This is unlikely to be sufficient to make a new surgery viable, with surgery provision reliant on patient yields from other sites (A or B) as part of a coordinated approach across Castle Donington. If Site C comes forward in isolation the approach to provision will be more challenging – whilst internal reconfiguration of the existing Castle Donington Surgery or measures such as patient video consultations may assist in creating some capacity, the CCG has expressed concerns around the feasibility of such an approach. Should a circumstance arise where Site C comes forward in isolation, this would need to be explored in more detail with the Surgery and CCG.
- **Site D** – Based upon the potential capacity of 2,600 to 5,200 dwellings, patient yield (using the CCG standard of 2.4 patients per dwelling) would be between 5,460 and 10,920. This site is likely to be able to viably support a new surgery anywhere within this range. The CCG has also identified the potential to meet this provision by

relocating (and significantly expanding) Manor House Surgery from nearby Belton, in order to address issues with its current substandard premises.

At the time of writing, confirmation of the CCG's cost formulae assumptions for new surgery provision was still awaited.

4.3.2 Secondary healthcare and hospital provision

Existing local provision

Provisions for secondary healthcare are evolving towards a new integrated model of care whereby primary and secondary care doctors will collaborate, GPs and hospital doctors will work together more directly, and pathways across primary and secondary care will become shared. This is a key aim of the NHS Long Term Plan³⁵ and will likely change the demand for and provision of secondary healthcare in the future.

There is no hospital provision directly within the study area, although there is one local hospital elsewhere in North West Leicestershire – Coalville Community Hospital. In the wider locality around North West Leicestershire there are a number of large acute hospitals which serve the study area; these being Royal Derby Hospital, Queen's Hospital in Burton-on-Trent, City Hospital and Queen's Medical Centre in Nottingham, and Leicester General Hospital and Leicester Royal Infirmary.

Implications for future growth

The 2016 IDP did not consider levels of constraint across these hospitals, although did identify metrics by which the amount of new hospital floorspace demand arising from new development could be established. Because of the wider geographical area across which secondary healthcare is provided, and lack of existing provision within the study area that could be improved, **we do not envisage any adverse implications for development within the study area.** Given the wide array of potential hospital destinations from the study area (which will generally reflect residents' personal preferences), it is also unclear at this stage whether development within the study area would be expected to contribute to the costs of hospital provision in any specific location. This could be explored in further detail with Hospital Trusts as part of the wider Local Plan process.

4.3.3 Adult social care

Existing local provision

Leicestershire County Council's Adult and Community Services provide an adult social care service for North West Leicestershire. The service supports people with learning disabilities, physical disabilities and mental health needs as well as older people. LCC's 2016-2020 Vision and Strategy for Adult Social Care³⁶ sets out a future change in approach to adult social care where support is increasingly remote (online and by telephone) to ensure that people can access support where and when they need it.

Within the study area, the only adult social care provision consists of a hospice and a number of private adult care homes. The District Council manage one affordable supported housing

³⁵ <https://www.longtermplan.nhs.uk/wp-content/uploads/2019/01/nhs-long-term-plan-june-2019.pdf>

³⁶ https://www.leicestershire.gov.uk/sites/default/files/field/pdf/2016/3/23/ASC_Strategy_2016_2020_0.pdf

scheme (flats) in Castle Donington and along with Registered Providers have a number of rented bungalows which are allocated to those in need of such properties. Within the wider North West Leicestershire district, there are day centres and care homes; a disability support service; and a meals provider service all in Ashby and Coalville. A £12.5m new affordable care home providing 65 units is also currently under construction in Ashby, and is due to be open by 2021. Additionally, Mill Lodge Hospital in Kegworth has been newly commissioned to provide specialist mental health care.

Implications for future growth

At the time of the 2016 IDP, the study area was considered to have moderately strong social care provision, but with several gaps and poor provision for age exclusive housing and adult disability services. With an ageing population and increasingly complex care needs, the background demand for adult social care is also expected to continue to rise. Demand modelling undertaken as part of the IDP (based upon sites which are now development commitments) identified a potential need within the study area for 13 new nursing home bed spaces up to 2031; 18 residential care bed spaces; and 7 extra care bed spaces. These needs will increase if any of the sites within the study are allocated in the new Local Plan, and may provide a sufficient quantum of need to necessitate the provision of new care homes(s) within the study area.

Because of the ongoing Covid-19 pandemic, it has not been possible to discuss up-to-date needs for adult social care with LCC during the preparation of this study – when possible, such discussions should be held to better inform the Local Plan. **However, at this stage we consider it prudent to assume that potentially at least one of the sites should set aside land to accommodate new care home provision.** A typical land take (including landscaping and car parking provision) would be approximately 1 hectare per 100 care home beds.

4.3.4 Emergency services

Existing local provision

Fire and rescue services within North West Leicestershire are provided by the Leicester, Leicestershire and Rutland Combined Fire Authority. There are three fire and rescue stations within North West Leicestershire – Castle Donington Fire Station within the study area, and Coalville and Ashby-de-la-Zouch Fire Stations further south. Castle Donington and Coalville Fire Stations operate full time, whilst Ashby is an on-call station.

Policing in North West Leicestershire is delivered by Leicestershire Police as part of a sub-regional service covering Leicestershire, Rutland and the City of Leicester. There is currently only one police station in North West Leicestershire, in Coalville – the closest police station to much of the study area is in Loughborough.

The East Midlands Ambulance Service (EMAS) provides emergency care and patient transport services across North West Leicestershire, as well as the rest of the East Midlands. The only dedicated ambulance station in North West Leicestershire is in Coalville – the closest ambulance stations to the northernmost parts of the study area are in Spondon (Derby), and Stapleford (Nottingham).

All three emergency services are operating within a general national context of more centralised and strategic service provision.

Implications for future growth

The Leicestershire Fire & Rescue Service Corporate Management Plan 2018-2021³⁷ sets out a programme up to 2021 which includes capital investment to contribute towards improvements to fire stations and purchasing firefighting vehicles and equipment. The plan also identifies that much of the area around Castle Donington is considered a medium or high fire risk compared to other areas of North West Leicestershire, although **there are no current indications that local fire service provision is insufficient to meet demand**. The 2016 IDP noted that the Fire & Rescue Authority was expanding provision at Coalville Fire Station with an additional fire engine and tactical response unit, and as such it is considered unlikely that further provision will be made within the study area.

The Leicestershire Police & Crime Commissioner Police & Crime Plan 2017-2021³⁸ highlights the recent cuts made to police officer numbers and the reductions in funding. Leicestershire Police has previously indicated that it will look to developer contributions to help pay for the capital costs of new policing infrastructure tied to the population growth arising from new development. The 2016 IDP set out requirements based upon levels of growth anticipated at that time – whilst the exact amount of provision required in the study area will depend on the combination of sites progressed in the Local Plan (and should be discussed with Leicestershire Police at that time), it could equate to tens of new officers and several new vehicles. To ensure that this new police infrastructure close to the residents it would serve, **the Local Plan process could potentially explore the potential to provide a new police station within one of the sites, possibly as part of a broader community hub offer, or similar**.

At the time of the IDP, it was understood that ambulance provision within Leicestershire was almost at capacity. However, according to the EMAS Annual Report for 2018/19³⁹, significant operational improvements are underway to improve patient care and response times, such as the provision of a dedicated Urgent Care Transport Service and significant increases in paramedic headcount. Whilst it has not been possible to engage with EMAS, **there is not understood to be a specific requirement for new ambulance service provision within the study area**.

4.4 Other development constraints

4.4.1 Flood risk management

North West Leicestershire is wholly within the River Trent catchment, with the study area either draining to the Trent directly or via the River Soar. As Figure 14 shows, much of the northern part of the study area around the Trent and Soar (including northern parts of Castle Donington and Kegworth) is in Flood Zone 3, at the highest risk of flooding. A number of ordinary watercourses cross the central and southern parts of the study area – these generally have relatively narrow tracts within Flood Zones 2 and 3 to either side, but do intersect some developed areas around Worthington and Breedon (Ramsley Brook), Diseworth and Long Whatton (the Diseworth and Long Whatton Brooks) and Belton (Westmeadow Brook). Castle Donington is also considered to be at an elevated risk of surface water flooding⁴⁰.

³⁷ <https://leics-fire.gov.uk/wp-content/uploads/2019/03/our-plan-corporate-and-irmp-2018-2021.pdf>

³⁸ <https://www.leics.pcc.police.uk/DOCUMENT-LIBRARY/Planning-and-Money/Police-and-Crime-Plan/2017-2021/Police-and-Crime-Plan-2017-2021.pdf>

³⁹ <https://www.emas.nhs.uk/about-us/trust-documents/>

⁴⁰ https://www.nwleics.gov.uk/files/documents/strategic_flood_risk_assessment_refresh_june_2015/SFRA%20Refresh%20June%202015.pdf

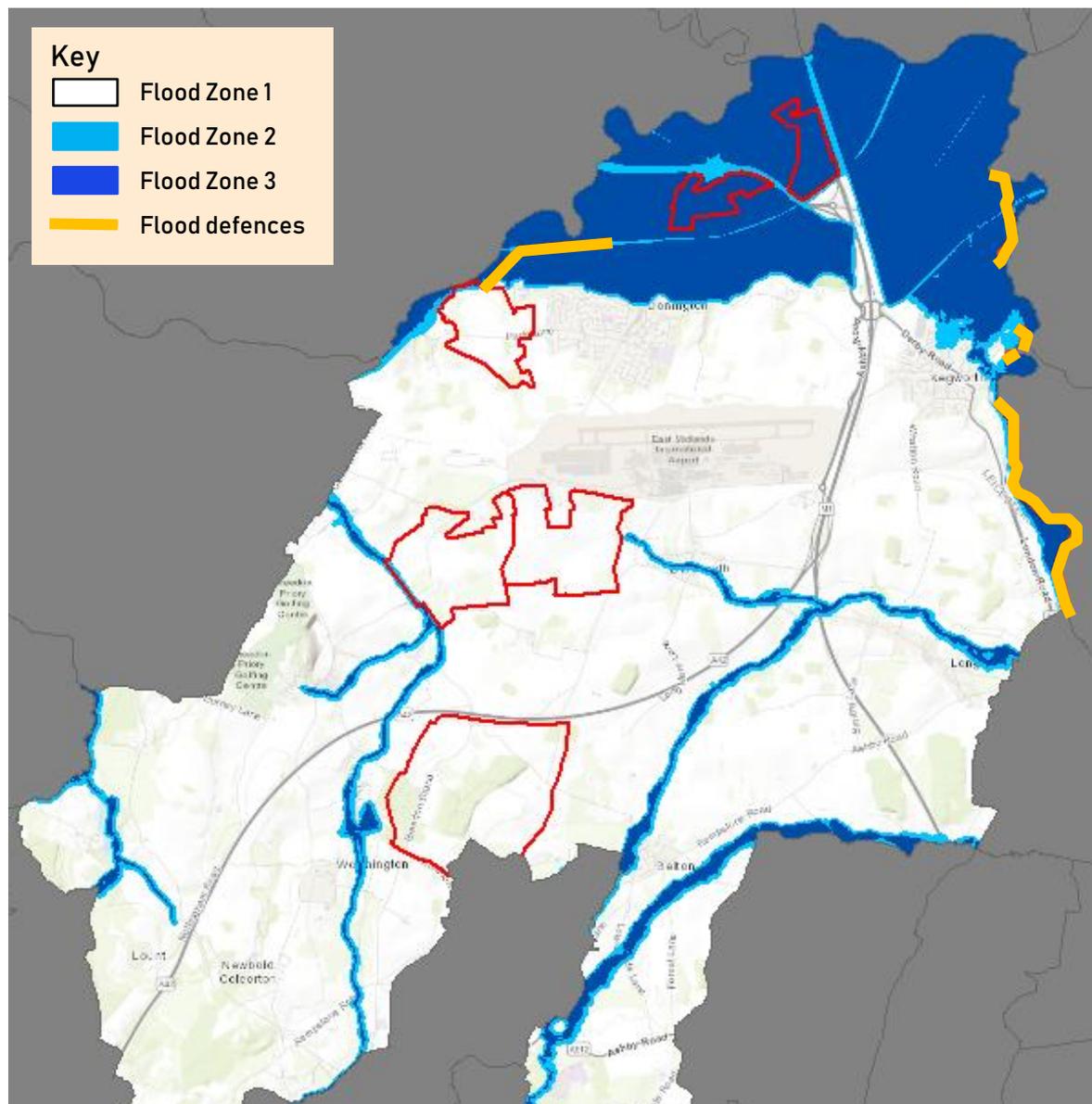


Figure 14: Flood zone coverage and flood defence provision across the study area

Flood defence embankments are in place along the River Trent and the River Soar where the rivers form the northern and eastern parts of the North West Leicestershire District boundary. At the time of construction (early 1960's and early 1970's) the embankments provided protection from flooding with an annual probability of up to 1 in 100 (1%). There are two sets of embankments along the River Soar, small raised earth embankments to protect farmland (10-year standard of protection) and larger embankments set back from the river to protect inhabited areas (100-year standard of protection). Flood defences protect approximately 450 properties across Castle Donington, Hemington, Lockington and Kegworth.

The Environment Agency (EA) has a statutory responsibility for the maintenance and operation of existing flood defence infrastructure. On designated 'Main Rivers' the EA has a statutory responsibility to manage flood risk. The Lead Local Flood Authority (LLFA) is Leicestershire County Council and they have a responsibility to manage flood risk from ordinary watercourses, surface water and groundwater.

Implications for future growth

Throughout the production of this study, we have engaged with the EA and LLFA. For each site this has established the following:

- **Sites A and B** – These sites are located within Flood Zone 1. They would drain to the Diseworth and Long Whatton Brooks, where there have been recent flooding issues (particularly within Diseworth, which has experienced a degree of flooding on a near-monthly basis in recent years). Whilst impacts would need to be carefully managed, the LLFA considers that development on these sites may offer the opportunity to improve this situation by providing a flood risk management approach that reduces existing levels of runoff to these watercourses. The LLFA has also noted the need for caution around the relationship with East Midlands Airports' water treatment ponds, which are immediately north of the sites.
- **Site C** – Although the site is located adjacent to the River Trent, it sits on an escarpment some way above the river and is located within Flood Zone 1. It would drain towards the river, and flood risk associated with the development of the site is therefore considered to be relatively low.
- **Site D** – The site sits on an elevated plateau within Flood Zone 1. The east of the site would drain towards Belton, whilst its western parts would drain towards Worthington and Breedon. The LLFA has expressed particular concerns around potential impacts on flood risk in Breedon – whilst development could potentially allow offsite risk to be reduced in the same way as for Sites A and B. Because of the size of the site the LLFA has reserved judgement as to whether this is likely to be achievable until further details on the scale and layout of development are available.
- **Sites I and J** – These sites are located within Flood Zone 3 and are therefore at the highest risk of flooding. However, significant recent commercial development has been permitted in the vicinity of these sites (including the commitments at Sites F, G and H set out on p19), with mitigation including compensatory offsite flood storage land bounded by new earthworks. Both the EA and LLFA have expressed reservations about the developability of these sites.

In all cases, mitigation would be required for any loss of floodplain. As per planning practice guidance⁴¹, on-site mitigation will be required to account for 20-30% climate change allowances on less vulnerable sites or 30-50% on more vulnerable sites.

Our engagement with the EA and LLFA highlighted a need for the Local Plan process to take a holistic approach to flood risk analysis across North West Leicestershire and understand these issues in further detail. Whilst existing flood modelling and Flood Zone extents are considered to offer a reasonable indication of risk, the EA acknowledges a need for more detailed modelling to be undertaken to establish where flooding is likely to take place. At Sites I and J, detailed modelling is being undertaken as part of current planning applications.

4.4.2 Air quality

The North West Leicestershire 2019 Air Quality Annual Status Report⁴² outlines air quality issues for North West Leicestershire and associated mitigation measures. Generally, air

⁴¹ <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

⁴² [https://www.nwleics.gov.uk/files/documents/2019 air quality annual status report/ASR Template England 2019 v2.pdf](https://www.nwleics.gov.uk/files/documents/2019%20air%20quality%20annual%20status%20report/ASR%20Template%20England%202019%20v2.pdf)

quality across the study area is not a significant concern although there are three small designated Air Quality Management Areas (AQMA) – one in Castle Donington Town Centre, one in Kegworth Village Centre, and one alongside the M1 between Castle Donington and Kegworth. These are shown on Figure 15. The Report concludes that there are unlikely to be new areas exceeding air quality standards in the immediate future.

With East Midlands Airport (EMA) located within the study area, there is potential risk of elevated air quality issues – the Leicestershire Joint Strategic Needs Assessment 2018-2021⁴³ states that background levels of fine particulates (PM_{2.5}) are found to be higher in North West Leicestershire, likely due to the Airport.

However, detailed assessment in 2009 concluded that the air quality objective for Nitrogen Dioxide (NO₂) would not be exceeded within 1000m of the airport as a result of air traffic emissions. The latest available EMA Annual Air Quality Monitoring Report⁴⁴ concluded that mean concentrations of pollutants in 2016 were comparable with those measured at other rural monitoring sites in the East Midlands, demonstrating that the air quality objective for NO₂ is still not being exceeded within 1000m of the airport. It also concludes that there was no exceedance of mean annual NO₂ or particulates (PM₁₀) targets. In our engagement with Manchester Airports Group (operators of East Midlands Airport), it was reported that the main challenges around airport air quality actually arise from the vehicle emissions of passengers and road freight accessing the Airport.

Implications for future growth

Whilst there are no available future air quality projections available, recent mitigation measures and the improvement in, or maintenance of, conditions within the AQMA's and around EMA, mean that air quality in the study area is not anticipated to be a limiting factor for development. Without modelling however, it is unclear whether conditions will exceed air quality targets as development pressure increases.

We have discussed air quality implications with NWLDC's Environmental Protection Officers. For each site, this has established the following conclusions:

- **Sites A and B:** The scale of development on these sites could result in some air quality impacts for existing residential properties located along the A453. The sites could also be affected themselves by traffic along the A453, meaning that some air quality mitigation measures may need to be factored into the detailed design of development on the site in order to protect residential amenity.
- **Sites C, I and J:** The provision of the Castle Donington Relief Road associated with committed development Sites E and F means that traffic arising from Sites C, I and J is unlikely to pass through the Castle Donington Town Centre AQMA (subject to verification by transport assessments). As such, the development of these sites is unlikely to have any significant impacts on air quality.
- **Site D:** Given the scale of development on the site there could be potential air quality impacts for residents along roads serving the site, although this would be dependent on the transport strategy for the site. Residents of the site itself could be affected by construction activity for the adjacent HS2 route, as well as by the adjacent A42. Some air quality mitigation measures may therefore need to be factored into the detailed design of development on the site in order to protect residential amenity.

⁴³ <https://www.lsr-online.org/uploads/jsna-air-quality-2019-v10-final.pdf>

⁴⁴ <https://live-webadmin-media.s3.amazonaws.com/media/2607/2016-ema-air-quality-report.pdf>

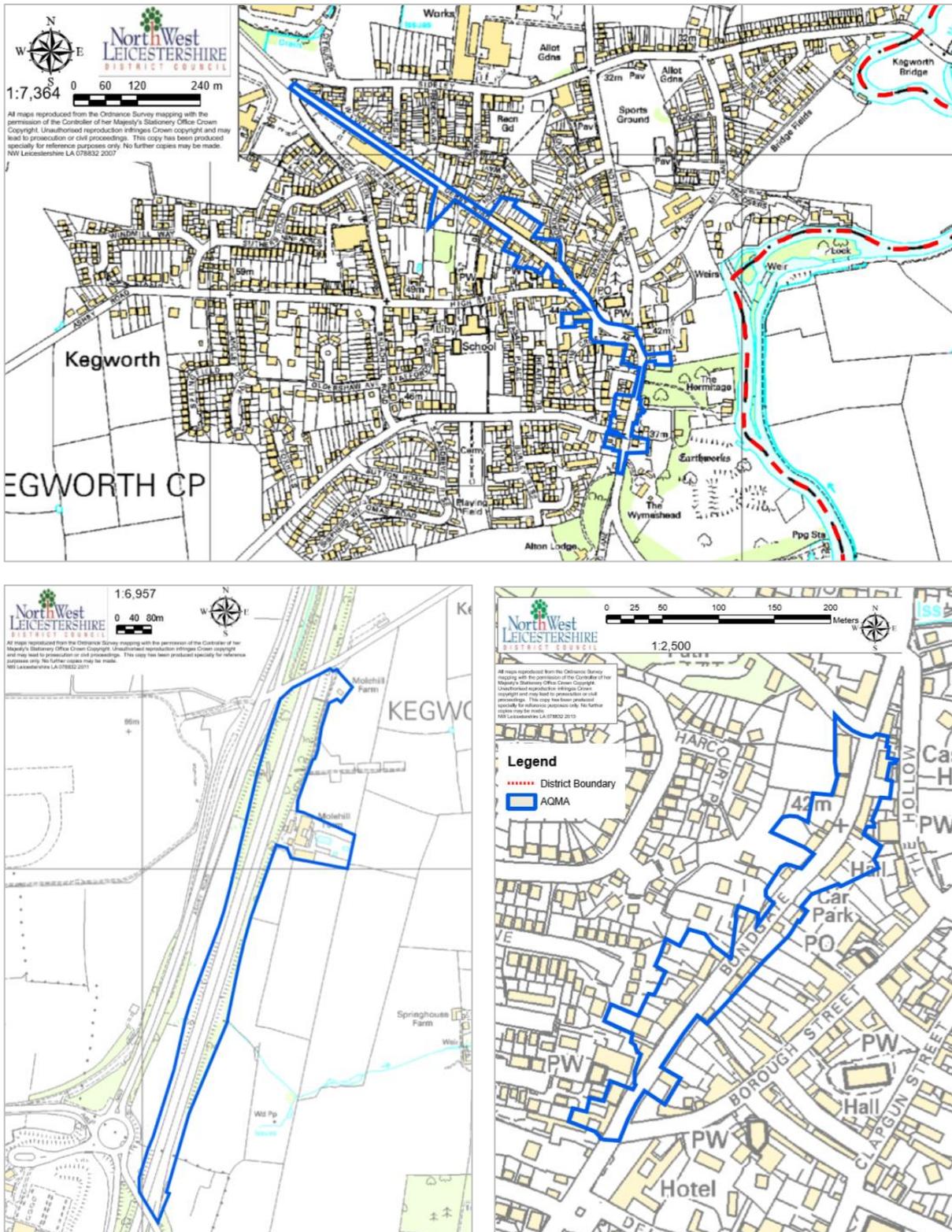


Figure 15: Extent of Air Quality Management Areas in Kegworth Village Centre (top), the M1 west of Kegworth (bottom-left), and in Castle Donington Town Centre (bottom-right)

4.4.3 Noise pollution mitigation

There are a number of significant emitters of noise pollution within the study area. The primary constraints relevant to the sites under consideration in this study are considered to be Donington Park Racetrack and East Midlands Airport.

East Midlands Airport's Noise Action Plan 2019-2023⁴⁵ is a statutory requirement of the 2016 EU Environmental Noise Directive and sets out measures to limit the impact of noise from the Airport. The Action Plan includes noise contour maps produced by DEFRA for the airport – and the Noise Action Plan confirms that despite significant growth in aircraft activity between 2011 and 2016, noise impacts have remained broadly unchanged (Figure 16). The report concludes that current noise management measures employed by the Airport are effective. Because the Airport's runway is oriented east-west, the areas affected by aircraft noise cover a thin east-west part of the study area.

The nature of the Airport's operations as the UK's second largest air freight hub result in particular noise characteristics. The Airport is a hub for UPS, DHL, TNT FedEx and Royal Mail – it is therefore busier (and noisier) at night; classed as 20:00 to 06:00.

Noise from racetrack activity is controlled by the conditions contained in the current planning permissions (June 2013) for Donington Park. These include restrictions on the number of days of use, time of use and noise limits for vehicles using the track. Aside from the measures implemented, the racetrack is located within the Airport's contour extent meaning that background noise levels are already elevated.

Implications for future growth

In the absence of future noise projection modelling, it is not possible to ascertain the precise degree to which new development within the study area can be accommodated within existing noise limits. Through discussions with NWLDC's Environmental Protection Officers, noise pollution in the study area is considered to be relatively well managed. However there are still some remaining issues such as night time noise from EMA. It is likely that any future development will require some level of noise mitigation, but noise pollution is not considered by Environmental Protection Officers to be a fundamental barrier to development. In terms of specific conclusions for each residential site:

- **Sites A, and B** – Parts of both sites fall within the Airport's outermost noise contour. Proximity to Donington Park raises the potential for some further noise impacts, although the sites are at a lower elevation and racetrack noise should therefore be a lesser issue. A full noise assessment would be required at planning application stage to assess potential noise impacts.
- **Site C** – Parts of the site fall within the Airport's outermost noise contour. Proximity to Donington Park and adjacent commercial and industrial uses on committed development Site G raise the potential for significant further noise impacts, and have necessitated the provision of mitigation measures in the new homes under construction on committed development Site E. A full noise assessment would be required at planning application stage to establish potential noise impacts and ensure the provision of appropriate noise mitigation.
- **Site D** – This site is located at some distance from East Midlands Airport and Donington Park and is generally within a very 'quiet' area of the District. However, the eastern leg of HS2 Phase 2b will pass through the northern edge of the site, and given the rural nature of the site at present HS2's design is unlikely to include suitable noise mitigation for a residential use. A full noise assessment would also therefore be required at planning application stage.

⁴⁵ <https://live-webadmin-media.s3.amazonaws.com/media/5943/ema-noise-action-plan-2019-2023-final.pdf>



**Department
for Environment
Food & Rural Affairs**

**The Environmental Noise
(England) Regulations 2006
(as amended)**

East Midlands Airport (EGNX)

clean



Year – 2016

– 60 – Noise level Contour (dB)

Agglomeration

0 0.65 1.3 1.95 2.6
Km



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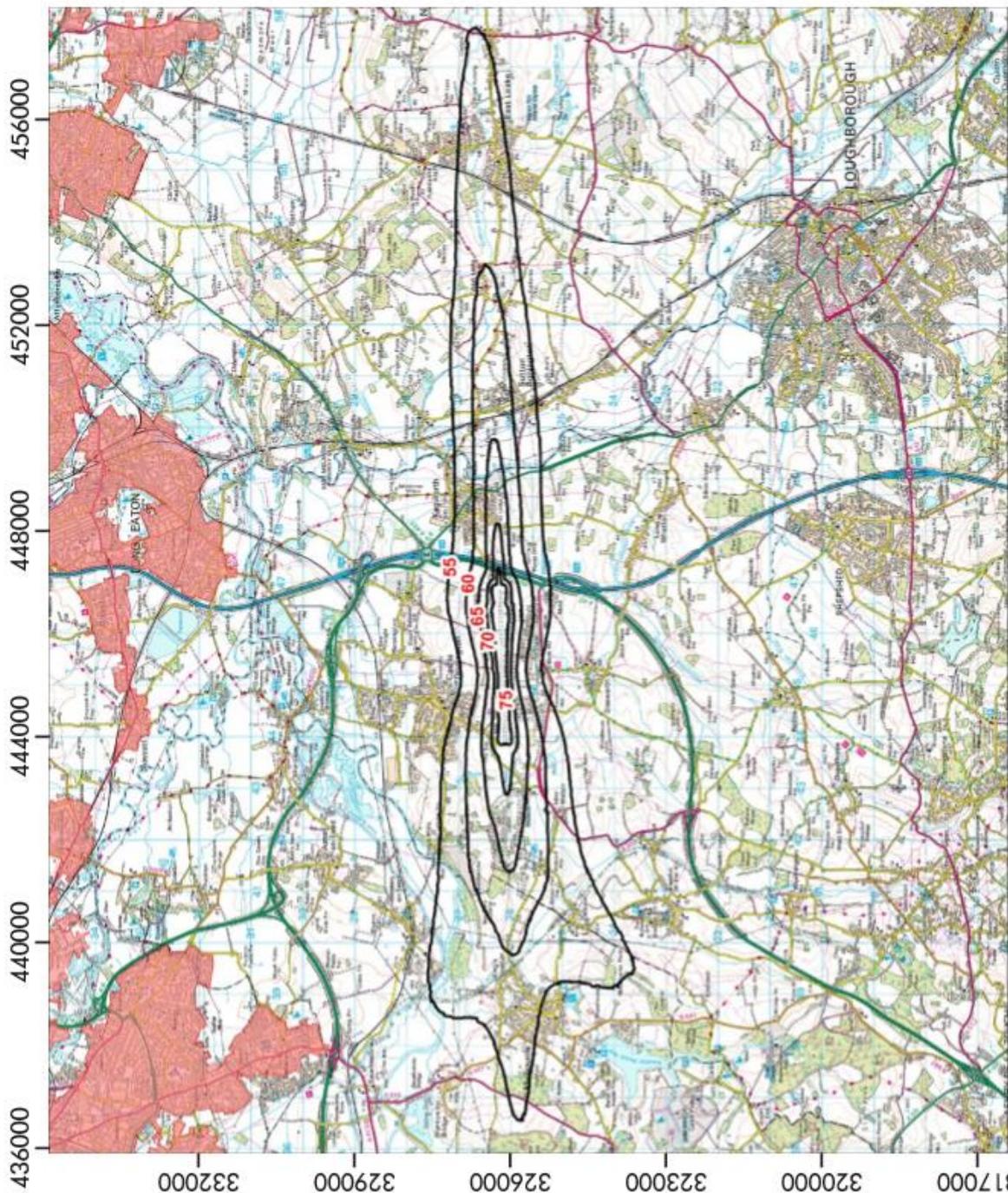


Figure 16: Weighted Day, Evening and Night 24-hour noise contours for East Midlands Airport (Source: EMA Noise Action Plan)

We have also discussed the sites with MSV, operators of Donington Park. They have expressed potential concerns around development within Site A to the west and within Site C to the south, given the potential for new residential receptors to disrupt existing racetrack operations (with potentially adverse economic implications). Mitigation to ensure the racetrack is not adversely affected should be factored into the noise assessments required above.

The EMA Noise Action Plan is reviewed in a 5-yearly cycle with each subsequent review aiming to reduce the impact of noise. The current Noise Action Plan was published in 2019 and is the third such plan. As part of the action plan the airport has established a grant scheme for residents that fall within the noise plan area to fund noise insulation installation on residential dwellings. This particular grant scheme will not be available for any new development in the area as properties are only eligible if built pre-2002, although it does highlight that these sites within the grant scheme boundary (i.e. sites A and B) are vulnerable to noise pollution and should therefore have suitable noise mitigation measures built into individual properties.

4.4.4 Other development considerations around East Midlands Airport

Through our engagement with them, Manchester Airports Group (the operators of East Midlands Airport) have identified other considerations which would be relevant to the detailed design of development on sites in the vicinity of the Airport (Sites A, B and C).

- **Glare and reflection:** Particular challenges have been identified by MAG around the provision of solar panels and water bodies in new development in the vicinity of airports – in some orientations and elevations these could reflect sunlight at pilots and air traffic controllers, potentially endangering aircraft operations.
- **Artificial lighting:** If not carefully designed, the layout of lighting in the vicinity of the Airport has the potential to be mistaken as airfield lighting.
- **Bird habitats:** Care should be taken in the design of new development to avoid the provision of habitats that would be attractive to birds; potentially raising the risk of aircraft bird strike incidents.

Aerodrome safeguarding legislation would be the main means by which to ensure regard to these concerns. However, any policies in the Local Plan for Sites A, B and C (should they be allocated) could make additional reference to these considerations.

5 Development implications for each site

This report has set out the potential implications for strategic development on each of the six sites under consideration, across 21 different infrastructure and constraint types. These reflect our professional judgements, desktop assessments and engagement with relevant stakeholders.

Broadly speaking, for infrastructure and constraint types within this study's scope, we have not identified any fundamental constraints to the provision of strategic growth within the study area. However, it is evident that some of the sites will be easier locations in which to provide sustainable models of growth than others.

Table 14 below presents a summary position of the findings throughout Chapter 4 for each infrastructure and constraint type. It firstly sets out our view on whether there are general implications for the provision of growth within the study area – for sites where there are, Table 14 then sets out our view on the extent to which these appear to be mitigatable using a RAG (Red, Amber, Green) scoring system.

Infrastructure/Constraint Type	Implications for growth in study area?	Site A West of Isley Walton	Site B East of Isley Walton	Site C West of Castle Donington	Site D South of the A42/A453 Junction	Site I South of A50 J1	Site J West of the M1 South of Tamworth Road
Gas	Yes						
Electricity	Yes						
Water Supply	No						
Sewerage	Yes						
Digital Infrastructure	No						
Primary Education	Yes						
Secondary Education	Yes						
Special Educational Needs	No						
Indoor and outdoor sports provision	Yes						
Libraries	Yes						
Cemeteries	No						
Community Spaces and Halls	Yes						
Waste and Recycling Facilities	No						
GP Surgeries	Yes						
Secondary Healthcare Provision	No						
Adult Social Care	Yes						
Emergency Services	Yes						
Flood Risk Management	Yes						
Air Quality Mitigation	Yes						
Noise Pollution Mitigation	Yes						
Other Airport Considerations	Yes						

Table 14: Summary of findings for each infrastructure and constraint type

	No impacts considered likely, or impacts likely to be easily mitigated
	Impacts considered likely to be mitigatable, but will require significant new provision
	Impacts considered likely to be difficult to mitigate
	Infrastructure/constraint type not relevant for commercial sites

5.1 Sites A and B: West and East of Isley Walton

Our conclusions for Sites A and B are the same. We have not identified any constraints to the development of either site that are unlikely to be mitigatable, but significant new infrastructure provision and/or investment in the following is likely to be required for development on either site to be acceptably mitigated and to bring forward a sustainable model of development:

- Improvements to gas supply in the vicinity of the site, to alleviate capacity issues;
- The provision of a new primary electricity substation within Site A or Site B, which would also serve any other development sites coming forward within the study area;
- Enhancement works to Wastewater Treatment Works – likely either an increase in capacity at Kegworth WwTW, or the relocation and enlargement of Castle Donington WwTW;
- The provision of new onsite primary education provision – depending on whether both sites were to come forward and the quantum of development to be provided if they did, either one or two schools are likely to be required;
- The provision of significant new secondary education capacity at Castle Donington College, or potentially the provision of a new onsite secondary school if both sites were to come forward and the quantum of development to be provided was towards the upper end of the range indicated;
- The provision of a new onsite GP surgery, unless only the lower end of the potential range of development quantum were to come forward and only one of the two sites were allocated – in this case, an alternative approach to provision may be required for example an offsite contribution;
- Appropriate measures to mitigate flood risk, and ensure a betterment in existing flood risk for properties at risk of flooding further downstream from the site within Diseworth and Long Whatton;
- Appropriate mitigation for air pollution arising from the adjoining A453, to be considered through an air quality assessment;
- Appropriate mitigation for risks to the safety of aircraft and operations at East Midlands Airport; including glare and reflection, artificial lighting and bird habitats.

Development will also need to ensure appropriate onsite provision and/or contributions towards the provision of indoor and outdoor sports provision, libraries, community spaces and halls, adult social care, emergency services and noise pollution. However, relative to the issues set out above, these are considered to be easier to mitigate and more modest in cost.

Sites A and B are adjacent and are relatively self-contained, therefore there would be some benefits in both sites being developed in conjunction with one another – for example by allowing a coordinated approach to the provision of new school capacity. However, this would create a significant quantum of development in a single location which could have adverse impacts on other considerations outside of the study scope (such as highways or landscape character).

Should Site C also be allocated for development, we recommend that the Local Plan takes a holistic approach to the provision of infrastructure across all three sites and existing services

within Castle Donington (potentially through a Masterplan/Supplementary Planning Document process), as this is where the pressure of the development is most likely to be felt. This will ensure the most efficient possible form of provision.

5.2 Site C: West of Castle Donington

We have not identified any constraints to the development of Site C that are unlikely to be mitigatable, but significant new infrastructure provision and/or investment in the following is likely to be required for development on the site to be acceptably mitigated:

- Contribution towards the provision of a new primary electricity substation in the vicinity of Site A or Site B;
- Capacity enhancements to Castle Donington Wastewater Treatment Works, likely to take the form of relocation and enlargement if Sites A or B are also developed;
- The provision of new primary education capacity, likely in the form of a new onsite primary school;
- Contributions towards the provision of new secondary education capacity at Castle Donington College, or potentially contributions towards the provision of a new secondary school within Sites A or B if they are also developed;
- Contributions towards the provision of new GP surgery provision – potentially in the form of improvements to existing surgeries within the study area (depending on circumstances at the time of provision) or ideally the provision of a new surgery if Sites A or B are also developed;
- Appropriate mitigation for noise pollution likely to arise from adjoining commercial uses, Donington Park Racetrack and East Midlands Airport, to be considered through a noise assessment;
- Appropriate mitigation for risks to the safety of aircraft and operations at East Midlands Airport; including glare and reflection, artificial lighting and bird habitats.

Development will also need to ensure appropriate onsite provision and/or contributions towards the provision of gas supply infrastructure, indoor and outdoor sports provision, libraries, community spaces and halls, adult social care, emergency services, offsite flood risk management and air quality mitigation. However, relative to the issues set out above, these are considered to be easier to mitigate and more modest in cost.

Should Sites A or B also be allocated for development, we recommend that the Local Plan takes a holistic approach to the provision of infrastructure across Castle Donington (potentially through a Masterplan/Supplementary Planning Document process) to ensure the most efficient possible form of provision.

5.3 Site D: South of the A42/A453 Junction

We have identified several constraints to the development of Site D which are considered very difficult to overcome or mitigate. Whilst not necessarily insurmountable, these would come at significant cost and may impact the viability of development on the site. These issues all reflect the relatively isolated location of the site, at some distance from existing settlements and infrastructure provision:

- Cadent Gas has identified significant difficulties in providing gas to the site – it is several kilometres from the closest gas mains, and even so these would need significant reinforcement to accommodate the demand the site would generate;
- Severn Trent Water has identified similar difficulties in providing a viable sewage treatment solution to the site – nearby Wastewater Treatment Works are of a small size, and even if they were upgraded it is considered unlikely that the watercourses these flow out into could accommodate the additional effluent;
- The site is too far from existing secondary schools to allow pupils to independently or sustainably travel to them. The onsite provision of a new secondary school would therefore be required, at significant cost to a developer.

We have also identified the following issues for Site D, which would be easier to resolve but still require significant new infrastructure provision and/or investment for development on either site to be acceptably mitigated:

- Contribution towards the provision of a new primary electricity substation in the vicinity of Site A or Site B, and the costs of a new cable route to that location;
- The provision of new onsite primary education provision – depending on the quantum of development to be provided, either two or three schools are likely to be required;
- The provision of a new onsite GP surgery, potentially incorporating the relocation of Manor House Surgery from Belton onto the site;
- Appropriate measures to mitigate flood risk, and ensure a betterment in existing flood risk for properties at risk of flooding further downstream from the site within Belton, Breedon and Worthington;
- Appropriate mitigation for air pollution arising from the adjoining A42 and from the construction of HS2 (which will pass through the site), to be considered through an air quality assessment.

Development will also need to ensure appropriate onsite provision and/or contributions towards the provision of indoor and outdoor sports provision, libraries, community spaces and halls, adult social care, emergency services and noise pollution. However, relative to the issues set out above, these are considered to be easier to mitigate and more modest in cost.

5.4 Sites I and J: South of A50 Junction 1, and West of the M1/South of Tamworth Road

Our conclusions for Sites I and J are the same. Given their locations within Flood Zone 3, through discussions with the Environment Agency and Lead Local Flood Authority Team at Leicestershire County Council we have identified potentially significant concerns around flood risk on both sites. It is noted that other recent commercial development has been permitted in the surrounding area in a similar flood risk context, following the provision of suitable mitigation and the production of modelling to demonstrate that flood risk can be made acceptable. Such an approach could be followed for Sites I and J, and we recommend that a holistic approach is undertaken to modelling flood risk in this area as part of the Local Plan process. However, in the absence of this modelling, it is recommended by the EA and LLFA that a cautious approach is taken to the developability of these sites.

Because commercial development rather than residential development is anticipated on these sites, their impacts upon infrastructure and constraint types within the scope of this study will be much less. We have identified the following issues for Sites I and J, which would be easier to address than flood risk but still require significant new infrastructure provision and/or investment for development on either site to be acceptably mitigated:

- Contribution towards the provision of a new primary electricity substation in the vicinity of Site A or Site B, and the costs of a new cable route to the existing Trent Lane primary substation (at which capacity would be freed up by the re-allocation of other premises in Castle Donington to the new primary substation);
- A contribution to capacity enhancements to Castle Donington Wastewater Treatment Works, likely to take the form of relocation and enlargement if Sites A, B or C are also developed, although the extent of any contribution will depend upon the type of commercial development proposed and the level of anticipated sewerage arisings.

Development will also need to ensure appropriate onsite provision and/or contributions towards noise pollution mitigation. However, relative to the issues set out above, this is considered to be easier to mitigate and more modest in cost – the sites are located at some distance from main residential areas and are surrounded by other noisy commercial uses and major transport infrastructure.