

TRIBAL

Urban Studio

Appraisal of Sustainable Urban Extensions

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Roger Tym & Partners
CampbellReith

Final Report
June 2008

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A Report Commissioned jointly by:



Nottinghamshire
County Council

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1 Introduction

1.1 Context

- 1.1.1 This report represents the final assessment of the consultant team in the supplementary work (Assessment of Sustainable Urban Extensions) for the Nottingham Core Housing Market's Strategic Housing Land Availability Assessment (SHLAA)¹.
- 1.1.2 As stated in the project brief produced by the steering group, the aim of the study is to provide advice on the most suitable location or locations for the development of Sustainable Urban Extensions adjacent to the Nottingham Principal Urban Area (PUA)², as well as to the Sub-Regional Centres³ of Hucknall and Ilkeston⁴.
- 1.1.3 The study was led by Tribal Urban Studio (formerly the planning and urban design practice of Llewelyn Davies). Tribal Urban Studio were supported by Roger Tym & Partners, whose Leicester office provided input on infrastructure relating to Sustainable Urban Extensions, and by CampbellReith, who provided geotechnical and highways input.
- 1.1.4 The client group consisted of officers from the planning policy teams of Ashfield District, Broxtowe Borough, Erewash Borough, Gedling Borough, Nottingham City, Nottinghamshire County and Rushcliffe Borough Councils. The client group was co-ordinated by Nottingham Regeneration Ltd.
- 1.1.5 It should be noted that while the study considers a number of locations for housing growth it does not necessarily follow or imply that development of some or all of these sites will take place or that development of any of these sites is supported by the local planning authorities. The report provides the local planning authorities with a technical evidence base to consider future options for housing allocations. It should be noted that the cumulative area of land considered for development in this report is likely to exceed that needed to fulfil the requirements of the forthcoming East Midlands Regional Spatial Strategy (RSS); however, all locations have been reviewed to enable the relevant authorities to plan the most accessible and sustainable places for growth.

¹ Nottingham Principal Urban Area Strategic Housing Land Availability Assessment, Arup/EKOS Consulting, 2007.

² The Nottingham PUA consists of Nottingham and its contiguous built-up area, including the towns and suburbs of Arnold, Beeston, Carlton, Clifton, Long Eaton, Sandiacre, Stapleford, Toton and West Bridgford. The term 'Principal Urban Area' originates in the draft East Midlands RSS but its boundaries and extent were defined by local authorities at the time of the 2007 SHLAA referenced in Footnote 1. This definition of the Nottingham PUA is used throughout this report.

³ The role of the Sub-Regional Centres around the Nottingham PUA is defined in the East Midlands RSS (Draft East Midlands Regional Plan [RSS8], East Midlands Regional Assembly, 2008; paragraph 2.3.9, page 13, and also Part 2) and was further discussed at the Examination in Public. For more information on the relevance and importance of Sub-Regional Centre designation in the context of the current study, see Section 5.3 below.

⁴ Although the SHLAA has a wider remit than appraising housing capacity only in and adjacent to the Nottingham PUA and the Sub-Regional Centres, and hypothetically sites can be appraised in villages or countryside out to the boundaries of the HMA edge, a study area of land adjacent to the Nottingham PUA and the Sub Regional Centres was set for the purposes of the current study for reasons of sustainability.

- 1.1.6 The study was commissioned following the recent Examination in Public (EiP) of the draft East Midlands RSS⁵, and a successful New Growth Point bid for the Three Cities area (Nottingham, Derby and Leicester). If the recommendations of the Panel are followed, the Nottingham study area is required to find capacity for approximately 60,000 new dwellings over the RSS period to 2026. Bearing in mind the government's target that at least 60% of new residential development should take place on previously developed land⁶, a separate Strategic Housing Land Availability Assessment process is covering land within the Nottingham PUA, and the towns designated as Sub-Regional Centres in the draft RSS (namely, Ilkeston and Hucknall) that can accommodate a proportion of these 60,000 housing units.
- 1.1.7 However, this level of housing provision far exceeds the likely capacity of the urban areas to accommodate it, and therefore a significant proportion of new homes will have to be provided by way of Sustainable Urban Extensions adjacent to existing urban areas. The final extent of these developments will be determined through the individual Council's Local Development Framework (LDF) processes. Without pre-empting future stages in the assessment process, at the time of writing it seems likely that not every site will be developed and that therefore this study effectively forms a 'menu' from which choices can be made by the local authorities, with some sites taken forward and others not.
- 1.1.8 Tribal Urban Studio has carried out separate research work on measuring the density of residential and mixed-use areas at the neighbourhood or district scale, which will be used to assess the likely capacity of locations for growth in the study area. This research suggests that in England, sustainable residential neighbourhoods (including 4-5,000 housing units, and provision for employment land, open space and other community facilities such as schools and health centres), can be achieved at approximately 25 dwellings per hectare⁷.
- 1.1.9 The study is not, however, constrained by any housing target figures that have been applied to the region in the past or that may be applied in the future; it will assess the suitability of land for sustainable urban extensions equally in all locations across the study area regardless of the amount of land judged to be required for development over the RSS period.

1.2 Approach and coverage

- 1.2.1 The process for identifying the most suitable location(s) for the new housing has been approached in two phases. The first phase is an assessment of the broad locations for growth around the PUA and the sub-regional centres, concentrating on strategic issues that cut across and go beyond individual site boundaries. The second phase narrows the assessment process down by concentrating on the assessment of individual sites within those broad directions for growth assessed as suitable for housing development, analysing site-specific constraints and opportunities at a smaller geographical scale.
- 1.2.2 The location of new housing, employment and infrastructure in a relatively small, densely populated country such as England is almost always a highly contentious issue, and can easily become politicised. The Nottingham area is no exception. For this reason, the

⁵ Draft East Midlands Regional Plan (RSS8), East Midlands Regional Assembly, 2008.

⁶ As retained in Planning Policy Statement 3: Housing, Communities and Local Government, 2006.

⁷ The often-quoted density measurements (30, 40 and 50 dph) which appeared in PPG3 and the indicative minimum density of 30 dph carried through to PPS3 in fact apply only to the land covered by dwellings, their curtilages and primarily residential streets. They do not account for the land take of major roads, rail, or community facilities. See Appendix G for a more full explanation.

purpose of the current exercise is to assess in purely objective terms the most sustainable location(s) for growth, by adopting the most scientific, objective approach possible to judgements of the environmental, social and economic sustainability of growth in any given location.

- 1.2.3 Housing growth is frequently portrayed as a negative phenomenon. It is true that, if planned in an unsustainable way, it can have negative impacts on local infrastructure such as roads, schools and hospitals. However, it is also true that if planned in a holistic, sustainable way, alongside the necessary local infrastructure that may be required, housing growth can have many positive effects, including the regeneration of deprived areas, increasing the share of public transport use, and boosting the local economy. For this reason, the study aimed throughout to assess the opportunities that growth in a particular location might offer both to the local area and to the Nottingham region as a whole at the same time as assessing the local and regional constraints to growth.
- 1.2.4 Transport and accessibility of new development is a particularly important factor in determining suitable locations for growth, and it would be impractical to include every detail of the transport impact or potential of development in every location in the present overarching study. For this reason, further detailed transport assessment is likely to be required following this report to further inform future LDF documents produced by the study area Local Authorities.
- 1.2.5 As noted in the draft East Midlands RSS⁸, Sustainable Urban Extension sites should, where they are 'of sufficient scale and/or appropriately located', be co-located with appropriate employment provision. This recommendation has been applied throughout. In Part B, many sites judged to be of an appropriate size and in appropriate locations have been assessed as having potential for employment uses within the red-line area.

1.3 Consultation

- 1.3.1 Both the client group and the consultants agreed that, in order to achieve the desired level of objectivity in the project evidence base, no opinions (politically motivated or otherwise) about the most suitable locations for growth could be allowed to influence the study findings. For this reason, the study was carried out without seeking representations from elected members at any level of government or from those with vested interests in the study such as members of the local community, landowners or developers.
- 1.3.2 For the same reason, the twenty-two greenfield sites across the study area that were submitted by landowners and developers during the 2007 SHLAA⁹ process were deliberately not assessed. This assessment is designed to look objectively at broad directions for growth and the land within them that might form suitable sites, and will not favour any location or site over others simply because it may have been submitted by a landowner as part of a previous call for sites.
- 1.3.3 Although a study workshop, stakeholder consultations and questionnaire distribution took place that helped inform the findings of Part A, all participants were informed that they were being consulted in a purely technical capacity. Most represented unelected bodies with technical knowledge and responsibilities across all or large parts of the study area (such as, for example, the East Midlands Development Agency, the Highways Agency, English Nature, English Heritage, infrastructure service providers and so on). Of those

⁸ Draft East Midlands Regional Plan (RSS8), East Midlands Regional Assembly, 2008.Part 2, paragraph 4.5.

⁹ Nottingham Principal Urban Area Strategic Housing Land Availability Assessment, Arup/EKOS Consulting, 2007.

participants representing elected bodies, for example district and borough councils, only those from the officer side of the organisations were invited to take part. A full list of workshop participants and other consultees appears in Appendices A and B.

1.3.4 Even with the above safeguards in place to preserve neutrality, some comment and advice was offered during the consultation process that veered more toward opinion rather than fact. This was inevitable in a study of this nature, but again to ensure objectivity, the judgement of the consultant team, the client team or both was employed in order to disregard such comments, and they do not appear in this report, nor have they influenced it in any way.

1.3.5 The lack of consultation with elected officials, members of the public or developers was necessary to preserve strict objectivity. However, this aspect of the study **does not** imply that the locations for housing growth in the study area assessed in this work will not be subject to public consultation. On the contrary, with the publication of this study, the work forms a technical document that forms part of the evidence base for the Local Development Frameworks (LDFs) of each of the local authorities on whose behalf the study was carried out, as set out by the Planning and Compulsory Purchase Act¹⁰. The LDFs are then fully open to public consultation before adoption, in line with the provisions of the same Act.

1.4 Report Structure

1.4.1 The remainder of this report will consist of Parts A and B. Part A is the strategic work referred to above that divides the study area into a number of large 'Directions for Growth' and analyses each one through a framework of criteria applying at a wider scale than the individual site. These criteria are taken from a wide-ranging evidence base and will be fully referenced throughout¹¹.

1.4.2 Part B is the site-specific work. Once Part A has established the broad locations where growth may be suitable against a number of criteria, Part B defines the most suitable sites for development within the broader Directions for Growth, adding more site-specific issues to be taken into account as well as the strategic criteria previously assessed in Part A. Again, the site-specific issues for analysis are taken from a wide evidence base that will be referenced throughout.

¹⁰ Planning and Compulsory Purchase Act (2004), HM Government.

¹¹ It may be assumed that unreferenced facts presented in Part A of this report emerged from the stakeholder consultation process rather than from desktop review of policy or planning documents. Information helping to inform Part A was provided at an informal stakeholder workshop without author attribution of each comment, in contrast to the format of a more formal consultation process such as a statutory inquiry.

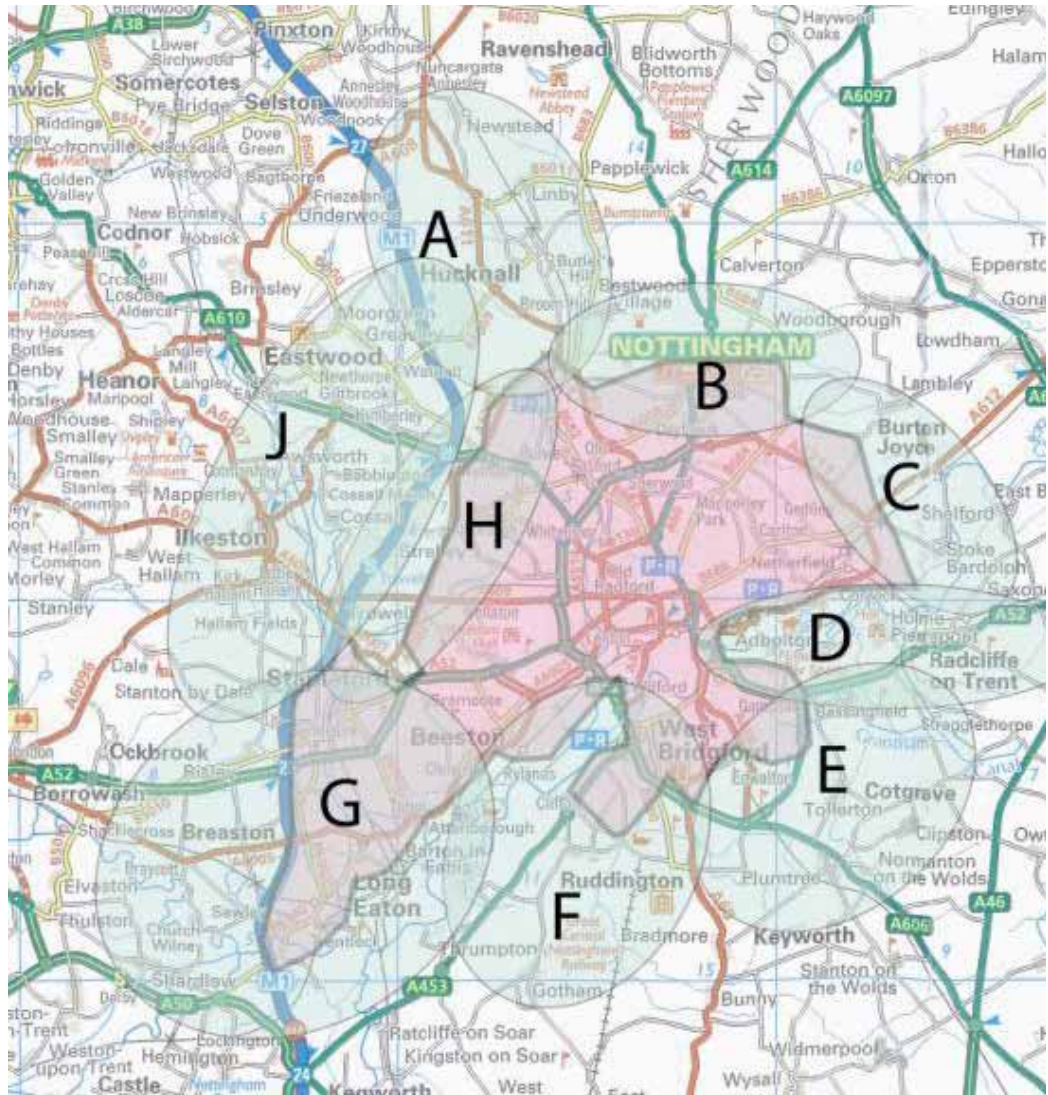
2 Part A Assessment of Broad Locations for Growth

2.1 Directions for Growth

- 2.1.1 Part A covers the results of a broad assessment of locations for housing growth adjacent to the Nottingham PUA, and the two sub-regional centres of Hucknall and Ilkeston. The results of Part A will then inform the site-specific analysis to be carried out in Part B.
- 2.1.2 Policy 4 of the draft East Midlands RSS states that ‘appropriate development of a lesser scale [by which it means less than the new development in and around Nottingham itself] should be located in the Sub-Regional Centres (SRCs) of the Three Cities Sub-Area¹². Within the study area, Ilkeston and Hucknall fall under this definition and therefore formed a starting point for a division of the study area into roughly equally-sized potential directions for growth.
- 2.1.3 Based approximately on the size and shape of the Hucknall and Ilkeston potential Directions for Growth (DFGs), the remainder of the non-urban land directly adjacent to the Nottingham PUA was divided into seven further DFGs, whose number and boundaries are justifiable on broad geographic grounds. These are lettered clockwise from A to J (the letter I was not used in case of possible confusion with any Site 1 that might emerge out of the site-specific part of the assessment later on).
- 2.1.4 It was perhaps inevitable that not every part of each DFG was considered equally for development. As Part A of the study is aiming to be strategic rather than site-based, the DFGs were deliberately designed to be large in extent, in order to cover areas far wider than individual sites. As the project brief was to assess the suitability of land directly adjacent to the existing built-up areas of the Nottingham PUA, Ilkeston and Hucknall, the portion of each DFG analysed most heavily tended usually to be the countryside immediately adjacent to the urban fringe; the further any part of each DFG extended from the existing urban edge (whether far out in the countryside or within the existing urban area), the less relevant it became, in general, for our purposes.. All DFGs are outlined below, including an assessment of those features on the ground (landscape, rivers, roads etc.) which affected consideration of growth locations.

¹² Draft East Midlands RSS, Page 12.

Figure 1: The nine directions for growth in the study area



- 2.1.5 **Direction A** covers land adjacent to the sub-regional centre of Hucknall in all directions. In practice, the M1 forms a logical western boundary to this broad area. The built-up area of Nottingham also acts as an effective southern boundary.
- 2.1.6 **Direction B** covers land due north of the Nottingham PUA, reaching from the gap between Hucknall and Rise Park to the west across to land north of Arnold in the east.
- 2.1.7 **Direction C** covers the land east of Arnold and Gedling, extending south-eastwards to the River Trent.
- 2.1.8 **Direction D** covers the Trent corridor downstream of the city area. In practice, the opportunities to the north of the Trent are limited to land already allocated for development or small areas designated as Safeguarded Land and therefore the land considered is on the south bank of the Trent north of the A52.
- 2.1.9 **Direction E** covers land adjacent to Gamston and Edwalton, including the village of Tollerton and Nottingham Airport. The A60 marks the approximate western extent of this direction.

- 2.1.10 **Direction F** covers land adjacent to Clifton and Ruddington, but also with a small proportion of land north of the Trent (adjacent to Rylands and the Boots campus) also covered.
- 2.1.11 **Direction G** is the only direction where land within the PUA is also considered; the largely undeveloped land in between Stapleford and Beeston/Chilwell. Outside the PUA, Direction G covers land south of Long Eaton (with the Trent again acting as a boundary in practice) and land west of the M1 around Breaston and Risley.
- 2.1.12 **Direction H** covers land to the east of the M1 but to the west of Broxtowe and Bilborough. It extends from the northern edge of Stapleford in the south to Blenheim in the north, where it intersects with Direction A.
- 2.1.13 Finally, **Direction J** covers land around Ilkeston, and extends north and east to cover more land west of the M1, including the settlements of Eastwood and Kimberley along the A610 corridor. This is to ensure consistency with the Draft East Midlands RSS, which mentions Kimberley and Eastwood as potentially suitable for urban extensions alongside the Sub-Regional Centres and the Nottingham PUA (5.12). Development proposals in this area were subsequently submitted to the client team as part of the 2007 SHLAA process.

2.2 Criteria

- 2.2.1 Each Direction for Growth was then assessed against a number of criteria indicating suitability for development. The criteria are not placed in any order of importance, and no greater weight is attached to any one compared with any others. The only exception to this is that the sieve mapping always occurred first, in order to eliminate the land that was environmentally not suitable for development no matter what the remaining criteria indicated.
- Sieve Mapping
 - Infrastructure considerations
 - Geoenvironmental considerations
 - Transport and accessibility
 - Housing affordability
 - Economic development
 - Regeneration potential
 - Green Belt and/or strategic policy

Criterion 1- Sieve Mapping

- 2.2.2 When assessing the Directions for Growth, the first indication of land suitable or otherwise for housing growth came from analysis of immovable environmental constraints or protective designations on the land covered. This first phase of assessment relied principally on GIS mapping and had the effect of 'sieving' out those areas where development would be less desirable in relative terms- hence our phrase 'sieve mapping'.
- 2.2.3 Some of these protective designations are local, non-statutory landscape designations (for example, mature landscape areas and Sites of Importance for Nature Conservation). The most recent national planning guidance on development in rural areas (PPS7) indicates that 'rigid local [environmental] designations...may unduly restrict acceptable

sustainable development' and that therefore it is preferable to replace them with criteria-based policies in LDDs instead¹³.

- 2.2.4 According to PPS7, non-statutory local designations should not be regarded as absolute constraints to development. However, initial assessment of the location of all land protected by such designations revealed, in the judgement of the consultant team, that sufficient land exists within the study area not covered by such designations to accommodate the likely quantum of development that is required.
- 2.2.5 This initial assessment will, however, be kept under review. Should it prove to be the case at a later stage in the assessment that insufficient undesignated land is available for the quantum of development required (and/or a local designation is 'unduly restricting acceptable sustainable development' in a particular location) a judgement will be required as to where designated land may need to be developed.
- 2.2.6 The consultant team's tentative approach, then, is to seek to avoid local designations to the greatest extent possible if sufficient undesignated land can be shown to exist. Such an approach is bolstered further by the fact that at this relatively early stage in the process of producing LDFs, the criteria-based policies in LDDs referred to by PPS7 that will eventually replace map-based designations are for many planning authorities either still under development or not yet written.

Flood risk

- 2.2.7 Among the designations with the strongest presumptions against housing development at national level are those areas at risk of fluvial flooding. Figure 2 shows the extent of the flood risk areas in the study area. PPS25 grades land into four zones, Zone 1 (low probability of flooding), Zone 2 (Medium probability, or between 1 in 100 and 1 in 1000 year annual risk of fluvial flooding), Zone 3a (High probability of fluvial flooding) and Zone 3b (Functional floodplain)¹⁴.
- 2.2.8 The Environment Agency advised for the purposes of the current study that all zones from Zone 2 upwards should be treated as absolute constraints to development at a strategic level. Therefore all land falling within these areas was considered as being unsuitable for housing development.

Statutory environmental designations

- 2.2.9 To simplify treatment of the large number of environmental designations across the study area, they may be divided into statutory and non-statutory designations. Statutory designations within the study area (shown in Figure 3) consist of Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs).

Non-statutory environmental designations

- 2.2.10 Non-statutory designations within the study area (shown in Figure 4) consist of national designations (for example, Ancient Woodland) and local designations (such as Mature Landscape Areas, Prominent Areas for Special Protection and so on). To complicate matters, although national designations can apply in any part of the study area, many of the local designations apply only within the designating authority's boundaries. For

¹³ Planning Policy Statement 7: Sustainable Development in Rural Areas. Office of the Deputy Prime Minister, 2004 (Paragraph 24).

¹⁴ Planning Policy Statement 25: Development and Flood Risk. Communities and Local Government, 2006 (Annex D)

example, within the current study area, only Broxtowe designates Prominent Areas for Special Protection¹⁵, whereas only Gedling designates Primary and Secondary Ridgelines¹⁶.

Heritage designations

- 2.2.11 In a similar way to the approach employed for environmental designations, development will be avoided in areas where it would adversely impact on the setting of a historic park or garden, a conservation area or a Scheduled Ancient Monument, in accordance with PPG 15¹⁷. These three designations are mapped in Figure 5 below. As with the environmental designations, the consultant team acknowledge the general principle that, if sensitively designed, it may be possible to accommodate some development in proximity to such locations. However, within the study area, locations where this may be an issue for consideration will be dealt with in Part B at the site-specific level.

Agricultural land

- 2.2.12 The study area contains significant amounts of Grade 2 (graded Very Good quality) agricultural land. The adverse implications of losing Grade 2 agricultural land are recognised by PPS7, which states that the loss of agricultural land should be taken into account as a development consideration but notes that in some cases, development of Grade 2 agricultural land may be unavoidable, where building elsewhere 'would be inconsistent with other sustainability considerations'. PPS7 concludes that 'it is for Local Planning authorities to decide whether best and most versatile agricultural land can be developed, having carefully weighed the options in the light of competent advice¹⁸. Therefore, PPS7's approach to development on Grade 2 agricultural land is consistent with its approach to non-statutory local environmental designations (see paragraph 2.2.4); neither should be regarded as absolute constraints to development.'
- 2.2.13 PPS7's advice is carried through even more strongly into the draft East Midlands RSS, which states that 'the best and most versatile agricultural land should be protected from permanent loss or damage¹⁹

¹⁵ Broxtowe Local Plan, Broxtowe Borough Council, 2004

¹⁶ Gedling Borough Replacement Local Plan, Gedling Borough Council, 2005

¹⁷ Planning Policy Guidance 15: Planning and the Historic Environment. Department of National Heritage, 1994.

¹⁸ PPS7, paragraphs 28-29.

¹⁹ Policy 26 of draft RSS, not amended at subsequent Examination in Public.

- 2.2.14 Given this national policy context, we have assumed throughout that loss of Grade 2 agricultural land quality is generally undesirable and therefore is, on some level, a constraint to development. For this reason, it is noted throughout where Grade 2 agricultural land loss might occur if a given location were to be developed. However, initial assessment of the location of all Grade 2 agricultural land in the study area reveals, in the judgement of the consultant team, that, in contrast to the location and extent of land covered by local environmental designations, the likely quantum of development that is required will, given the location and extent of Grade 2 land, probably entail some loss of such land.
- 2.2.15 The extent of Grade 2 agricultural land in the study area is mapped in Figure 6 below.

Figure 2: Areas of Zone 2 and higher flood risk within the study area

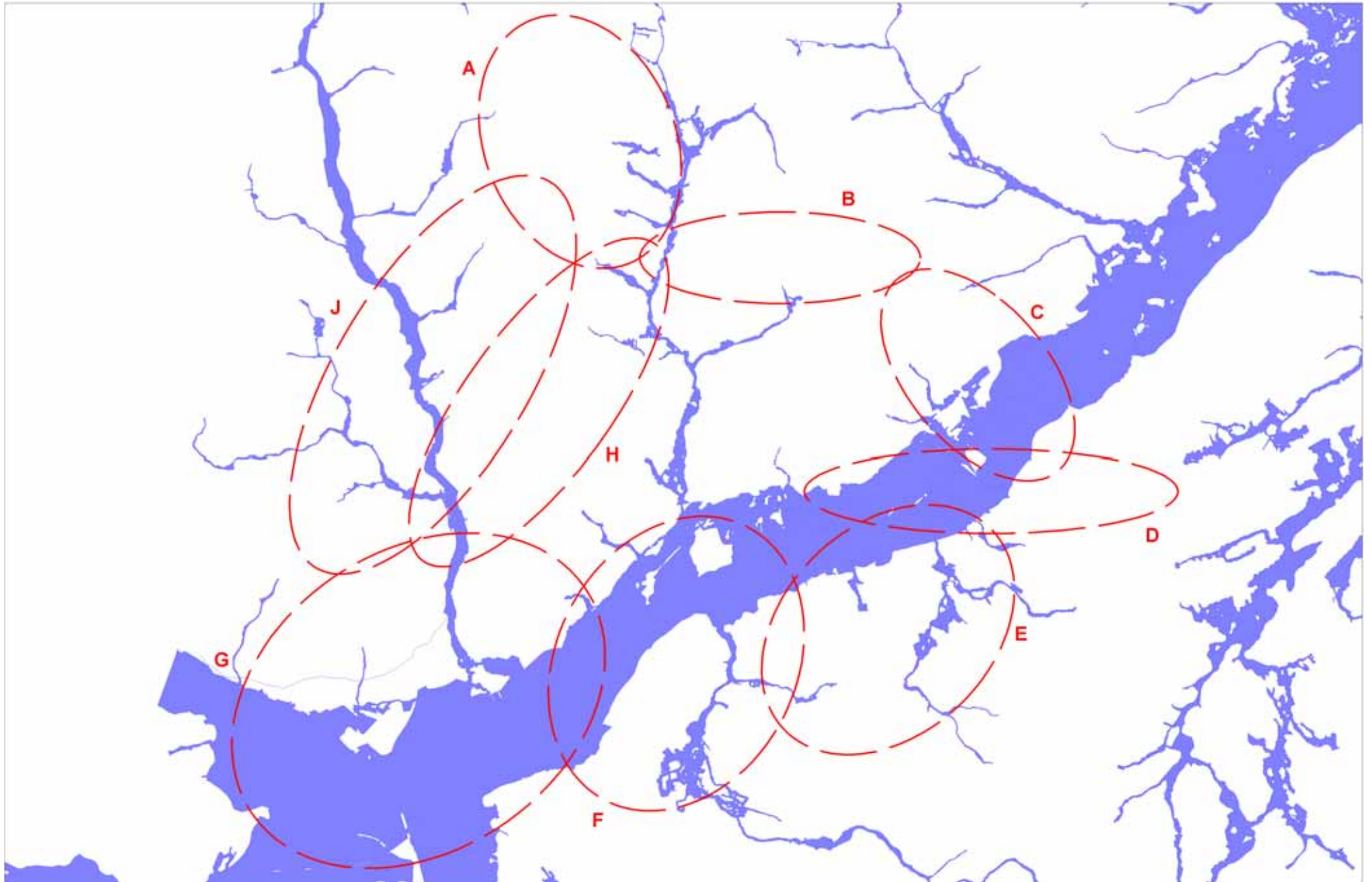


Figure 3: Statutory Environmental Designations within the study area

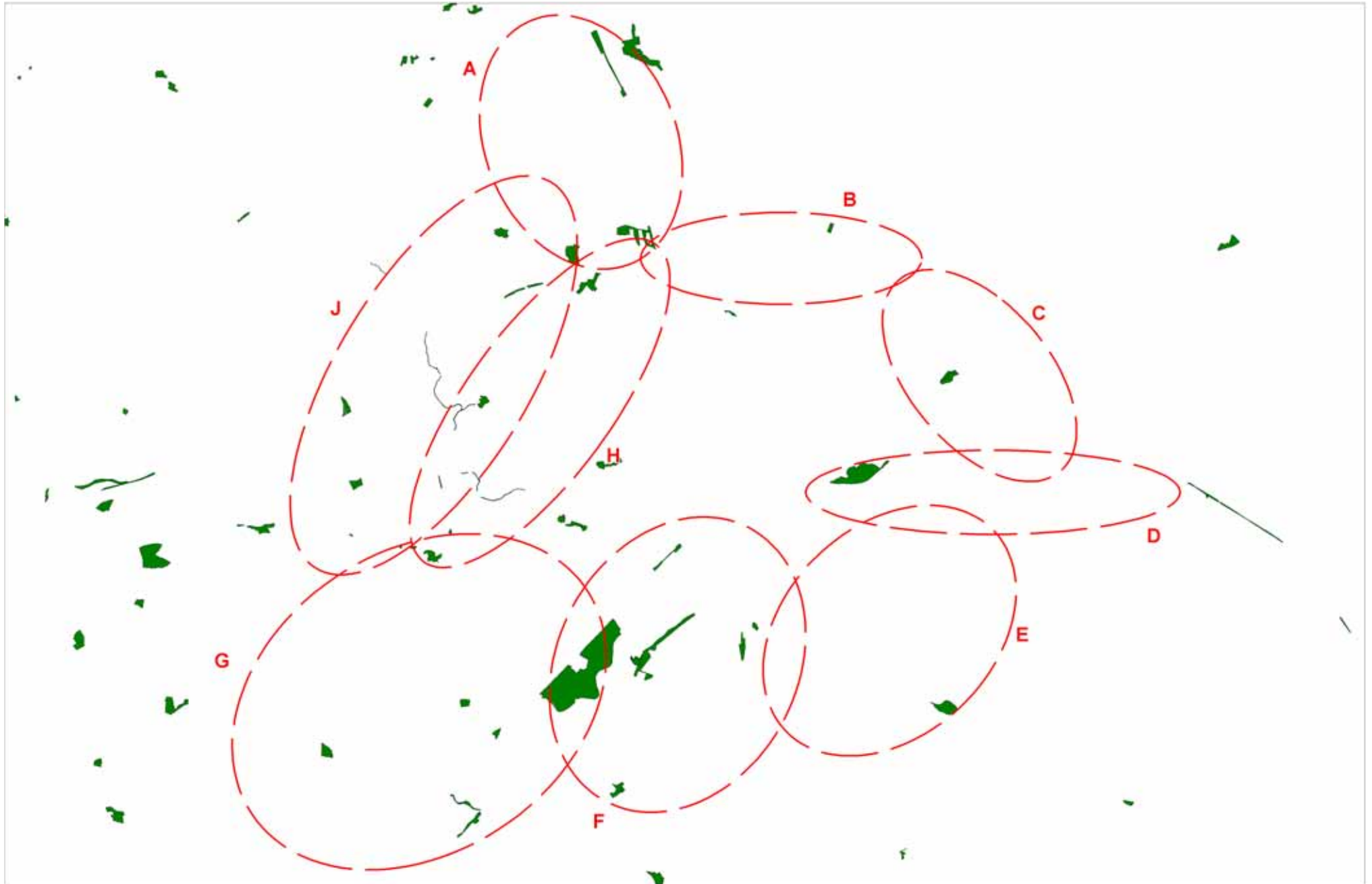


Figure 4: Non-statutory Environmental Designations within the study area



Figure 5: Heritage designations across the study area

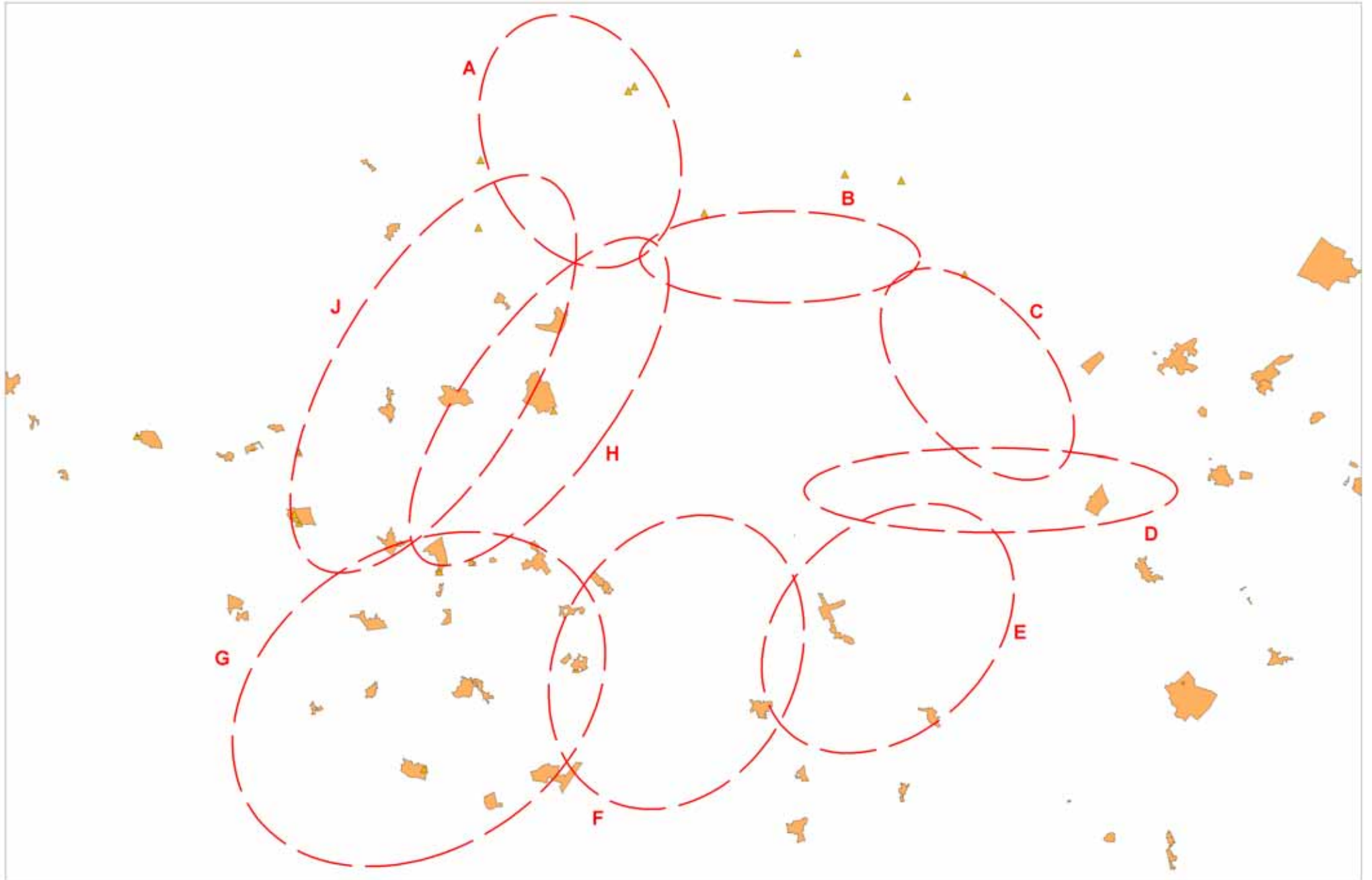
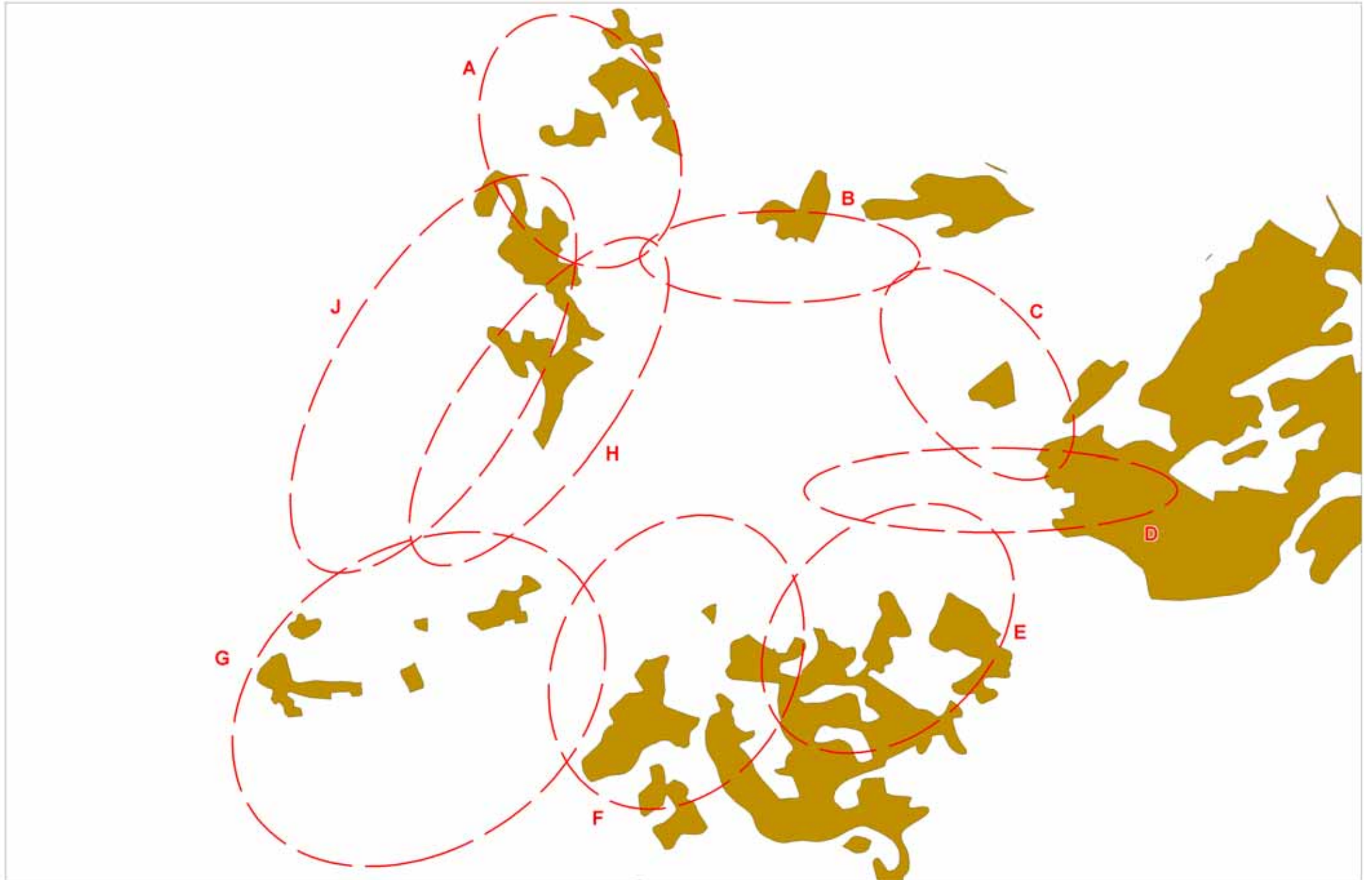


Figure 6: Grade 2 agricultural land within the study area



Criterion 2- Infrastructure Capacity and Potential

2.2.16 To ensure developments are truly sustainable, they need to be located so as to maximise existing infrastructure capacity where possible and to be of a critical mass to sustain the provision of new infrastructure where it is not already available. The range of infrastructure provision considered as part of this assessment included education and health facilities, utilities, green infrastructure and waste. In each case we liaised with key strategic service providers to consider the responses to the following questions:

- How far can the development requirements be covered by existing capacity? For example, are there places in local schools which can meet some of the future requirement? Is there sufficient green infrastructure provision to meet future requirement?
- How are increased requirements covered by current planned investment?
- To what extent can improvements and increased capacity at existing facilities meet the requirements of new development?
- What are the thresholds to make specific infrastructure viable?

2.2.17 For each Direction for Growth, the infrastructure analysis helped to identify any key areas of concern that will require mitigation, potential capacity to absorb new development, threshold sizes for optimal development to support the infrastructure, and scope to link with planned new proposals. In most cases, the issues relating to infrastructure were concerned with the detailed level of planning and funding to support the delivery.

Criterion 3- Geoenvironmental Considerations

2.2.18 CampbellReith carried out a full geoenvironmental assessment for each potential site. The results of the assessment are more relevant to the site-specific analysis in Part B. However, geoenvironmental constraints, particularly geological constraints, tend to cover wide areas and therefore those characteristics that extended across a number of sites within a given Direction for Growth were assessed within the Part A assessment as well.

2.2.19 In most cases, the geoenvironmental constraints noted are not absolute, and regulatory systems are in place to cover those that emerge- for example, Building Regulations cover radon protection measures for new development. However, these constraints have potential to increase development cost and lead time, and therefore have some implications relevant to the current study.

2.2.20 For each Direction for Growth, potential constraints were mapped and those covering more than one site in each Direction were covered in the assessment. The potential constraints included the following:

Underlying Coal Measures

2.2.21 Underlying coal measures consist mainly of clastic rocks (fragments of pre-existing rock) layered with beds of coal. Where coal measures are present, there is potential for any coal to have been mined.

2.2.22 Maps were used to determine whether coal bearing strata and the associated risk of underlying workings are present on-site^{20 21}. All of the proposed sites are shown to be

²⁰ British Geological Survey England and Wales Sheet 126, Nottingham, Solid and Drift, 1:50,000

²¹ British Geological Survey England and Wales Sheet 125, Derby, Solid and Drift, 1:50,000.

underlain (either at depth or near surface) by Carboniferous Coal Measure Formations. This alone is unlikely to preclude development.

Potential for Opencast Coal Mining

- 2.2.23 Where the geological mapping has shown the Coal Measures to outcrop on-site there is the possibility that opencast mining activities have occurred on-site.

Made Ground

- 2.2.24 Made ground is defined as ground formed by filling in natural or artificial pits. Preliminary appraisal of the potential for areas of heavily made ground has been made with reference to the British Geological Survey map²².
- 2.2.25 Where made ground is identified on-site and within 200m off-site, risk is assigned respectively. Where no made ground is identified to be present risk is assessed as zero.

Radon

- 2.2.26 Radon is a naturally occurring radioactive gas which originates from minute amounts of uranium that occur naturally in rocks and soils. Reference has been made to the publication 'Radon - Guidance on protective measures for new buildings',²³ to ascertain the likely requirement for radon protection measures to be installed on new buildings.

Potential Sources of Contamination

- 2.2.27 GIS data from the study area Local Authorities has been reviewed for potential sources of contamination. Additional sources of information comprise a number of historical and modern maps.^{24 25 26}
- 2.2.28 Where significant potentially contaminating processes and industry have been identified on-site, a higher risk of contamination has been assigned. Where Made Ground or Electricity Sub-Stations have been identified on-site and/or potentially contaminating processes and industry identified within 250m off-site a medium risk of contamination has been assigned and, where no sources of contamination have been identified on-site and/or Made Ground or Electricity Sub-Stations have been identified within 250m off-site a low risk has been assigned.
- 2.2.29 A number of smithies are noted to have been present in the general area during 1902-1903 which, due to difficulties in locating site boundaries, have not been considered in the following assessment.

²² British Geological Survey England and Wales Sheet 126, Nottingham, Solid and Drift, 1:50,000.

²³ Building Research Establishment guide BR211, 2007.

²⁴ Cassini Historical Map, Old Series 1824-1839 Sheet 129, Nottingham & Loughborough, 1:50,000

²⁵ Cassini Historical Map, Revised New Series 1902-1903 Sheet 129, Nottingham & Loughborough, 1:50,000

²⁶ Ordnance Survey Explorer Series, Sheet 260, Nottingham and Vale of Belvoir, 1:25,000.

Landfilling Records

- 2.2.30 Historical landfill GIS data was submitted by the Client and is reviewed herein. Where historical landfilling is noted to have been present on-site and off-site, risk has been assigned respectively. Where no landfilling activities are noted to have taken place within 500m of the site, risk can be assumed to be absent.

Hydrogeological Sensitivity

- 2.2.31 Groundwater is contained within underground strata (aquifers) of various types across the country. Groundwater provides a proportion of the base flow for many rivers and watercourses and in England and Wales it constitutes approximately 35% of water used for public supply. It is usually of high quality and often requires little treatment prior to use. However, it is vulnerable to contamination from pollutants, both from direct discharges into groundwater and indirect discharges into and onto land.
- 2.2.32 Aquifer protection classifications are defined as follows:
- Major – Highly permeable, may be highly productive and able to support large abstractions for public supply and other purposes.
 - Minor – Do not have a high permeability, rarely producing large quantities of water for abstraction, although are important both for local supplies and in supplying base flow to rivers.
 - Non – Generally regarded as having insignificant quantities of groundwater.
- 2.2.33 Soil leaching classification data is based on soil physical and chemical properties which affect the downward passage of water and contaminants. This classification is not applied to soils above non-aquifers. Soils are divided into three types:
- H – High leaching potential – soils with little ability to dilute pollutants.
 - I – Intermediate Leaching Potential – soils with a moderate ability to dilute pollutants.
 - L – Low Leaching Potential – soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to dilute pollutants.
- 2.2.34 The underlying hydrogeological sensitivity of the Directions for Growth was reviewed using the National Rivers Authority Groundwater Vulnerability 1:100,000 Map Series²⁷. Where the underlying hydrogeology is classified as a Non-, Minor- and Major-Aquifer, risk classifications have been assigned respectively. It is also noted where the site is underlain by two different classifications. Soil leaching data information is also provided where available.

Criterion 4- Transport and Accessibility

- 2.2.35 The transport and access audit and analysis will identify the configuration, capacity and quality of existing networks and facilities. It will also identify corridors and nodes that present opportunities for extension or enhancement to deal with travel patterns derived from the planned growth. Particular attention will be paid to:
- Accessibility – including on foot and by cycle

²⁷ Sheet 18: Nottinghamshire.

- Public transport routes and their potential for dealing with growth
- Assessment of potential urban growth sites in terms of their ability to be served by all modes of travel
- Assessment of sites in terms of suitability for trip attracting uses – including employment, leisure and retail
- The quality of routes linking new development sites to the city centre and adjacent communities
- Capacity of existing roads and services

2.2.36 The Directions for Growth are examined for their potential contribution to sustainable transport in Nottingham, rather than solely the availability or otherwise of existing road capacity (although that is also important). For example, the ability to place growth areas within corridors that can be readily served by public transport is critical.

2.2.37 Other factors and cross-sector analysis includes the potential for achieving critical mass for the provision of trip attracting activities such as shops, schools, employment and leisure. This in turn helps determine the potential for achieving low car mode-shares by enabling high quality walking and cycling facilities.

2.2.38 Connectivity is a key requirement for sustainable urban extensions. Each of the Directions for Growth is examined not only for the permeability of internal networks but also the synergy that can be obtained from strong connections to adjacent and existing communities. The contribution of new areas to the quality of life of existing areas is an important factor, for example in enabling better access to schools and leisure facilities.

2.2.39 Available data on network capacities and performance, planned and programmed infrastructure projects, policy developments and their impacts (e.g. workplace parking levy), and data from external parties on public transport are used directly for the assessment and evaluation of alternative development options, and have also enabled any gaps in data to be identified.

2.2.40 The transport element of the project will be based on a working assumption of low impact growth scenarios, in which the greater part of transport and accessibility demand will be met by means other than individual motorised transport. This objective continues the tradition of forward-thinking transport policy in Nottingham, and will be a major determinant of the growth scenarios to be developed for testing. This will include development mixes and densities as well as directions and form of future development.

Criterion 5- Housing Need

2.2.41 Each DFG was assessed against the map of relative housing need by submarket housing need from the Greater Nottingham Strategic Housing Market Assessment²⁸. The map shows areas by need and by surplus of affordable housing. For the purposes of this study, directions for growth where need pressures are highest were interpreted as being more suitable for housing development on this criterion, on the grounds that an increased

²⁸ B.Line Housing Information and Three Dragons, 2007 (Map 18).

supply of housing in the area would correct imbalances by reducing affordability problems due to the area's popularity with the market.

- 2.2.42 Likewise, directions for growth where housing need is lower were taken as being less suitable for housing development on this criterion, as existing housing is affordable, indicating that there is less need for additional housing and that there is a risk it would not be attractive to the market in such a location.

Criterion 6- Economic Development

- 2.2.43 As for housing affordability, this criterion is largely market-based. It relates to the location of employment and is based on the starting principle that houses should be built close to places of work in order to reduce commuting distances and thus improve chances for sustainability. Each DFG was assessed on its existing attractiveness to employers, using workplace data on employment from the Census 2001²⁹, as well as map-based searches of major employment locations³⁰.
- 2.2.44 It was assumed that potential for economic development was higher in DFGs that had a track record of being attractive locations for major employers. Among those DFGs where little existing economic activity is apparent, correspondingly it was anticipated that new development would have less potential for economic development.
- 2.2.45 A further important source referred to when assessing employment potential was the findings of the Nottingham City Region Employment Land Study³¹, whose findings have several important implications for the spatial location of economic development up to 2016 and therefore can be referenced when assessing the economic development prospects of each Direction for Growth. Given that the Study predicts the greatest growth to occur at Nottingham City Centre, it is likely that those Directions for Growth with good transport connections to the centre are most likely to benefit from the envisaged increase.
- 2.2.46 The Employment Land Study also notes that although some recent office development has occurred in the M1 corridor, for reasons of sustainability future out-of-centre office development could follow the successful ng2 Business Park model; located between the city centre and the M1 and able to be accessed via sustainable modes of transport.
- 2.2.47 This criterion also takes into account existing and planned transport infrastructure in each DFG, and therefore can be said to crosscut with Criterion 4 to some extent. In most places, and the study area is no exception, major employment generators tend to be located with good access to road, rail and air transport. It may be, therefore, that some DFGs with low levels of existing economic activity may be 'unlocked' for economic development if new transport infrastructure is to be delivered.

²⁹ Available at www.neighbourhood.statistics.gov.uk

³⁰ The maps of the study area used for general purposes throughout this study were Ordnance Survey Landranger sheet 129 (Nottingham & Loughborough), Nottinghamshire County Atlas (A-Z, 2006) and those online at www.streetmap.co.uk.

³¹ Roger Tym & Partners, 2007.

Criterion 7- Regeneration Potential

2.2.48 The Index of Multiple Deprivation 2007³² shows how Lower Super Output Areas (LSOAs- a statistical division with a mean population of 1,500 people) perform against various indices of deprivation, namely:

- Income deprivation
- Employment deprivation
- Health deprivation and disability
- Education, skills and training deprivation
- Barriers to housing and services
- Living environment deprivation
- Crime.

2.2.49 The scores against each individual index of deprivation are merged to produce a score on an index of multiple deprivation. The scores are then ranked, with the highest score in England ranked 1st and the lowest ranked 32,482nd.

2.2.50 The ranking of each LSOA in the study area was scored from 1 to 10 according to the decile of English multiple deprivation within which it fell. For example, if a particular LSOA was ranked in the top ten percent most deprived in England, it was given a score of 1, whereas if it fell into the 10-20% least deprived, it got a score of 9.

2.2.51 The scores were then mapped, providing an at-a-glance indication of deprivation in each DFG. If the DFG showed high levels of deprivation, the adjacency argument (whereby new development, if designed and implemented in a sustainable way, can have beneficial 'trickle-down' effects) would indicate that new development has the potential to lift the area and generate positive effects in terms of employment, health, education and other indicators of well-being. Where DFGs exhibited low levels of deprivation, it is likely that new development would be unlikely to have a significant effect on local deprivation rankings.

Criterion 8 - Green Belt and/or Strategic Policy

2.2.52 The Nottingham PUA and the sub-regional centres are surrounded by the Nottingham-Derby Green Belt. Because every DFG contains extensive areas of Green Belt land, it was considered by the consultant team that Green Belt should be separated from the sieve mapping criterion above when analysing the suitability of DFGs for new development.

2.2.53 Given the East Midlands RSS housing targets for the study area, it is likely that some development on Green Belt land must occur. However, in order to ensure development in the Green Belt is located in the most sustainable locations, the purposes and criteria underlying the original designation of the Nottingham-Derby Green Belt must be revisited.

2.2.54 This has recently occurred with the publication of the Nottingham-Derby Green Belt Review³³, which assessed the purposes and role of each part of the Green Belt. The

³² Available online at www.neighbourhood.statistics.gov.uk

Green Belt around Nottingham was divided into sections that were not dissimilar in size to the DFGs defined above, with each section scored in terms of how well it was performing against the criteria for which it was originally designated. These criteria, adapted from PPG2³⁴, are:

- Checking the unrestricted sprawl of built-up areas
- Preventing coalescence of neighbouring towns
- Assisting in safeguarding the countryside
- Preserving the setting and character of historic towns
- Assisting in urban regeneration by encouraging the use of previously-developed land

2.2.55 The sections of Green Belt overlapping with the present study area were defined as follows:

- Nottingham to Ilkeston and Long Eaton (south of A610)
- Derby to Long Eaton
- Derby to Ilkeston
- North of Eastwood, Kimberley and Hucknall
- Ravenshead to Calverton and surrounds
- East of Arnold and Carlton
- East of West Bridgford to Bingham
- South of West Bridgford to East Leake
- Clifton and South

2.2.56 In general, the conclusions of the 2006 Green Belt Review were that the most important Green Belt lies to the west and north of the Nottingham PUA, including west of Long Eaton, north of Hucknall, and the entire surrounding area of Ilkeston, with Green Belt performing its functions to a lesser extent to the east and south of the PUA.

2.2.57 In respect of the 2006 Green Belt Review, the report of the Panel following the 2007 Examination in Public of the East Midlands RSS stated that *'While the published work is manifestly thorough and sound according to the remit set, its methodology permits the identification of areas for excision from the Belt in terms of Green Belt criteria only. It does not, nor does it attempt to, identify areas for development on the basis of all recognised sustainability criteria, including, for example sustainable accessibility'*³⁵.

³³ Nottinghamshire County Council and Derbyshire County Council, 2006.

³⁴ Planning Policy Guidance 2: Green Belts. Department of the Environment, 1995.

³⁵ East Midlands Regional Plan: Report of the Panel (Examination in Public). Planning Inspectorate, 2007. (paragraph 14.6, page 134)

- 2.2.58 The Panel Report continues: *'The Green Belt Review, rightly in our view, attempts to take account of the overall strategy of concentrating development in and immediately around the principal urban areas.....but in not permitting the location of urban extensions to be decided on the basis of all recognized sustainability criteria, it is in our opinion, insufficiently radical....[we recommend accepting] the Assembly's view that the most important aspect of the Belt is to keep separate the urban areas of Derby and Nottingham and to recast the Belt so that, as regards Nottingham it becomes, as it were, the mirror image of Derby, providing for a generous green block – more than a wedge – separating the two cities of Nottingham and Derby. This would allow for necessary urban expansion to be planned on the basis of balancing all recognised sustainability criteria which do, of course, include the recycling of urban land, the avoidance of both urban sprawl and the profligate use of land resources. We are not unmindful of the difficulties this will cause in terms of public perception, but in our considered professional opinion we believe it to be the right course.....Given this strategic steer, we expect the detailed boundaries to be settled in the course of the current round of local planning'*³⁶
- 2.2.59 Notwithstanding the conclusions of the Panel, the 2006 Green Belt review (together with any additional facts relating to the Green Belt gathered from consultation and other policy documents) will nevertheless be referred to when assessing each DFG on the Green Belt criterion, given that all other criteria are also now being taken into account.
- 2.2.60 The need to avoid coalescence between neighbouring towns is a fundamental criterion of Green Belt policy. It was therefore clear that this would rule out any development that would lead to coalescence between the Nottingham PUA³⁷ and other free-standing settlements immediately surrounding its boundaries, the largest of which include Breaston, Burton Joyce, Kimberley-Nuthall-Watnall, Hucknall, Ilkeston-Trowell, Radcliffe-on-Trent, and Ruddington, as well as the strategic requirement noted in the Panel Report for a larger Green Belt gap between Nottingham and Derby.
- 2.2.61 It is possible that, as well as Green Belt policy, other local and regional policy (for example, local housing and/or employment policy and/or allocations or RSS policies on growth) may have a bearing on the future growth of the PUA or the sub-regional centres .Any relevant policy (which may be linked to, but separate from, Green Belt considerations) will therefore also be covered under this criterion.

2.3 Introduction to Directions for Growth Assessment

- 2.3.1 Sections 2.4 to 2.12 below assess each of the nine Directions for Growth, in alphabetical order, against the eight criteria outlined in Section 2.2 above.
- 2.3.2 Text in the 'Comments' column for each criterion consists of the facts gathered from literature review, GIS mapping, site survey and consultation work. Occasionally, a fact may form an immovable constraint to development across all or a very large part of the Direction for Growth (this does not necessarily mean that the entire direction is unsuitable, however; the combined opportunities offered by other criteria may, in some circumstances, be able to overcome such constraints). Where this is judged to be the case, the text is presented in **bold type**.

³⁶ Ibid., paragraphs 14.8-14.12.

³⁷ The Nottingham PUA is treated here as a single urban settlement within its agreed boundaries for the purposes of this definition. Inside its boundaries, the extent to which individual towns in the Erewash Valley area have survived coalescence or not (and hence whether they still form 'neighbouring towns' as defined by the PPG2 Green Belt criteria) is debatable (see Part B).

- 2.3.3 Other issues which may constrain development within a particular Direction for Growth, but which may be more easily overcome, either due to their smaller geographical extent or through mitigating measures, are presented in *italic type*.
- 2.3.4 Positive opportunities (as opposed to constraints) that development in each Direction for Growth might offer are shown in underlined type. Again, this may cover a wide spectrum of factors, ranging from minor advantages to compelling drivers for growth.
- 2.3.5 All other text that is not bold, italicised or underlined signifies facts affecting development whose impacts are harder to measure (for example, some may be simultaneously opportunities and constraints), or whose impacts are neutral or currently unknown. The impact of some of these become clearer at a site-specific rather than a strategic level; where this is the case, these have been addressed within the assessment of individual sites in Part B. Others may require further study or analysis at a later date.
- 2.3.6 A simple 'traffic-light' system then colour-codes the assessment for each criterion, balancing all considerations in the text to its right. **Red** indicates the presence of immovable, absolute constraints or circumstances that would render development less suitable or viable, even if other positive criteria may exist. **Amber** indicates constraints or circumstances that may need to be overcome (ranging from the easily overcome to the more difficult) before development becomes suitable or viable. **Green** indicates that on this criterion, most or all of the DFG is suitable for development. Inevitably, in all locations, some constraints are present, and it is important to note that a **green** assessment does not indicate a total lack of constraints; rather, fewer or less serious constraints than an **amber** assessment would indicate. The three colours do not necessarily relate exactly to the bold/italicised/underlined distinction, although there is a relationship between the two in most cases.
- 2.3.7 The relativity of all traffic-light judgements also means that a **red** assessment does not necessarily mean 'no development under any circumstances whatsoever' in any location. As so many different constraints to development exist, especially across large geographical areas in Part A of this study, an absolute assessment would result in almost every criterion receiving an amber assessment, which would reduce significantly the value of the study as a tool to aid in the difficult decisions needed on greenfield development in the Nottingham region.
- 2.3.8 An overall assessment and recommendation covering the suitability or otherwise of each direction for growth then summarises and reviews the opportunities and constraints presented under the eight sub-headings, culminating in a single-line recommendation on the suitability or otherwise of growth within each direction.
- 2.3.9 Where positive statements of potential are made in the concluding paragraphs and/or recommendations, these are to be regarded as hypotheses to be tested in Part B of the study.
- 2.3.10 Some Directions for Growth covered areas where potential in one part differed so greatly across so many criteria that the DFG had to be split for assessment purposes. This proved to be the case for Directions E, G, H and J, which are split respectively for assessment purposes into:
- E north
 - E south
 - G (outside Principal Urban Area)
 - G (inside Principal Urban Area)

- H north
- H south
- J north
- J south

2.3.11 The sieve mapping for each Direction for Growth is provided in Part A. However, to make the section less complex and more readable, the indices of multiple deprivation and housing need mapping for each Direction for Growth appear respectively in Appendices C and D. In addition, Appendix E provides the mapping of workplace employment across the entire study area based on Census 2001 figures.

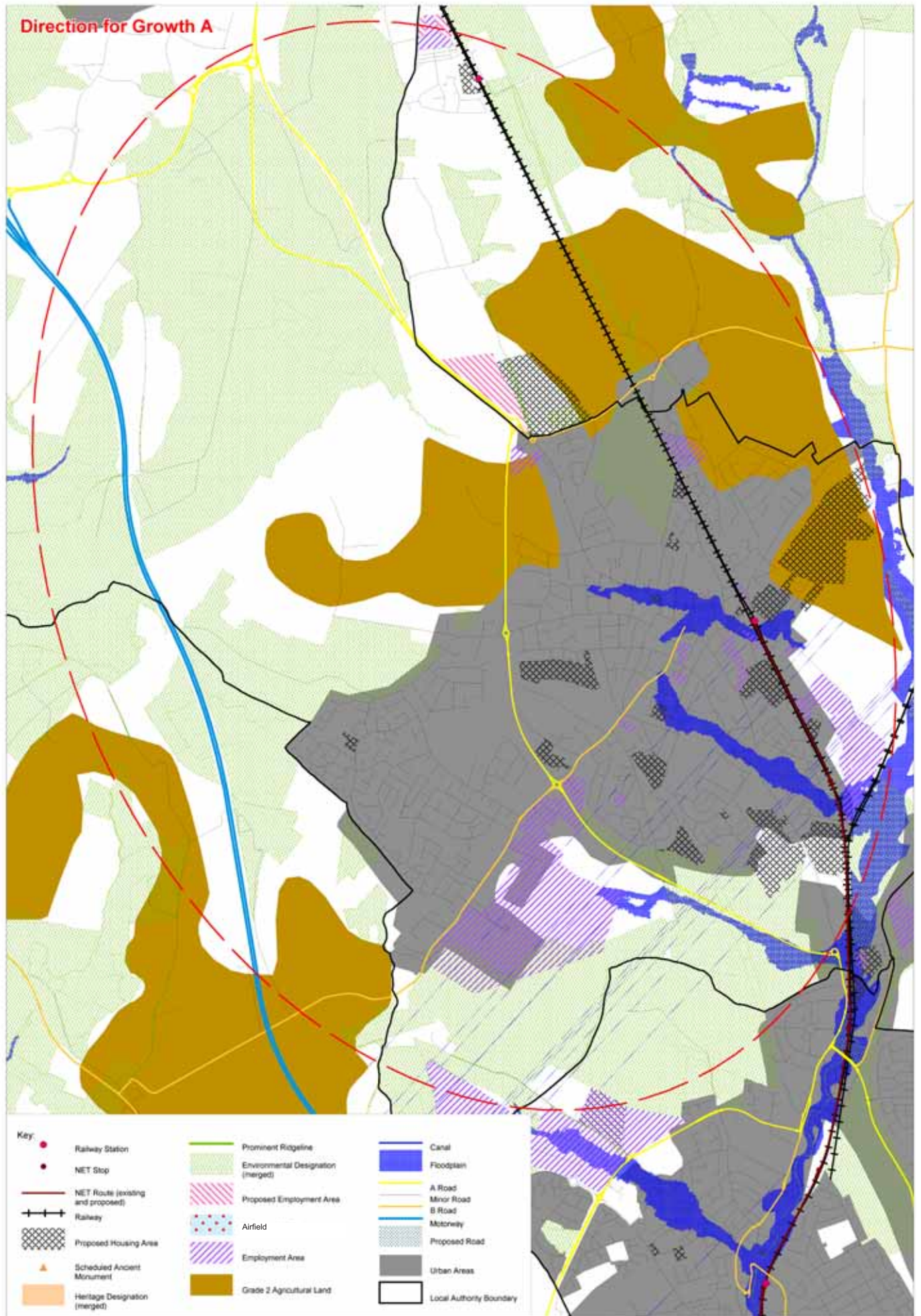
2.4 Direction A (Around Hucknall)

Criterion	Considerations	Overall Assessment
Sieve Mapping	<ul style="list-style-type: none"> Large extent of environmental designations; the highest number of SSSIs around Nottingham are found in this area, and there is a concentration of heathland habitats of county importance north of Hucknall. Large extent of Grade 2 Agricultural Land Floodzone of Baker Lane Brook and the impact of surface water run-off draining to the River Leen catchment Character and setting of three Grade II* Registered Historic Parks & Gardens in north of area (Annesley Hall, Newstead Abbey and Papplewick Hall), including the impact on views from these parks/gardens Little land entirely free from designations adjacent to urban fringe 	
Transport and accessibility	<ul style="list-style-type: none"> <u>Hucknall benefits from good public transport links into Nottingham, with heavy and light rail services</u> <u>Potential extension of NET Line 1 to north of Hucknall</u> <u>The M1 currently suffers from very significant stress levels</u> <u>Committed trunk road schemes: M1 Widening (J25 to J28) started in January 2008</u> <u>Proposed improvements to Hucknall Town Centre could improve pedestrian/cycle/bus accessibility</u> <u>Access to M1 via Junction 27</u> <u>Relatively far from Nottingham city centre</u> 	
Geoenvironmental considerations	<ul style="list-style-type: none"> <u>Total Catchment Source Protection Zones (SPZ) in area</u> <u>Some historic landfilling activity</u> <u>Radon protection will be required for some new housing development</u> 	
Infrastructure capacity and potential	<ul style="list-style-type: none"> <u>Good leisure and open space offer</u> <u>River Leen - strategic green infrastructure corridor with potential for cycleway and improvements.</u> <u>Existing schools have high demand, with limited potential to expand. Recent development has put pressure on them.</u> <u>Need for expansion of medical facilities</u> <u>Electricity - Reinforcement of the 33kV network and the installation of a new Primary 33/11kV substation</u> <u>Greenwood Community Forest.</u> 	
Housing need	<ul style="list-style-type: none"> <u>Generally, an area of average to constrained housing affordability (average to high housing need).</u> 	
Regeneration potential	<ul style="list-style-type: none"> <u>Average performance on deprivation, with medium levels of multiple deprivation.</u> <u>Evidence that the tram and Robin Hood rail line are transforming Hucknall area from a post-industrial zone into the commuter belt, with positive regeneration implications.</u> 	
Economic development	<ul style="list-style-type: none"> <u>Area historically attractive to business generally- good accessibility to M1 (Sherwood Park further north)</u> <u>Rolls Royce site offers concentration of existing high quality employment and provides future opportunities for high technology uses incorporating additional Rolls Royce investment</u> <u>Hucknall Town Centre masterplan commissioned to review retail vitality and improve the environment</u> 	
Green Belt and/or strategic policy	<ul style="list-style-type: none"> Green Belt in this area rated as 'High Importance' in the 2006 Green Belt Review, scoring particularly well on 'checking unrestricted sprawl' <u>Existing housing and employment allocations, as well as other white land, not covered by Green Belt designation</u> <u>Policy decision required on suitability of sub-regional centre for growth, versus growth of Nottingham PUA</u> 	

Overall assessment

- 2.4.1 In general, many important environmental and heritage constraints exist within this Direction for Growth, particularly to the north and east, so development here should not extend too far out from the existing urban area of Hucknall. However, potential exists close to the urban edge of Hucknall in many locations.
- 2.4.2 The opportunities here for sustainable transport, regeneration and economic development, together with brownfield opportunities within the existing built-up area, make this Direction for Growth amenable to some development.
- 2.4.3 **Recommendation:** Some residential and employment growth in this area is suitable and desirable, and should support the role of Hucknall as a sub-regional centre.

Figure 7: Direction A with all designations mapped



2.5 Direction B (North of Bestwood)

Criterion	Considerations	Overall Assessment
Sieve Mapping	<ul style="list-style-type: none"> Large extent of environmental designations Landscape designations include primary and secondary ridgelines along prominent hills to the north of the Nottingham urban area Large extent of Grade 2 Agricultural Land Floodzone of Day Brook and surface water run-off to Day Brook Bestwood Colliery contains a scheduled ancient monument (the engine house), and Bestwood Pumping Station is a Grade II registered historic park & garden. Some land free of designations adjacent to Nottingham PUA 	
Transport and accessibility	<ul style="list-style-type: none"> A60 Mansfield Road only major road into Nottingham. Heavily congested. A611 has bus priority and leads to M1 J27 (uncongested) Accessible to local services at Arnold Town Centre Leapool Park and Ride being considered on A60/A614 roundabout. No current or projected link to NET system No trunk roads in area Indirect bus links to Nottingham Potential for more bus priority Medium distance from city centre Cul-de-sac layout at city fringe reduces potential for connectivity with additional development 	
Geoenvironmental considerations	<ul style="list-style-type: none"> Outer, Total and Inner Zone SPZ for aquifers 	
Infrastructure capacity and potential	<ul style="list-style-type: none"> Bestwood Country Park green infrastructure Existing and growing capacity in education system New medical facilities Greenwood Community Forest Electricity - Reinforcement of the 33kV network and the installation of a new Primary 33/11kV substation required 	
Housing need	<ul style="list-style-type: none"> Area of relatively low need/affordable housing. New housing unlikely to have major positive impact on affordability here. 	
Regeneration potential	<ul style="list-style-type: none"> Average performance on deprivation, but with some small pockets of severe deprivation. Potential for new housing to address these pockets. 	
Economic development	<ul style="list-style-type: none"> Very few major employment locations here; thereby lessening potential for job creation 	
Green Belt and/or strategic policy	<ul style="list-style-type: none"> Green Belt in this area rated as 'Medium Importance' in the 2006 Green Belt Review, scoring particularly well on 'checking unrestricted sprawl' and 'assisting in urban regeneration'. No allocated housing sites or other land safeguarded from Green Belt 	

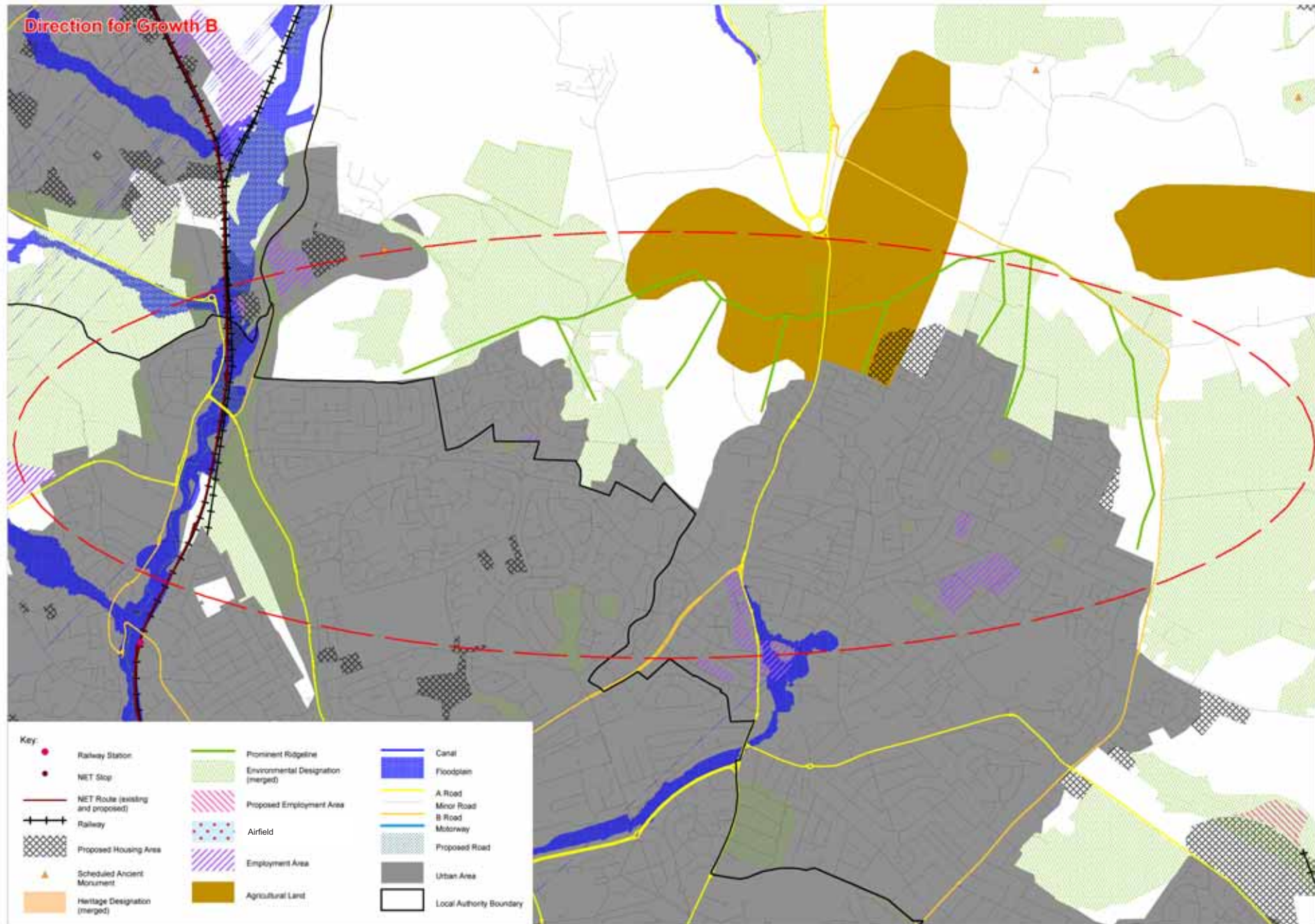
Overall assessment

2.5.1 This direction for growth is, like Direction A, also constrained environmentally, particularly in terms of topography, meaning that any development should adjoin the existing urban edge closely. There may be potential here for some 'rounding off' of the urban edge that will eat to a lesser extent into the surrounding Green Belt and landscape designations.

2.5.2 Unlike Direction A, public transport is not strong here, meaning that this direction, although suitable for a small amount of growth that may also offer local regeneration benefits, would be unsustainable for larger-scale development.

2.5.3 **Recommendation:** Area can support some residential growth adjacent to PUA, linked to existing and new bus provision and the regeneration of deprived communities.

Figure 8: Direction B with all designations mapped



2.6 Direction C (Northeast of Arnold/Gedling)

Criterion	Considerations	Overall Assessment
Sieve Mapping	<ul style="list-style-type: none"> • Large extent of environmental designations • Landscape designations include secondary ridgelines along prominent hills to the northeast of the Nottingham urban area • Gedling Colliery Development (land for housing, employment and country park) already committed • Large extent of Grade 2 Agricultural Land • Floodzone of River Trent covers most of southern half of DFG • No major built heritage concerns at edge of PUA, but scheduled ancient monument (mound) at Lambley • Very small amount of undesignated land adjacent to Nottingham PUA 	
Transport and accessibility	<ul style="list-style-type: none"> • Planned Gedling access road will improve connectivity • Near to district centres with some bus services • Some potential for NET Phase 3 or high-quality bus corridor • At present public transport provision in area uses bus plugs and Carlton Road • The provision of a new Trent crossing at Radcliffe-on-Trent as contained within the longer term vision for transport provision within Greater Nottingham may result in development in the area contributing to existing traffic flows on the A52 • Rail line east to Newark with potential for improvement • Medium distance from city centre 	
Geoenvironmental considerations	<ul style="list-style-type: none"> • Total catchment SPZ for aquifers 	
Infrastructure capacity and potential	<ul style="list-style-type: none"> • Good access to leisure opportunities • Green infrastructure (proposed Gedling Country Park) • Popular area for schools, likely at capacity. • Unclear about education expansion potential • No information on electricity requirements 	
Housing need	<ul style="list-style-type: none"> • Area of affordable housing adjoining area of low housing affordability (high housing need) due to strong housing market within urban area. 	
Regeneration potential	<ul style="list-style-type: none"> • Almost no deprived areas within direction for growth, therefore less potential to benefit deprived areas 	
Economic development	<ul style="list-style-type: none"> • Gedling Colliery development will provide new employment area • Existing affluent area with low unemployment • Low attractiveness to employers at present without 4th Trent crossing- they prefer the western side of PUA 	
Green Belt and/or strategic policy	<ul style="list-style-type: none"> • Green Belt in this area rated as 'Medium Importance' in the 2006 Green Belt Review, scoring averagely on 'checking unrestricted sprawl', 'safeguarding the countryside', 'preventing merging of neighbouring towns' and 'assisting in urban regeneration'. • No allocated housing sites or other land safeguarded from Green Belt with the exception of the already committed Gedling Colliery. 	

Overall assessment

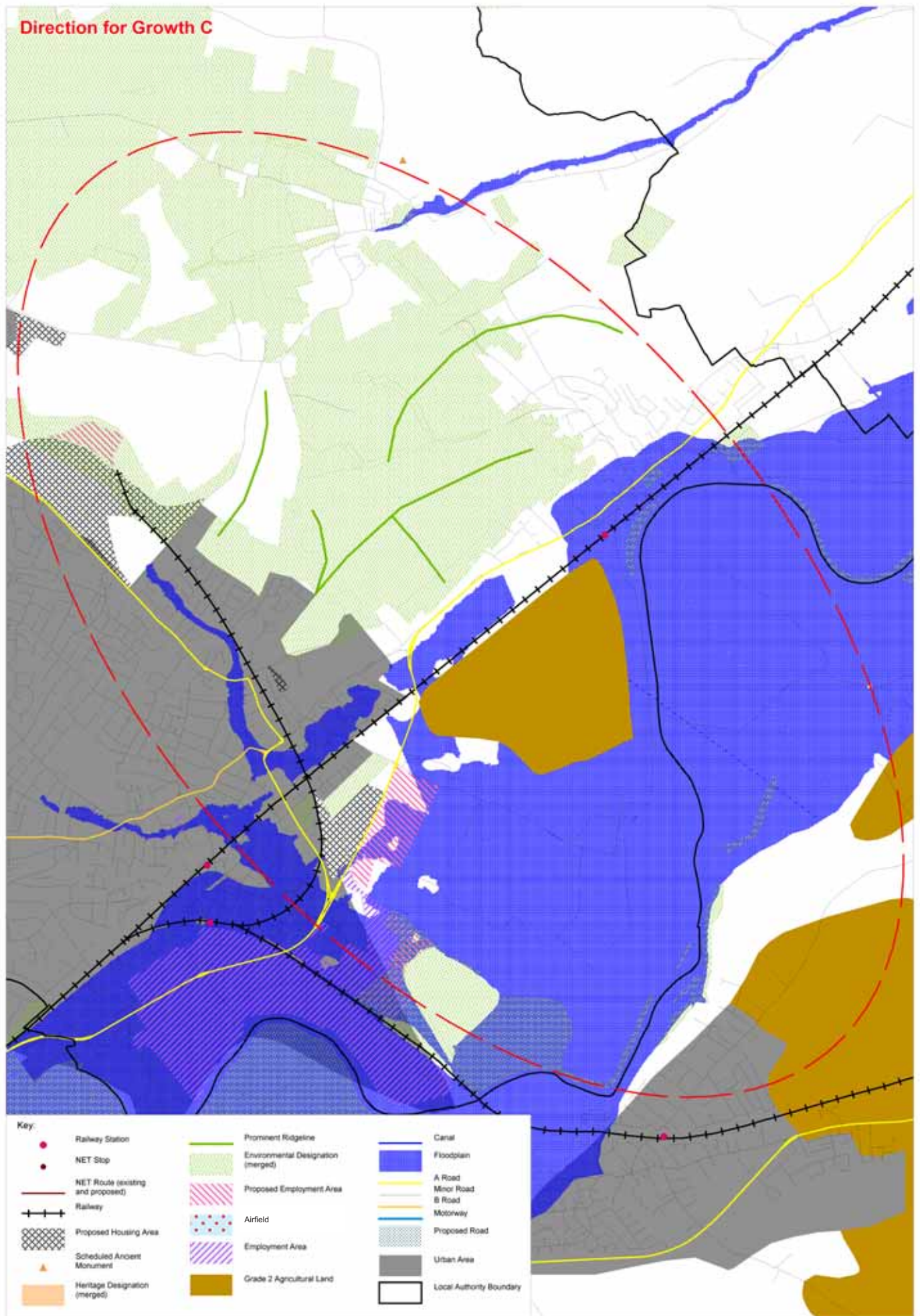
2.6.1 Environmentally, this is one of the most constrained directions for growth. The combined considerations of mature landscape areas, topography, floodplain and the Gedling Colliery development result between them in very little additional land suitable for development.

2.6.2 In any case, there are virtually no opportunities for economic development or for regeneration of deprived communities; public transport provision is also problematic. Development here, if assessed as suitable in Part B, should be predominantly residential.

2.6.3

Recommendation: Area could support some residential growth, with the small area free from environmental constraints adjacent to the PUA east of the proposed Gedling Colliery Country Park most suitable for further assessment.

Figure 9: Direction C with all designations mapped



2.7 Direction D (Trent Corridor East)

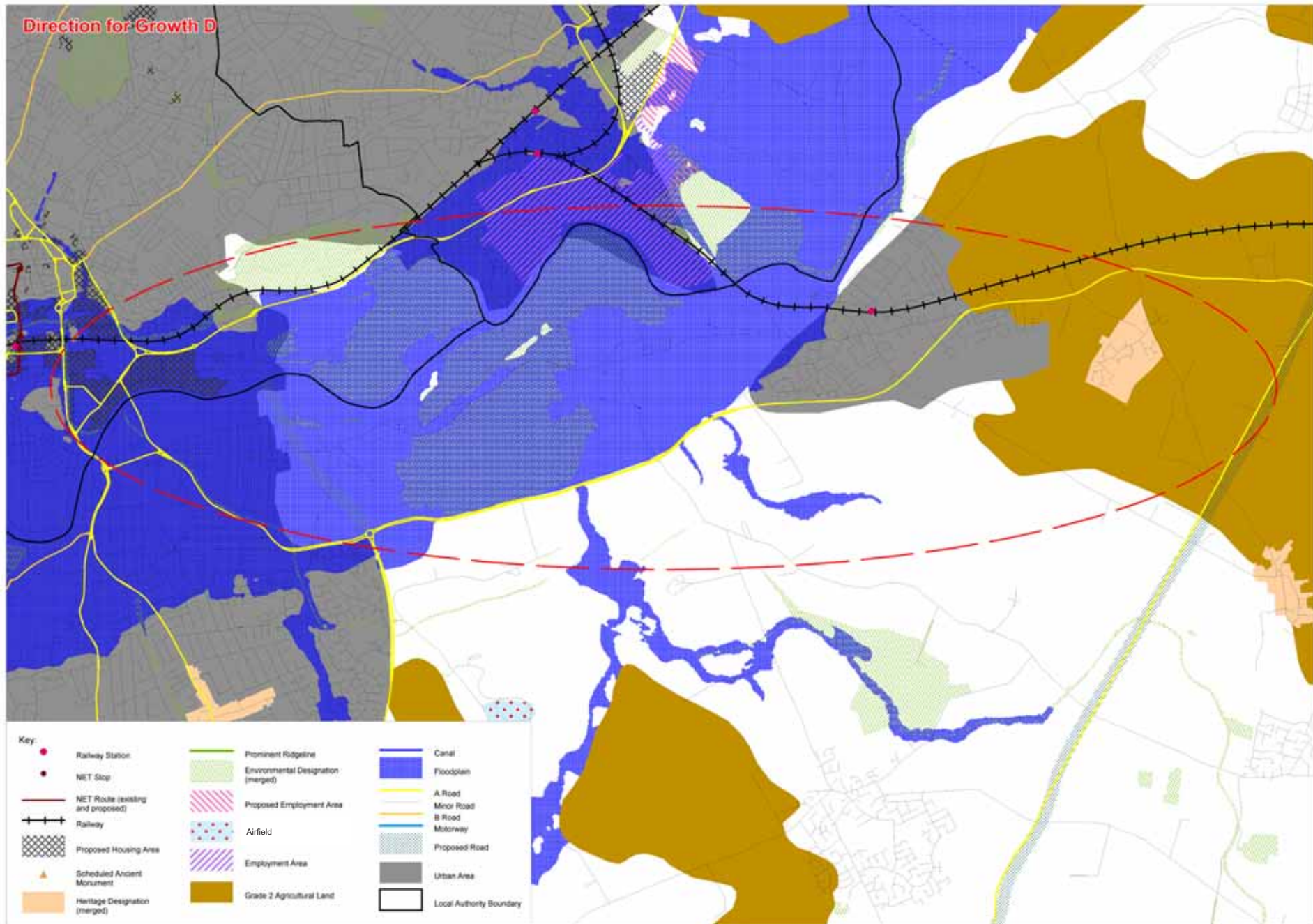
Criterion	Considerations	Overall Assessment
Sieve Mapping	<ul style="list-style-type: none"> • Functional floodplain of the River Trent and its tributaries directly adjacent to Nottingham PUA • Environmental designations • <i>Grade 2 Agricultural Land</i> • <i>Archaeological sites near river</i> 	Red
Transport and accessibility	<ul style="list-style-type: none"> • <u>Would add to case for 4th Trent Crossing and for A52 and A46 widening</u> • <i>Proposed Park and Ride Site at Gamston</i> • Reasonable bus access to city, but congestion reduces quality • <i>Potential extension of the Robin Hood Line to Bingham, possibly with Bingham Park and Ride.</i> • <i>Some potential for NET Phase 3 to Gamston</i> • <i>Physically close to city centre, but road network and bridges inhibit accessibility</i> • <i>Growth here could affect congestion on A46 to east</i> • <i>The A52 suffers from congestion due to commuters to Nottingham from the east. Gamston Roundabout is subject to queuing in the morning peak, sometimes as far back as Stragglethorpe junction.</i> • <i>The direction of growth would be dependent on A6011 into the city and A52 beyond Gamston roundabout. The A52 MMS highlighted grade separation at Nottingham Knight through to Gamston roundabout. These works are not in a programme for delivery and would not start work on site until 2023 at the earliest.</i> 	
Geoenvironmental considerations	<ul style="list-style-type: none"> • <i>Total catchment SPZ for aquifers</i> 	Yellow
Infrastructure capacity and potential	<ul style="list-style-type: none"> • <i>Secondary schools at capacity</i> • <i>Possible Nottingham Eastern Academy site at Greenwood Dale School</i> • <u>Leisure offer, open space and opportunities for improvement good</u> • <u>Green infrastructure good (River Trent River Park, Holme Pierpoint, Gamston Pit, Grantham canal)</u> • <i>Few health facilities</i> • <u>New waste transfer station granted permission at Netherfield</u> • <i>Reinforcement of 33kV electricity network required, with installation of a new Primary 33/11kV substation</i> 	Yellow
Housing need	<ul style="list-style-type: none"> • <u>Most of DFG covers the south bank of the Trent, where housing affordability is currently a problem, and housing need is high.</u> 	Green
Regeneration potential	<ul style="list-style-type: none"> • <i>Very deprived area at immediate edge of PUA but deprivation less of an issue further east in the DFG.</i> • However, extremely difficult geographically to connect any new development in DFG to most deprived areas due to intervening River Trent and floodplain. 	Yellow
Economic development	<ul style="list-style-type: none"> • <i>Industrial areas along north bank of Trent.</i> • <i>Leisure sector important (National Watersports Centre, Nottingham Racecourse)</i> • <i>Mainly commuter area, most residents work in city centre rather than locally</i> • <i>Few economic development opportunities at present</i> 	Yellow
Green Belt and/or strategic policy	<ul style="list-style-type: none"> • <i>Green Belt in this area rated as 'Medium Importance' in the 2006 Green Belt Review, scoring best on 'checking unrestricted sprawl'.</i> • <i>One allocated housing sites out of the Green Belt (Teal Close)</i> 	Yellow

Overall assessment

2.7.1 Assuming that any development should occur adjacent to the PUA, this Direction for Growth has very limited potential due to floodplain constraints. Potential may exist in the eastern half of the Direction for Growth adjacent to more distant settlements along the railway line. However, that is beyond the scope of this study.

2.7.2 **Recommendation:** No development adjacent to PUA should be proposed in this area.

Figure 10: Direction D with all designations mapped



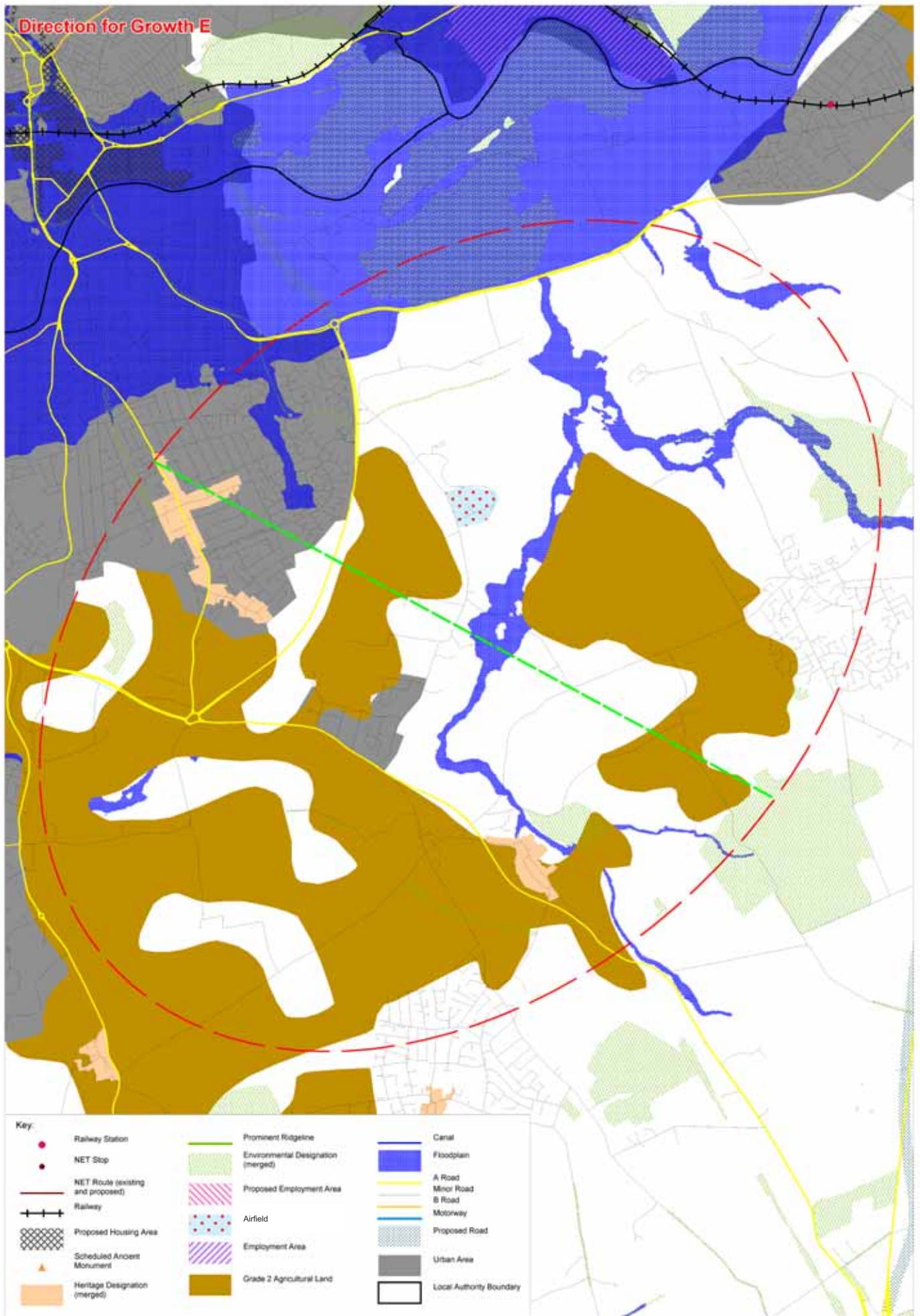
2.8 Direction E (East/Southeast of Gamston)

Criterion	Considerations	Overall Assessment (North of DFG)	Overall Assessment (South of DFG)
Sieve Mapping	<ul style="list-style-type: none"> Grade 2 Agricultural Land Limited floodplain associated with minor watercourses Tollerton Airport Environmental designations low in extent Some undesignated land adjacent to Nottingham PUA 		
Transport and accessibility	<ul style="list-style-type: none"> A52 Gamston Lings Bar Road is congested Multimodal study highlighted a package of measures, but no money currently to implement them. Proposed Park and Ride Site at Gamston Potential for increasing public transport to limit highways impact, but lack of public transport priority strategy Some NET potential has been investigated in the past Severance of Gamston from countryside due to A52 Cul-de-sac layout at city fringe west of A52 reduces potential for integration and connectivity Relatively close to city centre (but across river) Poor connectivity to north, so development would add to case for 4th Trent crossing 		
Geoenvironmental considerations	<ul style="list-style-type: none"> Former gravel pits on site Contamination could result from Tollerton Airfield use 		
Infrastructure capacity and potential	<ul style="list-style-type: none"> New health facilities would be needed, limited provision at present Local schools at capacity Grantham Canal green infrastructure corridor. Electricity requirements: Reinforcement of the 33kV network and the installation of a new Primary 33/11kV substation 		
Housing need	<ul style="list-style-type: none"> Area of high housing need, with strong local housing market. Affordability pressures. 		
Regeneration potential	<ul style="list-style-type: none"> Extremely low levels of deprivation except in Cotgrave, far from the edge of the PUA 		
Economic development	<ul style="list-style-type: none"> No major employment sites in this DFG Limited scope for economic development However, low unemployment 		
Green Belt and/or strategic policy	<ul style="list-style-type: none"> Green Belt in this area rated as 'Medium Importance' in the 2006 Green Belt Review, scoring best on 'checking unrestricted sprawl'. Bassingfield and Tollerton at risk of coalescing with PUA No allocated housing sites or other land safeguarded from Green Belt Relocation of Nottingham Airport may be required, with strategic policy implications for where it could be reprovided Negative Inspector's reports for most SUE sites within Rushcliffe 		

Overall assessment

- 2.8.1 Although a wide variety of constraints exist, some residential development here may be possible if they can be overcome. Development will need to take account of accessibility, transport, agricultural land and flooding constraints.
- 2.8.2 Relocation of Nottingham Airport will be very challenging but may be necessary. Linking any new development with the PUA across the A52 would also be a great challenge. Coalescence of the Nottingham PUA with Tollerton village should be avoided. Limited opportunities on land within the A52 remain relatively attractive in terms of Green Belt policy, environmental, and transport considerations, when compared with many options for growth elsewhere.
- 2.8.3 **Recommendation:** Residential development may be possible here in both the north and the south of this DFG, but as many questions remain as to general sustainability and connectivity, this direction does not show great potential.

Figure 11: Direction E with all designations mapped



2.9 Direction F (South of Clifton)

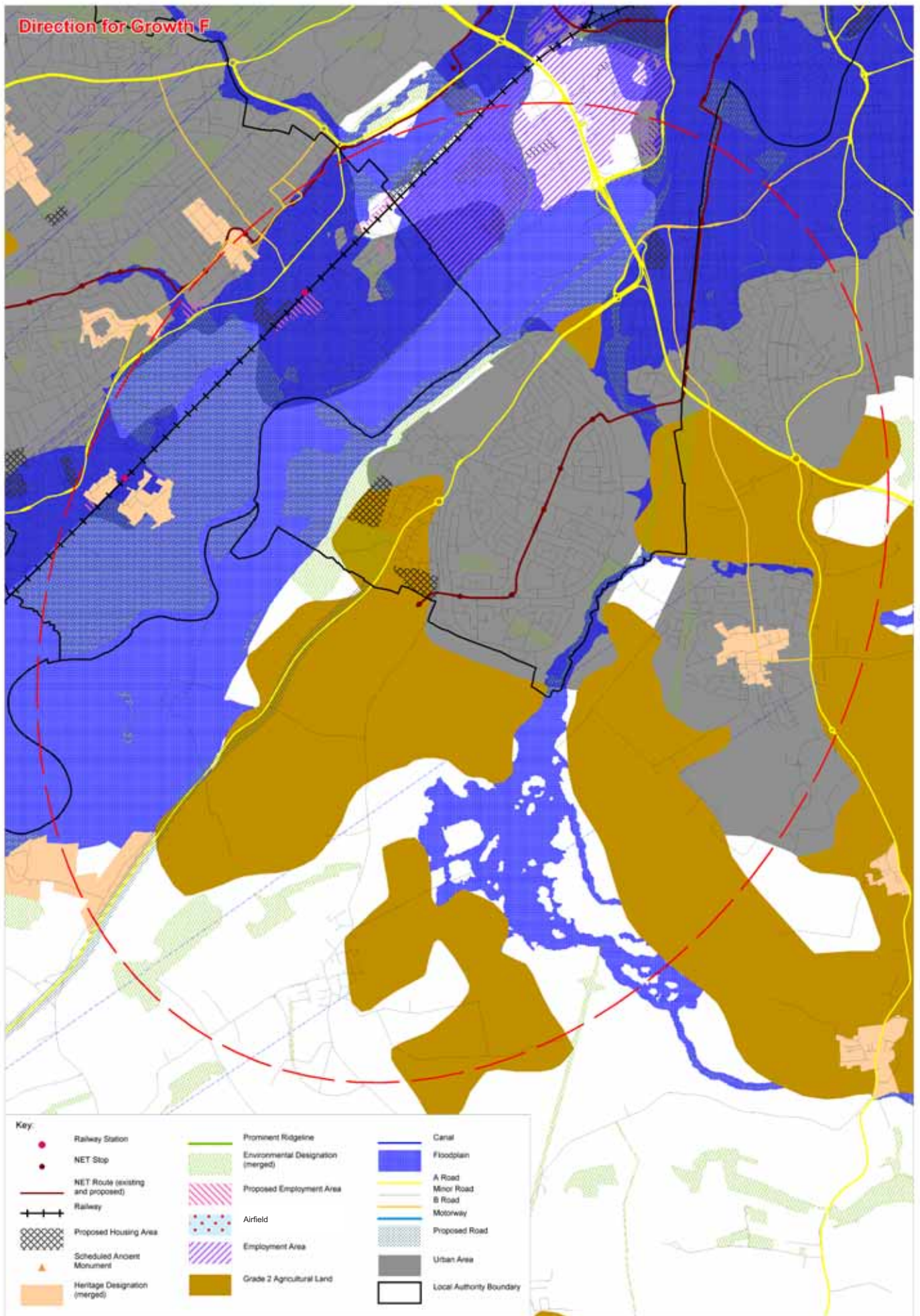
Criterion	Considerations	Overall Assessment
Sieve Mapping	<ul style="list-style-type: none"> Extensive Grade 2 Agricultural Land Very few environmental designations within DFG Floodplain of Fairham Brook and Packman Brook No land directly adjacent to PUA entirely free from constraints This is an area of considerable historic interest, with a Grade I listed building and scheduled ancient monuments at Barton in Fabis and Glebe Farm (Romano-British settlement). 	
Transport and accessibility	<ul style="list-style-type: none"> Planned improvements in short term to congested A453 (but forecasts do not account for major new development) Planned tram extension to start of direction for growth (NET 2- on target at present)- good potential, and should reduce congestion on A453 New East Midlands Parkway Station – construction started High frequency bus services, near district centre of Clifton Fairly near to city centre (but across river) Poor orbital and cross-river connectivity Localised congestion problems in Ruddington that are difficult to resolve As a whole, already a good transport corridor and will become better 	
Geoenvironmental considerations	<ul style="list-style-type: none"> No major constraints apparent 	
Infrastructure capacity and potential	<ul style="list-style-type: none"> No secondary education facilities outside the City boundary Building Schools for the Future programme in Clifton LIFT programme enhancing health facilities in area Extensive green infrastructure- River Trent Park, Fairham Brook corridor, Great Central Railway corridor, Ruddington Country Park, West Bridgford and Ruddington disused railway corridor Strong indoor leisure offer in Clifton No information currently on electricity requirements 	
Housing need	<ul style="list-style-type: none"> Area of high housing affordability within PUA at Clifton, with weak local housing market and low housing need. However, countryside outside Clifton has stronger market and therefore affordability issues. 	
Regeneration potential	<ul style="list-style-type: none"> Relatively high levels of deprivation in Clifton at PUA edge; low deprivation outside PUA; therefore good opportunities for regeneration if mixed-use development adjoins PUA 	
Economic development	<ul style="list-style-type: none"> Largest employment sites in this DFG are all deep inside PUA to north of the river Trent Nottingham Trent University Campus in Clifton Opportunity for new economic development to tie in with regeneration (currently low levels of employment.) Location attractive to business; well-located for city centre, M1, EMA airport and wider 3 Cities region 	
Green Belt and/or strategic policy	<ul style="list-style-type: none"> Green Belt in this area rated as 'Medium Importance' in the 2006 Green Belt Review, scoring best on 'checking unrestricted sprawl'. Ruddington at risk of coalescing with PUA No allocated housing sites or other land safeguarded from Green Belt Negative Inspector's reports for most SUE sites within Rushcliffe, including between Ruddington and Clifton 	

Overall assessment

2.9.1 The west and the east of this direction for growth (with flooding constraints in the Trent valley and coalescence concerns between Nottingham and Ruddington) do not appear suitable for development.

- 2.9.2 However, to the southwest of Clifton, many factors promote development. Development here would be easily linked to a major public transport corridor, it would assist the regeneration of Clifton and it could bring economic development to a location likely to be favourable to the market (with access to the M1, East Midlands Airport, Nottingham City Centre and the new East Midlands Parkway railway station).
- 2.9.3 A difficult decision will have to be taken, however, on the implications of development for Grade 2 agricultural land and the unusual landscape character of the countryside here.
- 2.9.4 **Recommendation:** Mixed-use development adjacent to the PUA at Clifton appears desirable against a number of criteria but environmental and landscape judgements are of high importance here.

Figure 12: Direction F with all designations mapped



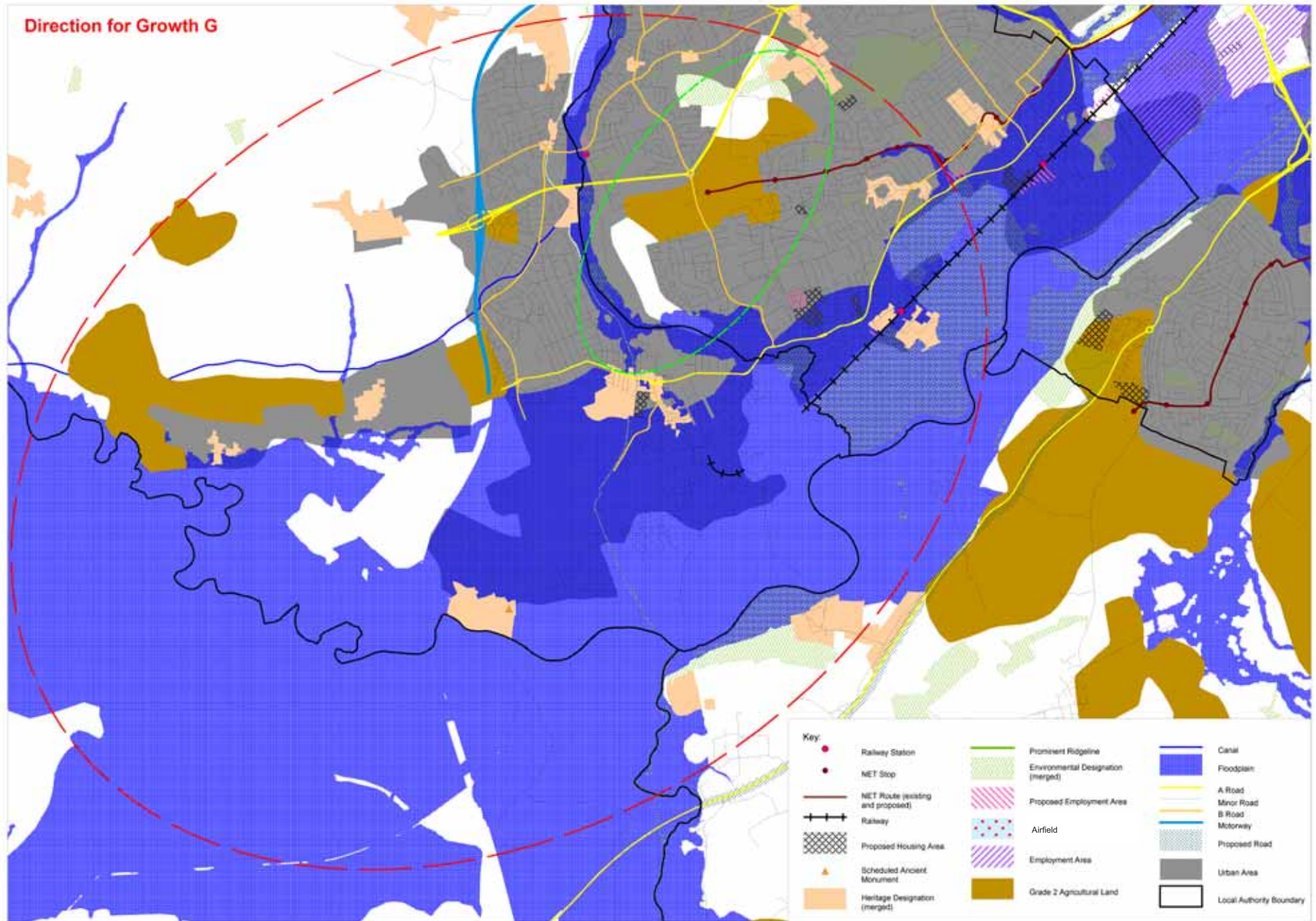
2.10 Direction G (Around Erewash Valley Towns)

Criterion	Considerations	Overall Assessment (Outside PUA)	Overall Assessment (Inside PUA)
Sieve Mapping	<ul style="list-style-type: none"> • Very large floodplain of River Trent and its tributaries to south, west and east of Direction for Growth • <i>Small amounts of Grade 2 agricultural land</i> • <i>Environmental designations within PUA</i> • <u>Outside PUA, land away from the floodplain has few environmental constraints</u> • <u>Outside PUA, environmental designations all in floodplain</u> • <i>Land within PUA important as wildlife corridor</i> • <i>There are Grade I listed churches in Sawley, Breaston and Draycott and Grade I listed Thrumpton Hall. Risley contains a Grade II* listed Church and Latin House, whilst Shardlow Hall is also Grade II*. There are a number of scheduled ancient monuments to the south of Long Eaton</i> 		
Transport and accessibility	<ul style="list-style-type: none"> • <i>M1 north-south suffers from very significant stress levels (being widened- J25 to J28 from January 2008) with further yet to be defined capacity management measures J21 to J30 2012</i> • <i>A52 major east-west corridor congested</i> • <u>A453 Widening (M1 J24 to Nottingham) 2009 may have beneficial impact on A52</u> • <u>NET 2 Tram extension to Bardills Island and Park and Ride may assist in reducing congestion on the nearby A52.</u> • <u>Good connectivity locally for employment and access to centres</u> • <i>Poor connectivity to the south (across the river)</i> • <u>Railway- to Nottingham, Derby and Leicester (Long Eaton and Attenborough stations)</u> • <u>Nottingham-Derby bus corridor</u> • <i>Relatively far from city centre</i> 		
Geoenvironmental considerations	<ul style="list-style-type: none"> • <i>Some limited Source Protection Zones for aquifers</i> • <i>Sources of contamination within PUA include sewage works and infilled ponds</i> 		
Infrastructure capacity and potential	<ul style="list-style-type: none"> • <u>Possible capacity for secondary education</u> • <u>River Erewash and Erewash Canal green infrastructure / Erewash valley Corridor</u> • <u>Great Northern Path (dismantled railway corridor)</u> • <i>Electricity requirements - Reinforcement of the 33kV network and the installation of a new Primary 33/11kV substation. Reinforcement of a 132/33kV Bulk Supply Point substation</i> 		
Housing need	<ul style="list-style-type: none"> • <u>Area of very high housing need, the highest of all directions for growth</u> • <u>Thriving housing market in Long Eaton in particular</u> 		
Regeneration potential	<ul style="list-style-type: none"> • <i>Average to low levels of deprivation</i> • <u>Some deprivation in Chilwell and Long Eaton</u> 		
Economic development	<ul style="list-style-type: none"> • <u>Numerous industrial estates within Chilwell, Draycott, Long Eaton etc and at J25 of M1 shows strong employment dimension to this DFG</u> • <u>Ratcliffe on Soar power station</u> • <u>Commuter area for Nottingham City Centre</u> 		
Green Belt and/or strategic policy	<ul style="list-style-type: none"> • Draft RSS EIP recommendation that strategic gap between Nottingham PUA and Derby is to be maintained; appears to rule out any development to west of M1, which is a historically strong defensible boundary in this area • Green Belt in this area rated as 'High Importance' in the 2006 Green Belt Review, scoring best on 'checking unrestricted sprawl' and with joint top score of any area • <i>Within PUA, issues of coalescence between Stapleford/Bramcote and Beeston/Chilwell</i> • <i>Within PUA, amenity value of gap for local community</i> • <i>No housing allocations or safeguarded land inside or outside PUA</i> 		

Overall assessment

- 2.10.1 Outside the PUA, this direction for growth is among the most constrained. The large extent of the floodplain covers most of the south and the policy requirement explicitly stated at the EiP for the retention of the Nottingham-Derby strategic gap in the Green Belt covers the rest of the area, especially given the defensibility of the M1 as a western boundary to the Nottingham PUA.
- 2.10.2 However, this direction for growth also includes land entirely surrounded by the PUA between Stapleford/Bramcote and Beeston/Chilwell. Although this is a strategic Green Belt gap between the two urban areas, the NET extension is projected to terminate here, strengthening the case for some development here.
- 2.10.3 **Recommendation:** Development adjacent to the PUA is not suitable in any location. However, limited mixed-use development on land already surrounded by the PUA may be possible subject to amenity, environmental and Green Belt constraints.

Figure 13: Direction G with all designations mapped



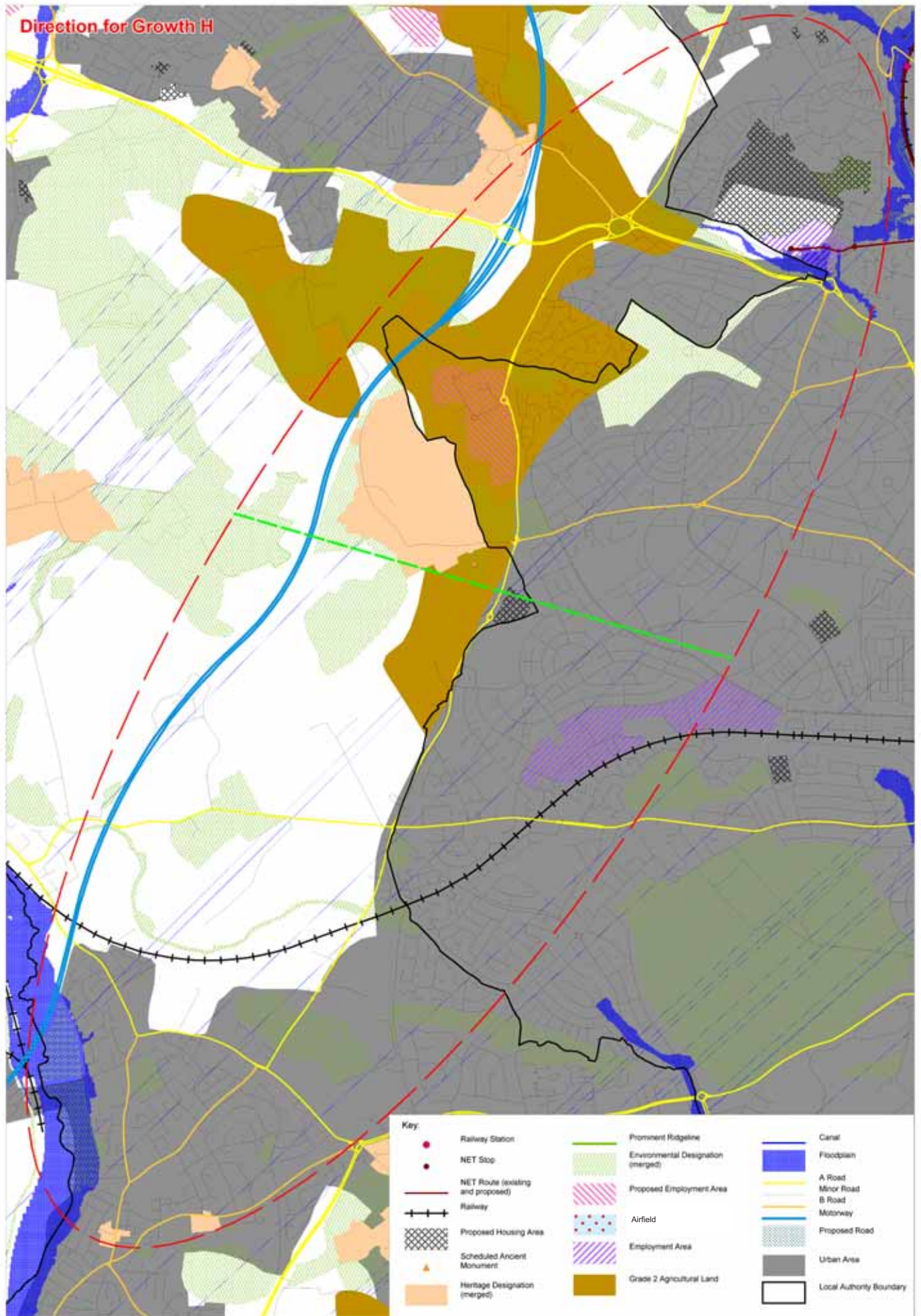
2.11 Direction H (West of Broxtowe/Bilborough)

Criterion	Considerations	Overall Assessment (North of DFG)	Overall Assessment (South of DFG)
Sieve Mapping	<ul style="list-style-type: none"> • Environmental designations, particularly to north of DFG • <i>Grade 2 agricultural land in north of DFG</i> • <u>Environment Agency indicate this is preferred direction of growth from a flood risk perspective; very small amount of floodplain within DFG</u> • <i>Significant heritage designations centred on the village of Strelley, including the Grade 1 listed church and two scheduled ancient monuments. There are also listed structures on the edge of Hemphill and isolated listed buildings to the east of Trowell. The historic landscape through this area may also be important and would need further assessment</i> 		
Transport and accessibility	<ul style="list-style-type: none"> • <u>M1 north-south nearby although congested access routes (A6002 leading to J26)</u> • <i>The M1 currently suffers from very significant stress levels. Junction 26 is at/near capacity</i> • <u>M1 Widening (J25 to J28) Jan 2008</u> • <i>Tram at Phoenix Park- potential for expansion to west could enable relocation of Park and Ride west of M1, relieving A6002/A610</i> • <i>Generally low levels of bus transport in this area</i> • <u>Opportunities to improve bus service along A609</u> • <i>Generally low connectivity/accessibility, to existing urban area, particularly in north of DFG</i> • <u>A609 good corridor linking Ilkeston and Nottingham city centre. congestion not serious within DFG on this route</u> • <i>A610 public transport corridor linking Eastwood and Nottingham. Congested between Eastwood and Nuthall A6002 junction</i> • <i>Average distance to city centre</i> 		
Geo-environmental considerations	<ul style="list-style-type: none"> • <i>Radon protection will be required for some new housing</i> • <i>Some Total Catchment Source Protection Zones</i> • <i>Made ground, colliery workings and railway infrastructure all sources of contamination</i> • <i>Some drainage issues</i> 		
Infrastructure capacity and potential	<ul style="list-style-type: none"> • <i>New secondary education required</i> • <i>Local service facilities sub-standard</i> • <u>Building Schools for the Future activity in area.</u> • <i>Academies have spare capacity, but safeguarded for City pupils</i> • <u>Green infrastructure: Broxtowe Country Park, Nottingham Canal, Great Northern Path (dismantled railway)</u> • <i>Electricity requirements - Reinforcement of the 33kV network and the installation of a new Primary 33/11kV substation. Reinforcement of a 132/33kV Bulk Supply Point substation</i> 		
Housing need	<ul style="list-style-type: none"> • <i>Area of low housing need and high housing affordability (lowest housing need for any direction in north of DFG, less so to south). Generally weak local housing market, particularly to north.</i> 		
Regeneration potential	<ul style="list-style-type: none"> • <i>High levels of deprivation (highest of any direction for growth), within Nottingham, less so outside</i> • <u>Potential for development to assist in regeneration goals</u> 		
Economic development	<ul style="list-style-type: none"> • <u>Nottingham Business Park being developed on greenfield site in north of DFG</u> • <u>Attractive area for business generally; employment in Ilkeston, Stapleford/Long Eaton and industrial/education zones in west Nottingham</u> 		
Green Belt and/or strategic policy	<ul style="list-style-type: none"> • Green Belt in this area rated as 'High Importance' in the 2006 Green Belt Review, scoring best on 'checking unrestricted sprawl' and with joint top score of any area • <u>M1 has potential as strong defensible boundary to western expansion of PUA, as already occurring at Long Eaton (M1 not mentioned in this capacity in Green Belt Review)</u> • <i>Importance of avoiding coalescence with Nuthall, Strelley and Trowell</i> • <i>No housing allocations safeguarded from Green Belt in this area</i> • <u>Nottingham Business Park (strategic employment location) under construction (land removed from Green Belt)</u> 		

Overall assessment

- 2.11.1 This direction is attractive for development for many reasons, particularly in the south; there is potential here for economic development, regeneration of deprived communities, few coalescence issues close to the PUA and potential for public transport improvements along the relatively uncongested A609. However, landscape designations, agricultural land quality, transport capacity, coalescence and heritage considerations make the centre and north of the direction for growth significantly less attractive.
- 2.11.2 **Recommendation:** The south of the DFG appears more suitable for mixed-use growth but the north is more constrained environmentally; development here would also require improvements in transport capacity and judgements on Green Belt policy and loss of agricultural land.

Figure 14: Direction H with all designations mapped



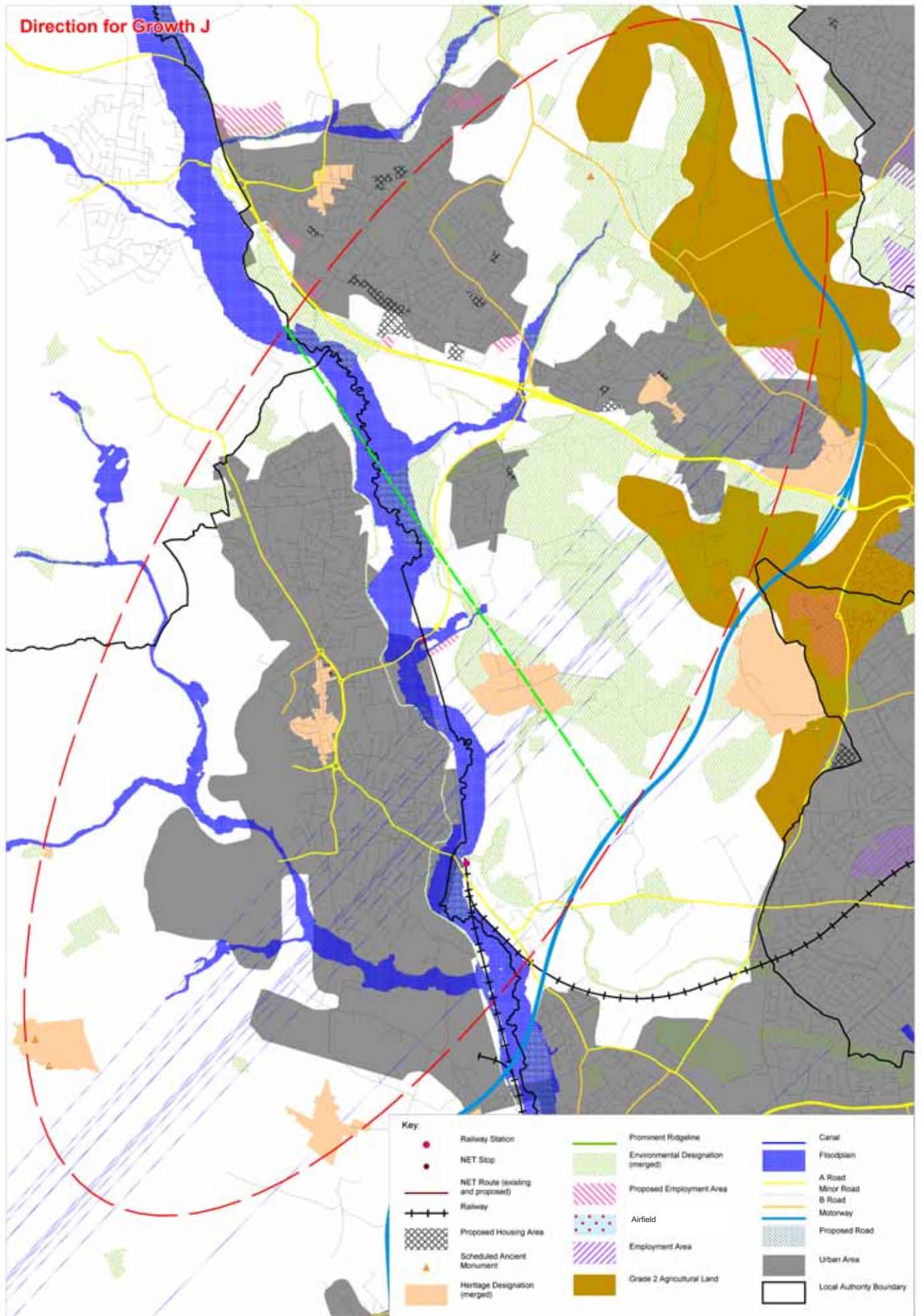
2.12 Direction J (Ilkeston, Kimberley and Eastwood)

Criterion	Considerations	Overall Assessment (North of DFG)	Overall Assessment (South of DFG)
Sieve Mapping	<ul style="list-style-type: none"> To south, few environmental designations To north, many environmental designations Grade 2 Agricultural Land in north of area Significant amounts of brownfield land in south of area Flooding of the River Erewash in centre of Direction for Growth Limited non-fluvial flooding in valley of disused Nutbrook Canal to south west In the northern half of this area, there are clusters of listed buildings on the eastern edge of Nuthall, including two Grade II* listed buildings 		
Transport and accessibility	<ul style="list-style-type: none"> A610 Eastwood to Nottingham corridor in north of area, but congested Junction 26 would become more congested, particularly if development occurs in north of area; it is at or near capacity Limited existing bus services; potential for more Ilkeston town centre accessible for variety of services M1 currently suffers from very significant stress levels M1 Widening (J25 to J28) Jan 2008 Development to the west of the M1 may place more stress on junctions 25 and 26 as a result of traffic switching between radial routes Potential for new Ilkeston railway station (in Local Plan) Benefit from Phoenix Park and Ride in north of area Stanton Ironworks site to south of Ilkeston constrained by current poor connectivity Tram extension in north of DFG a possibility, reducing congestion at J26 A6096 Derby-Kimberley north-south corridor Relatively far from Nottingham city centre 		
Geo-environmental considerations	<ul style="list-style-type: none"> High levels of contamination from wide variety of sources in north of direction for growth, including mining, industry and other land uses Aquifer sensitivity in north of direction for growth Radon protection required for some new housing Contamination from industry and mining in south of direction for growth 		
Infrastructure capacity and potential	<ul style="list-style-type: none"> Ilkeston, Eastwood and Kimberley town centres all offer local services Capacity for education in north and south of area River Erewash corridor, Shipley Park, Great Northern Path, Nottingham Canal (green infrastructure) River Erewash- sewage capacity needs assessment Electricity requirements - Reinforcement of the 33kV network, installation of a new Primary 33/11kV substation, reinforcement of a 132/33kV Bulk Supply Point substation 		
Housing need	<ul style="list-style-type: none"> Area of medium to high housing need, reducing affordability Demand for housing particularly high in south of area 		
Regeneration potential	<ul style="list-style-type: none"> Reasonably high deprivation in Ilkeston, particularly to north- low in countryside. High deprivation in Eastwood and north of DFG; therefore potential for new development to assist regeneration throughout DFG 		
Economic development	<ul style="list-style-type: none"> Industrial Estates in Ilkeston Some recent employment development in Eastwood and Kimberley Context of economic development here needs careful consideration- supporting Ilkeston (south of area) or linked more to Nottingham (north of area)? Disused Stanton Ironworks site offers great potential for economic development American Adventure theme park nearby now closed 		
Green Belt and/or strategic policy	<ul style="list-style-type: none"> Green Belt across area (Ilkeston to Derby as well as around Kimberley/Eastwood) rated as 'High Importance' in the 2006 Green Belt Review, scoring best on 'checking unrestricted sprawl' Growth to south and west of area must be limited, taking into account Panel recommendation on maintaining gap between Nottingham and Derby Impossible to justify growth in north of DFG (Kimberley, Eastwood etc) if strategic policy is to develop only adjacent to Nottingham PUA and the SRCs of Ilkeston and Hucknall. Substantial land (ex-industrial and canal corridor) excluded from Green Belt to south and west of Ilkeston Policy decision required on suitability of sub-regional centre for growth, versus growth of Nottingham PUA 		

Overall comments

- 2.12.1 The south of the direction for growth is more attractive for development than the north due to the north's environmental, transport and strategic policy constraints, as well as coalescence of settlement issues.
- 2.12.2 To the south, the opportunities presented by large brownfield sites not covered by the Green Belt cannot be ignored. Although integration of development with the rest of Ilkeston would be problematic to some extent, opportunities for sustainable connectivity, regeneration and economic development all exist. The key question here is the extent to which Ilkeston should or could become a focus for growth, taking into account the extent to which it can offer self-containment in employment and services. This is particularly important given the difficulty of forming sustainable connections between the south and west of Ilkeston and Nottingham City Centre, although new public transport infrastructure could assist in this goal.
- 2.12.3 **Recommendation:** Development in the north of the area is unsuitable on most physical criteria, as well as strategic policy grounds. Mixed-use development south, west and possibly east of Ilkeston should support Ilkeston's role as a sub-regional centre, but will be heavily reliant on transport network enhancements.

Figure 15: Direction J with all designations mapped



3 Towards an assessment of individual sites

3.1 Directions for Growth

3.1.1 Part A above resulted in entire Directions for Growth, and in some cases divisions of Directions for Growth, each receiving an overall traffic light assessment.

3.1.2 With the exception of Direction for Growth C, those areas given an overall assessment of **RED** are now dropped from consideration entirely. These are:

- Direction for Growth D (Trent Corridor East)
- Direction for Growth G (outside PUA)
- Direction for Growth J North (Kimberley and Eastwood area)

3.1.3 Direction for Growth C was also given an overall assessment of **RED** because as an entire area, it is unsuitable for strategic growth. However, as there is potential for residential-only development on one site within its boundaries (see Part B for details), it has not been dropped entirely; its area, perhaps, could be considered as being '95% unsuitable, 5% suitable for development'

3.1.4 Figure 16 shows the remaining directions for growth or parts of directions for growth within which sites have been examined.

3.1.5 It was then possible to highlight those areas of undesignated ('white') land within the remainder of the directions for growth and begin to assemble from them a pool of potential sites to take forward for assessment in Part B. White land adjacent to existing urban locations in the study area did not, however, emerge as sites 'by default'; the facts noted in the Part A text were also taken into account. For example, although the land between Nottingham PUA and Ruddington in Direction for Growth F is indeed 'white' (undesignated) land, the desire to avoid coalescence with that village on strategic Green Belt criteria (see section 2.9) ensures that the land in question did not emerge as a site. Figure 17 shows all emerging sites.

3.1.6 Within Part B, for reasons of sustainability, the parts of each site directly adjoining the PUA have been treated as the most suitable for development, and the boundary furthest from the PUA is, particularly in the case of larger sites, relatively fluid and deserving of careful further consideration. A further important site-specific consideration that applies here but that was not used in the more strategic Part A is landscape assessment.

3.1.7 Flexibility is implied by indicative general locations for growth rather than exact boundaries. Part B examines more precise boundaries for development areas, taking into account all site-specific constraints and opportunities.

Figure 16: The Directions for Growth after Part A Assessment

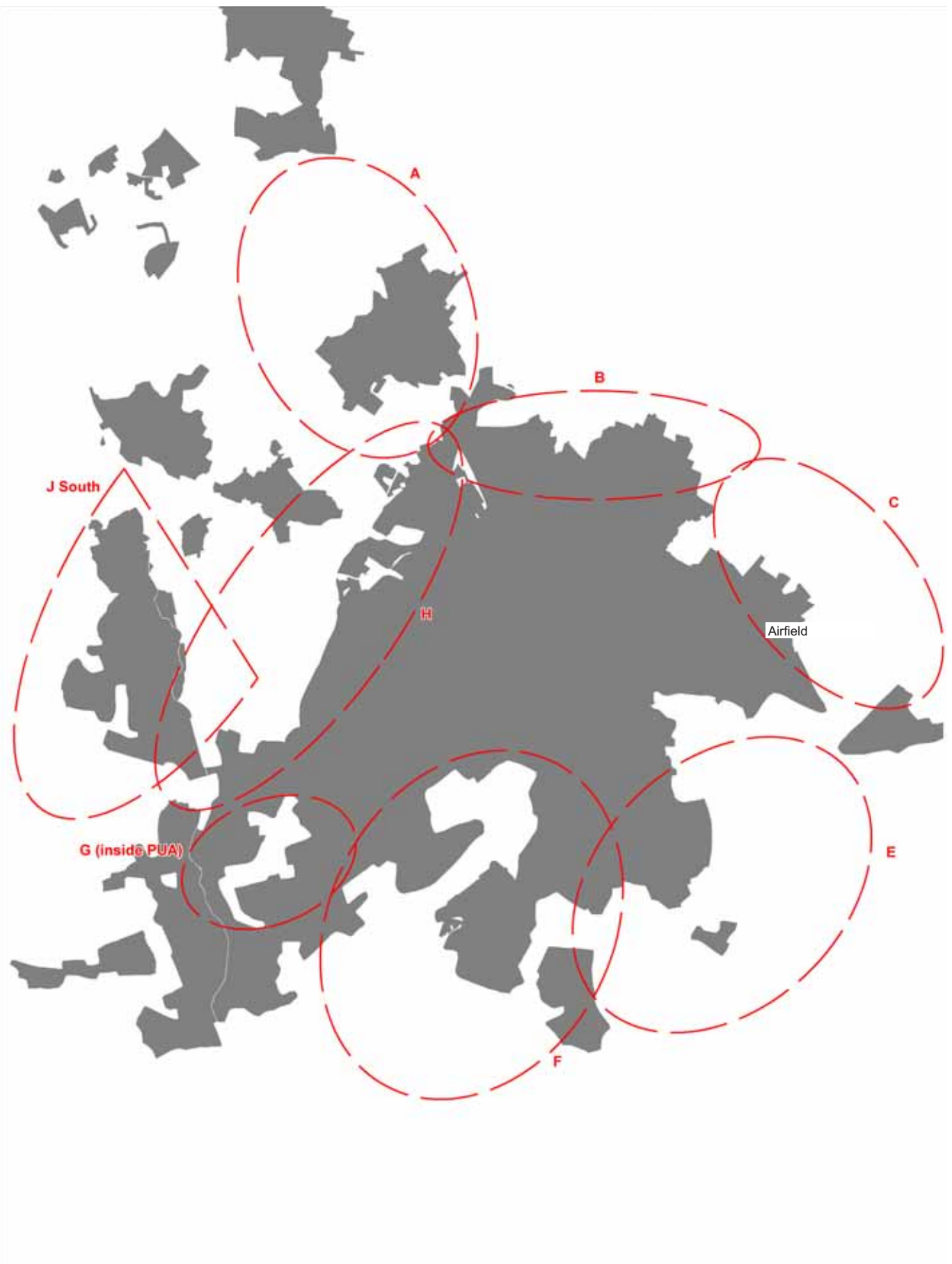
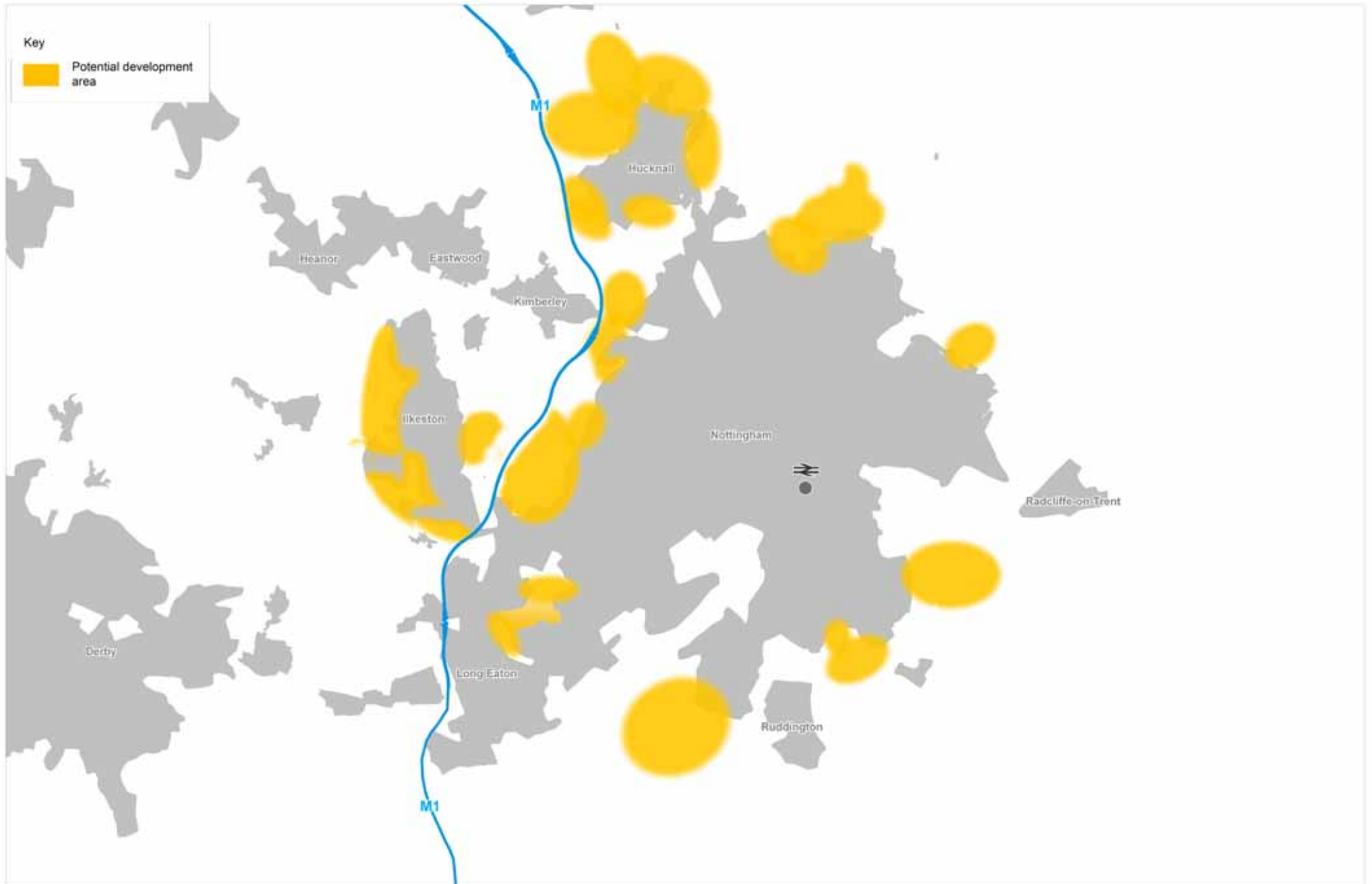


Figure 17: Emerging areas with potential for development within remaining Directions for Growth



4 Part B Assessment of Individual Sites

4.1 Introduction

- 4.1.1 Part B assesses each of the areas indicated as potentially suitable for development in Figure 17.
- 4.1.2 The site assessments are presented in the same order as the respective Directions for Growth that were assessed in Part A, with the obvious exception of those entire and partial DfGs that have already been eliminated. Each site is designated with a letter and number (for example, the first site assessed within Direction A is called A1 and so on).
- 4.1.3 Given the less strategic and more specific criteria that may render each site suitable or unsuitable for development, the sources of information used in Part B differ slightly from Part A. In Part A, as previously stated, useful sources included region-wide consultees, regional planning documents such as the Panel Report of the EiP in the draft East Midlands RSS and the 2006 Nottingham-Derby Green Belt Review.
- 4.1.4 In Part B, information from site visits by the consultant team is included for the first time. Other useful sources include the various local planning documents that cover each site, including local plans, and Inspectors' reports. As in Part A, constraints have been collated using GIS mapping. In order to maintain neutrality of the study, information submitted by developers, landowners, and local authorities, whether seeking to promote their own sites or discounting alternative sites, was not referred to. As already emphasised, the study assesses only the *suitability* of land for development, leaving detailed questions of availability and achievability to subsequent stages of the planning process.
- 4.1.5 In the interests of objectivity, and with the necessary exception of Inspector's reports, documents that have been submitted relating only to the perspective of individual sites have not been assessed. This is the first document to deal with **all** potential sites relative to one another across the entire study area rather than sites in isolation or within only their local authority context.

4.2 Approach

- 4.2.1 Assessment will proceed on a similar basis to that of Part A, with individual criteria listed in order, and explanatory text (rather than a traffic light assessment) provided for each. Throughout, the same system of **bold (immovable constraint to development)**, *italicised (potential constraint)*, neutral and underlined (supports principle of development) text will apply to provide an 'at a glance' assessment of suitability.
- 4.2.2 Some sites have been discounted due to physical or other constraints that became apparent only at a site-specific level, and have been excluded from further consideration.
- 4.2.3 The criteria for assessment carried over from Part A are:

Transport and Accessibility

- 4.2.4 Site-specific transport and accessibility considerations cover access to and from the site by the most sustainable modes possible, with a particular emphasis on integration with existing development and local transport networks, and accessibility to a range of local facilities and major centres.

Geoenvironmental

- 4.2.5 Geoenvironmental constraints relating only to the sites in question rather than the entire Direction for Growth have been noted.
- 4.2.6 To these three criteria can be added three new criteria, making a total of six used in the Part B assessment process:

Landscape

- 4.2.7 A full landscape and boundary assessment was carried out at each site in April 2008 by a landscape assessment specialist. The topography, views into and out of, and relevant development boundaries (e.g. roads, railway lines) were assessed, and informed our judgements of visual impact and defensibility of boundaries (see also below under Local Policy) for new development. Potential boundaries of each site also took into account the impact of development on any neighbouring land covered by constraints such as flood risk or environmental designations. An example of the Landscape Assessment Form that was filled out for each site appears in Appendix F.
- 4.2.8 As befits a landscape assessment, some criteria and judgements were necessarily qualitative in nature. This does not affect the necessity of carrying out such judgements, based fully on the professional urban design and landscape assessment experience of the consultant team and taking into account neighbouring urban and rural landscape characteristics.
- 4.2.9 Google Earth³⁸, with its three-dimensional terrain facility, is particularly useful for illustrating topographical constraints, so a screen grab from the programme has been included for each site from an oblique viewpoint to illustrate the differences in topography and landscape between the boundaries before Part B assessment and the boundaries after Part B assessment (if the site was taken forward after Part B). Elevation has been exaggerated by a factor of three to accentuate ridgelines and basins.

Local policy

- 4.2.10 Sieve mapping covered the majority of constraints, but Local Plans differ greatly in the constraints or designations that they display. Given that the sites fall across five different local authorities, proposals maps are always relevant at the site-specific level. In addition, some of the sites have been subject to comments from planning inspectors. These are particularly useful, as they represent the independent, considered judgement of an expert on the suitability of a site for development, having heard all arguments for and against.

³⁸ Available for free download at www.earth.google.com.

- 4.2.11 However, Inspector's comments, although too useful to be ignored, need to be treated with caution, for two main reasons. Firstly, the Inspector has commented only on those sites which have in the past been promoted for housing development. Therefore, a site with negative Inspector's comments attached to it should not be treated as less suitable than a site with no Inspector's comments attached; it is possible that if the site without comments had at some point been promoted, the Inspector would have favoured the one with negative comments.
- 4.2.12 Secondly, Inspector's comments relate to Local Plan Reviews, and therefore refer to a different context (and possibly to sites with similar but less suitable boundaries). A site treated unfavourably by an Inspector within the context of just one Local Plan may become more suitable when suitability and capacity are assessed across the entire study area in the context of the Panel Report housing target, particularly as the boundaries between local authorities have, for the purposes of this study, effectively become meaningless; some sites straddle boundaries, for example.
- 4.2.13 While undertaking the Part B analysis, the caveat applied above to Inspector's comments applies particularly to Green Belt criteria. Many of the most negative Inspector's comments concern the testing (and in most cases, the failure) of greenfield sites against Green Belt criteria. To what extent are any previous negative comments about Green Belt sites mitigated in a context where it is known even before assessment commences that some Green Belt land will need to be developed? The Part B exercise serves to illustrate just how qualitative and difficult the application of Green Belt criteria can be. Wherever possible, the consultant team have sought to mitigate the impact of development on the Green Belt to the greatest extent possible. However, the criteria as listed in PPG2 are devoid of further explanatory text (perhaps deliberately, so that assessment has to proceed on a site-by-site basis). Therefore, one planner's judgement of whether a site is damaging to the countryside or results in unrestricted urban sprawl may differ from another's. As noted previously, even the apparently straightforward definition of 'coalescence between neighbouring towns' presents difficulties, particularly where towns may already have coalesced to some extent or where they form a suburban part of a larger conurbation and therefore may no longer be definable as 'towns'.
- 4.2.14 One consideration in mitigating the impact of development that is not currently a Green Belt criterion, but that appears regularly in Inspector's comments on undeveloped land at the urban fringe, is that of defensible boundaries. Given the increasing amounts of development taking place in the Green Belt under the present national policy regime, it is likely that consideration of defensible boundaries to development will become ever more important in policy terms. Existing urban development, roads, railways, topography (particularly ridgelines) or other natural features such as rivers or lakes can all form visible defensible boundaries; 'invisible' defensible boundaries such as floodplains, Grade 2 Agricultural land or environmental constraints may also be justifiable (although, with the exception of floodplains, potentially harder to enforce). Conversely, a complete absence of any defensible boundary can render otherwise suitable sites less so. Throughout the Part B assessment, defensible boundaries have been carefully considered for every site, as in our view they form a useful quantitative tool that can help planners through the somewhat subjective minefield of the PPG2 Green Belt criteria.

Availability

4.2.15 A full assessment of availability and landownership is beyond the scope of this study, and is a matter for a further stage of planning.

* * *

4.2.16 The consultant team considers that five of the criteria for assessment used in Part A have already been covered at the strategic level or will be covered by the new criteria outlined above and offer little additional information if replicated on a site-by-site basis, namely:

- Infrastructure
- Housing need
- Regeneration potential
- Economic development
- Strategic Policy

However, any site-specific considerations under these headings are noted in accompanying text for each site.

4.2.17 Throughout, as per the study brief, we define the minimum size for a Sustainable Urban Extension as 500 dwelling units, exclusive of any employment land take.

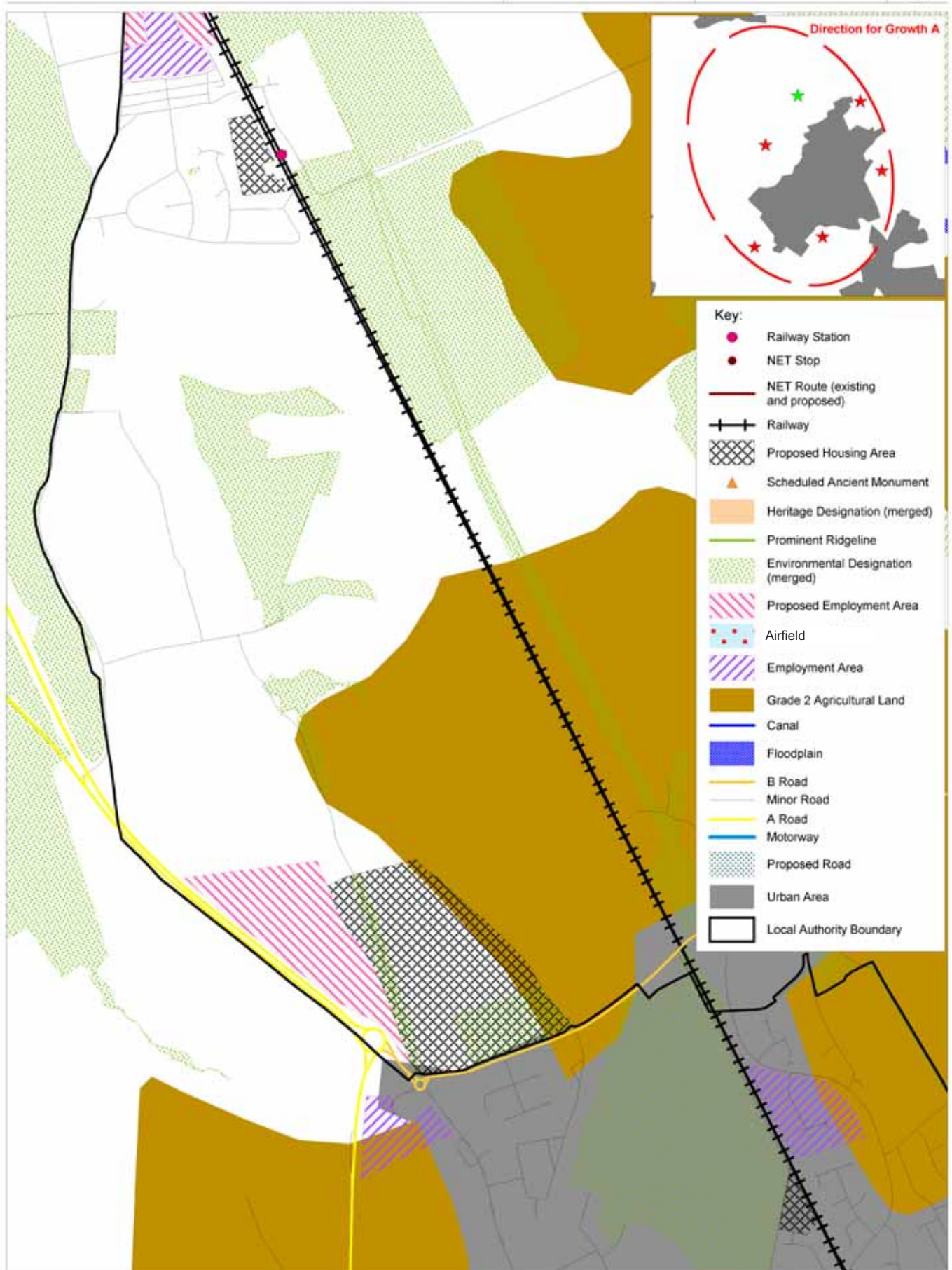
4.2.18 Densities have been assessed as per paragraph 1.1.6 above, with Tribal Urban Studio past and continuing research indicating a neighbourhood density of approximately 25 dwellings per hectare gross for sustainable mixed-use³⁹ neighbourhoods over about 100 hectares and a higher density for those smaller than about 100 hectares. However, for each accepted site, a range of densities has been applied, as every site differs in size and context, meaning that until detailed masterplanning, assumptions can only be approximate (and therefore the dwelling capacity figures thus generated must also be approximate, meaning that in all cases they have been rounded up or down to the nearest hundred) For a more detailed outline of the research that underlies all density calculations used to formulate the indicative site capacities, please refer to Appendix G.

4.2.19 Therefore, based on the criterion assessment text, these characteristics of each site will gradually emerge, allowing a full map of suitable sites with accurate boundaries, sizes and densities (based on suitability for mixed-use or otherwise) to be provided as the final output of the study.

³⁹ In the context of this section, 'mixed-use' can be taken as implying a walkable urban area or neighbourhood that is primarily residential, also offers local services and facilities including employment areas, schools, health infrastructure, places of worship and so on. On smaller sites, although there may be potential for some open space and a few local shops, this is not defined for the purposes of this study as a truly 'mixed-use' neighbourhood. See Appendix G for further discussion of 'mixed use' and 'mixed-use' densities.

Site A1 (Top Wighay Farm, Hucknall)

Figure 18: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.2.20 A tram extension or high quality bus through the site would bring Hucknall centre within 20 minutes, with employment, foodstores, GP surgeries and the current tram terminus all accessible. The entire site lies within 2kms of a Robin Hood Line station (Newstead or Hucknall). Development on the southern part of the area (adjacent to Hucknall) could justify an extension of tram Line 1, especially if associated with development extending to the west (site A6). If development instead extended to the north of the area (as far as Newstead), this might justify a tram extension towards Newstead, or new half-hour service at Newstead Station instead of current hourly service. (Workshop trains currently don't stop here.)
- 4.2.21 The site is well situated for education provision, with a primary school within 10 minutes of the northern part of site, and 3 primary schools within 10 minutes of the southern part of site. Additionally, there is a secondary school within 10-15 minutes to the south⁴⁰.
- 4.2.22 The site is currently accessed from the south along a track leading north⁴¹ from Annesley Road, allowing direct connection to Hucknall Town Centre. This would form the most sustainable road connection between the site and the rest of Hucknall.
- 4.2.23 *There is potential for a park and ride site in the vicinity*

Geoenvironmental

- 4.2.24 Site A1 displays the following geoenvironmental features:
- *Underlying coal measures (but none outcrop on the site)*
 - *Basic radon protection would be required for new development*
 - No historic landfilling activities
 - *Major/Non Aquifer Sensitivity Classification*
 - Soil Type H
 - *Partially underlain by a Total Catchment Source Protection Zone on the west of the site*
 - *Disused brickyard and Top Wighay Farm on site may entail contaminated land*

⁴⁰ These primary schools are currently near capacity and new provision is likely to be required if Site A1 is developed. Secondary schools in the area are also approaching capacity, thereby necessitating potential provision on development sites, reflected in the relatively lower residential densities applied.

⁴¹ If the site is developed, the verges on each side of this track are Sites of Importance for Nature Conservation, which could be taken into account along with PPS7 advice in any masterplan.

Landscape

- 4.2.25 This is a green field site home to predominantly agricultural uses including a working farm. The site is predominately flat and lies within a bowl. A large, landscaped spoil heap forms a distinctive feature to the south east of the site.
- 4.2.26 The spoil heap, hills in the distance and existing housing to the south enclose the site and create clearly defined edges. A train line defines the eastern boundary of the site, which is also home to hedgerows, some key mature trees, a farm house, electricity pylons and a pedestrian right of way. Overall, the landscape is of high quality and views east/south east to the hills and north-west to Annesley road significant. Any development should take account of these constraints and opportunities.
- 4.2.27 The site edges are clearly defined and defensible due to the A611 Annesley Road, the rail line (which also prevents coalescence with Linby) and the existing town edge. To preserve defensibility and avoid coalescence with Newstead, the northern boundary should extend no further than the southern edge of Aldercar Wood.

Local policy

- 4.2.28 After suitable boundary adjustment, the entire site lies within Gedling Borough Council's area. The site comprises Green Belt, safeguarded land, housing allocation H6, employment allocation E1(a), a proposed tram extension and associated park and ride site⁴². The site is unusual among those in the wider area in already being allocated for so many uses. If the site were to be developed, close working would be required with neighbouring Ashfield District Council.
- 4.2.29 *The eastern part of the site would entail development on Grade 2 Agricultural land.*
- 4.2.30 If the northern boundary were taken only to Aldercar Wood and the eastern boundary to the railway line, it would perform better on Green Belt criteria of preventing coalescence between towns, checking unrestricted sprawl and preserving the setting and special character of historic towns.
- 4.2.31 In policy and market terms, the consultant team would agree with the assessment already made through the Local Plan process and in the Inspector's Report⁴³, that the location of the site appears suitable for sustainable mixed-use rather than residential-only development.
- 4.2.32 The Inspector's main comments upon the site at the Local Plan Review may be summarised as follows:
- *Development on the site would not be harmful visually if landscaped correctly;*
 - *Coalescence of settlements not an issue as long as southern half only of (our site A1) were developed;*

⁴² Gedling Borough Council Replacement Local Plan, Gedling Borough Council, 2005.

⁴³ Inspector's Report into Gedling Local Plan Inquiry, Planning Inspectorate, 2004.

- Site is in a public transport corridor;
- No special wildlife value;
- No particular flood risk;
- Site is a sustainable extension to the existing urban area of Hucknall;
- Recommend allocation for 955 dwellings

Figure 19: Site A1 after Part B assessment

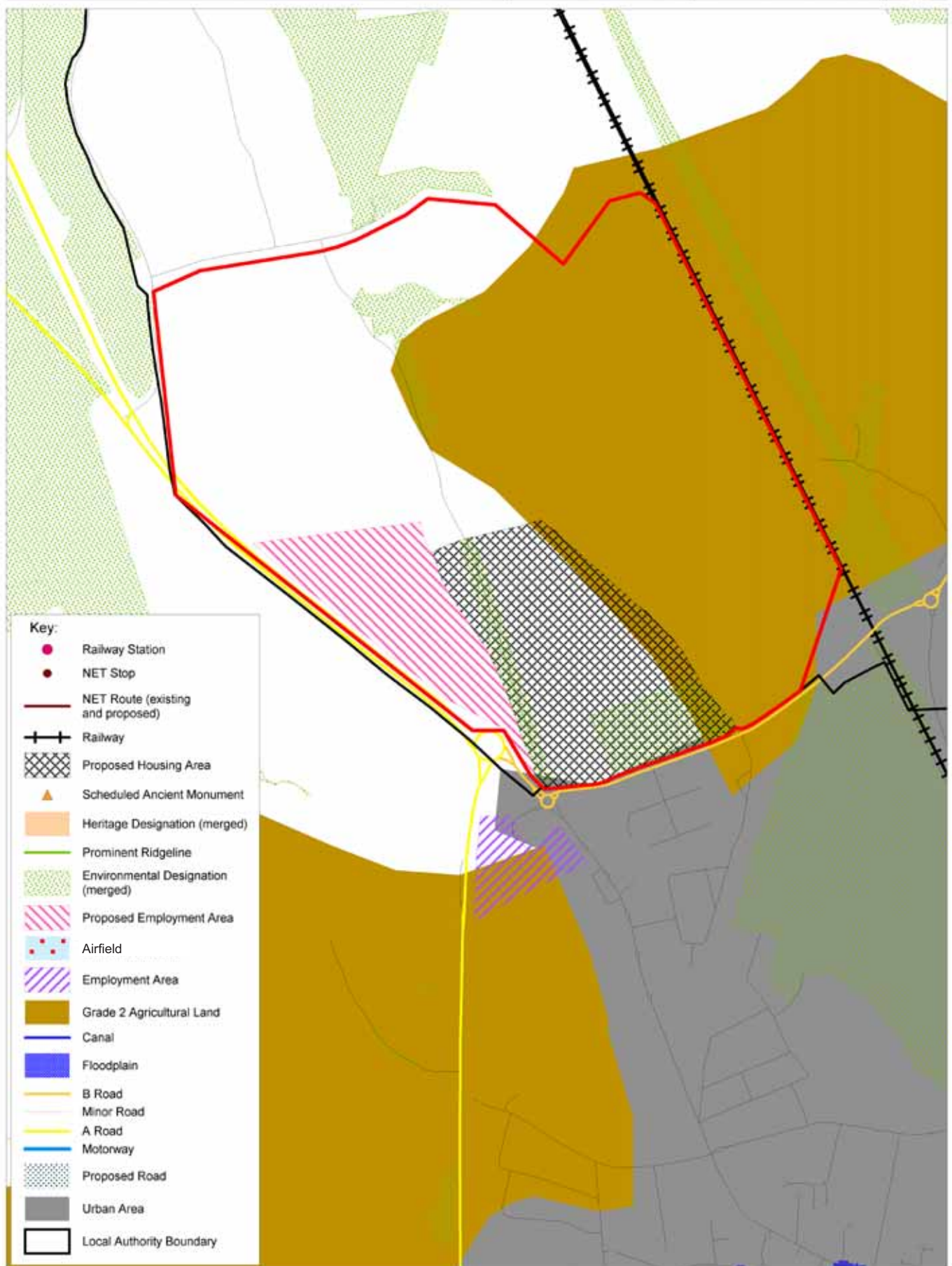
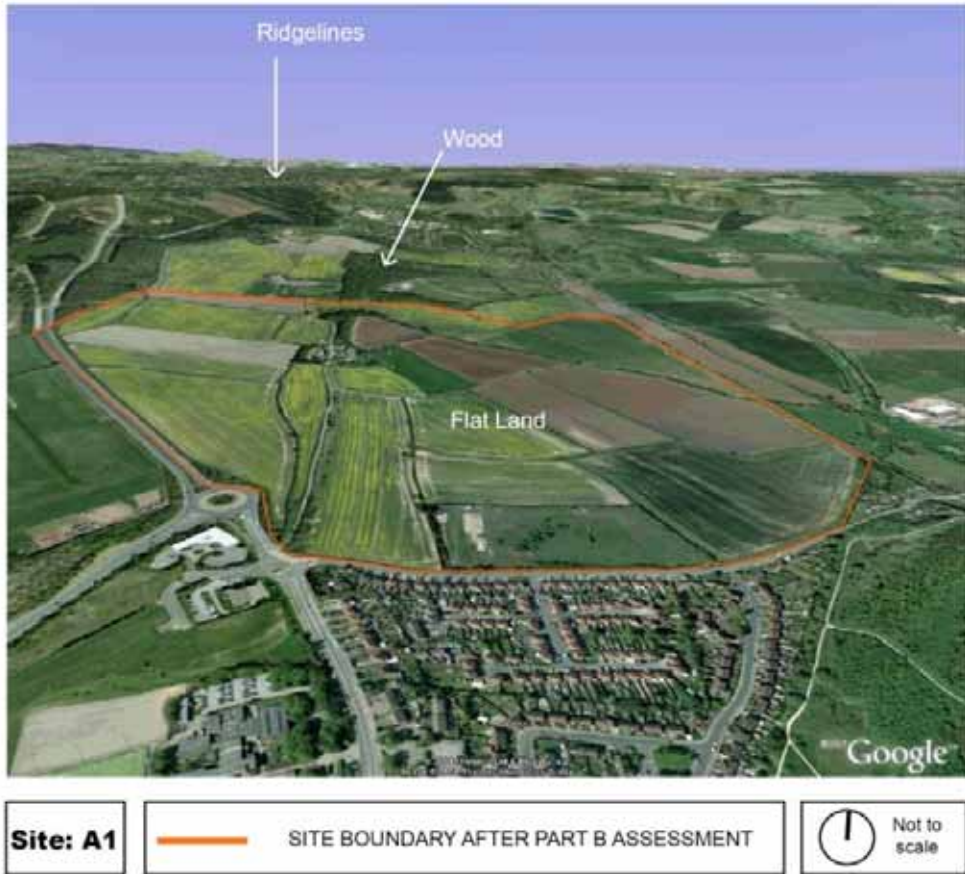


Figure 20: Site A1 Landscape and Boundaries view

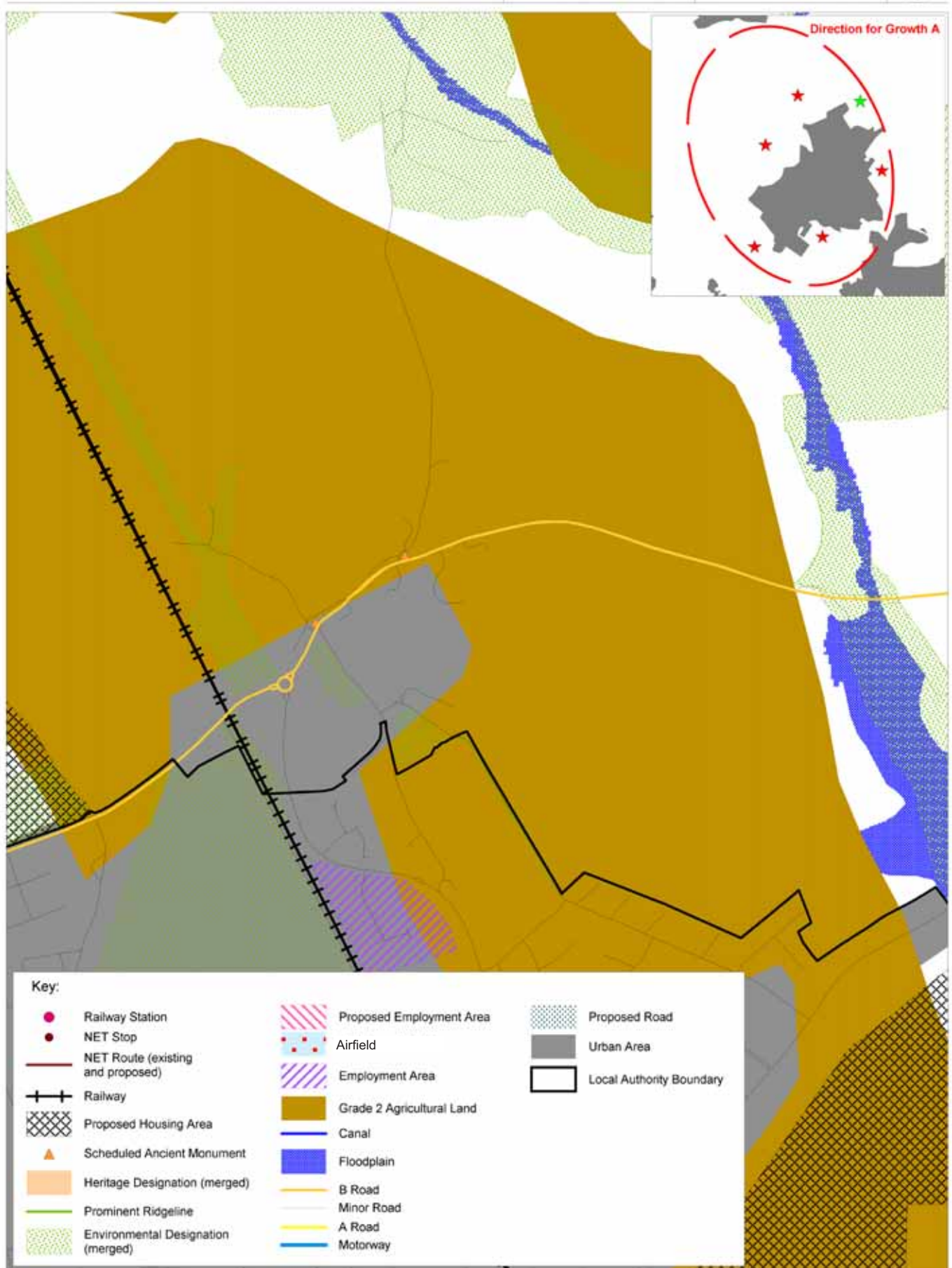


Summary and Recommendation

4.2.33 On the basis of the information set out in this section, including sustainable transport, landscape and Green Belt criteria, it is recommended that Site A1 as shown in Figure 19 above is suitable for residential-led mixed-use development, subject to tram extension.

4.3 Site A2 (Around Linby, Hucknall)

Figure 21: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.3.1 *The part of the site closest to the existing fringe of Hucknall (north of Papplewick Lane) is not within walking distance of the existing tram terminus, but a new tram stop further north on an extension serving site A1/A6 would be closer to the site (600 metres) and could be accessed along e.g. Bernard Avenue. There are existing bus services closer to the site that development would help to support.*
- 4.3.2 The site is within 10 – 15 minutes by bus to Hucknall town centre and local employment, and the tram terminus.

Geoenvironmental

- 4.3.3 Site A2 displays the following geoenvironmental features:
- *Underlying coal measures (but none outcrop on the site)*
 - *Basic radon protection would probably be required for new development*
 - No historic landfilling activities
 - *Major/Minor Aquifer Sensitivity Classification*
 - *Soil types H and I*
 - No Source Protection Zones on site

Landscape

- 4.3.4 This is a greenfield site. The site is home to predominantly agricultural uses including a working farm. The site is very flat and is home to fields, a working quarry and education centre. *The site backs onto the picturesque village of Linby and the landscape is of a very high quality. The site is home to an array of hedgerows, established mature trees, and woods.* Significant views exist to the north/west and south/east to distant hills. Woods to the north, the Robin Hood rail line to the west and the B683 road to the east define the edges of the site. However, development would clearly be detrimental to some extent to the existing village character of Linby.
- 4.3.5 The smaller area of the site outside the Green Belt and north of Papplewick Lane has a southern site boundary defined by the edge of existing development and key roads. *The site would require the open fields between the village of Linby to the north and any new development to be maintained.*

Local policy

- 4.3.6 The entire site lies within Gedling Borough Council's area. The site comprises Green Belt, safeguarded land, **the Linby Conservation Area (including two Scheduled Ancient Monuments)**, and **Papplewick Hall Historic Park and Garden**⁴⁴. If the site

⁴⁴ Gedling Borough Replacement Local Plan, Gedling Borough Council, 2005.

were to be developed, close working would be required with neighbouring Ashfield District Council.

- 4.3.7 *The entire site would entail development on Grade 2 Agricultural land.*
- 4.3.8 If developed, the site may be suitable for sustainable mixed-use rather than residential- only development.
- 4.3.9 The Inspector's comments upon the site at the Local Plan Inquiry⁴⁵ covered only the safeguarded land in the south of the site (north of Papplewick Lane). His main points can be summarised as follows:
- *Location is reasonably but not especially accessible by foot (1.2 km) to Hucknall town centre*
 - *Development would erode but not destroy the open gap between Linby and Hucknall; therefore the Green Belt criterion would not be over-riding*
 - *However, Top Wighay Farm preferable for development on public transport, mixed-use and Green Belt criteria*
 - *No northern extension of safeguarded area of land should be countenanced, as it is important to maintain gap between Hucknall and Papplewick*
- 4.3.10 It should be noted that the Inspector's comments were made before the NET 1 extension to Hucknall (the terminus of which lies about 1000 metres southwest of the site) was opened.

Summary and Recommendation

- 4.3.11 The vast majority of the site is unsuitable for development due to the Green Belt criterion of avoiding coalescence with the village of Linby, impact upon the conservation area of Linby (preserving the setting and special character of historic towns) and the impact on views into and out of Papplewick Hall historical park and garden, as well as the Hall itself being a listed building whose setting needs to be preserved as noted in Section 2.4.
- 4.3.12 The area of land already safeguarded from the Green Belt appears to us a logical, residential extension to the Hucknall Urban Area. The consultant team agrees with the Inspector's reasoning in avoiding northward expansion of the safeguarded land into the Green Belt.

⁴⁵ Inspector's Report into Gedling Local Plan Inquiry, Planning Inspectorate, 2004.

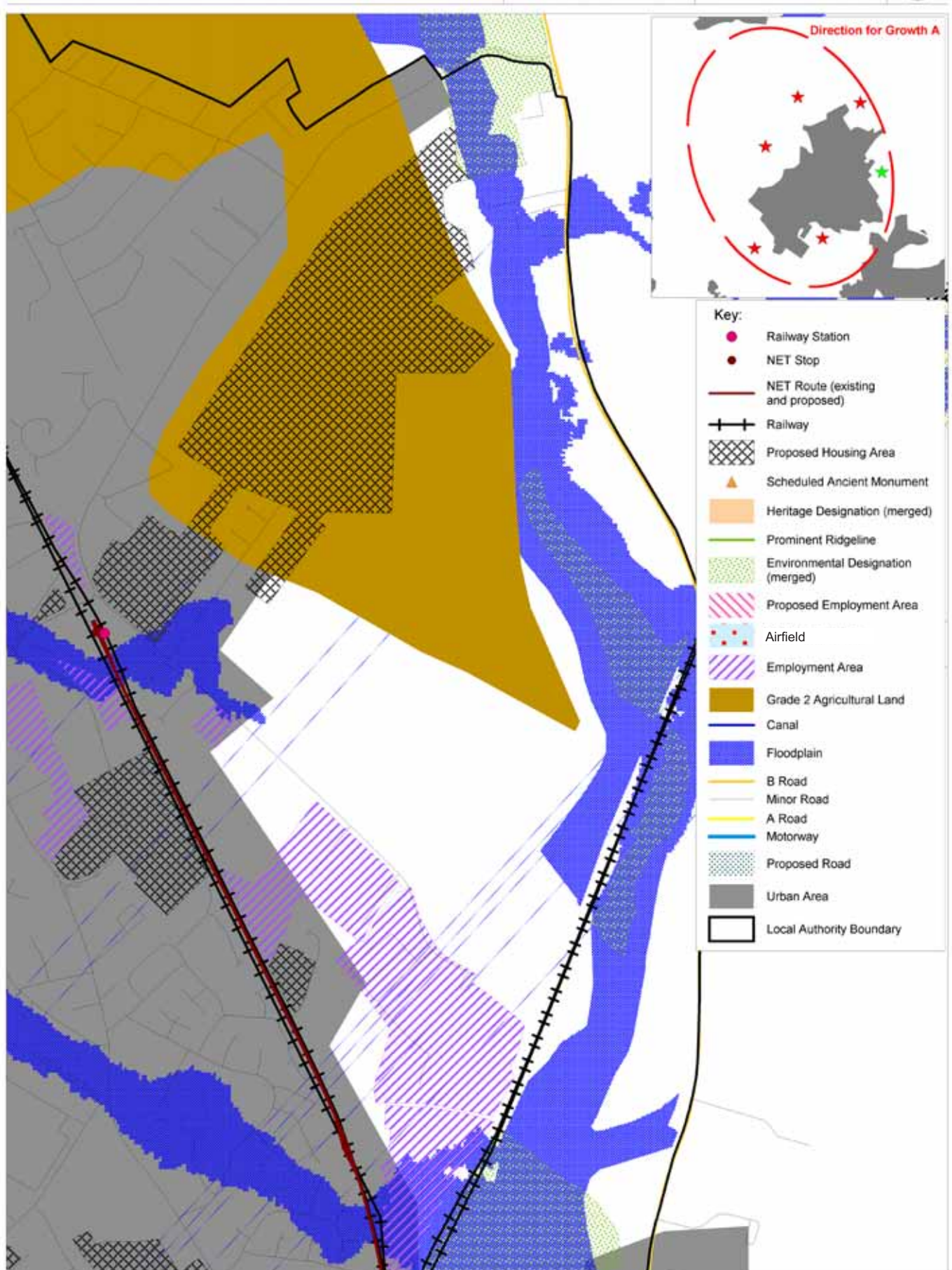
Figure 23: Site A2 Landscape and Boundaries View



4.3.13 On the basis of the information set out in this section, including Green Belt and sustainable transport considerations, it is recommended that Site A2 as shown in Figure 19 above is suitable for residential development.

4.4 Site A3 (East of Hucknall)

Figure 24: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.4.1 The site has good accessibility on public transport. It lies adjacent to Hucknall's train station and tram terminus and bus routes are also nearby. Hucknall Town Centre is within walking distance.
- 4.4.2 *Accessibility is compromised by the wide mix of uses here, that tend to cut the parts of the site apart from one another; for example, there is no public access onto the large golf course across the centre of the site*

Geoenvironmental

- 4.4.3 Site A3 displays the following geoenvironmental features:
- *Underlying coal measures (but none outcrop on the site)*
 - *Southern half of the site is Made Ground*
 - *Basic radon protection would be required for new development*
 - *The spoil tip of Hucknall Colliery is located on site, which may act as a source of contamination*
 - *Historic landfilling activities close to south of site*
 - *Major/Minor/Non- Aquifer Sensitivity Classification*
 - *Soil types H and I*
 - *No Source Protection Zones on site, but a total Catchment SPZ lies adjacent to eastern boundary*

Landscape

- 4.4.4 This site is dominated by the large spoil heap of the former Hucknall colliery which has been converted into a golf course. The remainder of the site is very flat and contains sports fields and new housing development.
- 4.4.5 The spoil heap towers over the surrounding countryside providing 360-degree views over the flat sports fields and urban edge. The lower regions of the site are visible from the roundabout at the urban edge.
- 4.4.6 The site is clearly defined by the existing urban edge, roads and the spoil heap.

Local policy

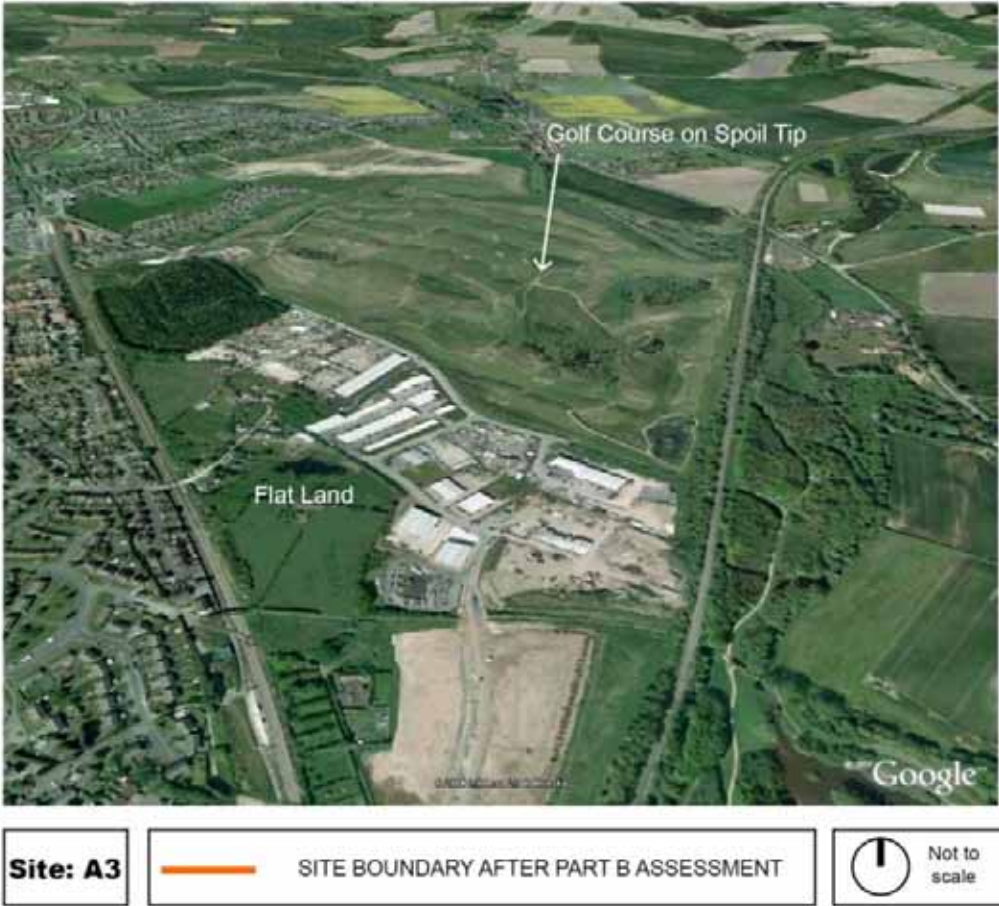
- 4.4.7 The entire site lies within Ashfield Borough Council's area. The site comprises Green Belt, *new formal open space*, housing land allocation and employment land allocation.⁴⁶
- 4.4.8 *The northern half of the site would entail development on Grade 2 Agricultural land.*
- 4.4.9 If developed, the site may be suitable for sustainable mixed-use rather than residential- only development.
- 4.4.10 **Development has already commenced on both the housing land allocation and the employment land allocation, thereby discounting them from the present study.**

Summary and Recommendation

- 4.4.11 The entirety of the site should be discounted, as no suitable land remains for development. The only undeveloped land remaining that could be included for assessment is Leen Valley Golf Course, developed in the 1990s on the site of the former Hucknall Colliery spoil heap. Quite apart from the undesirability of and likely objections to losing a leisure facility (although the golf course is not protected as such in policy) the land is extremely steep and undulating, as are most spoil tips, and is probably not stable enough for housing development (the same consideration was applied when the spoil heap of Gedling Colliery was zoned as Country Park).

⁴⁶ Ashfield Local Plan Review, Ashfield District Council, 2002.

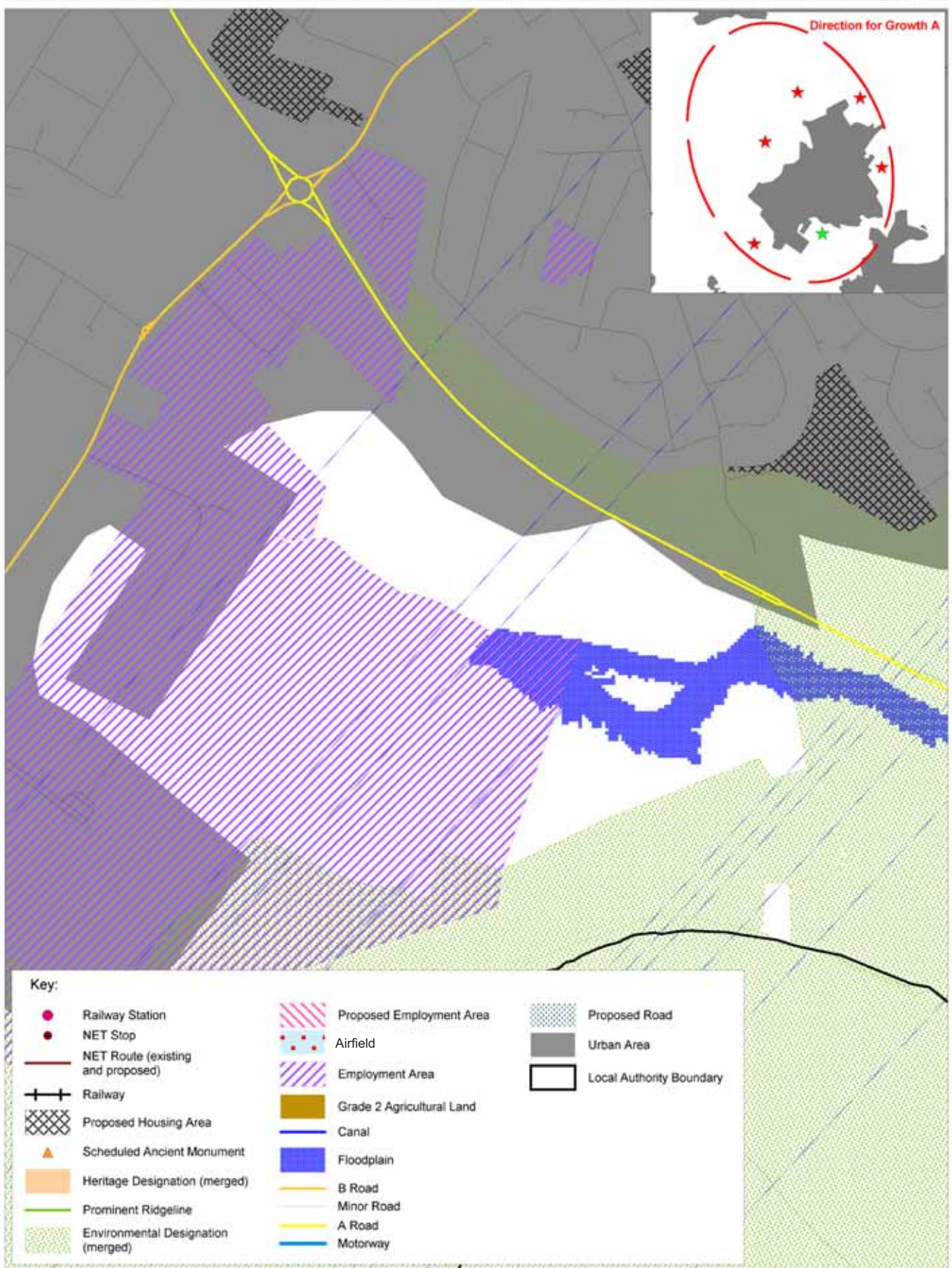
Figure 25: Site A3 landscape view



4.4.12 Site A3 is judged to be unsuitable for residential development.

4.5 Site A4 (Rolls-Royce Site, Hucknall)

Figure 26: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.5.1 Expansion of this site could be considered together with an alternative tram extension from Bulwell Forest station, using an old trackbed for much of the way, and continuing to serve site A5, but this is unlikely to be viable and may create operational difficulties on NET Line 1.
- 4.5.2 An alternative use for the old railway trackbed between the site and Bulwell Forest tram station could be a cycle path that would link this site to NET Phase 1 south of Hucknall.
- 4.5.3 Two primary schools and a foodstore are located within 10-12 minutes of the site. However, it will be reliant on the provision of a new high-quality bus service to Hucknall. It is otherwise remote from the main part of Hucknall with relatively poor connectivity.
- 4.5.4 *In summary, this site, whilst having limited public transport links currently, has some scope to provide improved links to the main urban area of Hucknall*

Geoenvironmental

- 4.5.5 Site A4 displays the following geoenvironmental features:
- *Underlying coal measures (but none outcrop on the site)*
 - *Basic radon protection would probably be required for new development*
 - *A quarry/tip is located adjacent to the site, which may act as a source of contamination*
 - *Historic landfilling activities 65 metres north of site*
 - *Major Aquifer Sensitivity Classification*
 - *Soil type H*
 - No Source Protection Zones on site

Landscape

- 4.5.6 This is a brownfield site (a former airfield) with areas of green field on the periphery. The site is currently open land with agricultural uses surrounding it.
- 4.5.7 The site is adjacent to a range of uses and environments. To the north west of the site is an industrial area. To the south of the site agricultural fields lie next to the Rolls-Royce airstrip. *The landscape is of high to medium quality.*
- 4.5.8 Clear site boundaries include Watnall Road to the north west, and the Rolls-Royce runway to the south.

Local policy

- 4.5.9 All of the site lies within Ashfield District Council's area, but it adjoins Broxtowe Borough Council's area. The site constitutes undesignated ('white') land and lies within the Hucknall Main Urban Area⁴⁷. If the site were to be developed, close working would be required between the two councils.
- 4.5.10 No part of the site would entail development on Grade 2 Agricultural land.
- 4.5.11 If developed, the site would be more suitable for residential- only development, providing a larger mixed-use area when taken together with the adjacent employment land.
- 4.5.12 No Inspector's comments upon the site are apparent, as it was not proposed for housing in the Ashfield Local Plan Review.

Summary and Recommendation

- 4.5.13 The site appears suitable for sustainable development on every criterion except for local public transport accessibility.
- 4.5.14 Any development should therefore be subject to the provision of high-quality bus services directly to and from Hucknall town centre.

⁴⁷ Ashfield Local Plan Review, *ibid.*

Figure 27: Site A4 after Part B assessment

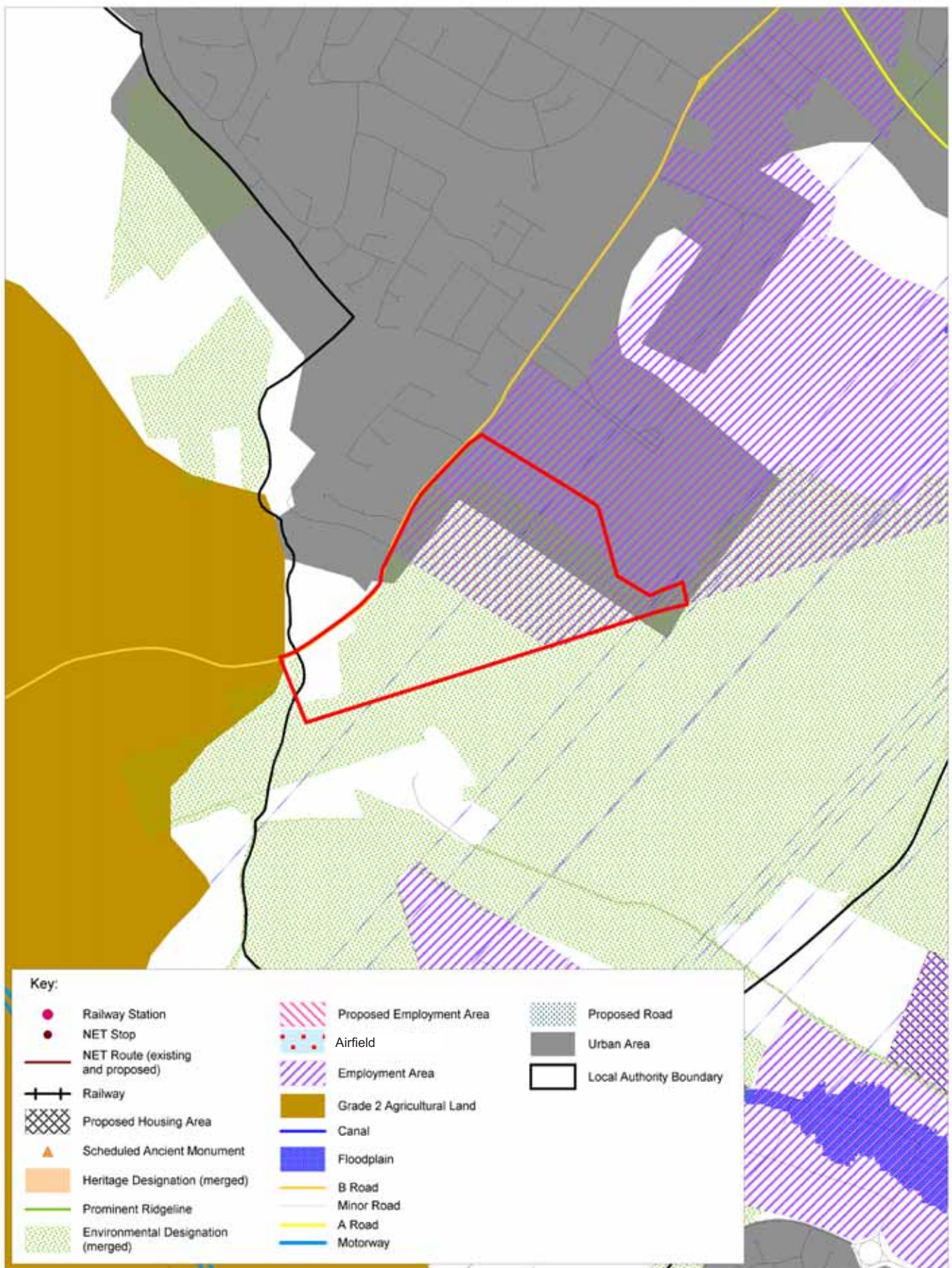
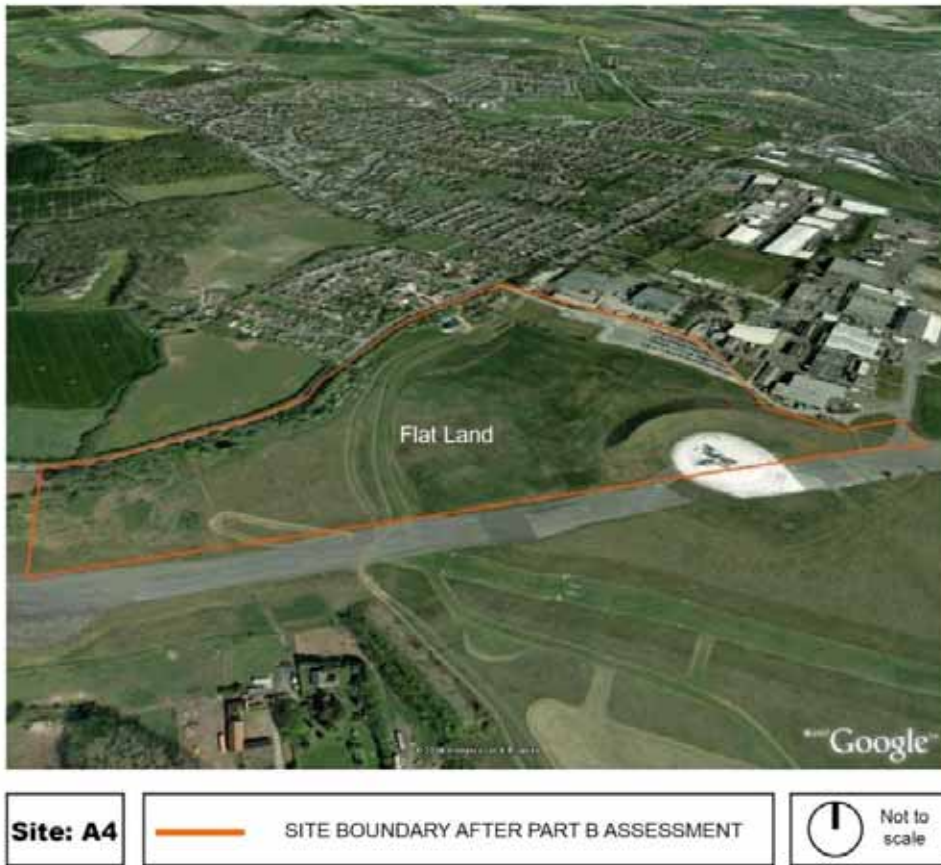


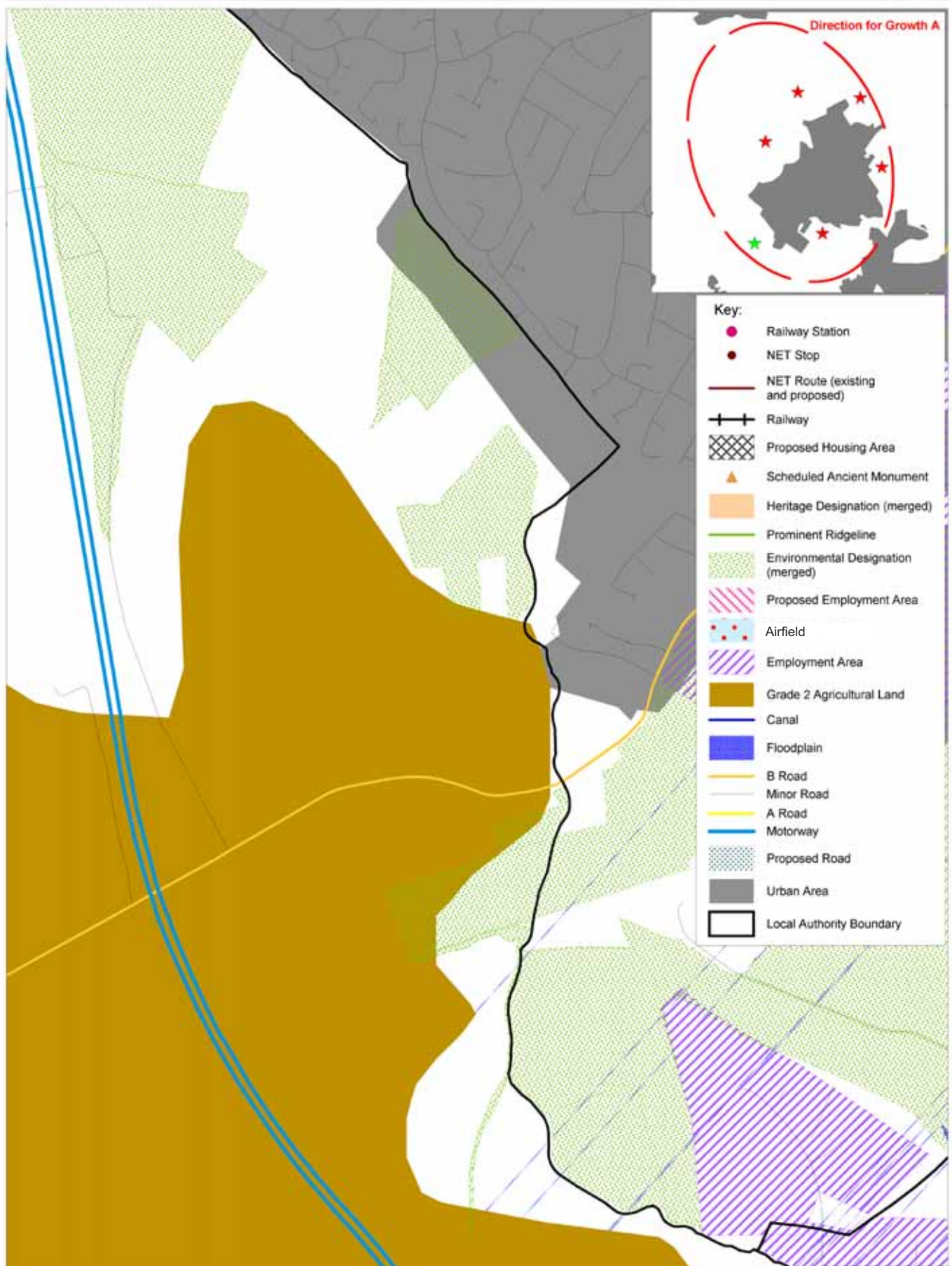
Figure 28: Site A4 Landscape and Boundaries View



4.5.15 On the basis of the information set out in this section, including the desirability of introducing a residential element at this location as part of a sustainable mixed-use balance for the wider Rolls-Royce site, and its location largely on previously-developed land, Site A4 as shown in Figure 27 above is suitable for residential-led mixed-use development subject to major improvements to the local bus network..

4.6 Site A5 (West of Westville, Hucknall)

Figure 29: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.6.1 *The existing suburb of Westville, following site visits, cannot be said to be very accessible at present. Its westernmost parts in particular feel far from Hucknall town centre and its winding, cul-de-sac layout further hinders sustainable accessibility. It is difficult to see how development further west would not suffer from similar or greater inaccessibility, as Westville would act as a barrier to the east.*
- 4.6.2 Primary and secondary school lie within about 10 minutes of the site, although not on a good public transport route. Hucknall town centre/tram terminus is probably within 20 minutes with a good bus extension. The current bus route is not easily extended.
- 4.6.3 The site could form part of a major new corridor linked through site A4 to Bulwell Forest with a new tram branch, but this is unlikely to be justified with development of this site alone.

Geoenvironmental

- 4.6.4 Site A5 displays the following geoenvironmental features:
- *Underlying coal measures (but none outcrop on the site)*
 - *Made Ground fill within site perimeter*
 - *Basic radon protection would be required for new development*
 - *Made Ground fill, possible old quarry, rail quarry and disused tip; airfield to south, rail colliery, works and brickyard to northwest of site all potential sources of contamination*
 - *Some historic landfilling activities adjacent to east of site*
 - *Major/Non Aquifer Sensitivity Classification*
 - *Soil type H*
 - No Source Protection Zones on site

Landscape

- 4.6.5 This is a greenfield site, home to predominantly agricultural uses. The site slopes gently from west to east, ensuring development would face towards the existing urban area to the east.
- 4.6.6 *There is very limited access on site, partly due to the existing layout of Westville. The site is screened from the motorway and screened from the existing western edge of Hucknall. Heavily wooded areas prevent views into the site but the distinctive chimneys of the disused Watnall brickworks may be viewed over the tree canopy.*
- 4.6.7 *The landscape appears to be of medium to high quality. However, views are mostly screened by woodland.*

- 4.6.8 The site has clear boundaries to the east (the existing urban edge of Hucknall), west (M1) and south (B6009 Long Lane), and its northern boundary is defined by the environmental designation to the east of the M1.

Local policy

- 4.6.9 The site lies entirely within Broxtowe Borough Council's area. The site comprises only Green Belt⁴⁸. It directly adjoins the Hucknall Urban Area; if the site were to be developed, close working would be required with Ashfield District Council.
- 4.6.10 *The southern half of the site would entail development on Grade 2 Agricultural Land.*
- 4.6.11 If developed, the site would be more suitable for residential- development incorporating a new local retail and service centre, given its context. It appears less suitable for business park-style employment development.
- 4.6.12 The former Watnall brickworks, which adjoins the site to the north west, was at the centre of an objection upon which the Local Plan Inspector commented in 2003⁴⁹. His main findings relevant to the present study were that:
- *Bus services would need improvement (this accords with our own transport assessment in 4.7.1 above).*
 - *Not a very sustainable location in terms of public transport or local facilities*
 - *Development here would be visible from countryside to south*
 - *'Modest' increase in degree of coalescence of Hucknall and Watnall*
 - *Difficulties of connection to existing urban area of Hucknall*
 - Wildlife value of disused brickworks site assessed as relatively low
 - *The site should not be developed.*

Summary and Recommendation

- 4.6.13 The site appears problematic. It is severely constrained across a number of criteria, most seriously in terms of accessibility and sustainable transport. It is certainly less sustainable when compared with sites A1, A2, A4 and A6 around Hucknall, based on public transport, landscape, accessibility to local services and connectivity with the existing urban area. In order to be sustainable, a new mixed-use local service centre (also serving the existing suburb of Westville) would probably be required.

⁴⁸ Broxtowe Local Plan. Broxtowe Borough Council, 2004.

⁴⁹ Inspector's Report into the Broxtowe Local Plan, Planning Inspectorate, 2003.

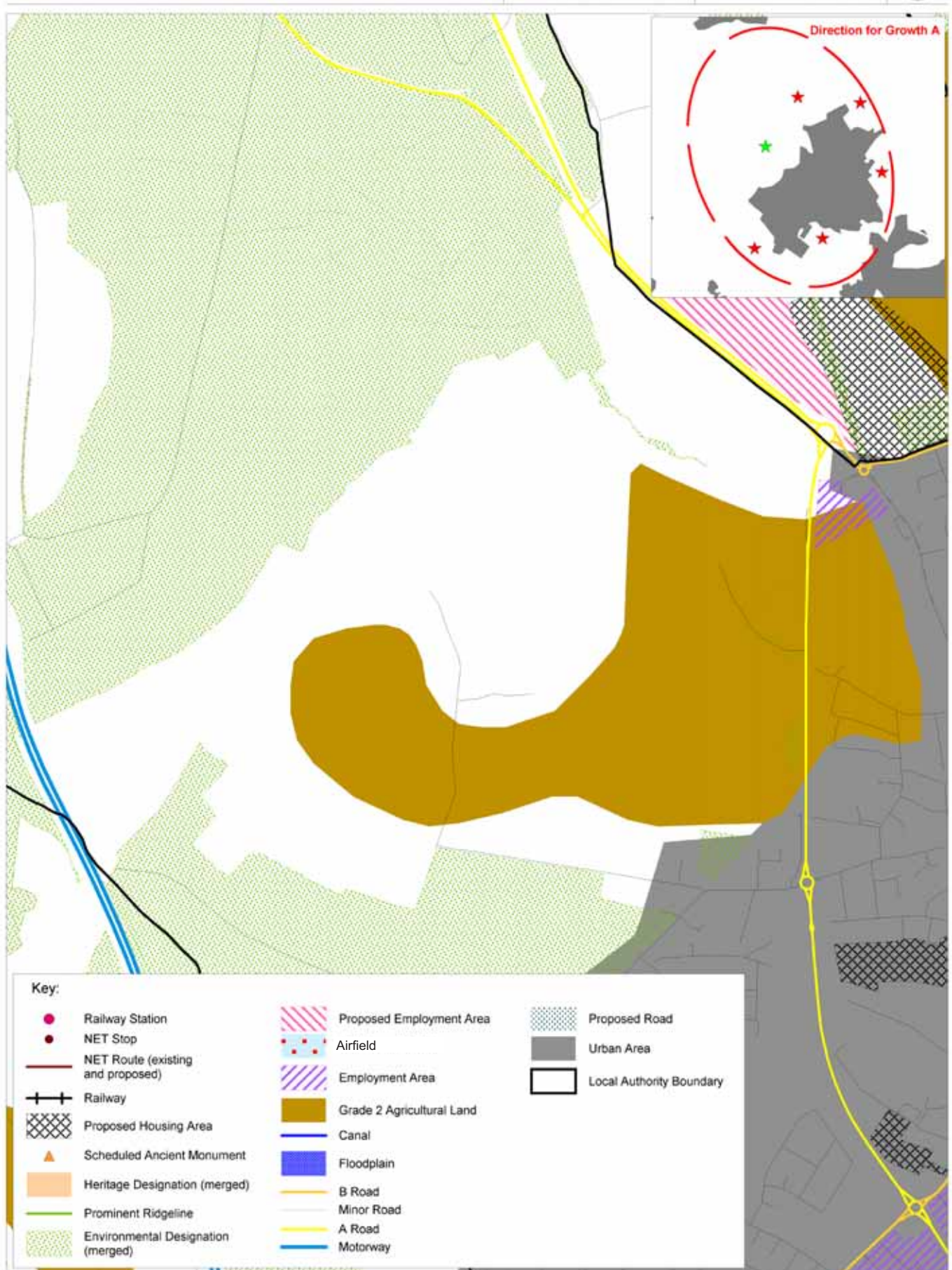
Figure 30: Site A5 landscape view



4.6.14 On the basis of the information set out in this section, Site A5 is judged not to be suitable for residential development on the grounds of accessibility and sustainable transport provision.

4.7 Site A6 (Whyburn Farm, Hucknall)

Figure 31: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.7.1 Wood Lane currently provides a limited bus services for this part of Hucknall.
- 4.7.2 Whyburn Lane, which is a continuation of Wood Lane west of the A611, has potential to provide a direct bus access to the site allowing for direct connection to Hucknall Town Centre and tram terminus.
- 4.7.3 Washdyke Lane and Annesley Road also offer potential for direct bus connection to Hucknall town centre, although Washdyke Lane would require works to be carried out at its junction with the A611 to reconnect its severance.
- 4.7.4 Three primary schools and two secondary schools are located within ten minutes journey time⁵⁰. A tram and/or high quality bus extension could bring Hucknall town centre and stations within 10-15 minutes journey time. Any tram extension could also serve the southern half of Site A1, although it is likely that both sites would need to be suitably developed to justify a tram extension. If this site were to be developed without development at site A1, then access will have to be by bus rather than tram.
- 4.7.5 *The potential for connections across the A611 should not only to be limited to road traffic. The site has a long frontage with the road and therefore the potential of cycle and pedestrian links across it to Hucknall town centre need also to be considered if the site is developed.*

Geoenvironmental

- 4.7.6 Site A6 displays the following geoenvironmental features:
- *Underlying coal measures (but none outcrop on the site)*
 - *Basic radon protection would probably be required for new development*
 - *Historic landfilling activities 390 metres east of site*
 - *Major/Non-Aquifer Sensitivity Classification*
 - *Soil type H*
 - *Source Protection Zones underlying south and west of site*

Landscape

- 4.7.7 This greenfield site is home to predominantly agricultural uses including a working farm. It is predominately flat but is situated within a definite bowl to the north, west

⁵⁰ These primary schools are currently near capacity and new provision is likely to be required if Site A6 is developed. Secondary schools in the area are also approaching capacity, thereby necessitating potential provision on development sites, reflected in the relatively lower residential densities applied.

and south, especially to the northwest, where it rises steeply to the edge of Park Forest.

- 4.7.8 *The site includes one of the first Greenwood Community Forest sites developed in Ashfield, Dob Park, which could and should be protected and enhanced if any development occurs on site.*
- 4.7.9 *The site is low and protected and overshadowed by surrounding forest and hills. The site includes a covered reservoir, mature trees throughout, a watered ditch, degraded hedgerows, pylons, and pedestrian rights of way. The landscape is of medium to high quality.*
- 4.7.10 *There are views out of the site to Annesley Road and to Forest Park. The site is largely protected from views into and out of it though it can be seen from the A611 and parts of the bypass. The site can be easily defined and defended by Annesley Road to the north-east, the hills to the north, west and south, and the reservoir and bypass to the south.*

Local policy

- 4.7.11 The entire site lies within Ashfield District Council's area. The site comprises only Green Belt land⁵¹. If the site were to be developed, consultation may be required with neighbouring Broxtowe Borough Council.
- 4.7.12 The landscape characteristics of the site, lying as it does in a well-defined bowl open on the eastern side facing the existing urban area, indicate a higher score on the two Green Belt criteria of safeguarding the countryside from encroachment and checking the unrestricted sprawl of built-up areas than it would if the site presented fewer defensible landscape boundaries.
- 4.7.13 *The centre and east of the site would entail development on Grade 2 Agricultural land.*
- 4.7.14 If developed, the site would be more suitable for sustainable mixed-use rather than residential-only development. Employment uses would be more suitable towards the north of the site along the A611, with more residential uses to the south.
- 4.7.15 The Inspector commented upon a smaller part of the site at the Ashfield District Local Plan Inquiry⁵², which was proposed for employment purposes. His main conclusions were as follows:
- *Allocation of site would result in substantial encroachment into presently open countryside*
 - *Allocation would diminish gap between Hucknall and Sherwood Park/Annesley Woodhouse, although there is no intervisibility between the two*

⁵¹ Ashfield Local Plan Review, 2002.

⁵² Ashfield Local Plan Review: Inspector's Report. Planning Inspectorate, 2001.

- Strong, defensible Green Belt boundary of lane and forest to north
- In terms of accessibility, the site is 'closely linked to Hucknall', easily accessible by regular bus services from Hucknall and along A611 and could be linked to pedestrian and cycle routes in the area
- Few feasible alternatives to loss of agricultural land if development proceeds
- Landscape impact of development acceptable

4.7.16 The Inspector therefore recommended that the site could be allocated for employment uses (a recommendation that was not subsequently taken up by the Council). However, elsewhere in the Report, he comments further on another site at Whyburn Farm, this time from the point of view of suitability for residential development:

- **'Development of the land at Whyburn would create a free standing development, largely divorced from the existing urban area and the bulk of the Town's facilities and services by the Hucknall by-pass. The site is beyond the Nottingham to Hucknall public transport corridor and residential development would lead to high car use because of the greater distances to facilities and to the Robin Hood Line and NET stops'.**

Summary and Recommendation:

4.7.17 The site appears suitable for sustainable development on a wide range of criteria, including Green Belt, landscape and transport and accessibility, subject to appropriate and creative measures to increase the permeability across the A611 bypass between the site and Hucknall Town Centre. The site has a long frontage (almost 2 kilometres) to the A611 and urban design practice and experience suggests that a creative masterplan could offer ample opportunities for mitigation along this length of road. Furthermore, the relative proximity of Hucknall Town Centre should further assist sustainable connections to the site.

4.7.18 The negative comments of the Inspector at the Local Plan Inquiry as set out in 4.7.16 above need, however, to be addressed.

4.7.19 Some of the more positive comments of the Inspector when allocating the site for employment echo many of our own positive site assessments, including on landscape, transport and Green Belt criteria.

4.7.20 The consultant team would question, however, the Inspector's assessment of the site forming a 'free standing development, largely divorced from the existing urban area and the bulk of the Town's facilities and services by the Hucknall by-pass'. This statement appears difficult to justify in the absence of definite proposals for the site. More realistically, given the previously noted long site frontage to the A611, the degree to which the development will be 'free-standing' or not will be determined (and, where necessary, mitigated) through appropriate urban design solutions that can overcome the issue of road severance by a variety of transport modes.

Figure 32: Site A6 after Part B assessment

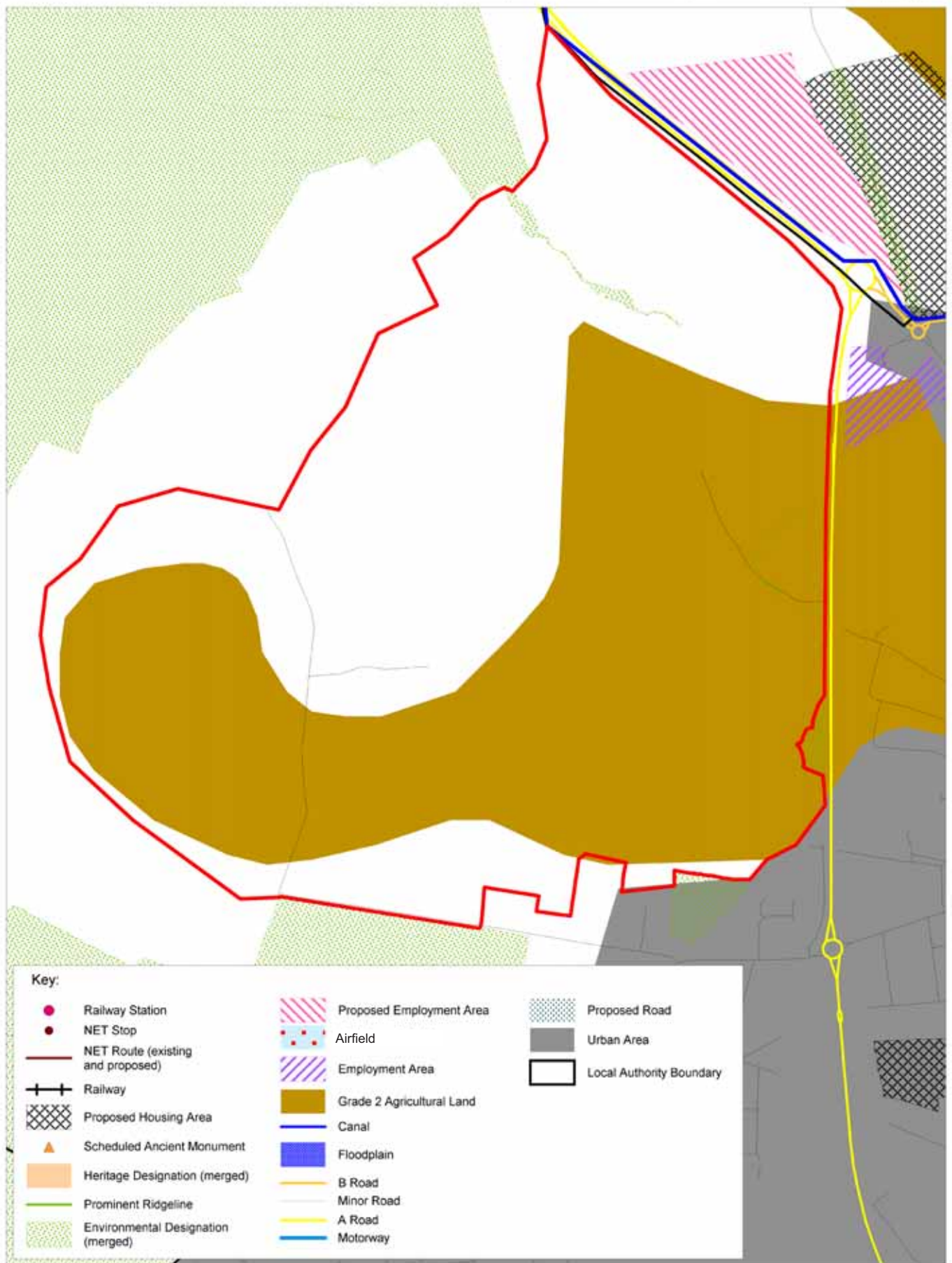
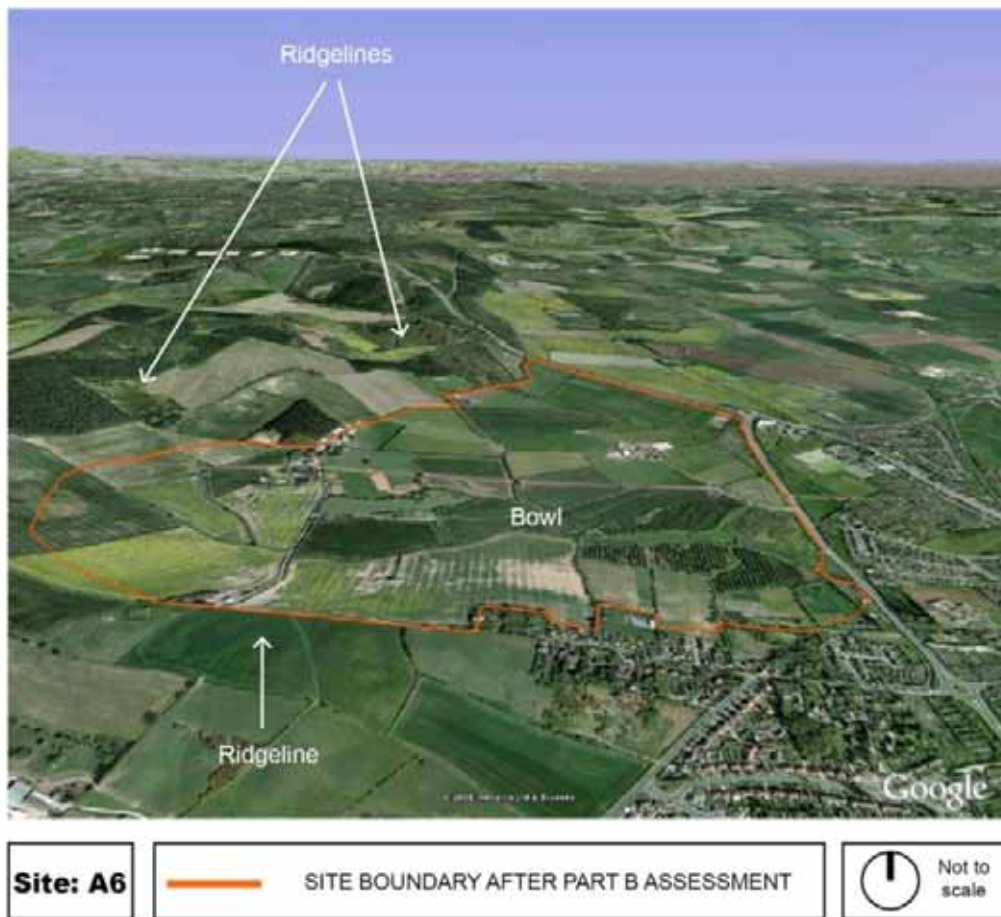


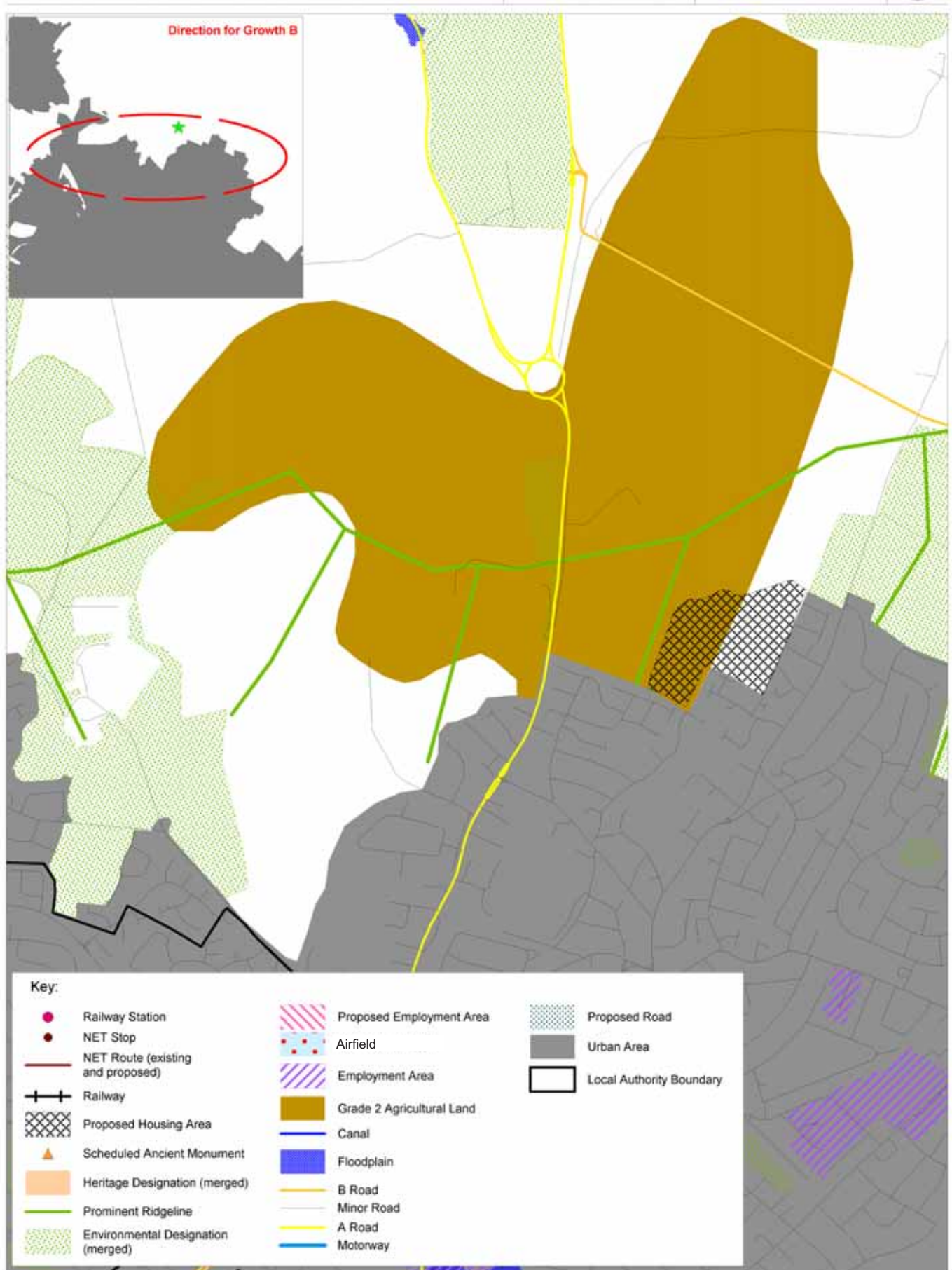
Figure 33: Site A6 Landscape and Boundaries View



4.7.21 On the basis of the information set out in this section, including the strong suitability of mixed-use at this location, its strong performance in landscape and Green Belt terms, potential for bus connectivity with Hucknall town centre and the potential for tram extension into the site if Site A1 is also developed, Site A6 as shown in Figure 19 above is suitable for residential-led mixed-use development, subject to appropriate urban design measures including connectivity improvements across the A611 Hucknall bypass.

4.8 Site B1 (North of Redhill, Nottingham)

Figure 34: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.8.1 *To improve accessibility, new bus routes would be needed into the site, providing direct links to Arnold centre and Nottingham city centre via Mansfield Road, perhaps starting at Leapool Park and Ride to north (at present, no direct bus route exists from the site or from Leapool into central Nottingham). Better tangential links serving employment areas would also be helpful, but the scale of development may not justify such provision.*
- 4.8.2 *At present access to the site is through Thornton Avenue, but this short cul-de-sac is unlikely to be able to handle the increased traffic resulting from development on site. Bestwood Lodge Drive runs along the site to the south and appears better equipped to provide access. **However, the key access that this site needs is to Mansfield Road, and here this access could be indirect.***
- 4.8.3 *Another possibility might be a new access and junction running west off Mansfield Road to the north of Lodge Close, potentially including relocation of the works on the west side of Mansfield. Beyond the urban area, access to the A60 becomes less of a problem; however, as the new residents are more likely to want to travel south towards Nottingham city centre rather than north into the countryside on the A60, access into the site from the north appears inconvenient and less easy to link with sustainable transport provision.*
- 4.8.4 Primary schools and a secondary school and surgeries are ten minutes from the site. Arnold town centre falls into the 10-20 minutes band. Most of the site is within thirty minutes walking time of the town centre.
- 4.8.5 *However, currently the site is mostly beyond 400 metres walk from a bus route.*

Geoenvironmental

- 4.8.6 Site B1 displays the following geoenvironmental features:
- Underlying coal measures (but none outcrop on the site)
 - No made ground
 - Radon protection would not be required for new development
 - *Historic landfilling activities 390 metres west of site*
 - *Major/minor Aquifer Sensitivity Classification*
 - *Soil types H and I*
 - *Outer and Total Catchment Source Protection Zones underlying site, with an Inner Zone SPZ adjacent to the northern boundary*

Landscape

- 4.8.7 This is a greenfield site and home to predominantly agricultural uses including a working farm. The undulating site is on high land and slopes moderately into a shallow bowl to the south where it adjoins the Nottingham PUA.
- 4.8.8 The lower (southernmost) parts of the site are sheltered and somewhat isolated from the rest of the countryside to the north by prominent ridgelines. The undulating topography creates a feeling of detachment from the urban area, despite development lying directly to the east. **Secondary ridgelines to the west and east further confine the land most suitable for development.**
- 4.8.9 **The northern half of the site further from the PUA covers the highest, most prominent land, including slopes that face north, away from Nottingham. Development here would be less appropriate, as it would risk visual intrusiveness in a high, hilly area, and be physically and psychologically disconnected from the existing urban area.**
- 4.8.10 Significant copses of trees are scattered across the site and hedgerows and electricity pylons cross the landscape. Pedestrian rights of way also feature. *The landscape is of high quality and key features such as significant copses of trees and clear ridgelines should be maintained.*
- 4.8.11 From lower viewpoints, treed ridgelines dominate views out of the site. From the ridgelines there are significant views east to the town edge, to the north east with views to Bestwood Lodge and to the south with views out over the entire urban area of Nottingham all the way to Ratcliffe on Soar power station.
- 4.8.12 The southern part of the site has natural boundaries including the existing urban edge to the east and south, and topographical features to the north and west. This is the only part of the site suited to urban extension in landscape terms. *The northern part of the site (i.e. that part over the ridge and facing north rather than facing towards Nottingham) lacks defensible boundaries and it is difficult to state where development might end.*

Local policy

- 4.8.13 The entire site lies within Gedling Borough Council's area. The site comprises only Green Belt land, **with primary and secondary ridgelines cutting across it**⁵³. Nottingham City Council's area adjoins the southern part of the site, and therefore consultation may be required.
- 4.8.14 *The centre and east of the site would entail development on Grade 2 Agricultural land.*
- 4.8.15 The southern half of the site would be more acceptable in Green Belt terms, as it would fill an existing notch in the urban edge (development lies both to the east and west)- it would therefore perform well on the 'preventing unrestricted urban sprawl' criterion.

⁵³ Gedling Borough Replacement Local Plan, Gedling Borough Council, 2005.

4.8.16 If developed, the site would be more suitable for residential- only development, given its context.

4.8.17 The Inspector's comments upon the site at the Gedling Borough Local Plan Inquiry⁵⁴ may be summarised as follows:

- **From some viewpoints, development would be prominent** [this comment appears to refer more to the northern portion of the site]
- *If part of the site were to be developed, the case for leaving the rest untouched would be weakened*
- Few concerns over importance of agricultural land
- Development would lie within a quality public transport corridor
- *Concern about access being taken from the north of the site; Highways Agency have concerns about access even if only the southernmost part of the site were to be developed*
- Southern part of site relates best to existing urban area
- *Bus priority measures on A60 Mansfield Road should be implemented as a condition of development*
- Site should not be allocated in the Local Plan, as there was no proven requirement for it to be allocated given the local housing target at the time; lack of allocation less a matter of principle and more a matter of need
- However, recommended southern portion of site should be taken out of the Green Belt as safeguarded land.

Summary and Recommendation

4.8.18 It is extremely difficult to justify development on the north of the site in landscape and Green Belt terms; development would be prominent, on very high land, and would face north into the countryside and away from Nottingham, with no defensible northern boundary. The consultant team recommends that this part of the site should be deleted.

4.8.19 The south of the site is more suitable for development. However, as noted above, access to the site relies on a connection to Mansfield Road, which would breach a secondary ridgeline between the site and the A60. Therefore, if the site is to be developed, the north-eastern portion of the site crossing the secondary ridgeline as shown in Figure 35 would best consist of open space and access route only to avoid prominent development on a ridgeline.

⁵⁴ Inspector's Report into Gedling Borough Replacement Local Plan, Planning Inspectorate, 2004.

Figure 35: Site B1 after Part B assessment

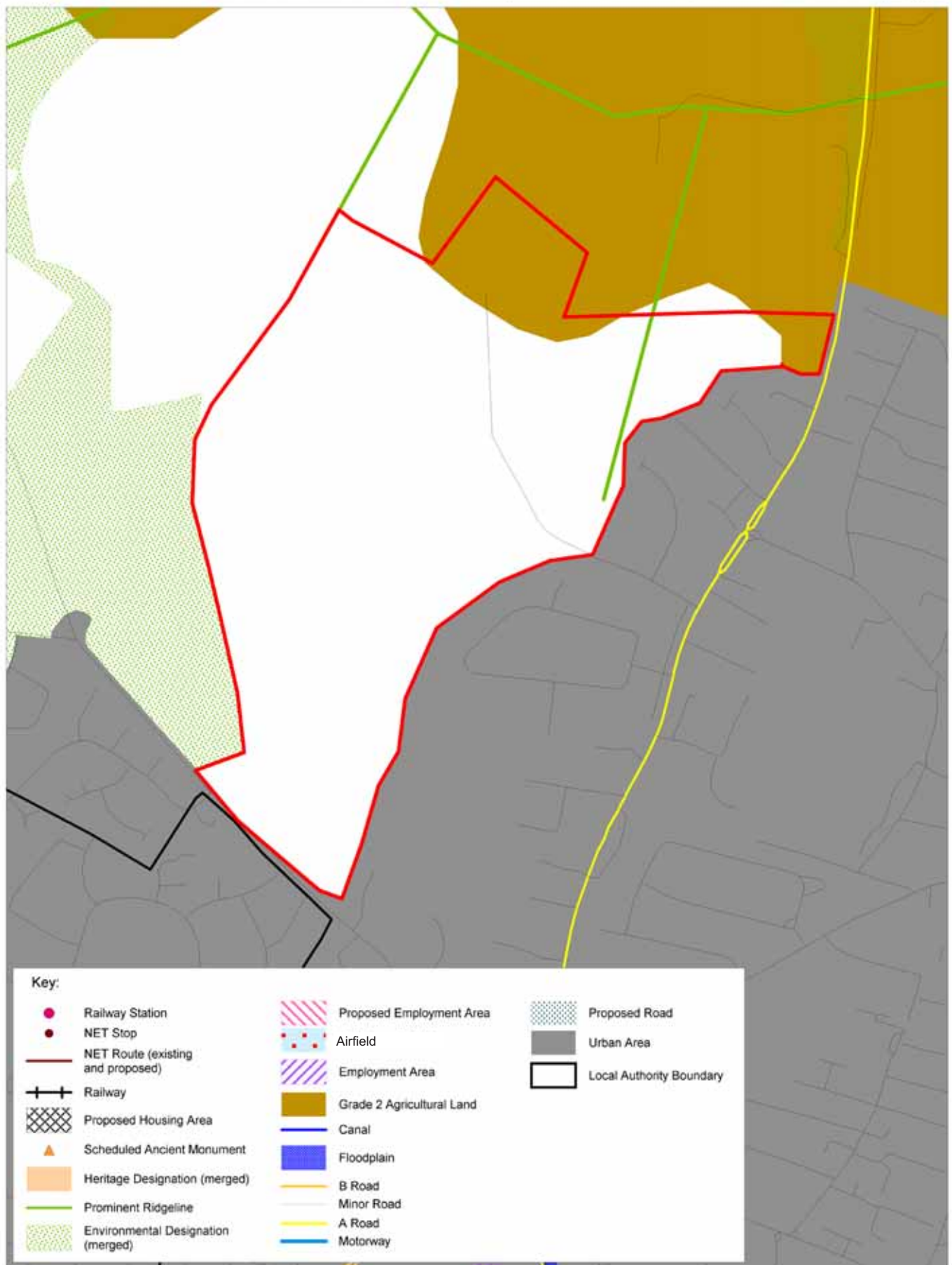
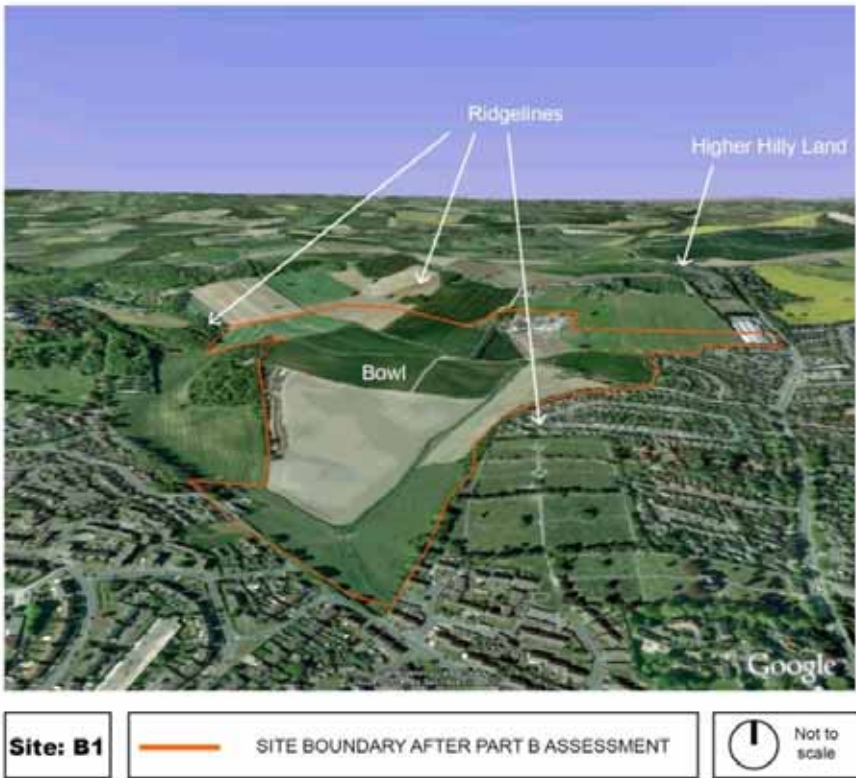


Figure 36: Site B1 Landscape and Boundaries View

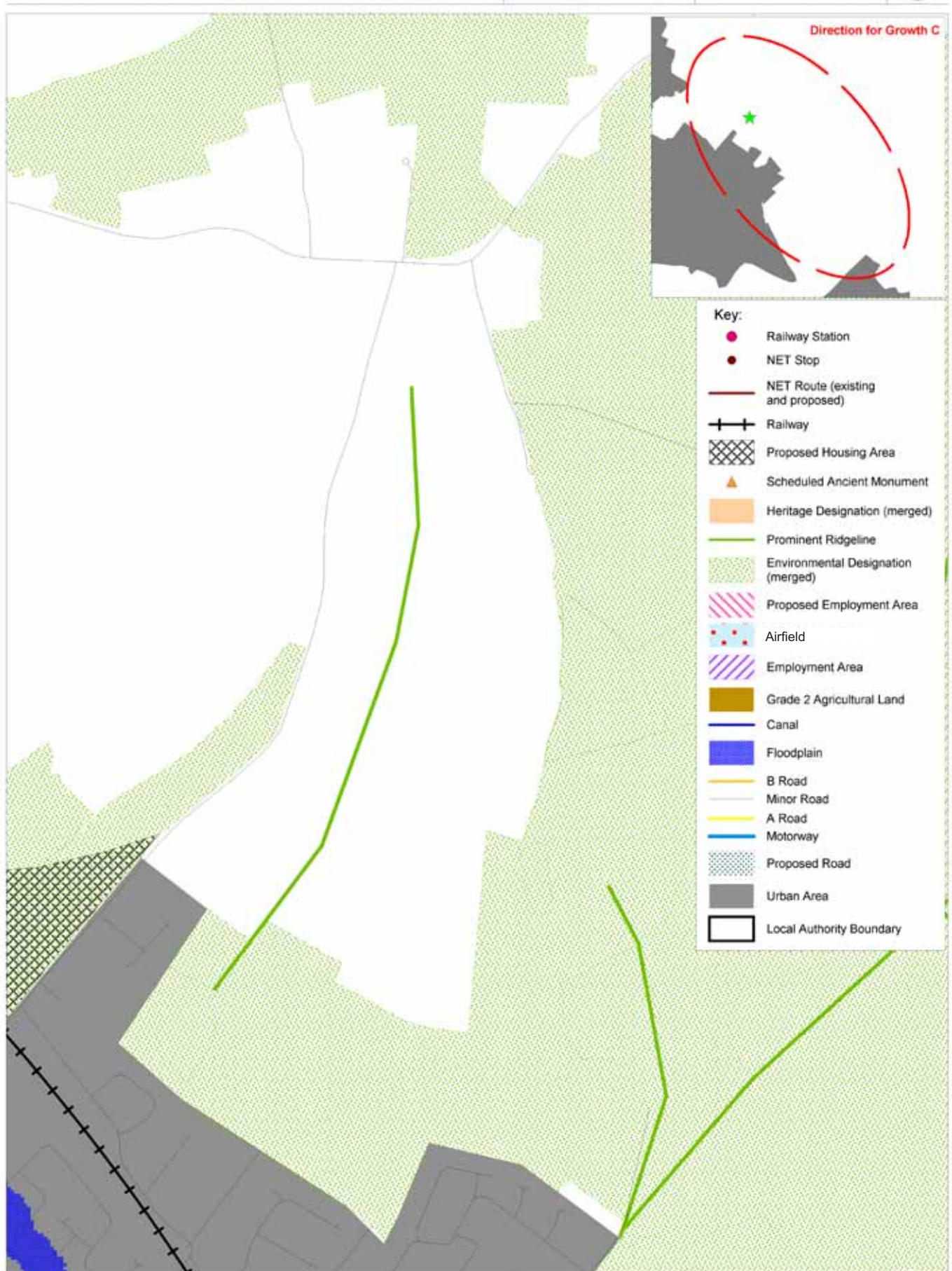


4.8.20 The south of the site, however, is far more promising. In landscape terms, it has a defensible ridgeline boundary and relates entirely to the existing built-up area to the south. We note the transport concerns, however, (this hindered allocation of this site in previous Local Plan processes) and it should be a condition of development that access to the A60 Mansfield Road is made directly to the east rather than taken northwards and that improvements to the bus network on Mansfield Road, most notably a direct link to Nottingham City Centre, should be created.

4.8.21 On the basis of the information set out in this section, including its good performance against Green Belt criteria and defensible landscape boundary, Site B1 as shown in Figure 19 above is judged to be suitable for residential development subject to improved public transport accessibility.

4.9 Site C1 (East of Lambley Lane, Gedling)

Figure 37: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.9.1 Aside from topographical constraints, the site would be easy to link to existing development. Grange View Road could easily become the main access point for any development, leading quite directly into Gedling village centre and beyond via the Colwick Loop Road into central Nottingham.
- 4.9.2 *However, existing public transport in the area is infrequent*
- 4.9.3 Could help the case for Gedling Access Road and potential park and ride.

Geoenvironmental

- 4.9.4 Site C1 displays the following geoenvironmental features:
- *Underlying coal measures (but none outcrop on the site)*
 - No made ground
 - *Basic radon protection would be required for new development*
 - *Historic landfilling activities 325 metres west of site*
 - *Non/Minor Aquifer Sensitivity Classification*
 - Soil types H and I
 - *About half the site is underlain by a Total Catchment SPZ*

Landscape

- 4.9.5 This is a greenfield site at the urban edge. The site is vacant and appears to have no current use. It appears to have had a previously agricultural use.
- 4.9.6 The site is prominent and on high land. Its northern portion is a higher plateau and toward the south it slopes fairly steeply south-eastwards, with views back to the Nottingham urban area, the wide Trent valley east of Nottingham and Gedling church. *It is bounded by a mature landscape area to the south which acts as a barrier between the existing urban area and the southern site boundary. There are no significant features across this site.*
- 4.9.7 The landscape is of high quality, particularly to the south and key features such as significant copses of trees and clear ridgelines should be maintained.**
- 4.9.8 *Development would not relate well to the existing urban area unless the mature landscape to the south of the site were breached. Under PPS7 criteria, this could normally be justifiable if development was necessary to fulfil other sustainability criteria. However, the mature landscape area is the most prominent part of the site and acts as a small ridgeline containing the Nottingham fringe to its southwest. If development respecting prominent ridgelines is recommended on site B1, it is difficult to justify development breaching a prominent ridgeline on site C1.*

Local policy

- 4.9.9 The entire site lies within Gedling Borough Council's area. The site comprises Green Belt land, **with a secondary ridgeline cutting across it from southwest to north-east**. The proposed Gedling Colliery Access Road cuts across the site from west to east⁵⁵.
- 4.9.10 No part of the site would entail development on Grade 2 Agricultural land.
- 4.9.11 **The site would be problematic in Green Belt terms, as it would create a long extension of the urban area out into the countryside, at right angles to the existing urban edge; it therefore performs poorly on the 'preventing unrestricted urban sprawl' criterion. Although land to its west (Gedling Country Park) has been taken out of the Green Belt, it will remain open and undeveloped, and therefore the site would still constitute a functional 'limb' out onto Green Belt land.**
- 4.9.12 If developed, the site would be more suitable for residential- only development, given its context.
- 4.9.13 The Inspector's comments upon the site at the Gedling Borough Local Plan Inquiry⁵⁶ may be summarised as follows:
- **This site is rising ground where development would be a prominent intrusion into the countryside.**
 - **Lambley Lane is a clear edge to the Green Belt and development here would be on the wrong side of it.**
 - *Although the Gedling Colliery Access Road cuts across the site, development of the existing urban area northwards towards the road would still not be suitable in Green Belt terms.*

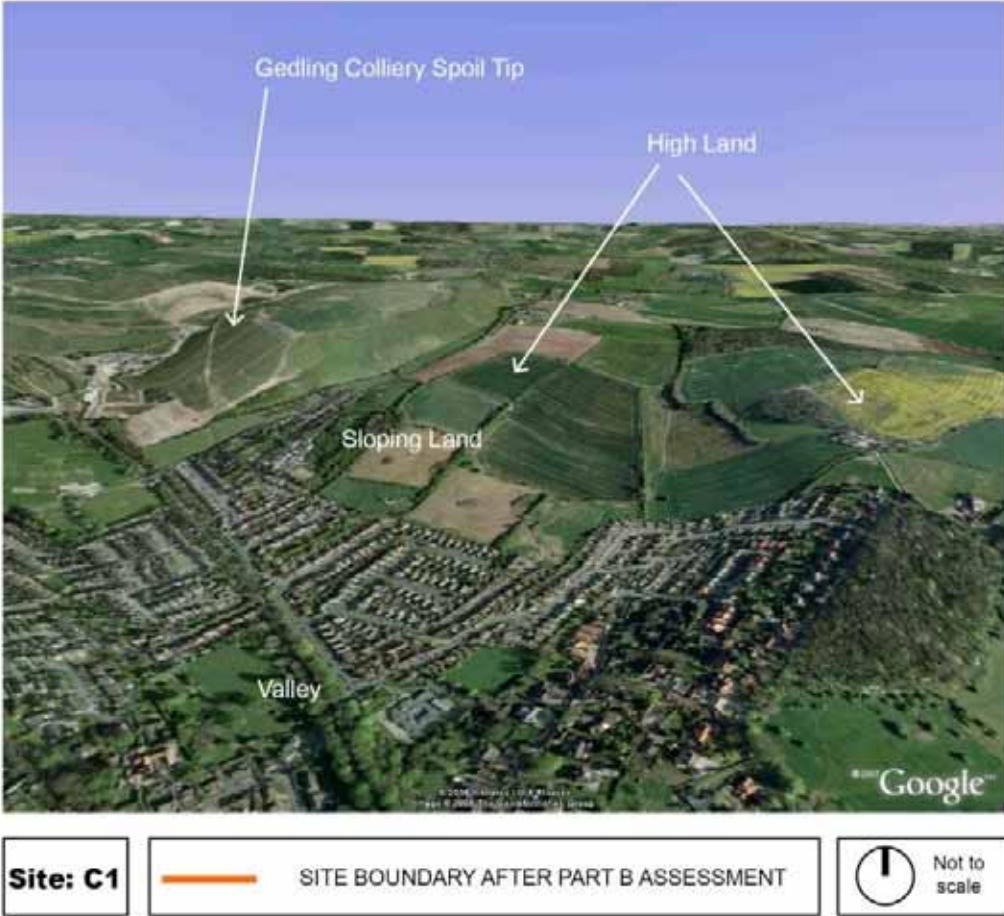
Summary and Recommendation:

- 4.9.14 It is extremely difficult to justify development on this site in landscape and Green Belt terms. Development would be prominent, on high land, and would form a long 'limb' of development into the countryside at right angles to the existing urban edge of Nottingham. The consultant team agrees with most, if not all, of the Inspector's reasoning here and recommends that this site should be not be given further consideration.

⁵⁵ Gedling Borough Replacement Local Plan, Gedling Borough Council, 2005.

⁵⁶ Inspector's Report into the Gedling Local Plan Inquiry, Planning Inspectorate, 2004.

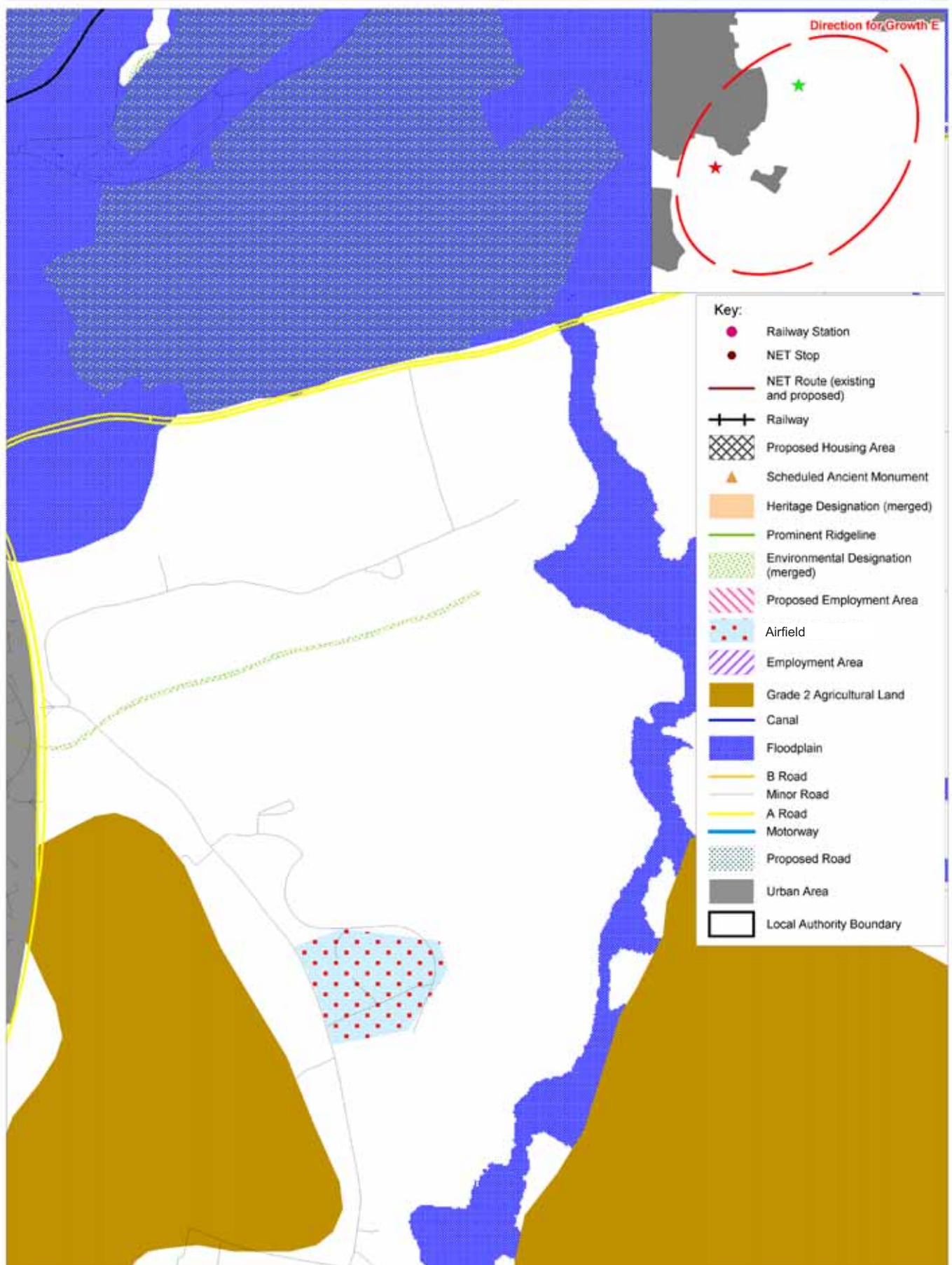
Figure 38: Site C1 Landscape View



4.9.15 On the basis of the information set out in this section, including its performance on landscape and Green Belt criteria, Site C1 is judged to be unsuitable for development.

4.10 Site E1 (East of Gamston, Rushcliffe)

Figure 39: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.10.1 There is the potential for development on the site as it is currently defined (thereby increasing opportunities for sustainable transport infrastructure) but there exists no defensible barrier to developing further east once the A52 has been leap-frogged. Connectivity with adjacent areas and the city is doubly difficult; not only does the A52 bypass act as a wide, impenetrable barrier but the meandering cul-de-sac development on its western side is extremely difficult to penetrate if the ultimate goal is sustainable connection to the city centre, even if it were feasible to move the A52 in some way. In particular, the two main spines through this area (Beckside and Ambleside) are unsuitable for sustainable transport; they are winding, indirect and pass through large residential areas.
- 4.10.2 **If connectivity in this direction were ignored, and instead access was taken from the south of the A52, further problems of connectivity would result. The development would form a detached satellite, almost a town next to Nottingham rather than an extension of Nottingham itself. Pedestrian access between the site and Nottingham would be challenging and unpleasant, given the existing heavy traffic on the A52.**
- 4.10.3 **The site would be located far from existing services and amenities, and would require its own local centre and social infrastructure to be provided within its boundaries. However, the local centre thus produced would be likely to be very inward-looking, and would be relatively inaccessible to existing residents of Gamston and Edwalton.**
- 4.10.4 The development has potential to tie into the proposed Gamston Park and Ride, with potential for increased bus services.
- 4.10.5 *The development would lead to further pressure for expansion of the A52 and for construction of the fourth Trent crossing, thus requiring wider consideration of the value of such infrastructure for other development and regeneration opportunities.*

Geoenvironmental

- 4.10.6 Site E1 displays the following geoenvironmental features:
- *Underlying coal measures (but none outcrop on the site)*
 - *Gravel pit on site (made ground)*
 - No radon protection would be required for new development
 - *Airfield on/adjacent to site may act as source of contamination*
 - No historic landfilling activity on site
 - *Aquifer Sensitivity Classification unknown*
 - *Soil types unknown*

- *No source protection zones on-site but a Total Catchment SPZ lies adjacent to the north-western boundary*

Landscape

- 4.10.7 This is a part brownfield, part greenfield site. It is home to a mix of uses including the functioning Nottingham Airport, the hamlet of Bassingfield and agricultural land.
- 4.10.8 The site is predominately flat with low hills visible to the south, and long views across flat land to the east. There is a very slight dip inwards from the north and west, meaning the site forms a barely noticeable bowl, but is sheltered from visual intrusion of the A52 or the city. Large open skies accentuate the openness of the location. Some significant trees are scattered throughout. The hamlet of Bassingfield on the site is small and well maintained with a noticeable feeling of isolation from Nottingham or indeed any big city.
- 4.10.9 The well-vegetated disused Nottingham-Grantham canal runs through the site to the south of Bassingfield. The airport hangars loom over the south of the site. Some mature trees are located on site. **The landscape is of high quality.**
- 4.10.10 The site has natural edges at the A52 to the north and west. The airport boundary to the south is clearly defined. The boundary to the east is less defensible visually but is the floodplain of the Polser Brook.

Local policy

- 4.10.11 The entire site lies within Rushcliffe Borough Council's area. The site comprises Green Belt land, with part of the airport defined as employment land⁵⁷.
- 4.10.12 No part of the site would entail development on Grade 2 Agricultural land.
- 4.10.13 **The site would be problematic on Green Belt criteria, as it would vault the defensible barrier of the A52 and create a long extension of the urban area out into the countryside, at right angles to the existing urban edge; it therefore performs poorly on the 'preventing unrestricted urban sprawl' criterion. In addition, a judgement would be required on the loss of Bassingfield as a separate settlement, although coalescence with a hamlet of a few houses and farms rather than with a historic village may be more defensible in policy terms.**
- 4.10.14 If developed, the site would be more suitable for residential development including a new local retail and mixed-use centre, rather than major employment allocations.
- 4.10.15 The Inspector's comments upon the site at the Rushcliffe Borough Local Plan Inquiry⁵⁸ may be summarised as follows:
- **The A52 forms a defensible boundary to Nottingham, and therefore development here is less justified.**

⁵⁷ Rushcliffe Borough Non-Statutory Replacement Local Plan, Rushcliffe Borough Council, 2006.

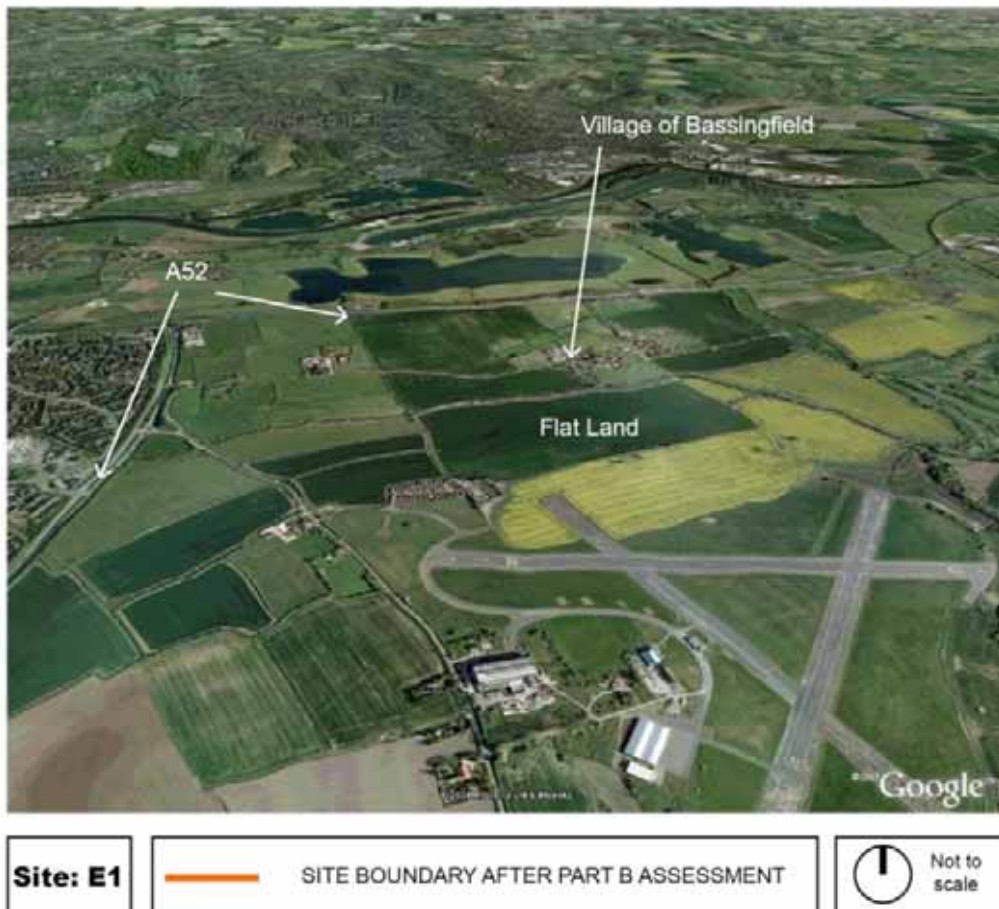
⁵⁸ Inspector's Report into Rushcliffe Replacement Local Plan, Planning Inspectorate, 2006.

- Considered that the site relates more to the surrounding countryside than it does to Nottingham itself
- Development would be visually intrusive within the wider rural landscape

Summary and Recommendation:

4.10.16 It is extremely difficult to justify development on this site on accessibility, transport and Green Belt terms. Development would be physically separate from Nottingham itself with a poor chance of sustainable connectivity and would consist of a long spur of development eastwards into the countryside at right angles to the existing urban edge of Nottingham. The already severe traffic constraints on the A52 would inevitably be worsened. Site visits reveal the extent to which the flat, open site appears very rural rather than adjacent to a large conurbation. The Inspector's comments are justified and are surprising only insofar as they do not mention transport and connectivity problems, which in our view are the most serious obstacles here to sustainable development.

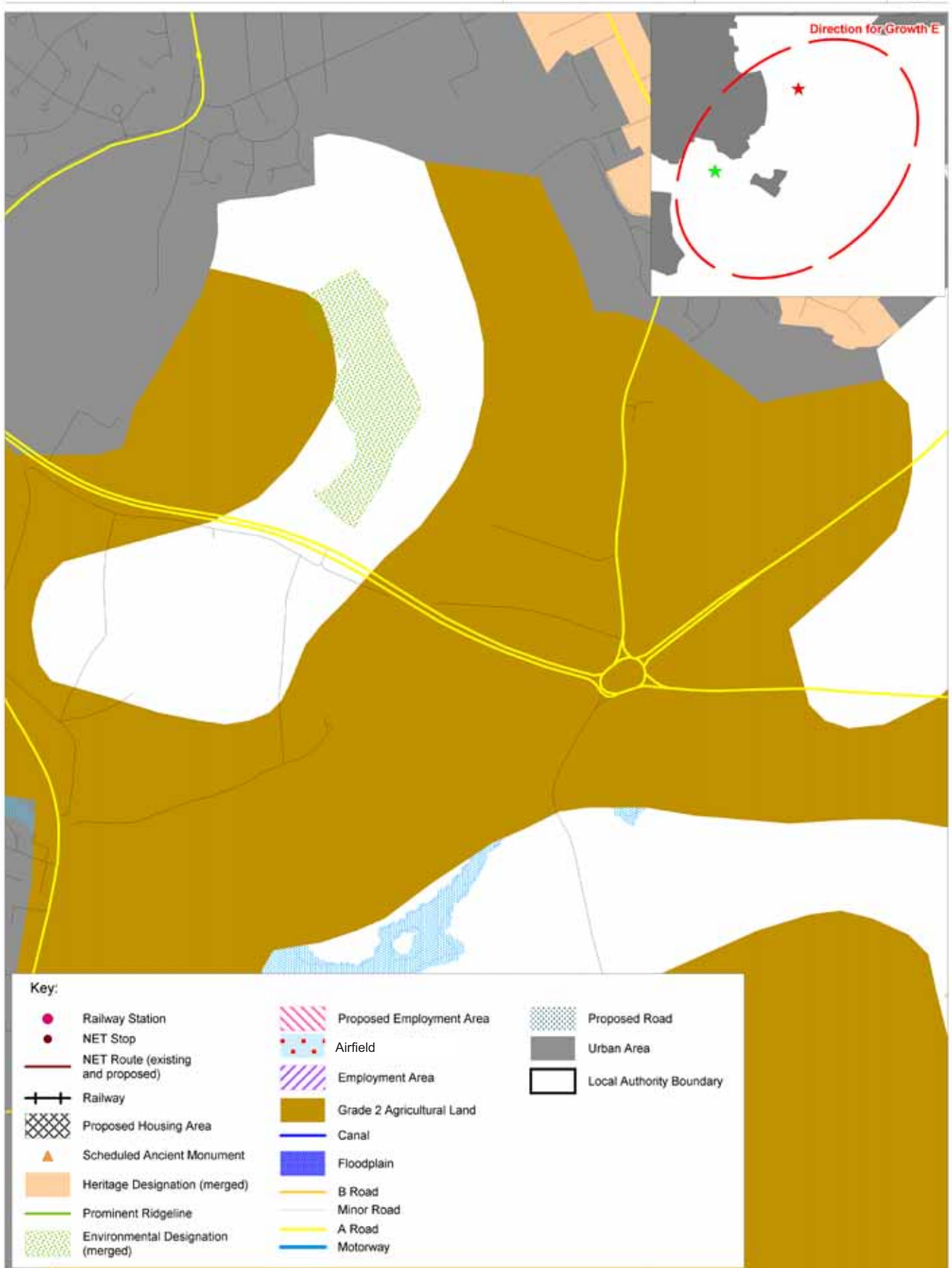
Figure 40: Site E1 Landscape View



4.10.17 On the basis of the information set out in this section, including its performance on accessibility, transport and Green Belt criteria, Site E1 is judged to be unsuitable for development.

4.11 Site E2 (Edwalton, Rushcliffe)

Figure 41: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.11.1 *There is a relatively low capacity on this site, meaning that existing rather than new transport infrastructure is more likely to be used.*
- 4.11.2 *This site would only provide sufficient critical mass for significant public transport infrastructure if development were to continue south of the A52. However, connectivity and accessibility problems in other respects would then arise.*
- 4.11.3 Development would add justification for implementation of previous proposals for grade separated A52 junctions.
- 4.11.4 Assuming development is confined to north of the A52, opportunities exist for Melton Road to act as a central mixed-use spine for new development, offering benefits in terms of sustainable bus transport to Nottingham city centre and ensuring the development looks inward to the urban area.
- 4.11.5 Melton Road could act as connection into the new development, with potential for pedestrian and cycle connectivity from the north of the development up to Boundary Road along the disused railway line east of the Leisure Centre.
- 4.11.6 *Potential impact on A52 and 4th Trent crossing need to be examined*

Geoenvironmental

- 4.11.7 Site E2 displays the following geoenvironmental features:
- *Underlying coal measures (but none outcrop on the site)*
 - No radon protection would be required for new development
 - *Potential sources of contamination unknown*
 - No historic landfilling activity on site
 - *Aquifer Sensitivity Classification unknown*
 - *Soil types unknown*
 - No source protection zones on-site

Landscape

- 4.11.8 This is a predominantly greenfield site used for agricultural and employment uses, including a nursery and small industrial area at its lowest point. The site also boasts a disused railway, leisure centre, and major roundabout and road system. This large site covers a variety of topography. The site is highly elevated to the west and many areas are moderately sloped. The Sharp Hill and Wilford Hill areas to the west are particularly hilly and prominent. The area closer to the Melton Road tends to be flatter, forming a lower, less prominent rise, with the land to the east of Melton Road sloping gently eastwards.

- 4.11.9 *The west of the site is elevated with views out to Nottingham and surroundings. **Sharphill Wood at the highest point of the ridgeline forms a distinctive landmark, and is highly visible from many viewpoints in and around the local region. Wilford Hill on the west site has a ridgeline further north than that of Sharp Hill and therefore the bowl on its southern side faces south out to the countryside rather than towards the city to the north. The hillsides leading up to Sharphill Woods on the east and the west sides is very high landscape quality and adds great value to this regional landmark. The remainder of the site is of less significance in topographical terms but is of high landscape quality** The A52 dual carriageway and roundabout isolate large areas of the site to the south, hindering access.*
- 4.11.10 Key views out of the site include those towards Nottingham to the north.
- 4.11.11 The part of the site most suitable for development has clear boundaries, with the existing urban edge to the north and the disused railway and Edwalton Golf Course to the east. The slopes of Sharp Hill define the west while the A52 to the south creates a defensible barrier to development outside, just as at site E1, and the southernmost portion of the site is therefore less suitable for development. Although the eastern part of the site, with Melton Road cutting through it from north to south, seems to make most sense as an extension of Nottingham, particularly given that existing development at Landmere Lane and Hill Farm Court is not particularly visually intrusive, care must be taken to protect key views of and from Sharp Hill, Sharphill Wood and Wilford Hill.

Local policy

- 4.11.12 The entire site lies within Rushcliffe Borough Council's area. The site comprises Green Belt land⁵⁹.
- 4.11.13 *Most of the site would entail development on Grade 2 Agricultural land.*
- 4.11.14 If the site were confined within the A52, it would be more defensible on Green Belt criteria. It would act as an extension to an existing urban area that does not protrude into the surrounding countryside and that has development on two sides, to its west and north.
- 4.11.15 If developed, the site would be more suitable for residential development rather than employment allocations, although the area close to the A52 roundabout and along Melton Road may be suitable for employment, and indeed is already being used as such in some places.
- 4.11.16 The Inspector commented upon a larger site⁶⁰ (covering also Wilford Hill, excluding the eastern part of the site known as the Melton Road Triangle, and with a closer western boundary to Sharp Hill) at the Rushcliffe Borough Local Plan Inquiry. His main points were as follows:

⁵⁹ Rushcliffe Borough Non-Statutory Replacement Local Plan, Rushcliffe Borough Council, 2006.

⁶⁰ Inspector's Report into Rushcliffe Replacement Local Plan, Planning Inspectorate, 2006.

- *The site had a non-defensible western boundary*
- *The loss of best and most versatile agricultural land is an issue*
- *Reservations about the off-site transport infrastructure required for the sustainable, dedicated bus link to Nottingham City Centre proposed by the developer*
- *Concern about the visual intrusiveness of development from distant viewpoints*
- *Impact on the local badger population*
- *The site should not be allocated for development*

4.11.17 However, the Inspector saw Melton Road Triangle was 'worth further consideration' but there was 'insufficient detailed information before the Inquiry to propose its allocation'. He recommended 430 units or less here if a mixed-use development were proposed. The site is more open and visible from the A52 and Melton Road to the south. The site is generally well-related to the urban area and has potential for public transport access. In addition, the ring road forms a defensible Green Belt boundary and that it should be considered as a serious alternative to development further west.

Summary and Recommendation:

- 4.11.18 This is a site with a long history and a number of complex issues, as the Inspector's comments make clear. However, the boundaries of the site as shown in Figure 42 below have not yet been assessed at public inquiry.
- 4.11.19 Our new boundaries represent land suitable for development against a number of criteria. The most prominent, visually attractive and topographically constrained western portion of the site has been deleted entirely, and the inclusion of the Melton Road Triangle to the east of the site opens up a less environmentally sensitive site where some critical mass of development can be achieved with Melton Road as a spine for sustainable transport to Nottingham City Centre.
- 4.11.20 If the western boundary of the site goes no further west than the westernmost part of the existing nursery site at the A52 roundabout, the degree of visual intrusion towards Sharp Hill will be small and probably no more apparent than is presently the case. The land is relatively flat and field boundaries at the base of the rising land act as defensible boundaries here, in a similar way as with sites B1 and A6.
- 4.11.21 Reservations include:
- *The loss of Grade 2 agricultural land. The entire site as proposed is thus designated, and a judgement will be required as to its importance. It is not readily apparent why the Inspector's comments on the Melton Road Triangle were more favourable, given that it consists entirely of the same Grade 2 agricultural land that he was concerned not to lose west of the Melton Road.*
 - *Wildlife impact of development. The Inspector at the Local Plan Inquiry considered that this was a factor that weighed against development suitability in this case. However, the new boundaries under consideration will impact local wildlife to a differing degree, and therefore an independent assessment may be required.*

- *Sustainable transport connections to Nottingham. The site appears constrained in sustainable transport terms, as the Melton Road Corridor is highly congested. Before development can proceed on this site, a high quality bus link, ideally with off-site infrastructure such as priority lanes, should be provided, although this may be difficult given the necessarily small size of the site. Again, a judgement is required as to the best way to approach this constraint, bearing in mind that the site performs well in terms of accessibility to the existing urban area.*

Figure 42: Site E2 after Part B Assessment

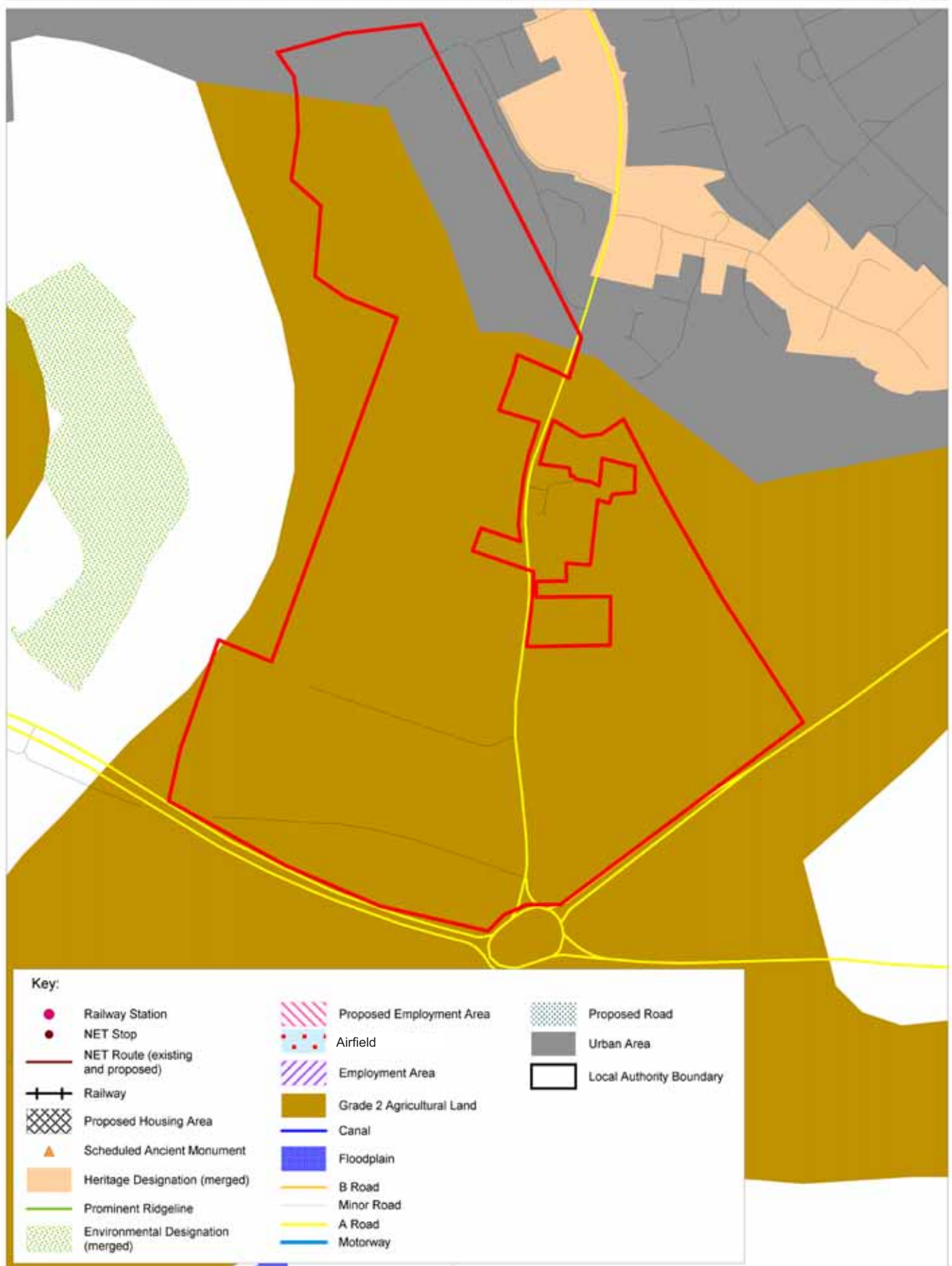


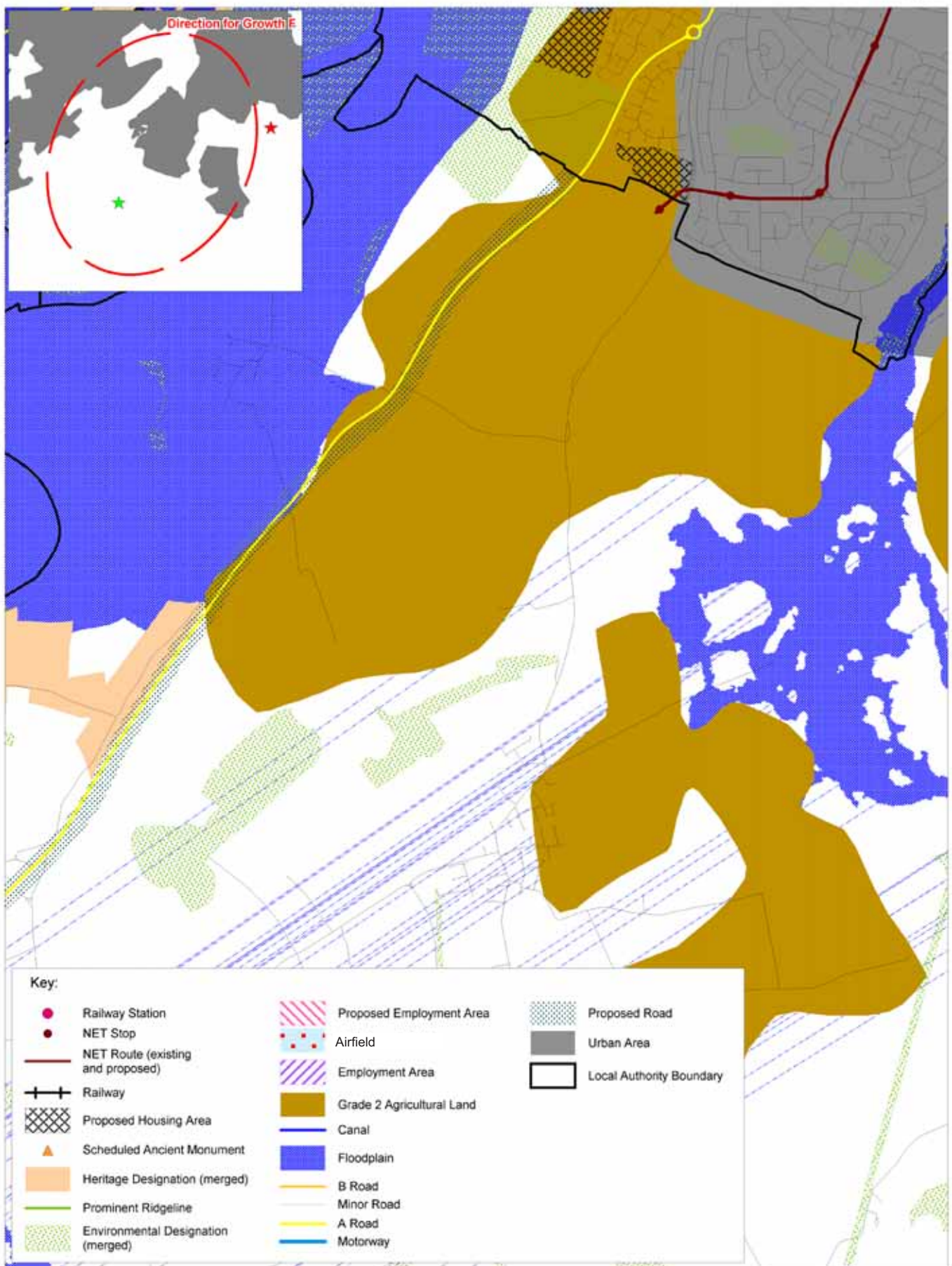
Figure 43: Site E2 Landscape and Boundaries View



4.11.22 On the basis of the information set out in this section, including its performance on Green Belt, landscape, accessibility, and affordability criteria (see Part A) Site E2 as shown in Figure 42 is suitable for residential and some employment development.

4.12 Site F1 (Clifton Pastures, Rushcliffe)

Figure 44: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.12.1 *Expansion on this corridor could be confined to land within 500m of the proposed tram route.*
- 4.12.2 *The proposed tram extension would enhance city centre accessibility, but there would still be a need for additional bus routes, as the development corridor is potentially wider than 800 metres; otherwise accessibility would be inadequate in part of the area further than 400-500 metres of a tram stop.*
- 4.12.3 *The inclusion of a Park and Ride facility will reduce further the residential land potentially within walking distance of the tram, and should therefore be located at the periphery of the development site, providing a terminus point for the tram. The Park and Ride at the periphery will, however, raise landscape issues.*
- 4.12.4 *Although connectivity with the southern edge of Clifton (and by extension, Nottingham city centre) is less of a problem to the west, the eastern part (Summerwood Lane, Manesty Crescent) presents far greater challenges in linking new development with the existing edge of the PUA. Opportunities exist south of Manesty Crescent with no demolition required, but new road should not be a major route into the new development. Access could also be created through to Summerwood Lane via the existing land occupied by allotments, although relocation of allotments may present difficulties. If housing in this area remains council-owned, opportunities may exist for selective demolition of one or more properties along the south side of Summerwood Lane to create new north-south access points in this area without relying on CPO. However, generally, curvilinear layout of Clifton presents a constraint to connectivity.*
- 4.12.5 *The impact of new development on the A453, even after any planned widening work, will need to be taken into account and/or mitigated*
- 4.12.6 Extension of the existing bus network serving Clifton would bring a range of local facilities within 10 minutes of the whole site, including several primary schools, a secondary school⁶¹, food stores, some employment and GPs surgeries.

Geoenvironmental

- 4.12.7 Site F1 displays the following geoenvironmental features:
- *Underlying coal measures (but none outcrop on the site)*
 - *No radon protection would be required for new development*
 - *Potential sources of contamination unknown*
 - *Historic landfilling activity 350 metres north of site*
 - *Aquifer Sensitivity Classification unknown*

⁶¹ Statement refers to current location of secondary school. If relocated (proposals to do so currently exist), location and hence proximity to site F1 may differ.

- *Soil types unknown*
- No source protection zones on-site

Landscape

- 4.12.8 This is a greenfield site and is almost entirely agricultural. The large site gently slopes down from the north-west on the landward side of the cliff overlooking the Trent valley. The generally flat, gently sloping site is defined by the steeply sloping and prominent Gotham and Cottagers Hills which rise abruptly to the southwest, with the village of Gotham hidden behind them to the south. *The site is very open, as there is a total absence of hedgerows and a spaciousness of an extent unusual even in lowland England.* Despite this, the land itself appears to have little recreational value; agriculture appears to be intense and only one public footpath crosses the entire large site.
- 4.12.9 Sweeping views across the plain are interrupted by remnant thickets of woodland. The existing urban edge of Clifton is hard and straight and sits on the ridgeline to the north. It is visible on the horizon from most parts of the site, framing the large agricultural plain stretching out to the south. Fairham Brook and its floodplain define the site's eastern edge. Electricity pylons crisscross the landscape. The British Gypsum factory at East Leake is prominent to the south. **The landscape is of high quality when viewed from the existing urban edge thanks to its open nature, gentle slope and the distant views to surrounding hills.**
- 4.12.10 Long vistas appear towards the hills on the south-eastern horizon. Gotham and Cottagers Hills form a key view looking from the urban fringe at the northern edge of the site. The site has a clear western boundary in the A453 road, and a clear boundary with Clifton to the north. The floodplain of Fairham Brook forms a defensible, albeit not physically visible, boundary to the east and the slopes of Gotham/Cottager's Hills should form a buffer to the south.
- 4.12.11 The northern part of the site appears more suitable in landscape terms for both residential and employment uses. *A judgement will be required on the southern boundary of the site; it is possible that a boundary further north of the northern slopes of Gotham/Cottager's Hill is more defensible in landscape terms. With a lack of other prominent features, this southern boundary would have to be taken on field edges to the east of Nottingham Road and either field edges or Barton Lane to the west.* Even if this were the case, it would be no less defensible than the current southern edge of Clifton.

Local policy

- 4.12.12 The entire site lies within Rushcliffe Borough Council's area, *but adjoins Nottingham City Council's area, requiring close co-ordination between the two bodies.* The flat part of the site north of Gotham/Cottager's Hill comprises Green Belt land free from environmental designations⁶².
- 4.12.13 *Almost all of the site would entail development on Grade 2 Agricultural land.*

⁶² Rushcliffe Borough Non-Statutory Replacement Local Plan, Rushcliffe Borough Council, 2006.

4.12.14 If the site were relatively confined towards Clifton to the north, it would be more defensible on Green Belt criteria. However, it would inevitably protrude into the countryside to some extent, however developed, as well as performing poorly on the criterion of safeguarding the countryside, from encroachment, given the landscape character here. It would suffer further in Green Belt terms from having no defensible boundary.

4.12.15 However, it would perform better on the Green Belt criterion of avoiding coalescence, given the open, uninhabited nature of the plain south of Clifton and with the A453 acting as a defensible boundary between the site and Barton-in-Fabis to the west, as long as development did not extend too far south towards Gotham.

4.12.16 If developed, the site would be suitable for employment allocations, particularly along the western part of the site as it offers better road, rail and air access. The rest of the site would be suitable for residential and a mixed-use local centre.

4.12.17 The Inspector commented upon the northern half of the site (with a southern boundary at Barton Lane) at the Rushcliffe District Local Plan Inquiry⁶³. His main points may be summarised as follows:

- **Open character of land would ensure that any development would be highly visible from some distance**
- *Expressed reservations about traffic capacity on the A453 unless improvements could be made*
- *Expressed reservations over the loss of Grade 2 Agricultural Land*
- **Lack of defensible southern boundary**
- *Recommended no development on the site*

Summary and Recommendation:

4.12.18 This is another site with a long history, and is a particularly difficult one to assess as a whole. Ultimately the question to answer boils down to whether the clear sustainability and regeneration potential of an urban extension in this location overrides the various environmental, mainly landscape constraints.

4.12.19 In our judgement, the opportunities very marginally outweigh the constraints. The landscape and environmental constraints are immovable and although we would recommend the site as being suitable for development, it would only be with substantial reservations (outlined below).

4.12.20 The most immovable constraints, as assessed by the consultant team are:

- **Uniqueness of open landscape.** The Inspector noted the visual impact of development. To this, the consultant team would add their reservations about the unique nature of the

⁶³ Inspector's Report into Rushcliffe Replacement Local Plan, Planning Inspectorate, 2006.

landscape here. There seems to be few other locations in the Nottingham region that resemble or could replace this unusual open plain.

- **Lack of defensible southern boundary.** The most defensible southern boundary is Gotham/Cottager's Hills but this would result in a very large development that would perform poorest on Green Belt criteria. In our judgement, the most defensible alternative boundary is Barton Lane and the relatively straight east-west field boundary about 420 metres south of it on the east side of Nottingham Road.
- **Poor performance on Green Belt criteria.** As stated above, development would be difficult to square with two, (or with larger-scale development), three Green Belt criteria.
- *Loss of Grade 2 agricultural land.* In line with the advice of PPS7, the consultant team have adopted a cautious approach to Grade 2 agricultural land; it is not an absolute constraint to development but any impacts on it should be noted. Although development of many other sites would entail the loss of some agricultural land, the sheer scale of loss here would be more serious, especially given its concentration to the north of the site (i.e. the part most suitable for development on sustainable transport, regeneration and Green Belt criteria).

Figure 45: Site F1 after Part B Assessment

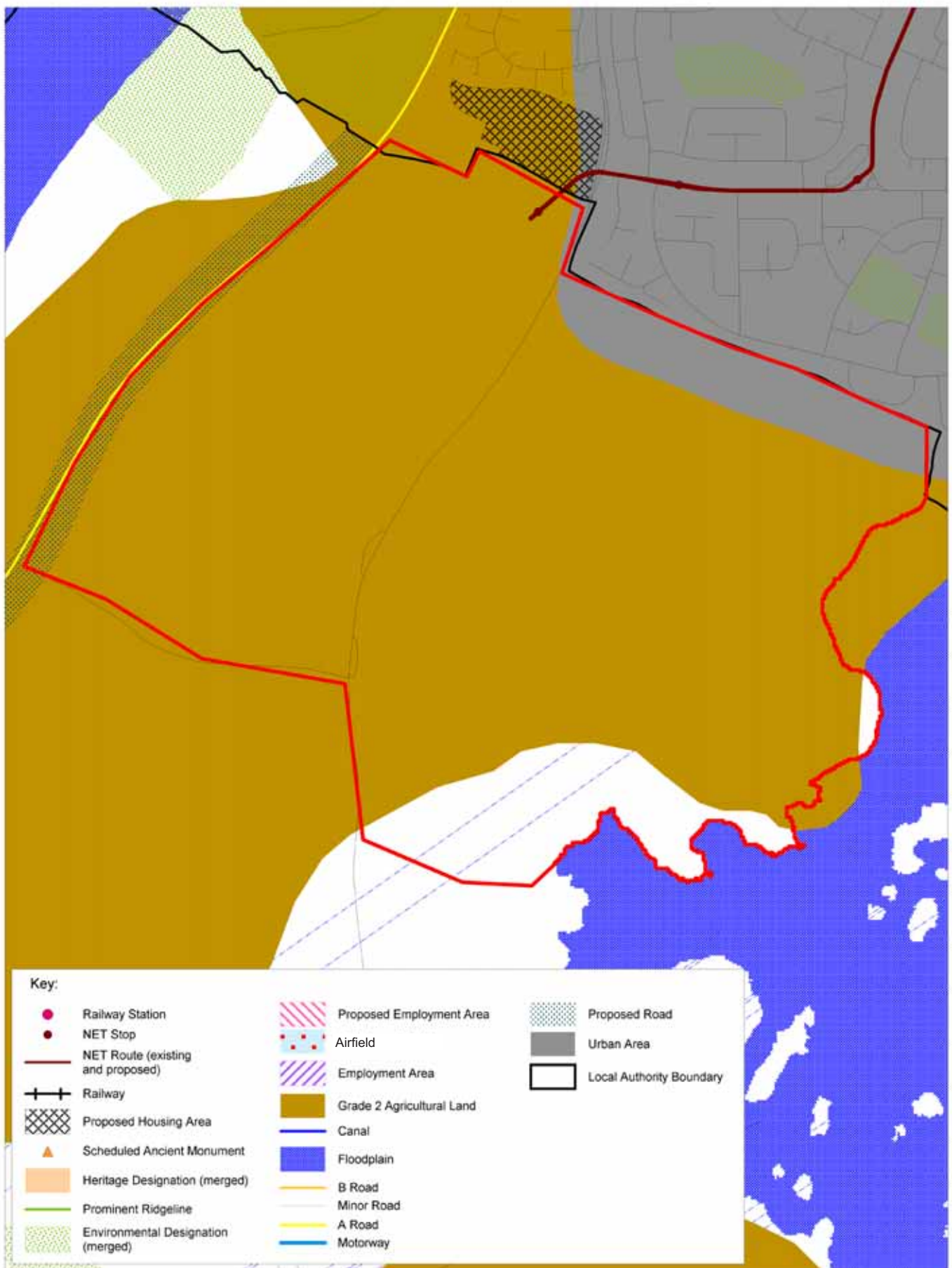
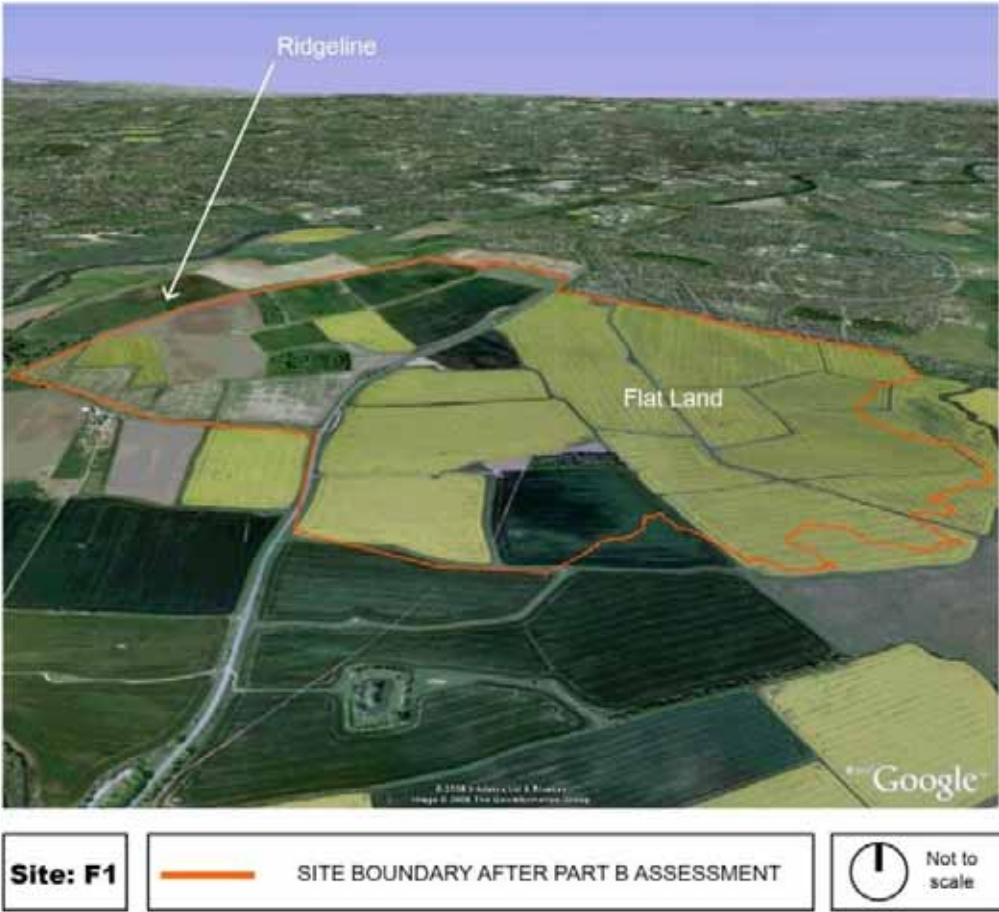


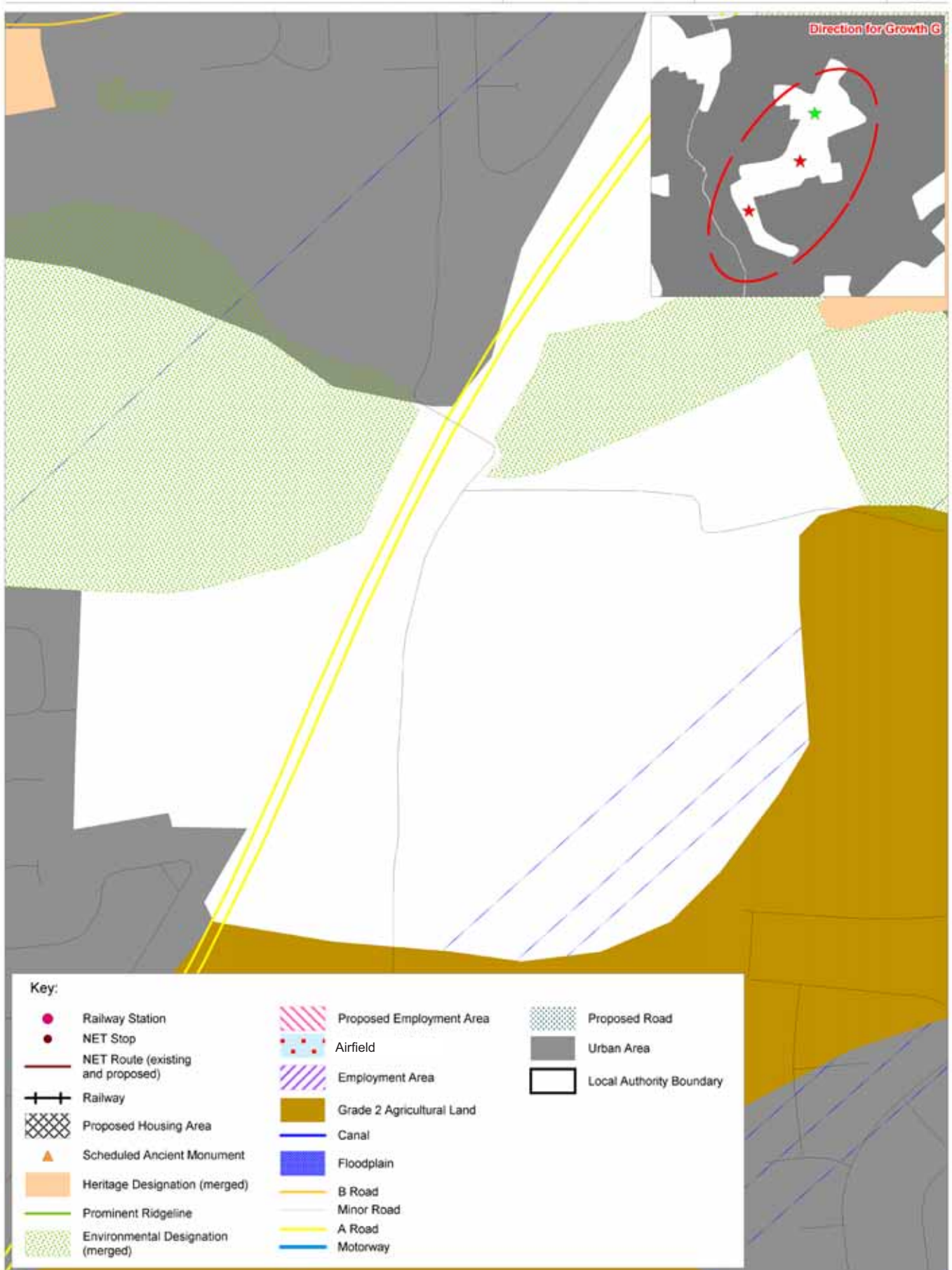
Figure 46: Site F1 Landscape and Boundaries View



4.12.21 On the basis of the information set out in this section, including its performance on sustainable transport, suitability for mixed-use, accessibility, and regeneration potential (see Part A) Site F1 is judged to be suitable for mixed-use residential and employment development, subject to the greatest possible mitigation of the environmental constraints listed in 4.14.19 above through creative, sensitive urban design.

4.13 Site G1 (South of Common Lane, Bramcote)

Figure 47: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.13.1 *Most of the area is beyond 400 m walk to a bus route, so new routes would be required to serve it. Part of the site east of the A52 would be within 600 metres of the proposed tram extension, although accessibility from proposed tram link to site through existing development would not be direct.*
- 4.13.2 *Stapleford has a choice of primary and secondary schools within 10 minutes, but few other facilities.*
- 4.13.3 *Site G1 lies astride the A52, with consequent issues of connectivity. Would a bridge be justified? If not, it is effectively two separate sites. Connections back to existing areas are relatively easy, but not across the A52.*
- 4.13.4 *However, development between Stapleford and the A52 would help to boost struggling Stapleford district centre.*

Geoenvironmental

- 4.13.5 Site G1 displays the following geoenvironmental features:
- *Underlying coal measures with possibly very shallow outcropping on site*
 - *No radon protection necessary*
 - *No historic landfilling activities*
 - *General made ground across the site*
 - *Half of the site is underlain by a Total Catchment SPZ*

Landscape

- 4.13.6 This is a greenfield site is comprised mainly of open fields separating settlements. Some of the site to the east has recently been redeveloped for a small housing development.
- 4.13.7 *The site is prominently situated on high land and slopes southwards and eastwards into shallow bowls. A ridgeline running north-south across the centre of the site blocks views of the east from the west and vice versa.*
- 4.13.8 A high wooded ridgeline defines the northern edge of the site and the existing urban fringe is visible on the lower land to the south. **This space is a well-used amenity and recreation space for local residents.** *The bowl shaped topography gives this space a lot of character. The site also features a variety of hedgerows (although some have been removed) and public footpaths.*
- 4.13.9 **The landscape is of high quality and key features such as significant copses of trees and wooded ridgelines should be maintained.** *Views extend far to the south, including towards Ratcliffe-upon Soar power station.*

- 4.13.10 The site is bounded on the south and east by existing development, and the A52 forms a realistic boundary to the west.
- 4.13.11 *The small amount of land between it and Stapleford does not appear to form a logical extension of the site in landscape terms and any benefits it might offer Stapleford town centre would be constrained by the challenging topography. As it lies wholly within a previously developed area, the site would appear to form a natural town extension, but at the risk of coalescence.*

Local policy

- 4.13.12 The entire site lies within Broxtowe Borough Council's area and is comprised exclusively of Green Belt land⁶⁴.
- 4.13.13 *The south and east of the site would entail development on Grade 2 Agricultural land.*
- 4.13.14 If developed, the site would be more suitable for residential-only development, given the local context.
- 4.13.15 The eastern section of the site is discussed in the Inspector's Report of the Broxtowe Local Plan Inquiry⁶⁵ and is referred to as Area 1 of Br(a). The main comments are as follows;
- **Development of the site would create a danger of unrestricted urban sprawl contrary to the first Green Belt criterion.**
 - *Much of the land is Grade 2 agricultural land*
 - Access could be obtained from Chilwell Lane, and it is a relatively sustainable location in terms of local services and amenities.
 - **However, its value to the Green Belt and its value as agricultural land outweigh these merits.**

Summary and Recommendation

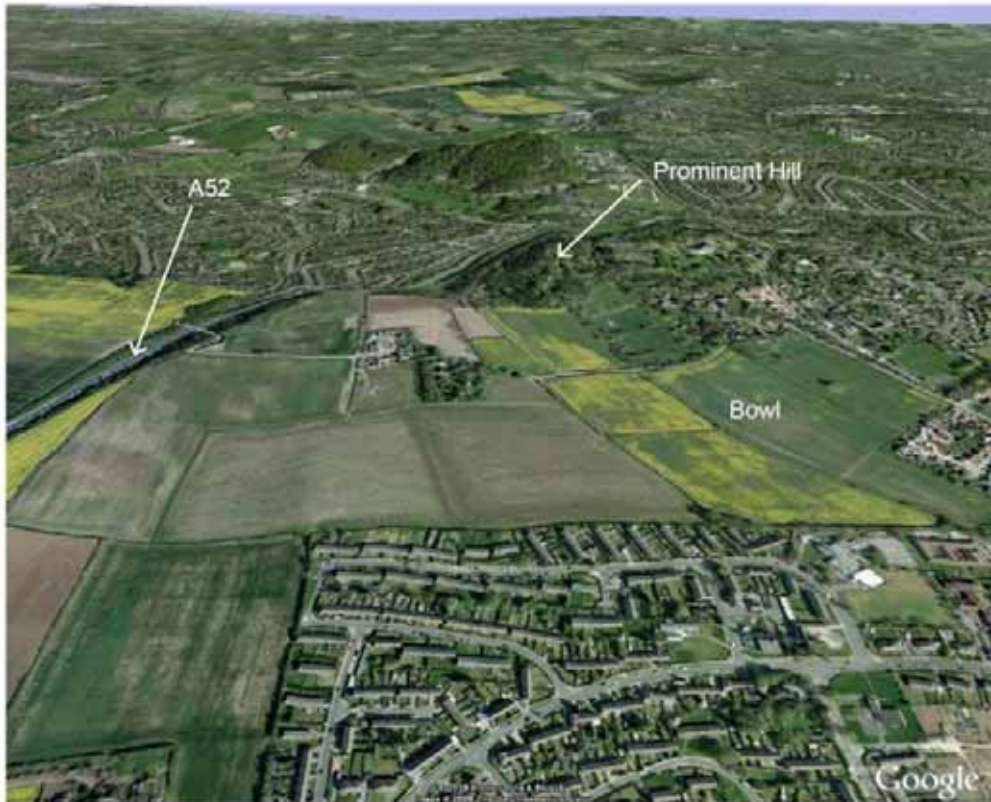
- 4.13.16 Area G within the Principal Urban Area is the only area of search within the present study where land is entirely surrounded by existing urban land. This should favour it for development.
- 4.13.17 Furthermore, in the judgement of the consultant team, the development of Site G1 south of Common Lane, although tipping the balance further towards coalescence, would not lead to full coalescence between Chilwell and Stapleford (although the same may not be true of Chilwell and Bramcote). Thanks to the defensible barrier of the A52, it could be regarded more properly as a northern expansion of Chilwell only.

⁶⁴ Broxtowe Local Plan, Broxtowe Borough Council, 2004.

⁶⁵ Inspector's Report into the Broxtowe Local Plan, Planning Inspectorate, 2003.

- 4.13.18 In the context of this regional study, the Inspector’s comments on the loss of Grade 2 agricultural land would appear to carry less weight, given that the loss of such land at this location would be substantially less than at many other sites.
- 4.13.19 The potential benefits of a sustainable transport corridor linking Ilkeston to Nottingham through this area appear strong, but site G1 seems the most poorly placed of all three sites in this Direction for Growth to benefit, and the existing and proposed sustainable transport offer for this site appears problematic.
- 4.13.20 However, most importantly, site G1’s prominent location, high-quality landscape, varied and interesting topography and undeniable amenity value to local residents combine, in our judgement, to make this site unsuitable for development, and these appear in this case to be logical reasons why the land north of Chilwell was never developed.

Figure 48: Site G1 Landscape View

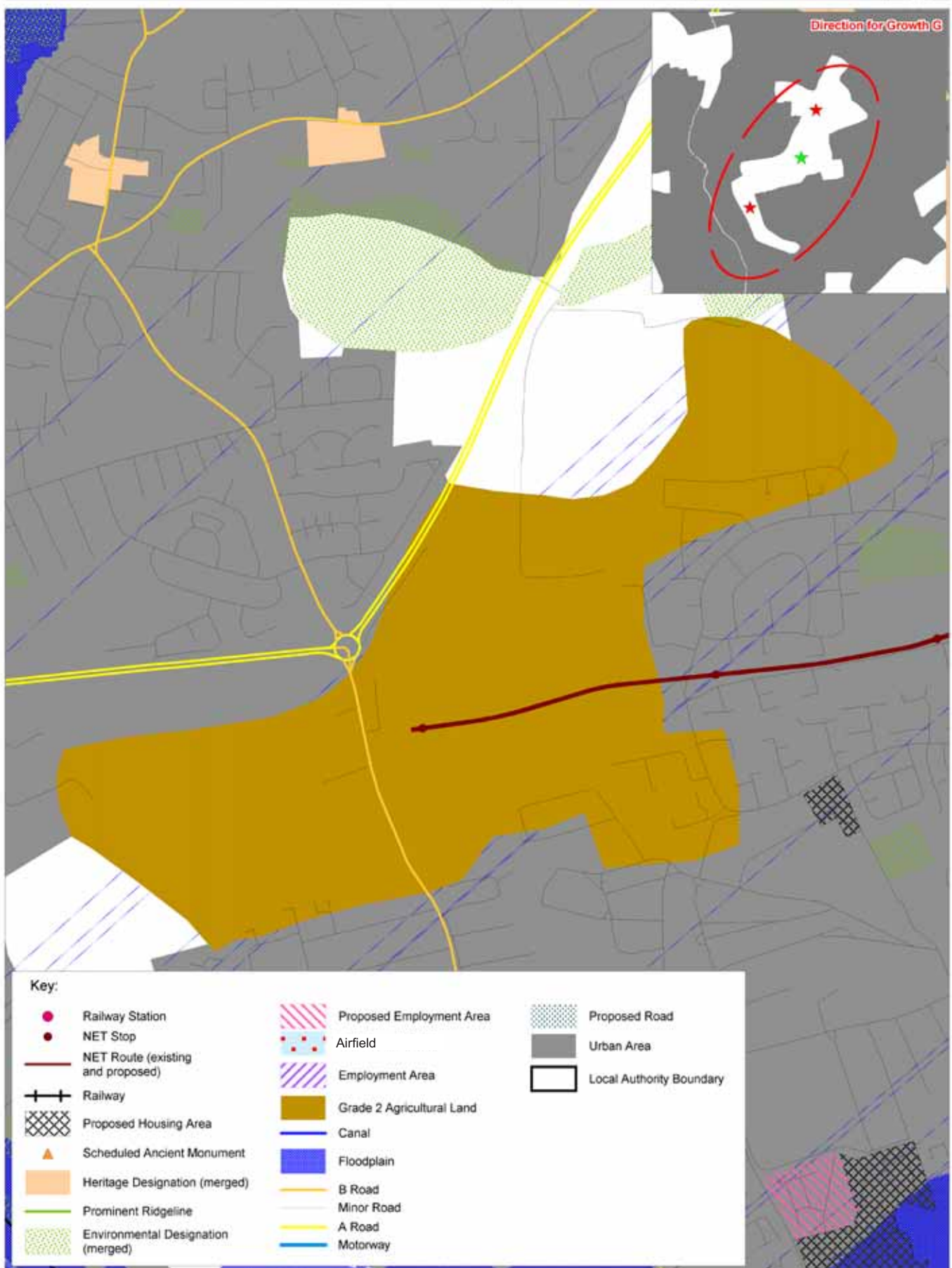


Site: G1	SITE BOUNDARY AFTER PART B ASSESSMENT	Not to scale
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4.13.21 On the basis of the information set out in this section, including its landscape, topographical and amenity value and to a lesser extent the risk of coalescence between Chilwell and Bramcote, Site G1 is judged not to be suitable for development.

4.14 Site G2 (Between Stapleford and Toton)

Figure 49: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.14.1 *Most of the area is beyond 400 m walk to a bus route, so new routes would be required to serve it.*
- 4.14.2 Stapleford has a choice of primary and secondary schools within 10 minutes, but few other local facilities.
- 4.14.3 Development of site G2 would bring housing land within 500m of the proposed tram terminus, giving good access to the city centre.
- 4.14.4 *In view of the potential for linking this site with G3 and via a new transport corridor to the Ilkeston sites, this location should be more closely investigated as part of a more substantial direction for growth.*
- 4.14.5 *In this case the tram could be extended, and the proposed Park and Ride facility located further west (for example in the area adjacent to the sewage works), thus enabling more substantial residential and mixed use opportunities closer to Beeston and Nottingham city centre.*
- 4.14.6 Toton/Stapleford Lane, where the tram is proposed to terminate, offers an opportunity for a mixed-use spine that could act as a local centre for new development with sufficient critical mass.

Geoenvironmental

- 4.14.7 Site G2 displays the following geoenvironmental features:
- *Underlying coal measures (but none outcrop on the site)*
 - No radon protection necessary
 - No historic landfilling activities
 - *General made ground across the site*
 - No Source Protection Zones

Landscape

- 4.14.8 This is a greenfield site comprising mainly open fields separating settlements, *but also including a sewage works, a school, a nursery, an electricity substation and a circus site, all of which compromise the feeling of undeveloped openness to varying extents.* The site is home to predominantly agricultural uses including two working farms (Bessell Lane and Wheatgrass).
- 4.14.9 The undulating site is situated on relatively high land but is substantially less prominent and generally flatter than site G1; it slopes moderately down from a ridge to the south which protects views of Toton beyond. Agricultural fields and open space are edged by buildings. *This space appears not to perform as great a role as a quality recreation and amenity space for local residents than site G1 at the time of our visit.*

- 4.14.10 There is a highly visible corner of development on the north eastern edge of the site (Great Hoggetts Drive/Oak Flatt, Chilwell). The bowl-shaped topography gives this space character as the various settlements perch on the ridges at the edge of the open space. *The site also features a variety of hedgerows and public footpaths* **The landscape is of reasonably high quality.**
- 4.14.11 There are views from low points on site to the edges of surrounding settlements. *From higher points, there are long views over fields and hedgerows.*
- 4.14.12 The site is bounded on the east and south and by the urban fringe of Toton. The A52 defines the northern boundary and the Toton railway sidings clearly define the western edge of the site. **Development would inevitably result in partial or total coalescence.**

Local policy

- 4.14.13 The entire site lies within Broxtowe Borough Council's area and is comprised exclusively of Green Belt land⁶⁶.
- 4.14.14 *The entire site is Grade 2 Agricultural land.*
- 4.14.15 *The north-west of the site is a sewage works, and therefore contaminated land. This is a potential constraint as residential development may not be suitable nearby. The sub-station west of Toton Lane is similarly contaminated land and the same considerations apply.*
- 4.14.16 The site includes the proposed Bardills Island park-and-ride tram site which is south-east of the roundabout itself. Stretching east from this site into Chilwell is the proposed tram-line itself. If developed, the tram-line will sever the northern and southern parts of the site in this eastern section.
- 4.14.17 *The area covering and directly west of George Spencer School is designated as Open Space.*
- 4.14.18 This site would be suitable for mixed-use development, with a retail/employment component around the Park and Ride site/Toton Lane.
- 4.14.19 This site is discussed in the Inspector's Report⁶⁷, and is referred to as To2 (West and East of Stapleford Lane). The arguments centre on whether the NET development outweighs Green Belt considerations. The main points are as follows:
- Although the primary reason for the proposed Chilwell extension is to serve the A52 related park-and-ride, it will still bring a new form of public transport on site, meaning that in transport terms the site is potentially a highly sustainable location.

⁶⁶ Broxtowe Local Plan, Broxtowe Borough Council, 2004.

⁶⁷ Inspector's Report into the Broxtowe Local Plan, Planning Inspectorate, 2003.

- **On the east of the site, development would break down a well-defined and long established boundary into the open countryside, and, if endorsed it could prove difficult to refuse similar proposals.**
- **To the west of Toton Lane, filling the gap between the large free standing electricity substation and the urban area of Toton can not be constituted as ‘rounding off of the latter’.**
- **Generally, development would increase the degree and the perception of coalescence of Chilwell and Stapleford.**

Summary and Recommendation

- 4.14.20 Inevitably, many of the same considerations that applied to Site G1 also apply to the neighbouring Site G2, including coalescence, amenity value and landscape quality.
- 4.14.21 The amenity, landscape value and topographical prominence of site G2 was observed at the time of the site visit to be less than on site G1, which had felt correspondingly more ‘rural’. The numerous buildings and urban infrastructure that have been allowed to creep over G2 inevitably are to its detriment in amenity and landscape terms, given that they include sewage works and electricity infrastructure. The NET Phase 2 extension to Bardills Island constitutes, as noted by the Inspector, a very strong argument for development that can be linked to sustainable transport.
- 4.14.22 However, conversely, issues of coalescence are more severe on site G2 than on site G1, as although the A52 still acts as a northern boundary, there is no open space to its north, with Stapleford starting immediately to the north of the dual carriageway. Development on the entire site might be contrary to the Green Belt criterion of avoiding coalescence between settlements.
- 4.14.23 The debate therefore boils down to the opportunity presented by the NET Phase 2 extension versus varying interpretations of the Green Belt criterion of coalescence. PPG2’s wording is that Green Belts ‘prevent neighbouring towns from merging into one another’. The key question here is the extent to which the towns to the west of Nottingham have already coalesced to a degree where they are no longer ‘neighbouring towns’, i.e. are they separate towns? They have certainly already coalesced to the extent that they are all covered within the Nottingham Principal Urban Area designation, which distinguishes them from the free-standing sub-regional centres of Ilkeston and Hucknall, as well from other towns adjoining the study area such as Eastwood, Kimberley and Radcliffe on Trent. Development here would seem not to constitute unrestricted urban sprawl into open countryside, as it is debatable whether the Green Belt gap within the PUA here could be genuinely described as ‘countryside’; it is more of an informal suburban amenity space.
- 4.14.24 There is also precedent for north-south coalescence of settlements in the gap between towns in this location. Along Chilwell Lane and Wollaton Road to the east, the boundary between Bramcote and Beeston/Chilwell is already indistinct. In many other local locations, it could also be argued that coalescence has occurred more clearly; certainly between Toton, Chilwell, Beeston and Attenborough; and to a more arguable extent, between Sandiacre and Long Eaton, where, as on this site, the A52 divides the towns.

- 4.14.25 It is undeniable that if some or all of the site were developed coalescence would be inevitable. However, given the severing effect of the A52 in this location, as well as many precedents in the local area, coalescence here is judged to be far less strategically significant than, for example between the Nottingham conurbation itself and a free-standing settlement in the countryside beyond such as Kimberley or Ruddington. Development would clearly constitute a northward extension of Toton, with Stapleford confined to the north of the A52, just as the identification of Long Eaton and Sandiacre as distinct places occurs in identical circumstances further west.
- 4.14.26 Across the wider 'gap' dividing Chilwell/Beeston from Stapleford/Bramcote, it has already been noted that amenity, topographical and landscape value tends to increase towards the north-east, away from the existing development in the Green Belt to the west of Toton Lane. Taking account of this increase in amenity value and the development west of Toton Lane, it would seem sensible to confine site boundaries here; still highly accessible to the tram but retaining a large (almost 2 square kilometres) amenity and Green Belt space to the east between Stapleford/Bramcote and Chilwell/Beeston.
- 4.14.27 Once the site boundary is confined to this location, development here would have highly defensible boundaries, with only 160 metres (the southern end of Stapleford Lane) of its entire 3.1 kilometre perimeter facing onto undeveloped land. It would have the A52 to its north, Toton Sidings to its west, the urban fringe of Toton to its south and existing development along Toton Lane to its east.
- 4.14.28 The opportunity for sustainable transport here, as well as the fact that coalescence concerns are less clear-cut than in many other locations, tips the balance narrowly towards development. The sustainable access considerations weigh even more heavily if the site forms a link in the development of a major regeneration corridor that includes new public transport and road access through to Toton Sidings and/or Stanton and Ilkeston town centre.
- 4.14.29 For this reason, we would recommend that consideration be given to safeguarding a corridor for a future NET tram line extension through the site to ensure that development does not affect the prospects for the creation of such a sustainable transport corridor. In addition, some mitigation of the impact of the sewage works will be necessary.

Figure 50: Site G2 after Part B assessment

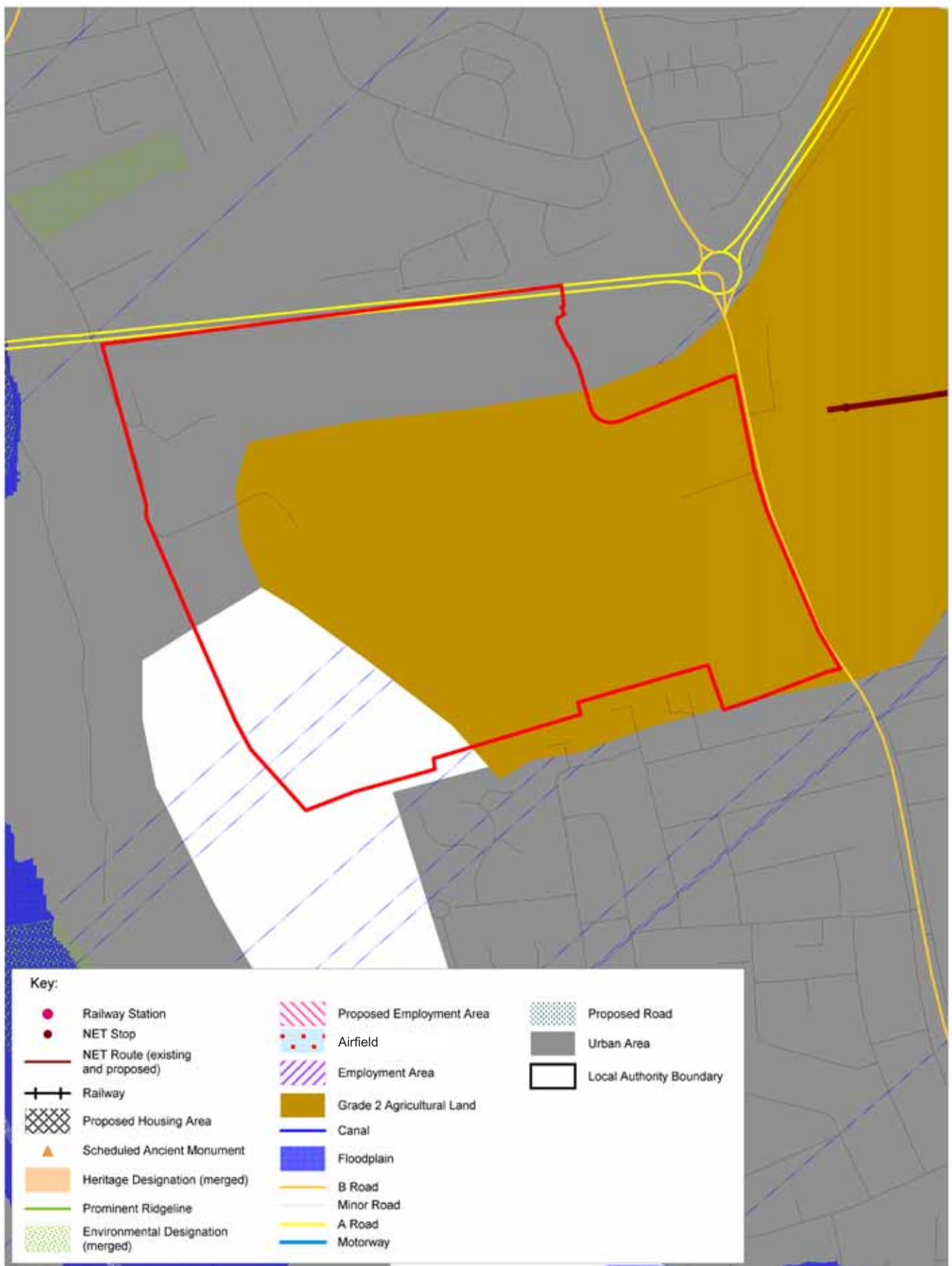


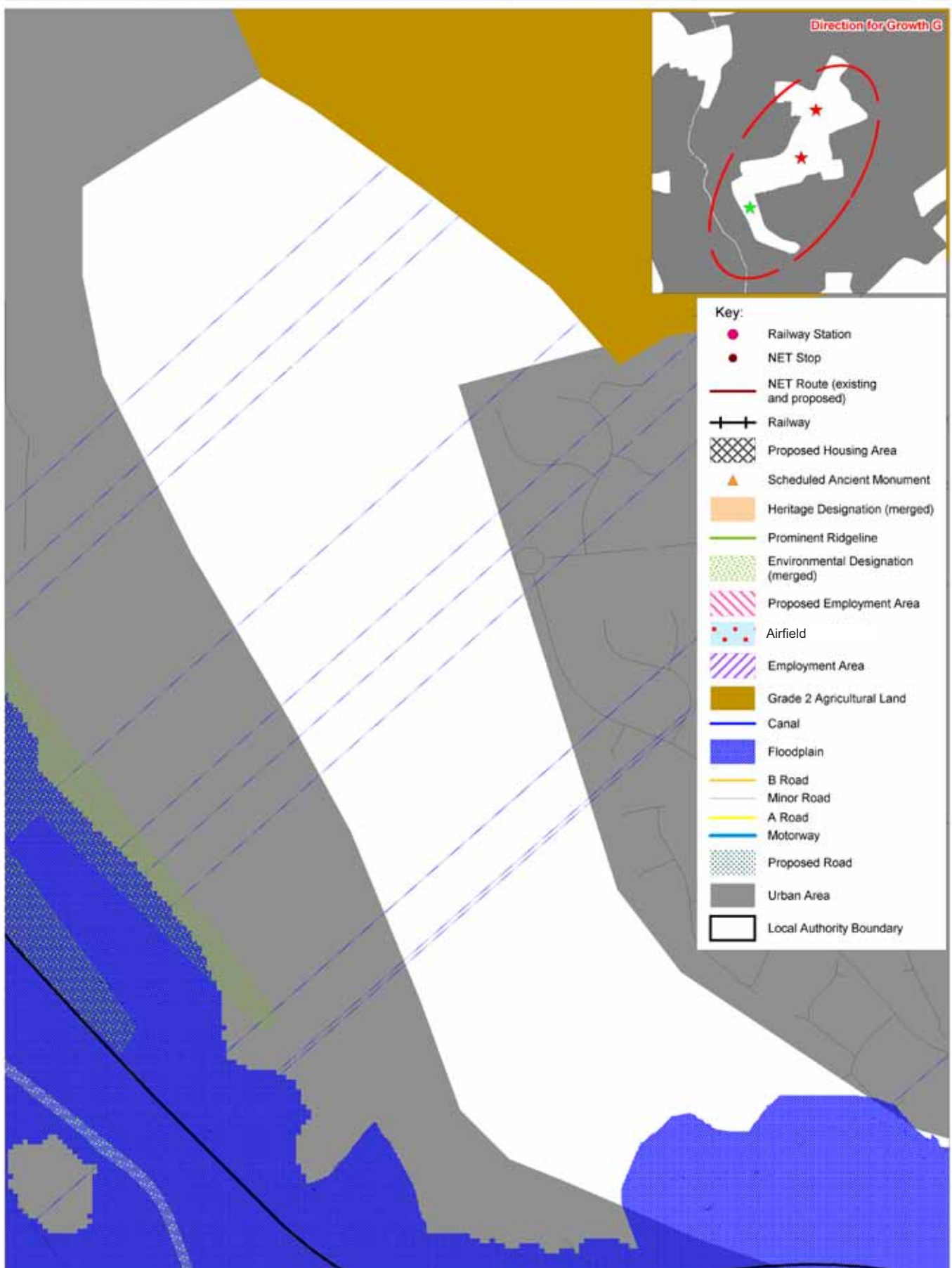
Figure 51: Site G2 Landscape and Boundaries View



4.14.30 On the basis of the information set out in this section, including a judgement that sustainable transport opportunities and pre-existing local examples can in this case overcome issues of coalescence, Site G2 as shown in Figure 50 above is judged to be suitable for development, subject to suitable mitigation of the impact of the sewage works on site. A safeguarded route for a sustainable transport corridor should be retained through the site so as not to prejudice future opportunities on other urban extension sites and existing development to the west and north.

4.15 Site G3 (Toton Sidings, Toton)

Figure 52: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.15.1 *Most of the area lies within 400 m of a direct bus route to Beeston and Nottingham. Opportunities exist to link to this route (creating east-west connections to Toton and Long Eaton respectively) at Epsom Road/Banks Road and Royal Avenue/Worrall Avenue.*
- 4.15.2 In line with the recommendations on site G2, the site has potential for a tram connection to the east and north.
- 4.15.3 *The existing railway would be a major limiter of connectivity to the west of the site.*
- 4.15.4 Primary schools and some employment are within 10 minutes, and surgeries and a foodstore within 10-20 minutes.
- 4.15.5 Stapleford centre to the north has a choice of primary and secondary schools within 10 minutes, but few other facilities
- 4.15.6 Long Eaton town centre to the south offers a wider range of local services, however.
- 4.15.7 *Development would be unviable and inaccessible without a new road corridor.*
- 4.15.8 *One option for road connectivity could be a new link from the A6005 Nottingham Road to the south to the Banks Road roundabout, allowing for connection to the east onto Stapleford Lane along existing streets. **Previous attempts to improve access onto the site from the north from Bessell Lane have been problematic**⁶⁸.*
- 4.15.9 *A further option could be a road link from site G2 to the northeast, if development takes place here.*

Geoenvironmental

- 4.15.10 Site G3 displays the following geoenvironmental features:
- Underlying coal measures (with no outcropping on site)
 - No radon protection would be required for new development
 - *Potential sources of contamination include rail-related uses and sewage works*
 - No Historic landfilling activities
 - Aquifer Sensitivity Classification unknown
 - No part of the site is underlain by a Source Protection Zone

⁶⁸ Information from Broxtowe Borough Council based on previous site history.

Landscape

- 4.15.11 This is a brownfield site currently consisting of disused railway sidings. The site and the Erewash valley to its west are flat but with higher land to the east, in some places forming a steep ridge and in others a more gentle slope. There is no current access on-site.
- 4.15.12 The railway infrastructure dominates the site. The potential rail freight terminal a employment area lies to the west, and beyond that a very well-used open amenity space with the River Erewash and canal cutting through it. *The landscape quality of the surrounding area is high, but within the site itself it is low.*
- 4.15.13 There are limited views into and out of the site. A fleeting view into the site appears from the A52 bridge crossing the railway at the northern end. The site is almost hidden from the east and the south.
- 4.15.14 The site is clearly defined by natural and artificial boundaries – the ridge line to the east, the A52 bridging across the Erewash Valley to the north, environmental designations to the south and the railway line to the west.

Local policy

- 4.15.15 This site sits in the very south-west corner of Broxtowe Borough. *However, consultation and collaboration may also be required with Erewash Borough Council, depending on the rail freight and/or employment area to the west of the site.*
- 4.15.16 The entire site is designated as a major developed site within the greenbelt⁶⁹. The Inspector referred to the site in his report but made no detailed comments on the case for or against development, except to add his support to the then regional policy goal of a freight depot to the west of the main freight line through the site⁷⁰.
- 4.15.17 *Due to its industrial use, the site is designated as contaminated land..*
- 4.15.18 The site appears suitable on all five Green Belt criteria; coalescence is less of an issue here, as the Erewash Valley and its accompanying green infrastructure will remain as an important psychological divide between Long Eaton and Toton; greater coalescence of settlements across the Erewash valley has in any case already occurred further north between Sandiacre and Stapleford. The site would also constitute development of one specific, defined brownfield site, and therefore could not really be defined as unrestricted urban sprawl; no countryside would be encroached upon; the setting of historic towns would not be affected and it would encourage the recycling of derelict land.
- 4.15.19 If developed, the site would be most suitable as a residential development.. As noted above, a mix of employment-uses on land to the west might provide opportunities for links across the railway line.

⁶⁹ Broxtowe Local Plan, Broxtowe Borough Council, 2004.

⁷⁰ Inspector's Report into the Broxtowe Local Plan, Planning Inspectorate, 2003.

Summary and Recommendation:

- 4.15.20 This site appears suitable for development on a number of criteria, subject to mitigation of the impact of the existing rail line that passes to the west of the site and the provision of a road spine with bus opportunities from north to south parallel to and east of the railway. Development may require a bridge, tunnel or level crossing across the Mainline to improve access to possible employment activities to the west.
- 4.15.21 The site offers opportunities for sustainable transport (particularly if the NET line can be extended westward beyond Bardill's Island) and brownfield development. It performs well on all five Green Belt criteria and has the potential for connection to services and facilities in Long Eaton town centre to the south.
- 4.15.22 The development of a sustainable railfreight depot should be given consideration to the west of the site, so that development of railway infrastructure for residential use does not prejudice sustainable transport opportunities. However, if this is found to be unviable, this does should not affect the suitability of the land east of the railway line for housing development.

Figure 53: Site G3 after Part B assessment

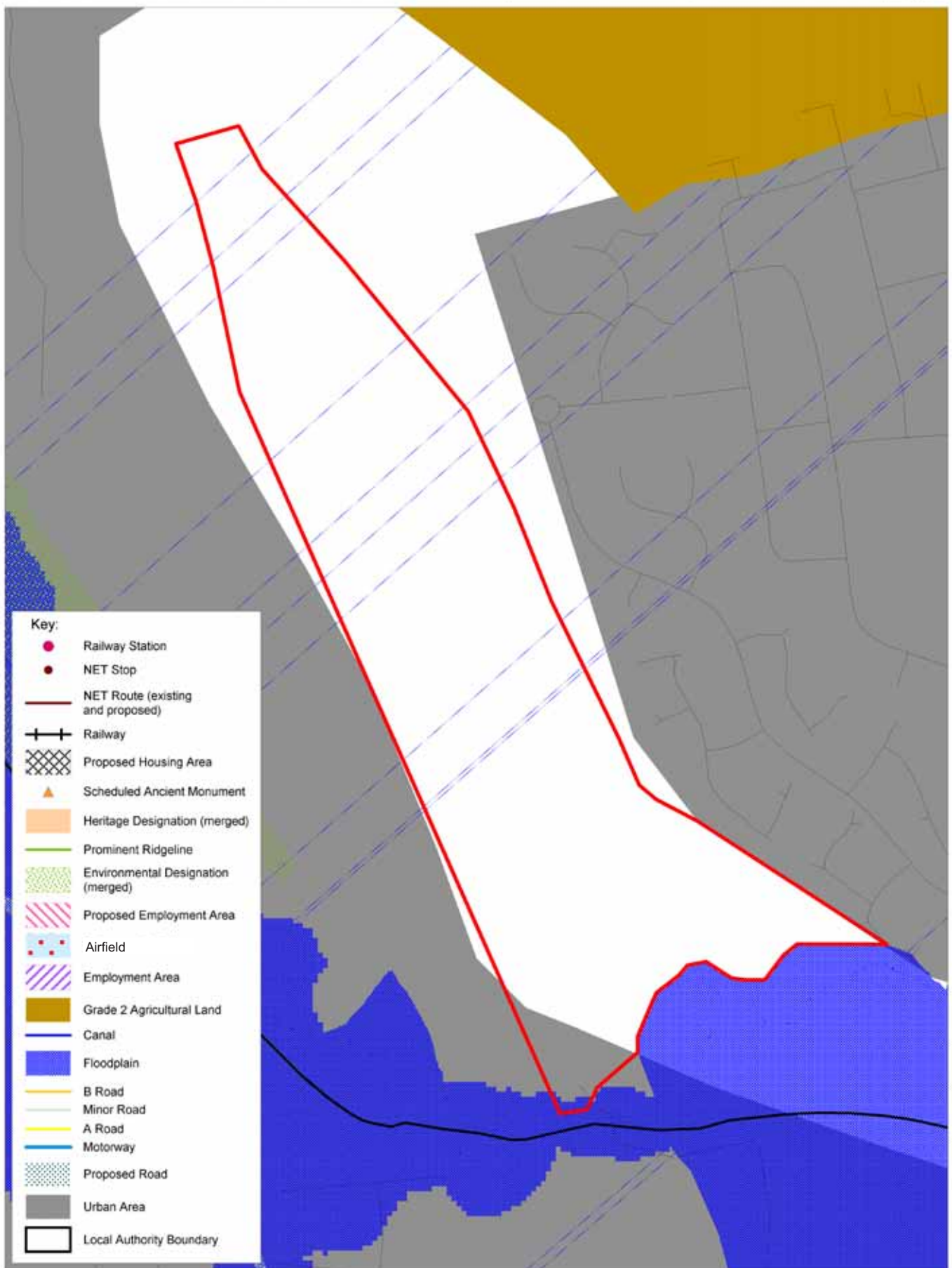


Figure 54: Site G3 Landscape and Boundaries View

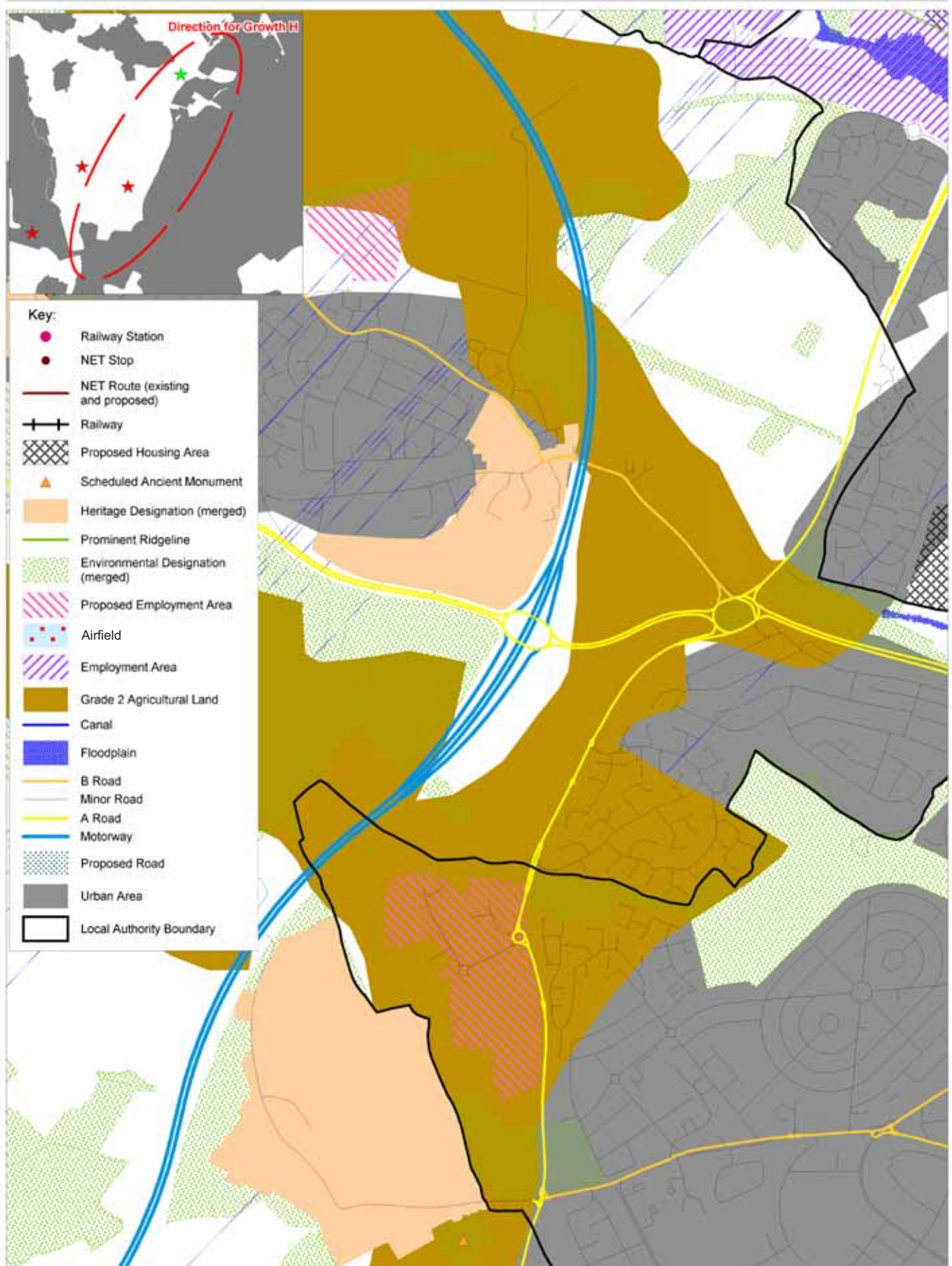


Site: G3	 SITE BOUNDARY AFTER PART B ASSESSMENT	 Not to scale
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4.15.23 On the basis of the information set out in this section, including its performance on regeneration of brownfield land, local accessibility, landscape and Green Belt criteria, Site G3 as shown in Figure 53 above is judged to be suitable for residential-led mixed-use development.

4.16 Site H1 (Nuthall, Broxtowe)

Figure 55: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.16.1 *Potentially easy to link to existing development and facilities in Bulwell*
- 4.16.2 *New bus route required which could link to Bulwell (interchange) and beyond.*
- 4.16.3 *Potential to be served by tram extension from Phoenix Park to east if site of sufficient size for this to be viable.*
- 4.16.4 *Road access onto the site is more difficult, especially if linked via the B600 and A610 roundabout. Sellers Wood Drive would provide the most direct link to Bulwell.*
- 4.16.5 *Northern half of the site has no facilities within 10 minutes*
- 4.16.6 *Southern half of site has poor connectivity to area east of A6002 (impermeable cul-de-sac development), and to west because of M1 severance.*
- 4.16.7 *Four primary schools, surgery, foodstore and major employment within 10 minutes of the southern half of the site*
- 4.16.8 Current bus route to Basford and Nottingham City Centre is accessible from southern half of site, but in general site poor in terms of existing public transport provision.

Geoenvironmental

- 4.16.9 Site H1 displays the following geoenvironmental features:
- *Underlying coal measures (with very shallow outcropping possible on site)*
 - *Basic radon protection would probably be required for new development*
 - *Potential sources of contamination include railway sidings and Made Ground across the site, and Coal Shafts located adjacent to the eastern boundary*
 - No historic landfilling activities
 - *Major/Non-Aquifer Sensitivity Classification*
 - *Soil type L and H*
 - *~50% of the site is underlain by a Total Catchment Source Protection Zones*

Landscape

- 4.16.10 *To the north of the A610, this is a greenfield site home to agricultural uses and **Nuthall village along Nottingham Road to the east of Kimberley.** The softly sloping site is relatively flat with a low ridge and appears private and enclosed. *The landscape is of high to medium quality.**
- 4.16.11 *The M1 is elevated at this point and traffic noise features prominently and constantly on site. *The site features woods, well maintained hedgerows, mature trees, a**

vegetated brook and electricity pylons **To the north, a large new cemetery has been laid out west of the A6002.**

- 4.16.12 To the south of the A610, there are significant views west to the M1 and east to Nottingham. The existing urban edge and road network clearly define the site boundaries.
- 4.16.13 Remaining south of the A610, this is a greenfield site **and home to an expanding business park.** The site is on high land and the topography broadly slopes down towards Nottingham city centre, in a similar way to site H2 further south. *The topology is particularly dramatic and memorable towards Strelley Hall to the southwest, where the most prominent ridgeline is located.* The landscape is degraded closer to the M1, and the motorway becomes visible from the higher areas of the site. **Significant mature trees and wooded areas are visible.** The landscape is of medium to low quality.

Local policy

- 4.16.14 The entire site lies within Broxtowe Borough Council's area.
- 4.16.15 *With the exception of the very northern tip, this entire site is Grade 2 Agricultural land.*
- 4.16.16 **The southern portion of this site is designated as a Major Employment Area, incorporating the existing buildings of the Nottingham Business Park and its proposed southward extension.**⁷¹
- 4.16.17 This site would be most suitable for residential development. Further employment development here would appear less suitable due to constraints on the road network and by the recent construction of Nottingham Business Park on site and Phoenix Park nearby.
- 4.16.18 The Inspector's commented at the Broxtowe Local Plan Inquiry on two areas within this site⁷². Firstly, a business park was proposed west of the Nuthall Roundabout in the triangle between Nottingham Road and the A610. This was rejected for the following reason:
- **This forms a very sensitive Green Belt area within Broxtowe. Despite being surrounded by roads the site is considered to occupy a significant part of the remaining open break between Nottingham and Nuthall/Kimberley, and it is deemed as clearly part of the countryside.**
- 4.16.19 A second business park was proposed immediately to the south, and was also rejected:

⁷¹ Broxtowe Local Plan, Broxtowe Borough Council, 2004.

⁷² Inspector's Report into the Broxtowe Local Plan, Planning Inspectorate, 2003.

- **Even with the development of the Nottingham Business Park to the south, this area will retain its rural characteristics, and thus development would constitute countryside encroachment.**
- **There are also concerns of coalescence.**
- *It is also considered that development on this site would put pressure at future Local Plan reviews for adjoining development to the north.*

Summary and Recommendation:

- 4.16.20 The site is far more constrained than the sieve mapping process would indicate. With Nottingham Business Park truncating the southern part of the site, legitimate concerns of the coalescence of Kimberley/Nuthall and Nottingham in the centre of the site and the new cemetery to the north of the site (beyond which lie environmental constraints), the portion potentially suitable for development shrinks dramatically.
- 4.16.21 The consultant team considers that the only land left physically suitable for development lies on the north-east of the site to the west of Low Wood Road. However, given previous Inspector's judgements, it is likely that the site would be deemed unsuitable on Green Belt grounds; notwithstanding a revised context where development on Green Belt land may be necessary, the Inspector's comments that this is a particularly sensitive location in Green Belt terms remains in our view highly relevant. It is difficult to see how any development here would not fail against the requirement to avoid coalescence of towns, especially given its lack of a defensible western boundary.
- 4.16.22 Even if Green Belt considerations were put to one side, development on the west side of Low Wood Road would suffer major accessibility problems; it would not relate well to the rest of the Nottingham PUA, given the cul-de-sac development to the east of Low Wood Road and the size and congestion of the adjacent Nuthall roundabout. As noted above, there is clear potential for a tram extension to this location, but until this becomes a definite proposal, the combined Green Belt and accessibility constraints at this location appear to make it unsuitable for development.

Figure 56: Site H1 Landscape View

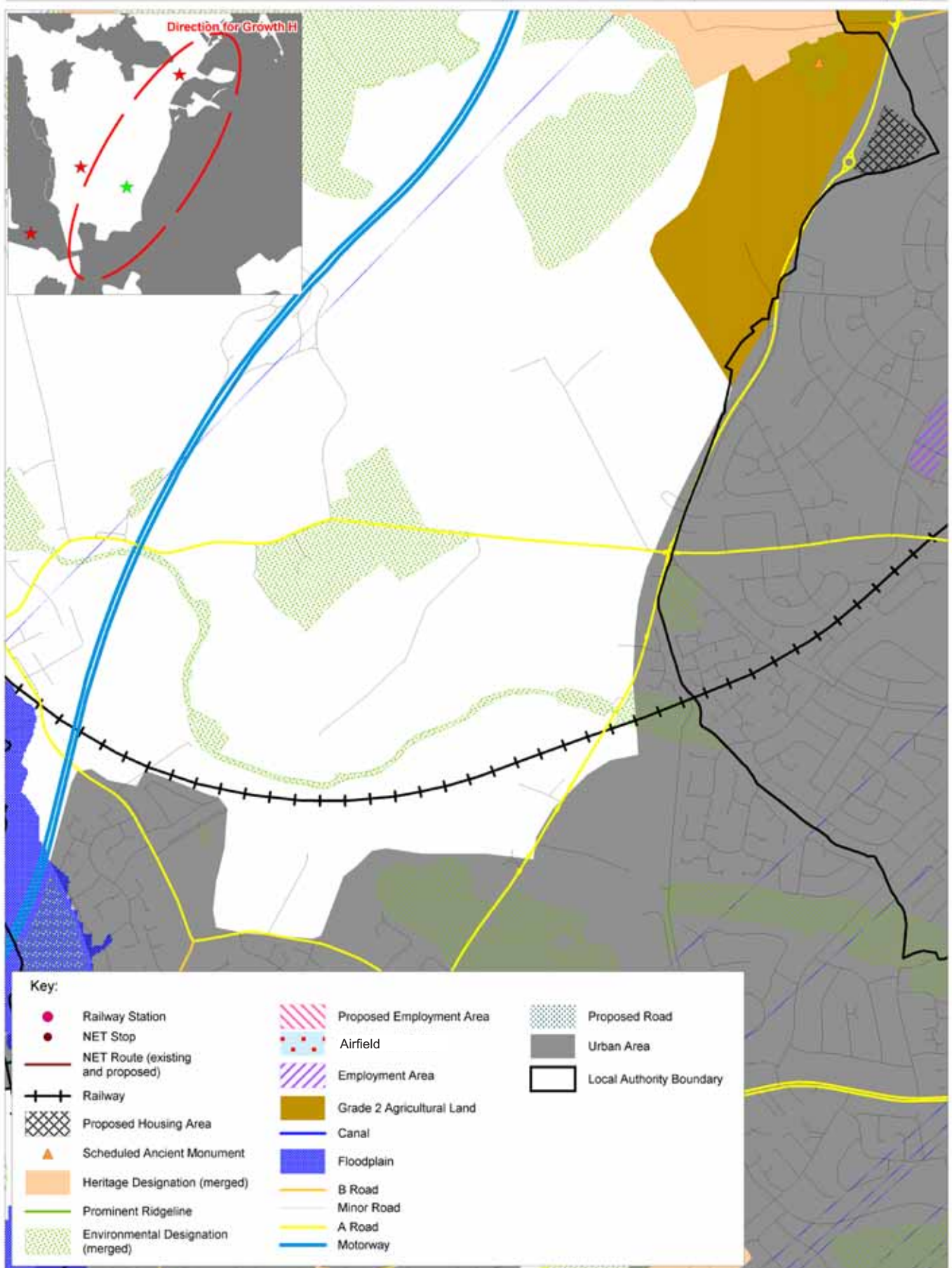


Site: H1	 SITE BOUNDARY AFTER PART B ASSESSMENT	 Not to scale
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4.16.23 On the basis of the information set out in this section, including existing and proposed development across the site and the Green Belt criterion of avoiding coalescence of neighbouring towns, Site H1 is judged unsuitable for development.

4.17 Site H2 (North of Stapleford)

Figure 57: Area for further investigation after Part A assessment



Transport and Accessibility

4.17.1 Different transport considerations apply on different parts of this large site, so analysis has been split:

4.17.2 North and east of site (Trowell Moor, west of Wollaton/Bilborough):

- Primary and secondary schools are available within 10 minutes, although all are located on the other side of the A6002.
- Surgeries and employment within 10 minutes
- Currently no direct buses on Nottingham Road/Trowell Road to city, but development could enable such a route to be created, thus benefiting Wollaton residents as well
- However, in transport terms, this area would need careful planning to ensure full sustainability, as development is unlikely to be purely linear along the A609.
- Some opportunities exist for connecting development here with minor roads (as well as the A609 and A6007) in existing suburbs across the A6002 such as Bilborough and Wollaton

4.17.3 South and west of site (north of Stapleford)

- Potential for new station on main line beside A609 southeast of Ilkeston (there was a station there formerly). This would bring wider benefits to the wider area.
- 5 primary schools, 2 secondary schools and surgery within 10 minutes
- Leisure centre within 20 minutes
- Potential for new station on Nottingham-Sheffield line (e.g. at Coventry Lane Bridge), but only if development is of sufficient size.

4.17.4 Entire site: As well as east-west bus and rail potential, size of site means north-south local bus provision may be required, with the potential to link to Stapleford and Sandiacre town centres to the south and Nottingham Business Park to the north.

Geoenvironmental

4.17.5 Site H2 displays the following geoenvironmental features:

- *Underlying coal measures (with some outcrop on the site)*
- *Basic radon protection would be required across some parts of the site*
- *General infilled ground, made ground, old coal pits and ponds across the site; sand pits to north and south; landfill, lime kiln, canal and possible infilled canal; rail, clay pit and brickworks to southeast of site boundary could all act as sources of contamination*
- *Historic landfilling activities adjacent to southeast of site*
- *Half the site is underlain by a Major/Minor Aquifer Sensitivity Classification*
- Soil Types L and H

- *About 2% of the site in the south is underlain by a Total Catchment Source Protection Zone*

Landscape

- 4.17.6 The north of this large site is greenfield and home to predominantly agricultural uses. The undulating site slopes generally from high ridgelines in the west with the M1 hidden beyond eastwards towards the city and therefore faces the existing urban area.
- 4.17.7 Catstone Hill to the northwest, with a covered reservoir at the summit, is a prominent and distinctive feature in the landscape. *Wooded areas, mature trees and hedgerows feature throughout the site.* Some scattered development features; electrical pylons cross the landscape, the Moor Cottages Caravan Site is visible, as are some other farms and cottages. Pedestrian rights of way criss-cross the site, but it is rarer to see local people out and about on them compared with the south of the site. *The landscape is of high to medium quality with clear views across the urban area in parts.*
- 4.17.8 *To the south, the greenfield land north of Stapleford is a recreation space with sporting fields and park land.* The site sits within a bowl with mostly flat areas and surrounded by higher ridges in all directions except the north.
- 4.17.9 *This southern part of the site is more popular as an amenity space with dog walkers using the many pedestrian pathways including the one alongside the disused Nottingham Canal.* The wooded, rounded Stapleford Hill to the east provides a dramatic landscape backdrop. **The landscape is of high quality** and features a brick bridge over the rail line and some mature trees.
- 4.17.10 The site has clear boundaries defining its edges; to the east the A6002 road and existing urban fringe, to the south the A609 Ilkeston Road, and the ridgelines to the west and north, which act as a more defensible boundary in landscape terms than would the M1 beyond.

Local policy

- 4.17.11 The entire site lies within Broxtowe Borough Council's area. The site comprises only Green Belt land⁷³. *An island in the centre of the site has been removed due to its designation as a Mature Landscape Area; this is the wooded area around Trowell Hall and Shortwood House.*
- 4.17.12 *The far north-east of the site would entail development on Grade 2 Agricultural land.*
- 4.17.13 *The site also includes a Site of Importance for Nature Conservation, which is a plant nursery; this can be incorporated into new development with no loss of amenity. To the south of the site there are also two areas of open space and an allotment patch. Both could be retained or reprovided in new development.*

⁷³ Broxtowe Local Plan, Broxtowe Borough Council, 2004.

4.17.14 If developed, the site would be more suitable for sustainable mixed-use rather than residential-only development due to its location and size. There is little scope for large areas of dedicated employment use such as industrial parks. However, smaller businesses could locate along with local services and retail along the A609 Nottingham Road spine.

4.17.15 The southern section of the site, (south of the A609 Nottingham Road), is considered in the Inspector's Report of the Broxtowe Borough Local Plan Inquiry⁷⁴ (as site ST7). The Inspector's main points were as follows:

- Site is located in a public transport corridor, with good access to buses along the A609
- **Development would be contrary to the Green Belt criterion of protecting the countryside from development**
- **A6002 is a defensible boundary and the precedent of the Nottingham Business Park to its west is not relevant, as a business park was required in that location**
- *Lack of defensible western boundary*
- *Loss of Grade 2 agricultural land*
- *Development would destroy rural amenity of the disused Nottingham Canal*
- *Other more suitable sites exist outside Green Belt for Broxtowe housing need*
- **The site should not be developed.**

Summary and Recommendation:

4.17.16 Notwithstanding the Inspector's comments above, and given that the policy context has now changed, this appears a suitable site for mixed-use development on a number of different criteria.

4.17.17 Firstly, the A609, the A6007 and the railway line cutting across the site all lead directly to Nottingham City Centre and Ilkeston and between them offer real opportunities for sustainable transport, in the case of the rail line particularly so if development can be of a sufficient size to justify a new station or even two new stations, one at Ilkeston/Trowell to the west and one at Coventry Lane to the east. New bus provision in the road corridors could also have sustainability benefits for Trowell/Ilkeston and Wollaton as well. If development can be confined southwards, it should have correspondingly less impact on the congested Junction 26 roundabouts at Nuthall to the north.

4.17.18 Secondly, landscape appears favourable to development related clearly to the existing urban area, as the site features a slope down to the east with a defensible boundary to the west in terms of topography that ensures greater safety from coalescence with Trowell/Ilkeston than would the M1 if this were used as a more

⁷⁴ Inspector's Report into the Broxtowe Local Plan, Planning Inspectorate, 2003.

western boundary. The 'bowl' north of Stapleford opens out to the north, which offers opportunities to connect topographically with more northerly development.

- 4.17.19 Thirdly, environmental constraints of all kinds are minimal. Flood risk is totally absent, with the Environment Agency indicating preference for growth here in Part A above. The environmental constraint at Trowell Hall coincides with the western ridgeline and development can therefore be taken further east here to avoid it. Furthermore, only a small proportion of the site is Grade 2 agricultural land, and development should avoid coalescence or impact on the historic village of Strelley in this northernmost area in any case.
- 4.17.20 Fourthly, the site performs well on many Green Belt criteria. It follows the natural line of the urban fringes and topography in this location and therefore performs well on avoiding 'unrestricted sprawl'. There are little or no issues of coalescence or adverse effect on historic towns as long as development stops short of Strelley to the north.
- 4.17.21 Finally, another point from Part A has relevance here. New development here would directly adjoin the largest area of multiple deprivation in the study area, offering clear opportunities for regeneration through economic development.
- 4.17.22 On the basis of site visits and the information we have gathered about this site, the consultant team considers that much of the negativity of the Inspector's comments at the Local Plan Inquiry related to the more limited context within which he was operating, where sufficient land outside the Green Belt was available elsewhere for development. This is, of course, no longer the case.
- 4.17.23 The Inspector considered that developing the site would fare badly against the criterion of protecting the countryside. Although this may be true to some extent, in the context of the current study it is no truer here than in many other locations, and his comments perhaps did not take into account the mitigating effects of topography here. The site slopes to face the city (forming the upper reaches of the Trent Valley 'bowl') with a prominent, defensible ridge beyond the boundary furthest from the urban area. It is similar (albeit on a larger scale) to the amended Site B1 in this regard (where the Inspector for the Gedling Plan commented favourably on the topography supporting Green Belt criteria)
- 4.17.24 Again, we consider that the Inspector did not take sufficient account of topography when considering that the site had no defensible western boundary. The prominent ridgelines to the west act well in confining development to the east, as well as protecting views into and out of the city, as any development behind them would look out over the M1, Ilkeston and the countryside rather than towards the city of which they would form an extension. There is precedent in the study area for the use of ridgelines in this manner, for example to the north around Arnold.
- 4.17.25 The Inspector's reasoning that the Nottingham Business Park formed a justifiable breach of the 'defensible' A6002 on the grounds of need would suggest that if need exists for new housing in this area (which in the context of this study is now the case), breaching of the A6002 barrier elsewhere is also justifiable.
- 4.17.26 The borders of the site as we have amended them would lead to the loss of only a very small portion of Grade 2 agricultural land.

- 4.17.27 The amenity value of the path along the disused Nottingham Canal could be preserved and even enhanced with sensitively designed new development.
- 4.17.28 Finally, the quantum of development that could be accommodated on this site larger than the one commented upon by the Inspector is more likely to generate the critical mass required for sustainable urban development. The consultant team consider that this critical mass outweighs other concerns in this location.

Figure 58: Site H2 after Part B assessment

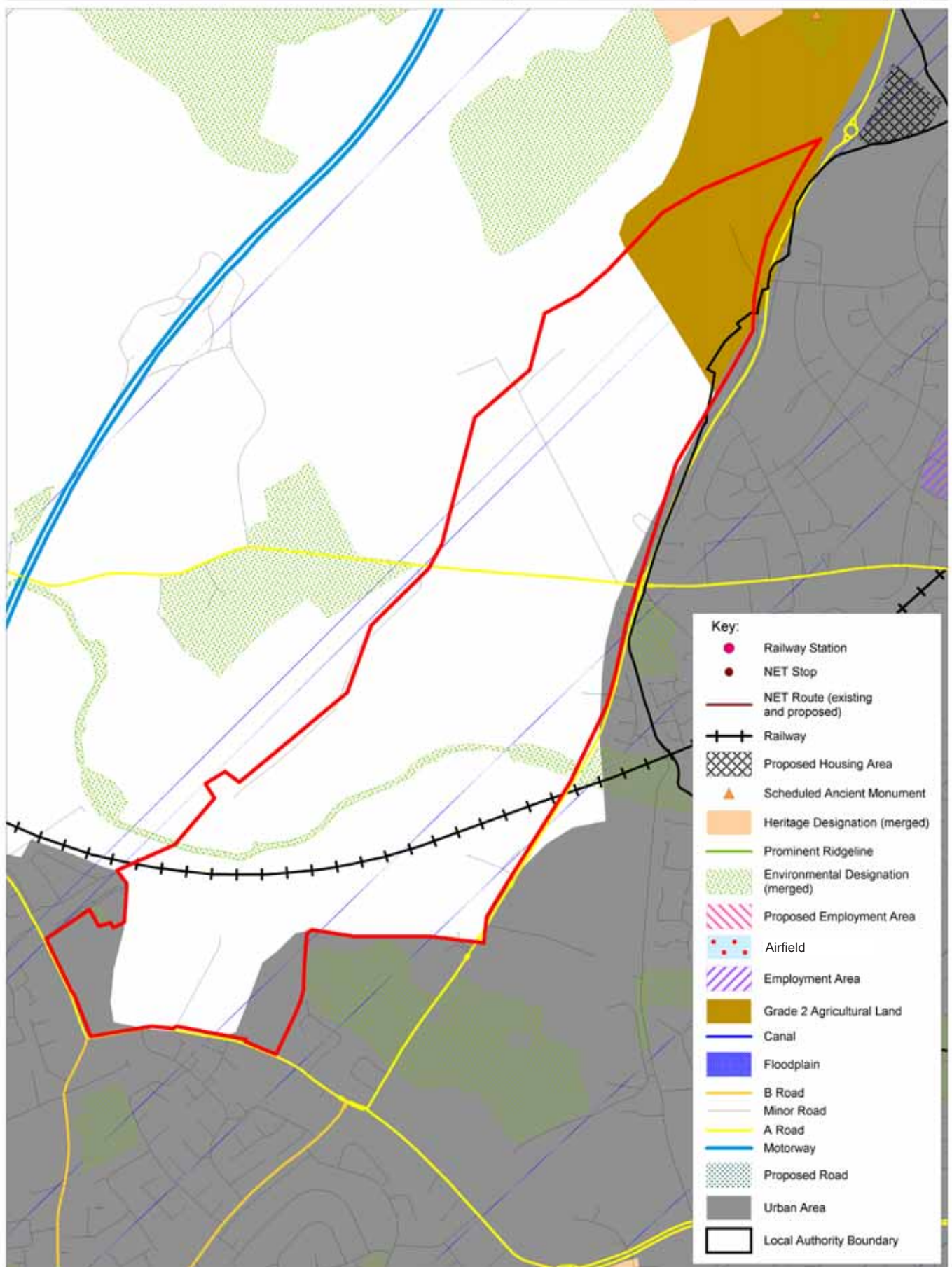
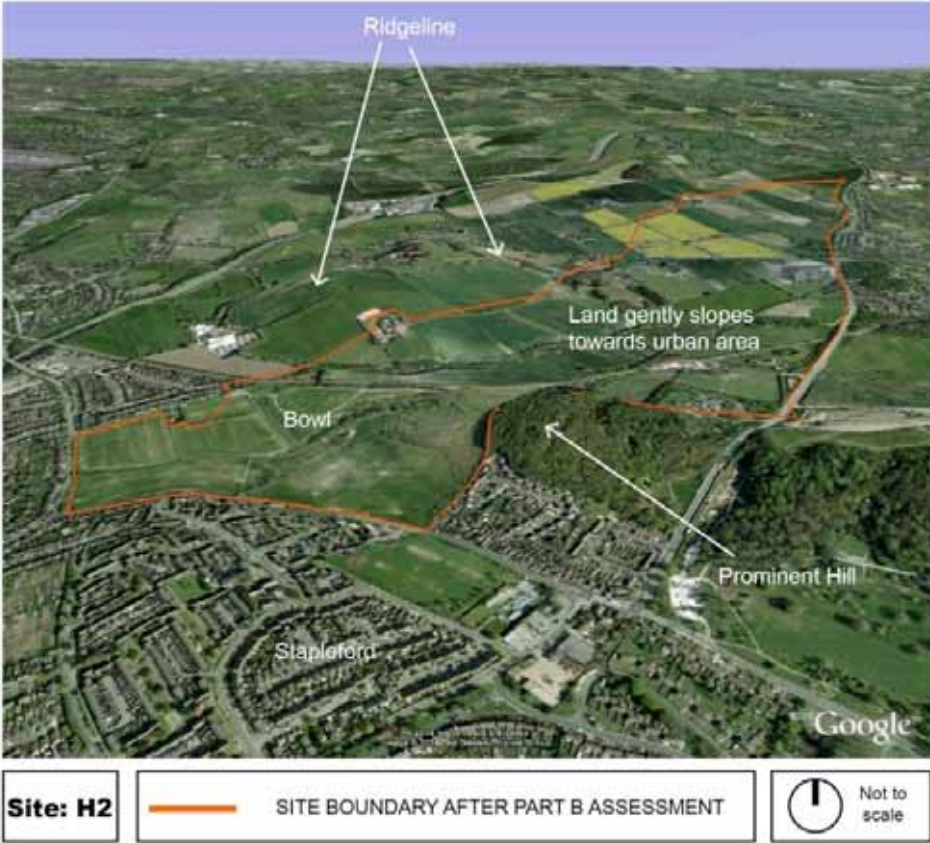


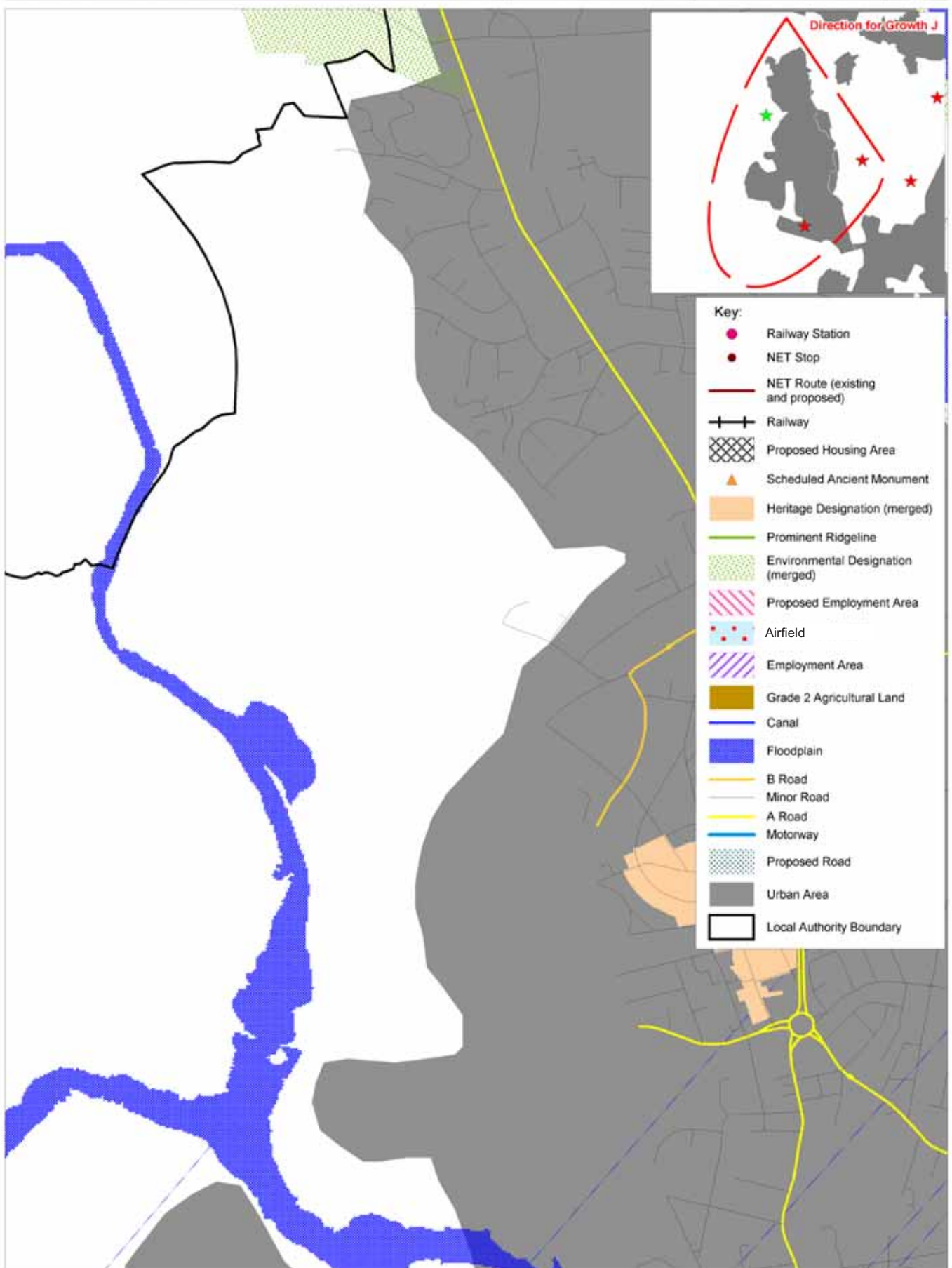
Figure 59: Site H2 Landscape and Boundaries View



4.17.29 On the basis of the information set out in this section, including its performance on sustainable transport, landscape, environmental constraints, Green Belt criteria and regeneration potential, the consultant team recommends that Site H2 as shown in Figure 58 above is suitable for residential-led mixed-use development. In some parts of the site, sensitive design should be used to mitigate the concerns of the Inspector at the Broxtowe Local Plan Inquiry.

4.18 Site J1 (West of Ilkeston)

Figure 60: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.18.1 **Connectivity to the north would be constrained by the cul-de-sac layout of the Shipley Common estate, including its more recent extension to the south.**
- 4.18.2 There is fairly good potential for bus, cycle and walking connections to Ilkeston town centre to the east, via the A609 Derby Road and/or town street extensions (e.g. Manners Road and West End Drive).
- 4.18.3 There are 3 secondary schools within 10 minutes, but 4 primary schools are not easily accessible.
- 4.18.4 Major employment, 4 surgeries, 6 foodstores, and a leisure centre are all within 10 minutes. Further major employment is available within 20 minutes.
- 4.18.5 *A new access to the site could be possible accessing the A609 to the south along the route of the dismantled railway line that crosses the western end of West End Drive and arrives at Derby Road to the east of Manor Fields Drive.*

Geoenvironmental

- 4.18.6 Site J1 displays the following geoenvironmental features:
- *Underlying coal measures (with some outcrop on the site)*
 - No radon protection would be required
 - *Potential sources of contamination unknown*
 - No historic landfilling activities on site
 - *Minor Aquifer Sensitivity classification*
 - Soil Types H and I
 - No part of the site is underlain by a Total Catchment Source Protection Zone

Landscape

- 4.18.7 *The site is difficult to view from the existing urban area due to the woodland screening of Manners Industrial Estate to the east of the site and the extension to the Shipley Common estate, which cuts off views from the north. It appears to consist mainly of derelict, possibly formerly agricultural land to the north, and the small Pewit Golf Course to the south. Footpaths lead down onto the site and cross it.*
- 4.18.8 The site sits within a shallow valley to the west of Ilkeston, *and the Nut Brook on the valley floor provides a realistic defensible boundary to the west.* Development beyond the brook on the ridge facing Ilkeston would break the topographical character of the town, which extends along a long north-south ridge.
- 4.18.9 As the site lies surprisingly close to the busy town centre of Ilkeston, it could form a logical extension to it. Views into the site were difficult to assess, but again, given its

proximity to the existing urban fringe, it should not prove particularly intrusive if visible from high land to the west (e.g. at West Hallam), because Ilkeston is already prominent on the same ridgeline in any case.

- 4.18.10 The new extension to Shipley Common has the effect of shifting site boundaries generally to the south.

Local policy

- 4.18.11 This site falls entirely within Erewash Borough Council's area. *The site is almost entirely covered by the designation of Pewit Golf Course⁷⁵, but the small existing golf course does not appear to have taken up this larger northern allocation. If the site were to be developed, consultation may be required with neighbouring Amber Valley Council.*

- 4.18.12 The site is bordered by the Manners Industrial Estate to the north-east. Given the relatively small size of the site suitable for development, a residential development taking advantage of the employment and town centre facilities already present appears most suitable.

- 4.18.13 The land lies outside the Green Belt and therefore Green Belt criteria do not apply here.

- 4.18.14 At the Erewash Borough Local Plan Inquiry, the Inspector considered the site in his report⁷⁶. His main conclusions were as follows:

- *There is no proven need for development on greenfield sites like this one when brownfield opportunities exist elsewhere in Erewash;*
- *Recreation and amenity value of site currently*
- *Valuable wildlife habitat*
- *Traffic constraints (although access to Derby road would help mitigate these)*
- *A sustainable drainage system would be appropriate if the site were to be developed*
- *Any redevelopment of the existing golf course would be reliant on alternative facilities being provided elsewhere*

Summary and Recommendation:

- 4.18.15 Given its proximity to Ilkeston town centre, the lack of Green Belt designation and its location in relation to existing development, this land is suitable for housing development if connected to the A609, if designed with a Sustainable Urban

⁷⁵ Erewash Borough Local Plan, Erewash Borough Council, 2005.

⁷⁶ Inspector's Report into the Erewash Borough Revised Local Plan, Planning Inspectorate, 2004.

Drainage Scheme and in the likely event of the golf course being able to be re-provided elsewhere.

- 4.18.16 There is no evidence that the site is a 'valuable' wildlife habitat. No environmental designations of any kind cover the site and it is already overlooked by housing and busy employment areas. The Inspector did not refer at the Local Plan Inquiry to any independent wildlife assessment of the site and it is difficult to know how he arrived at this judgement. The site's alternative development as a golf course would be disruptive to wildlife in any case.
- 4.18.17 The site does, however, have amenity and informal recreational value, with many footpaths crossing it. Amenity and informal recreation value would also be lost to some extent if the site were developed as a golf course.
- 4.18.18 The potential access to the A609 Derby Road along the disused rail line would ensure that development would not entail relocation of any other sports and recreation facilities at the Rutland Sports Park site except for the golf course.

Figure 61: Site J1 after Part B assessment

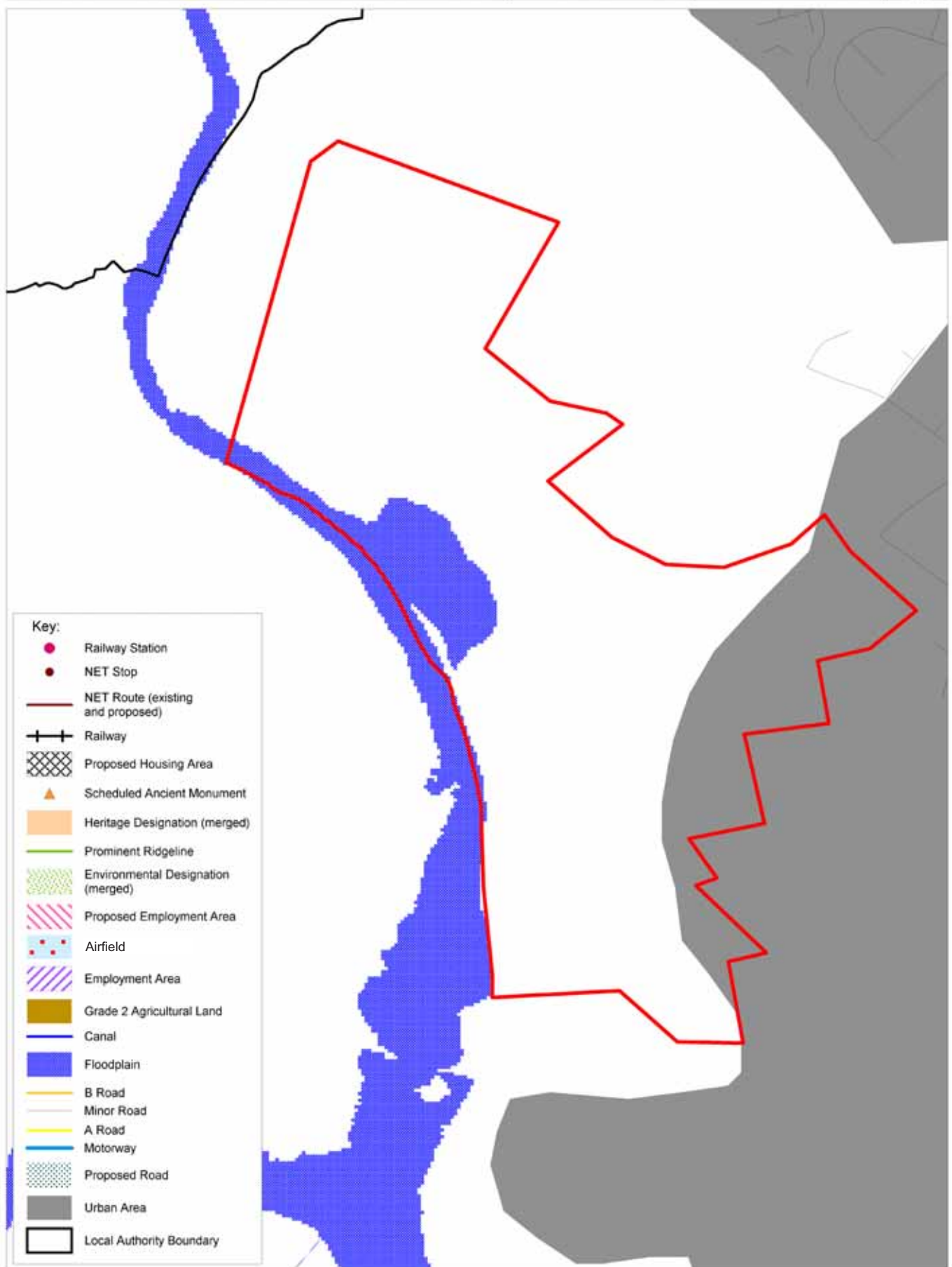
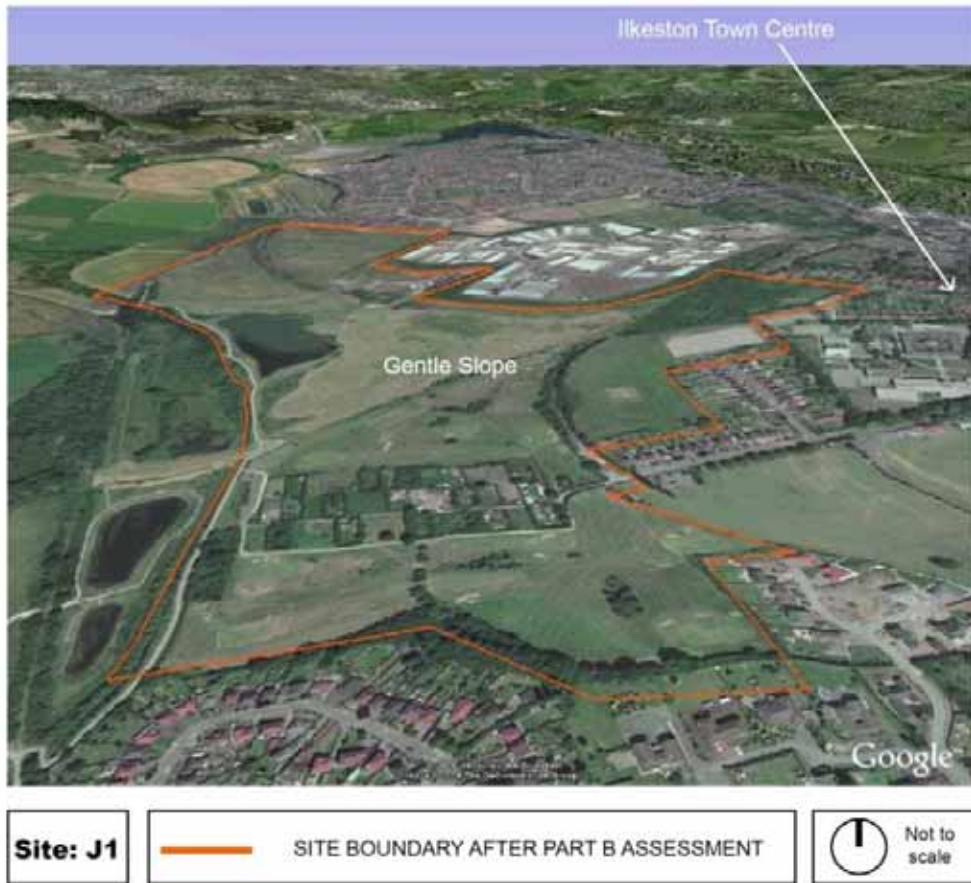


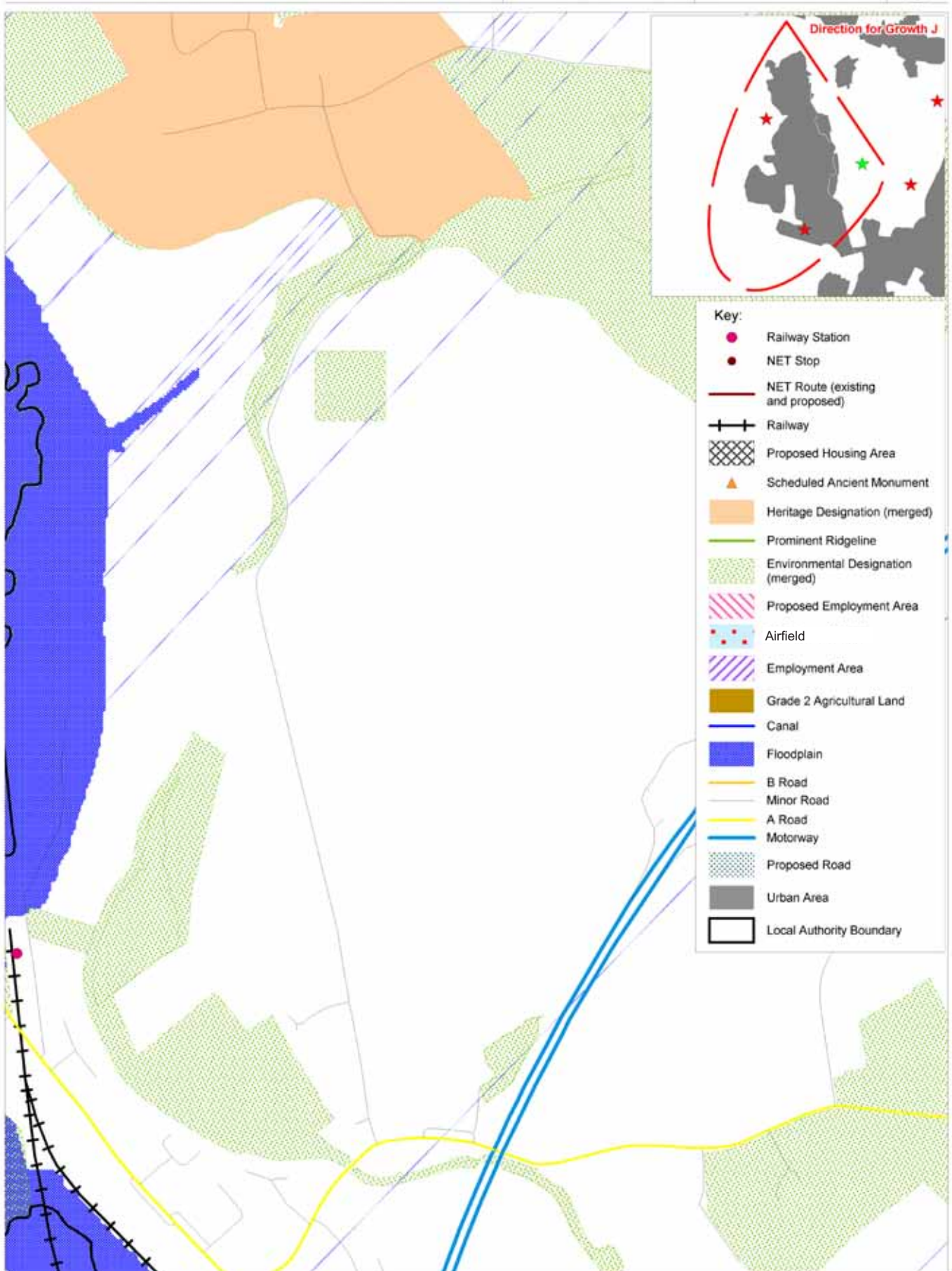
Figure 62: Site J1 Landscape and Boundaries View



4.18.19 On the basis of the information set out in this section, including the site’s location relative to Ilkeston Town Centre and existing employment areas, as well as potential for sustainable access, Site J1 as shown in Figure 61 above is judged to be suitable for development if access is provided to A609 Derby Road, with a Sustainable Urban Drainage Scheme and if golf facilities of an equal or better standard can be provided elsewhere.

4.19 Site J2 (Cossall Road, Ilkeston East)

Figure 63: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.19.1 *The configuration of the site means that accessibility and connectivity are constrained, with little potential for bringing a range of facilities within easy walking distance.*
- 4.19.2 *A new bus route would be required within the development site, but it may not be possible to serve both Ilkeston and Nottingham directions.*
- 4.19.3 Some employment and a primary school are within 10 minutes.
- 4.19.4 Connectivity is restricted overall as floodplain, railway and an industrial estate sever the site from the urban area of Ilkeston.**

Geoenvironmental

- 4.19.5 Site J2 displays the following geoenvironmental features:
- *Underlying coal measures (with outcrop on the site)*
 - *Basic radon protection would probably be required for new development*
 - *Potential sources of contamination include general infilled ground, mining, quarrying, possible coal pits and M1 Trowell Service Area*
 - *Extent of historic landfill activities unknown*
 - *Minor Aquifer Sensitivity*
 - *Soil Types I and H*
 - No source protection zones

Landscape

- 4.19.6 *This large site is located on an open, flat hill with a ridgeline running southwest to northeast. It slopes westwards to the Erewash Valley with Ilkeston visible beyond and eastwards towards the M1 and Trowell Service Station. The steepest and most prominent part of the site is the southern and western slopes.*
- 4.19.7 **Development here would be highly visible in a prominent location both from the Erewash Valley and Ilkeston to the west and the M1 to the east. It is difficult to imagine what measures could be taken to mitigate its prominence.**
- 4.19.8 **The towpath of the disused Nottingham Canal runs across the site and adds great amenity value. Unlike at Site H1, the towpath here is open and exposed on the hillside, providing excellent views to the west.**
- 4.19.9 **The site boundary runs to the Midland Mainline at the southwestern edge, but the site's relationship to Ilkeston within these boundaries (the Erewash floodplain separates the northern half of the site from the Midland Mainline and the town beyond) is poor. A mature landscape area on the southwestern slope down towards**

the rail line further complicates boundaries. To the north and to a lesser extent the east, the site appears to lack any prospect of defensible boundaries.

- 4.19.10 **In landscape terms, the site at present relates more to the village of Trowell and would effectively constitute a northern extension of the village rather than forming part of the Ilkeston built-up area. In relation to Ilkeston, therefore, it does not appear to form an intuitive town extension.**

Local policy

- 4.19.11 This site falls within the boundary of Broxtowe Borough Council and the site is designated Green Belt Land, with some allotment land and also the Nottingham Canal towpath⁷⁷. There is a square area to the north of the site that has been omitted due to its designation as a site of importance for nature conservation. *If the site were developed, consultation would be required with neighbouring Erewash Borough Council.*
- 4.19.12 *Parts of the site, especially to the north-west, are designated as contaminated land.*
- 4.19.13 *Development at the south-west of this site would be most suitable in terms of a relationship with Ilkeston. However, as previously noted, an area of mature landscape forms a policy constraint in this area.*
- 4.19.14 **The site performs poorly on Green Belt Criteria. Its current widely-drawn, poorly defensible boundaries mean that it appears to constitute ‘unrestricted sprawl’; the site’s definite hilltop prominence means that the countryside would not be safeguarded from encroachment, and it would not preserve the setting and special character of the historic village of Trowell.**
- 4.19.15 If developed, this area would be most suitable for residential use, given its context.
- 4.19.16 The Inspector’s Report of the Broxtowe Borough Local Plan Inquiry⁷⁸ comments on the eastern section of this site (referred to as East of Cossall Road). The Inspector’s conclusion was that **the impact of encroachment of development into open countryside was sufficient to outweigh the combined value of its position in the Nottingham to Trowell Public Transport Corridor and the site’s low value agricultural land.**

Summary and Recommendation:

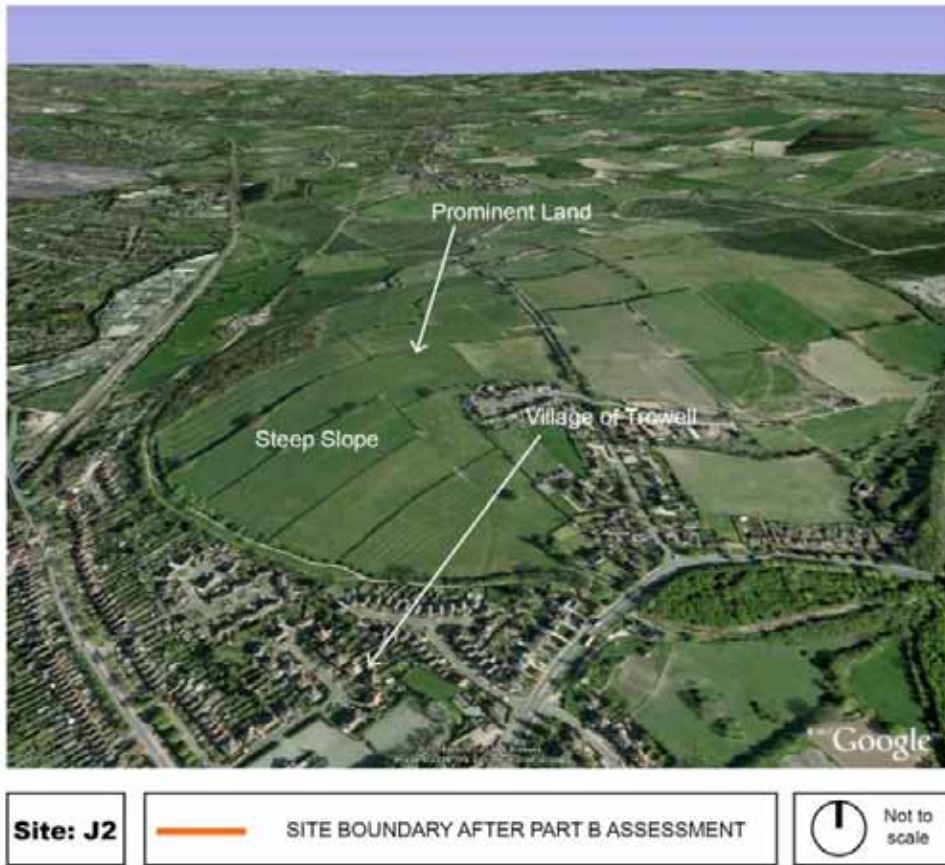
- 4.19.17 The issues relating to this site are very clear. Its location as an extension to Ilkeston that can take advantage of the sustainable transport opportunities offered by a new train station on the Midland Mainline are easily outweighed by its landscape and Green Belt impact, as well as the impact of environmental constraints such as floodplain outside the site boundary greatly restricting the extent to which development would relate to Ilkeston and the potential new station.

⁷⁷ Broxtowe Local Plan, Broxtowe Borough Council, 2004.

⁷⁸ Inspector’s Report into the Broxtowe Local Plan, Planning Inspectorate, 2003.

4.19.18 The judgement might be less clear-cut if the most accessible part of the site was also the most suitable in terms of landscape and environmental constraints; in this case, the boundary could be amended to include just this area. However, the opposite is the case; the most suitable part of the site for development in accessibility terms is the least suitable in terms of visual prominence and impact on the landscape, as well as environmental constraints.

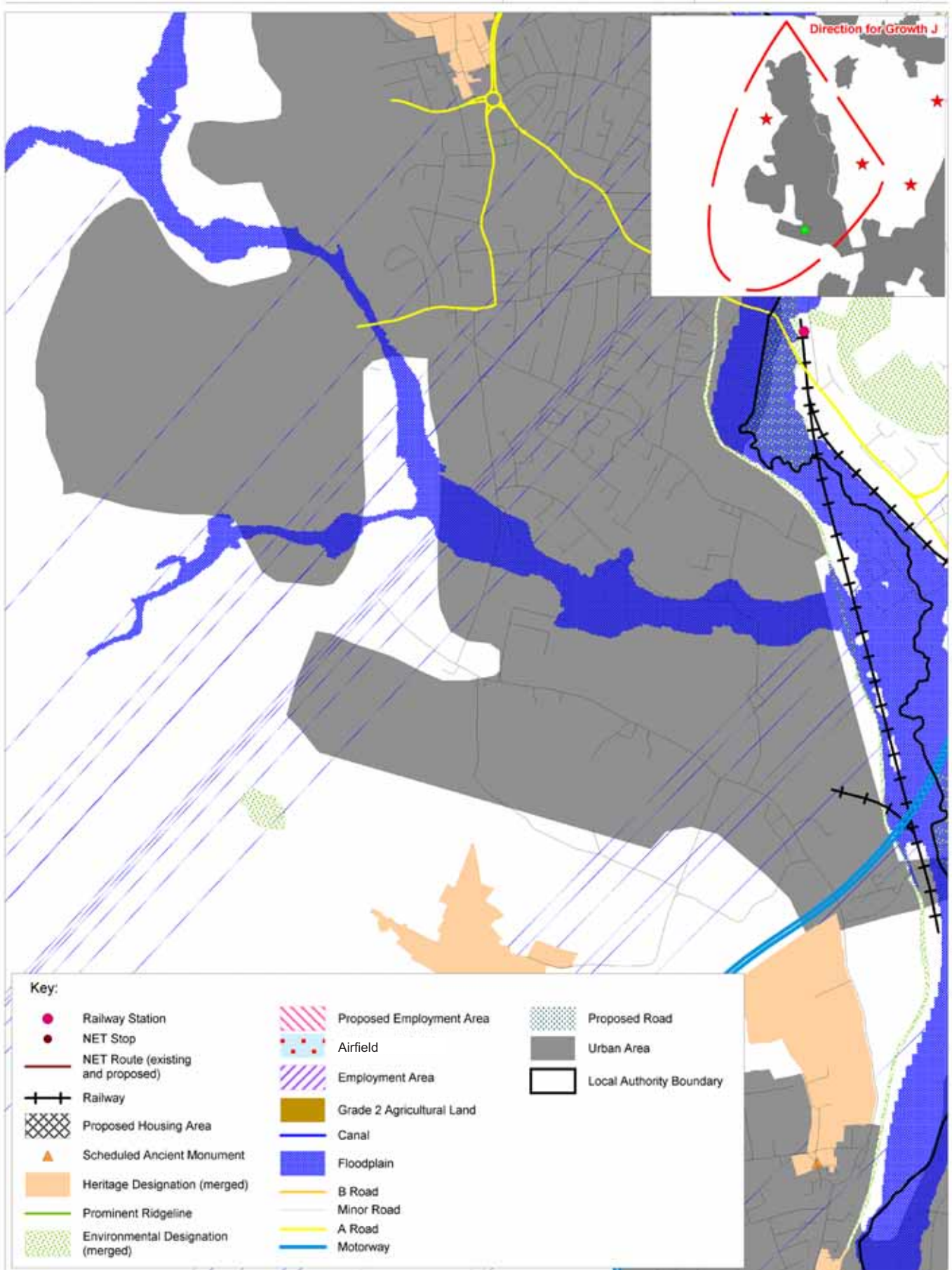
Figure 64: Site J2 Landscape View



4.19.19 On the basis of the information set out in this section, including the site’s performance on landscape, environmental and Green Belt criteria, Site J2 is judged to be unsuitable for development.

4.20 Site J3 (Stanton Ironworks and Ilkeston South)

Figure 65: Area for further investigation after Part A assessment



Transport and Accessibility

- 4.20.1 *The Stanton Ironworks site would form the core of development here. Sustainable accessibility from it to both Ilkeston Town Centre and to the Erewash Valley towns and Nottingham City Centre beyond are both of prime importance. Currently the area has poor accessibility and connectivity.*
- 4.20.2 *If viable, a sustainable transport corridor extending westwards from Nottingham and the Erewash Valley towns (see sites G2, G2, H1) could extend through the site and north to Ilkeston Town Centre.*
- 4.20.3 *A new railway station along the Midland Mainline at the former location of Ilkeston station has the potential to bring rail connections to Nottingham city centre closer to the site.*
- 4.20.4 *A further option combining the site's tram and train potential could be a tram/train link along the existing rail line to the east of the site.*
- 4.20.5 *Landscape, environmental and Green Belt constraints to the northeast of the site (many of which were apparent in the assessment of unsuitability on Site J2) all suggest that sustainable transport connectivity to Ilkeston Town Centre might best be taken north-westwards from the Ironworks along the Nut Brook Valley*
- 4.20.6 The Stanton Regeneration Area Action Plan Preferred Options Report⁷⁹ investigated a number of road links to and from the site, mainly with a view to ensuring access to the M1. The three options taken forward for further consideration were:
- Stanton-by-Dale by-pass linking the A52 to the site, west of Sandiacre
 - New link road from the A52 utilising the existing rail corridor between Sandiacre and Stapleford (it is noted by the Preferred Options Report that this option becomes more attractive with the development of a railfreight facility at site G3)
 - Link from the A6096 to the north of the site, east of Ilkeston (this option was considered to have the most limited potential of the three)
- 4.20.7 It will be noted that all of these options looked at access to and from the site more in terms of a relationship with the M1, Stapleford/Long Eaton and Nottingham than with Ilkeston Town Centre. *However, ensuring bus connectivity from the centre of the site to Ilkeston town centre on existing routes is also important.*

Geoenvironmental

Site J3 displays the following geoenvironmental features:

- *Underlying coal measures (with outcrop on-site)*

⁷⁹ Stanton Regeneration Area Action Plan Preferred Options Report, Erewash Borough Council, 2006.

- Radon protection would probably not be required
- *Stanton Ironworks is a large-scale industrial area that is likely to have generated extensive contamination of land*
- *Historic landfilling activities on site*
- *Aquifer Sensitivity Classification unknown*
- No Source Protection Zones on site

Landscape

- 4.20.8 This is a brownfield site around a former iron works and associated industrial buildings.
- 4.20.9 The industrial 'core' of the site lies within a hollow on the valley floor and is somewhat isolated from the town centre. The site is fenced to protect the industrial uses so there is no current access on site.
- 4.20.10 The current Ironworks has views north west to Kirk Hallam, views to Ilkeston on the ridgeline to north, and is protected by steep slopes to its south which restrict views to and from Stanton by Dale over the ridgeline.
- 4.20.11 The Nut Brook Valley extending to the northwest separating Ilkeston and Kirk Hallam is a greenfield site and home to a variety of miscellaneous urban fringe uses including the stabling of horses and a disused railway line. The site lies flat on the valley floor and is somewhat isolated from the existing urban edge. The southern part of the valley, which is floodplain, has become home to a range of urban fringe uses such as horse stabling. It lacks coherence, consisting of scrubby grassland with a degraded landscape quality; metal poles connected by plastic tape replace hedgerows.
- 4.20.12 Further north, a narrower, heavily wooded part of the valley including a small lake north of Ladywood Road between Ilkeston and Kirk Hallam is more attractive. If this site were developed, retaining this as a park or landscape feature along the route of a sustainable transport corridor via the disused railway line passing through it would be desirable.
- 4.20.13 At the far north of the valley site (to the east of Kirk Hallam Community School and west of Allendale/Dale View), the valley opens out again, forming a bowl with Ilkeston visible to the northeast at the top of the slope. The landscape quality here again appears degraded and scrubby. There is no public access to this part of the site, and the land appears currently disused.

Local policy

- 4.20.14 The entire site lies within Erewash Borough Council's boundary. Almost all of the site is outside the Green Belt, and boundaries could be further amended to ensure that no part of the site is Green Belt land. The Nut Brook Valley to the northwest of the

Ironworks lacks designation and appears as white land on the Local Plan⁸⁰. The remainder of the site consisting of the Stanton Ironworks buildings, is designated for employment uses.

- 4.20.15 The floodplain of the Nut Brook severs the northern part of the valley from the southern, as it is widest in the southern part. The floodplain in the northern part of the valley is narrow enough not to inhibit development on the eastern bank.
- 4.20.16 The Stanton Regeneration Area Action Plan Preferred Options Report⁸¹ provided a recommended boundary for the Ironworks part of the site. This study will rely on those boundaries in this area.
- 4.20.17 The Preferred Options Report also discussed a number of options for road access to the site.
- 4.20.18 If developed, the site would be suitable for mixed-use residential and employment uses around Stanton Ironworks, given the existing history and context of employment uses in this location. At the Erewash Borough Local Plan Inquiry, the Inspector agreed with the council that the Stanton Ironworks employment area should provide the main source of employment land across the Borough⁸². The subsequent closure of the Ironworks should not affect this policy, as much industry, which appeared busy and well-used on our site visit, remains to the north of the Ironworks site.
- 4.20.19 The Inspector also commented on the white land southwest of Ilkeston town centre and the related separation of Ilkeston and Kirk Hallam. He concluded that there were insufficient grounds for adding the white land to the Green Belt and that the strategic gap between Kirk Hallam and Ilkeston was not an overriding issue; its protection as such was not necessary.
- 4.20.20 As stated above, the gap between Kirk Hallam and Ilkeston forms in any case a heavily wooded area with a lake which would be less suitable for development; it could be incorporated as an open space or park within the new development area.

Summary and Recommendation:

- 4.20.21 The 'core' of the site (i.e. the recommended boundaries within the Stanton Regeneration AAP Preferred Options Report) is suitable for development on a number of criteria, including the sustainable use of derelict brownfield land, its low landscape impact and its ability to provide a more sustainable mixed-use development.
- 4.20.22 For the time being, the consultant team have used the Preferred Options Report boundary around the Ironworks land, as this has been tested through a consultation process and therefore carries weight in policy terms. However, on the basis of further information provided by the client team, the Preferred Options Report Boundary has

⁸⁰ Erewash Borough Local Plan, Erewash Borough Council, 2005.

⁸¹ Map between Pages 4 and 5.

⁸² Inspector's Report into Erewash Borough Revised Local Plan, 2004.

been extended slightly to the west in the south-western part of the site, to cover further brownfield land.

- 4.20.23 It is apparent that throughout the Preferred Options Report and site promotion processes, transport connections have always acted as the site's 'Achilles heel'. Both road and public transport access is currently problematic, and this would be eased if the development could be integrated with larger scale growth along a new major corridor, linking sites G2 and G3 towards Nottingham, and site J1 towards Ilkeston.
- 4.20.24 The potential for re-opening of Ilkeston station at its former location (where the A609 crosses the Midland Mainline) provides an opportunity for regional sustainable links, although access to it is not straightforward.
- 4.20.25 Sustainable connections between the Ironworks site and Ilkeston Town Centre need to be considered to a greater extent than in the AAP report. The development process on the Ironworks site should give consideration to a tram extension corridor, as mentioned in relation to sites G2 and G3. The potential would be for the tram to run west from Bardill's Island to Toton Sidings, north from Toton sidings along the Midland Mainline corridor between Sandiacre and Stapleford, turn south of Ilkeston through the Ironworks site, and then curve northwest through the Nut Brook valley along the disused rail line, terminating within walking distance of Ilkeston town centre. This would link the core of site J3 with both Ilkeston and Nottingham.
- 4.20.26 Realistically, the development process is probably far enough advanced on the Ironworks site itself for development to proceed before the tram link. However, there should still be an opportunity for linking development to a new bus route through Hallam Fields to a new Ilkeston train station, particularly given the long development time-frame.
- 4.20.27 The site could incorporate a safeguarded, sustainable east-west corridor for a tram through its centre, thereby ensuring development does not remove this option. If a tram extension to Ilkeston is at a later date found to be viable, the line along the disused rail line up the Nut Brook corridor could then open up a second phase of development beyond the floodplain constraint (which the tram line would have to pass across, perhaps on an elevated causeway), in the strongly defensible valley bowl area south of Derby Road, west of Little Hallam and northeast of Kirk Hallam.

Figure 66: Site J3 after Part B assessment

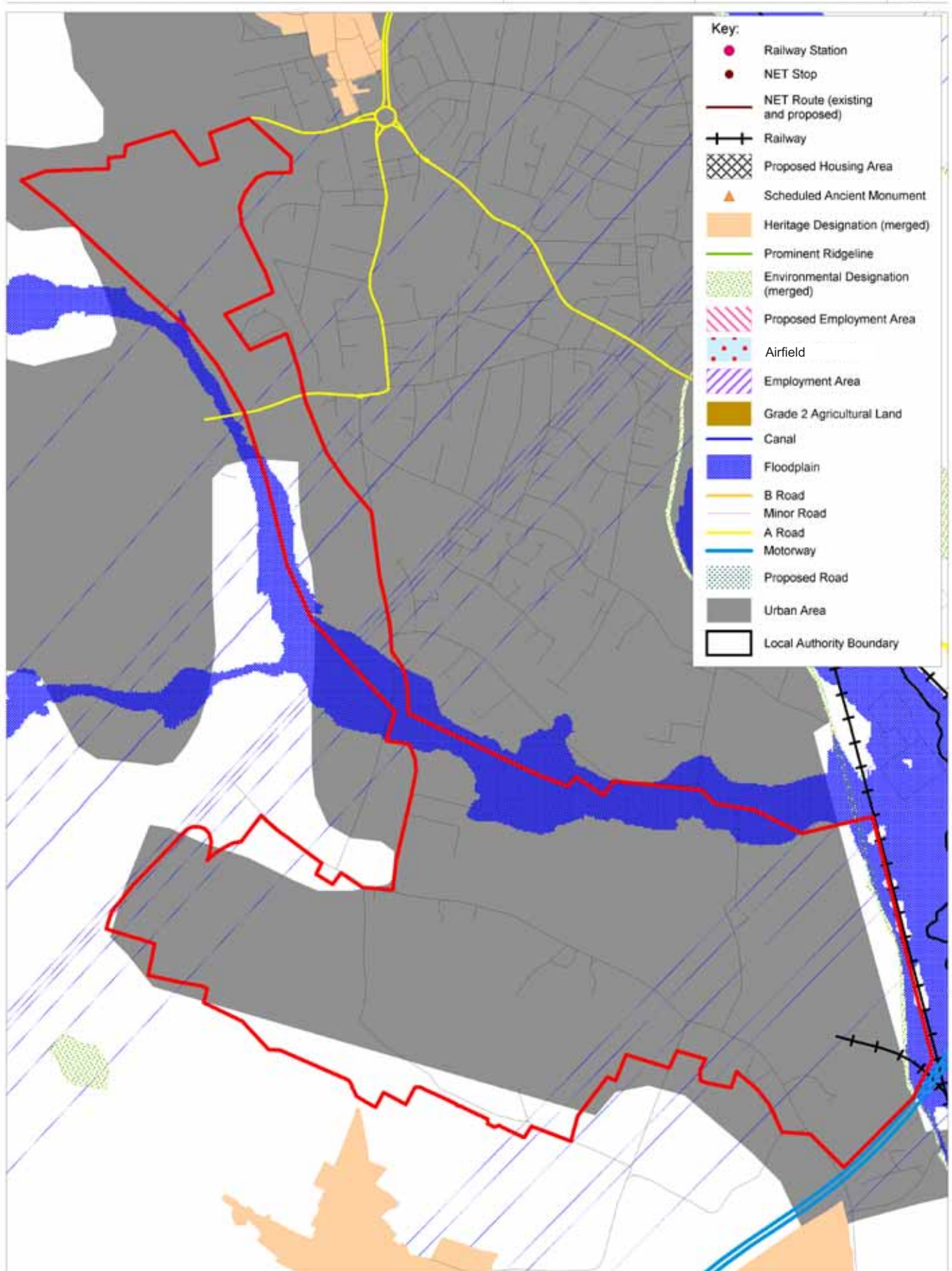
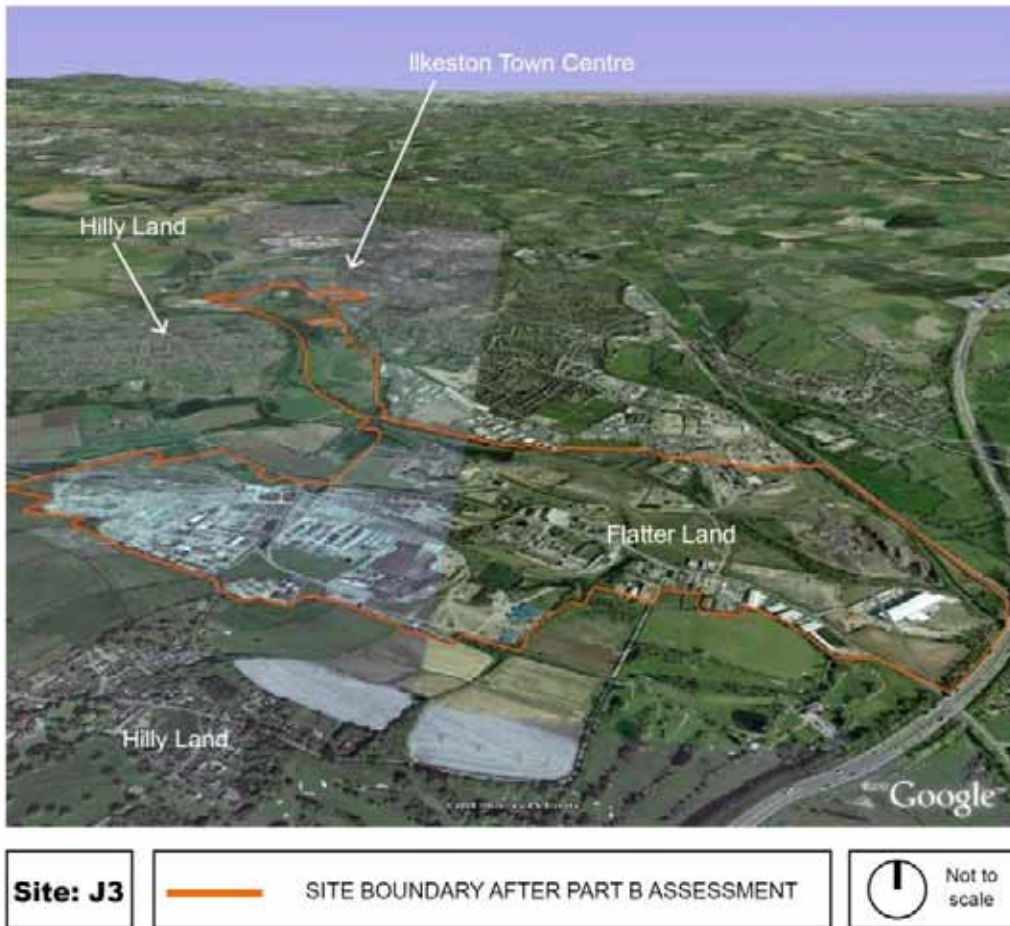


Figure 67: Site J3 Landscape and Boundaries View



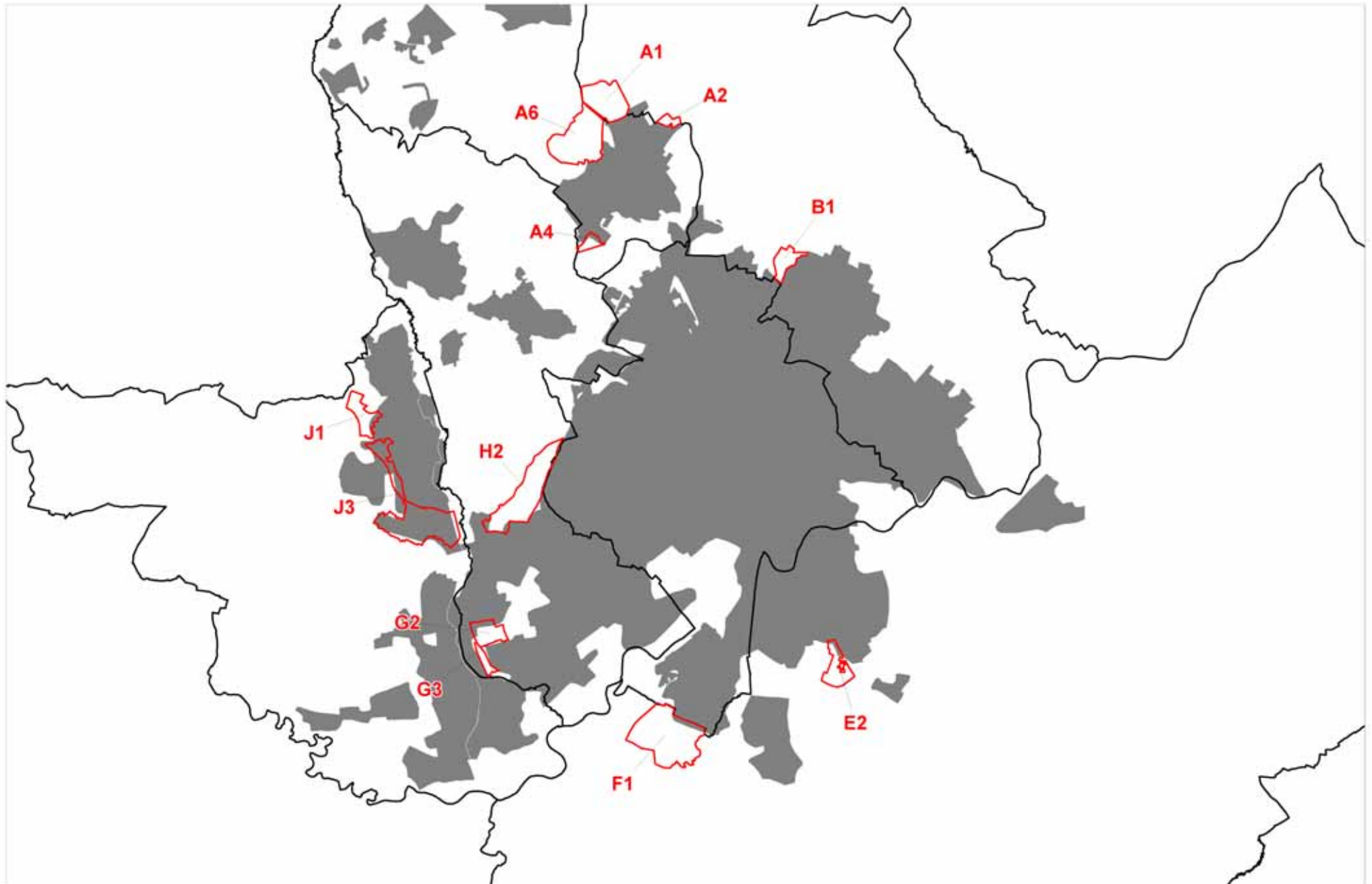
4.20.28 On the basis of the information set out in this section, including its strong performance on brownfield recycling, landscape criteria and ability to provide a sustainable mix of uses, along with the potential for sustainable transport, the consultant team recommends that Site J3 as shown in Figure 66 above is suitable for development, subject to greater consideration within the development process of the site's potential for transport links by rail (including the provision of a reopened Ilkeston Station) and tram extension (including a safeguarded corridor through the Ironworks site).

5 Conclusions

5.1 Recommended Sustainable Urban Extensions

- 5.1.1 The assessment process in Part B of this report acted as a further stage of sieving, effectively sieving the land remaining after the Part B assessment yet further.
- 5.1.2 After Part B, 12 potential sites remain that have been judged as 'suitable for development'. However, the boundaries of all of them are more constrained than originally drawn, following landscape, transport, Green Belt and other policy testing.
- 5.1.3 Figure 68 shows the locations and site boundaries of the 12 sites that are judged as suitable for Sustainable Urban Extensions.

Figure 68: All sites after Part B Assessment



5.2 Total capacity

5.2.1 It is now possible to assess the size and capacity of all of the remaining land in one place. This appears in Table 1 below.

Table 1: Capacity of all sites remaining after Parts A and B Assessment⁸³

Site Number	Site Name	Site size (hectares)	Recommended lowest indicative gross density (dwellings per hectare)	Recommended highest indicative gross density (dwellings per hectare)	Indicative lowest dwelling capacity (dwelling units)	Indicative highest dwelling capacity (dwelling units)
A1	Top Wighay Farm, Hucknall	111.08	20	30	1,625 ⁸⁴	2,735
A2	North of Papplewick Lane, Hucknall	15.97	30	40	500	600
A4	Rolls-Royce, Hucknall	21	30	40	600	800
A6	Whyburn House Farm, Hucknall	182.54	20	30	3,700	5,500
B1	North of Redhill	44.88	20	30	900	1,300
E2	Edwalton, Rushcliffe	61	20	30	1,200	1,800
F1	Clifton Pastures, Rushcliffe	250.82	20	30	5,000	7,500

⁸³ All dwelling figures are indicative, and therefore 'highest' and 'lowest' densities and capacities are not absolute. The context will differ on every site, so only locally appropriate densities should be applied if the site is developed. Locally appropriate densities may be higher than the definition of 'highest' in this table or lower than the definition of 'lowest' in this table.

⁸⁴ The indicative lowest and highest dwelling capacities for site A1 have each been reduced by 595 units to avoid double-counting of capacity. The revised figure takes account of the fact that at the time of writing, land for 595 units was in the process of being allocated within the red-line area.

G2	Between Toton and Stapleford	55.7	25	35	1,400	1,900
G3	Toton Sidings, Broxtowe	19.58	30	40	600	800
H2	North of Stapleford, Broxtowe	190.47	20	30	3,800	5,700
J1	West of Ilkeston	57.6	30	40	1,700	2,300
J3	Stanton Ironworks, Ilkeston	243.8	20	30	4,900	7,300
TOTAL		<u>1,262.59</u>			<u>25,925</u>	<u>38,785</u>

- 5.2.2 We estimate that there is capacity in the identified potential SUEs for between 25,925 and 38,785 homes. The midpoint of this figure is 32,355, or just over half of the emerging Regional Spatial Strategy target of 60,000 in the study area for the period up to 2026. The amount of land that would eventually need to be planned for and provided from these potential SUEs will depend on the number of dwelling units that it is estimated will come forward from within the urban area.
- 5.2.3 Table 1 makes plain the figures that will form the basis for these difficult decisions.
- 5.2.4 There appears sufficient suitable land on the Green Belt around and within the Nottingham PUA for between 12,900 and 19,000 new dwellings.
- 5.2.5 We have judged that there is sufficient suitable land around Hucknall for between 6,425 and 9,635 new dwellings.
- 5.2.6 We have judged that there is sufficient suitable land around Ilkeston for between 6,600 and 9,600 new dwellings.

5.3 Implementation

- 5.3.1 Although answering the detailed questions of implementation raised by this study is for the next stages of the plan-making process, it is now possible to signpost some of the main decisions and priorities for investment that will need to be tackled.

Clustering of development

- 5.3.2 In many (although not all) cases, a site will become more suitable if there is a critical mass or cluster to support the range of infrastructure required to ensure sustainability. For instance, although less than one thousand dwellings may support a primary school, almost five thousand are generally required to support a secondary school.
- 5.3.3 However, judgements about suitability of sites relating to their proximity to other suitable sites are complicated in the case of the Nottingham city region, given that we are assessing the suitability of land for development adjacent to three separate urban areas of differing size. This consideration applies particularly in the case of Hucknall, which is the smallest of the three settlements assessed in terms both of population and area, but which is surrounded by substantial amounts of land that is suitable for development.

Infrastructure capacity of development

- 5.3.4 Although the core of this study relates to the identification of a range of Directions for Growth and potential locations for housing development, it will also need to inform how the ambitions for the wider Nottingham PUA can be achieved. The integration of sustainable economic growth will be critical to the successful delivery of the overall housing supply.
- 5.3.5 Although there are no ‘show-stopping’ constraints in terms of infrastructure, the funding of some elements will be a major challenge. A key concern highlighted by the Nottinghamshire County Education authority is how the funding for the substantial new education infrastructure requirement to meet the planned growth will be met. To some extent, new sources of funding are being highlighted by Central Government, for instance, the Green Paper ‘Homes for the Future’⁸⁵ mentions that the Department for Children, Schools and Families will consider the inclusion of new building programmes within the management of capital programmes to address the pressure for housing growth.
- 5.3.6 A considerable amount of advance work is required in terms of planning, programming and funding the infrastructure component of growth. For instance, the National Grid stated that bringing forward some sites may be delayed while stakeholders await the inclusion of measures to strengthen the local network by through the Central Networks regulator-approved investment programme. Similar comments were made by Severn Trent, who are currently preparing their 2010 – 2015 business plan.
- 5.3.7 Therefore, the key to successful implementation will be close co-ordination with the infrastructure providers to ensure that sufficient funding is in place and that the development of sustainable urban extensions benefits from clear, coordinated phasing. Each service provider will in turn be preparing their own capital

⁸⁵ ‘Homes for the Future: More Affordable, More Sustainable’. Communities and Local Government, HM Government, 2007.

investment proposals for the next five years or so, and these must be properly informed by the wider development aspirations for the study area.

- 5.3.8 Implementation of development proposals will be complicated by the wide range of local authorities and infrastructure delivery agencies within the study area. Furthermore, experience from elsewhere suggests that the achievement of a step change in housing output cannot be achieved easily. Much advanced work will be required on planning, programming and funding.
- 5.3.9 The local authorities within the study area may consider the merits of establishing a Multi Area Agreement (MAA) or similar service level delivery agreement (possibly involving Nottingham Regeneration) to prepare the framework for an agreed vision for the study area. This could be adopted by all relevant authorities and agencies and could include an appropriately-resourced delivery unit to drive forward project planning, programming and implementation., unified and agreed protocol could form a framework for the planning powers and policies resting with each of the local authorities.

Prioritisation of development

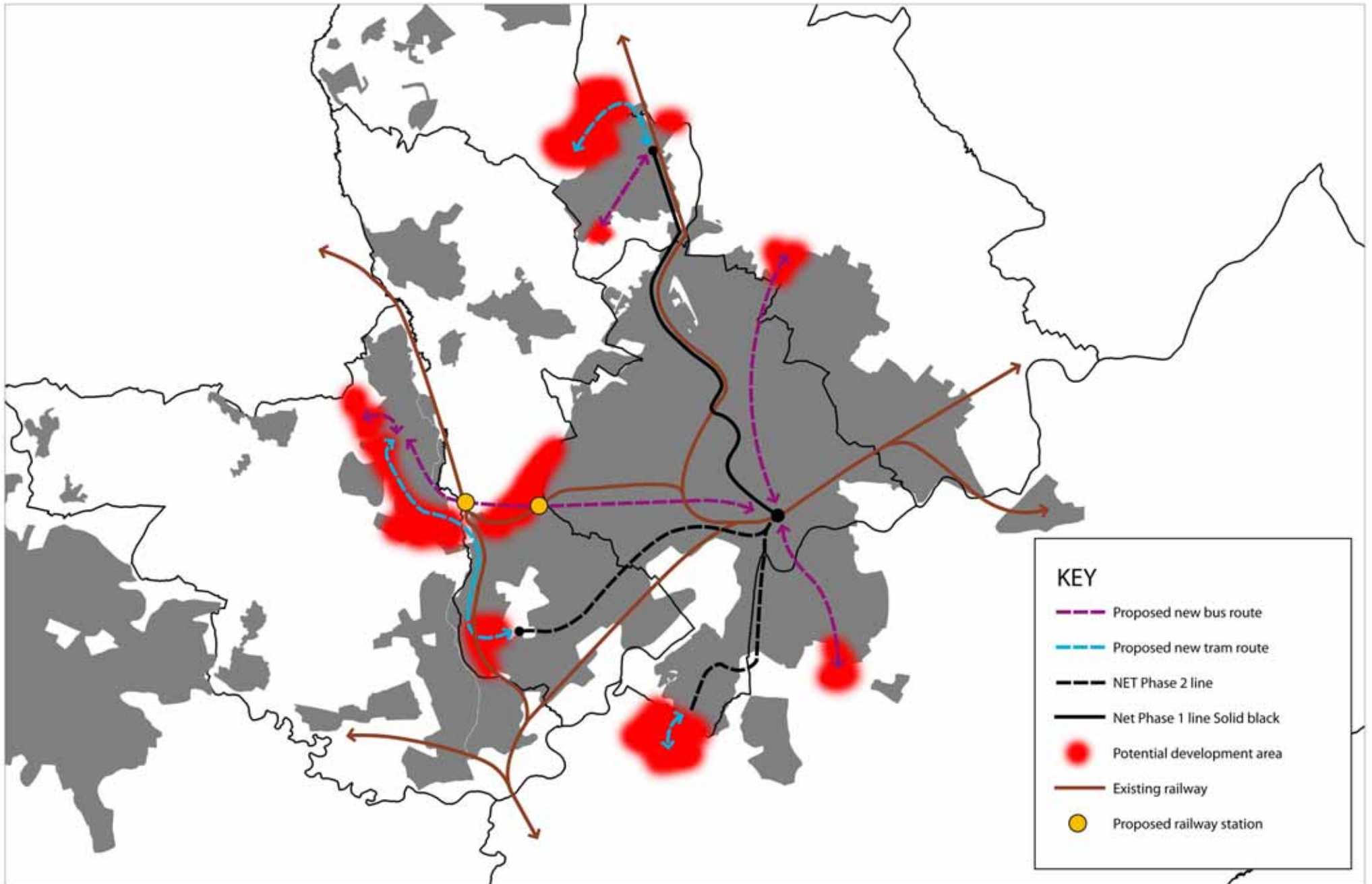
- 5.3.10 Not all sites are equally suitable for development. Furthermore, suitability is a flexible concept, changing over time; in most cases, sites will become more suitable once related transport infrastructure can be delivered. Some transport infrastructure that would be needed to support sustainable travel choices in the growth areas is already on the drawing board (such as the NET Phase 2 extensions⁸⁶), but in other cases links have been considered afresh in relation to the suitability of sites for development.
- 5.3.11 Figure 71 provides an indication of major public transport links that might be needed in support of suitable development sites and corridors. Sites have been assessed with this potential for improved transport infrastructure in mind. The links shown are not, however, to be viewed as statements of intent or policy on the part of the client group.
- 5.3.12 It should be noted that the main focus for potential sites is to the west of the conurbation where access issues are perhaps the most severe. Should many of these sites come forward the cumulative impact in terms of congestion will only be resolvable by promoting a balanced mixture of transport modes, including not only train, tram and bus, but also opportunities for cycle paths and mixed-use, walkable development. Due to this complexity, there is the need for further comprehensive transport assessment for the sites or clusters of sites that are eventually taken forward for development.
- 5.3.13 Transport infrastructure itself varies in viability and lead time to delivery, further complicating the prioritisation process. Furthermore, in some cases, sites will realistically be delivered ahead of complementary infrastructure, such as Stanton Ironworks ahead of a possible tram link to Ilkeston.
- 5.3.14 Priority of site development also needs to take account of the national policy context. Although PPS3 and its accompanying SHLAA methodology, reflecting as they do the conclusions of the Barker report, are more amenable to greenfield housing development, there is still a presumption for 'brownfield first'. This again has phasing implications in some cases; site A4, for example, is brownfield land

⁸⁶ Full information on NET Phase 2 is available online at www.netphasetwo.com.

but appears less suitable in terms of sustainable transport potential than some of the greenfield sites.

- 5.3.15 When assessing priority of site development, at all times a strategic focus should be maintained. The benefit of a sub-regional study of technical site suitability such as this is that the boundaries of local authorities, and hence the narrower local judgements of site suitability and location, can be overcome. This report gives policymakers the opportunity to make balanced judgements over whether, for instance, a site in Direction for Growth A is more or less suitable than one on the other side of the city in Direction E.

Figure 69: Indicative existing and potential public transport network linked to sites



Regional policy and development

- 5.3.16 Ultimately, the different weighting of development given to Hucknall, the Nottingham PUA and Ilkeston is a political decision, and as such is beyond the scope of the current study. Although not anticipated at the start of this work, one of the most important issues thrown up by this study that requires attention in the short term are the policy definitions, capacities and roles of the two Sub-Regional Centres of Ilkeston and Hucknall within the wider City Region. The Draft East Midlands RSS suggests that the [present] role of sub-regional centres should be ‘maintained through appropriate development’⁸⁷.
- 5.3.17 The Draft RSS does, however, provide some more quantitative steer; it goes on to state that Policies 2 and 4 ensure that ‘new development is concentrated in or adjoining PUAs, with development of a lesser scale in the Sub-Regional Centres’⁸⁸. Later, the ‘development of a lesser scale’ is clarified by the sentence ‘new development will be in or adjoining PUAs, but with sufficient development allocated to support the roles of Sub-Regional Centres’⁸⁹. The two sentences, then, suggest priority to sites adjacent to the Nottingham PUA. The issue to be addressed now is the weight to be given to the findings of this study, which suggests that many potential sites adjacent to the PUA are less suitable for development than some of those adjacent to the Sub-Regional Centres.
- 5.3.18 Also to be taken into account in the PUA versus SRCs policy debate is the desirability to maximise the opportunities associated with new development. The client team may, for example, wish to prioritise development criteria such as the development of previously used land, or development at locations most likely to bring benefits to the areas of highest deprivation.
- 5.3.19 Further clarification of the role of Sub-Regional Centres appears in other parts of the draft RSS document:
- The SRCs have been identified for their ability to perform a complementary role to the PUAs and have been selected on the basis of their size, the range of services they provide, and their potential to accommodate further growth. They have the capacity to support sustainable development objectives through the use of design-led approaches such as master planning and town centre renewal activity to enhance existing character and community infrastructure; additional development....; providing opportunities for economic diversification; providing a range of services to support surrounding hinterlands; and being the most accessible centre in an area with a range of transport modes.⁹⁰
 - ‘Development in Sub-Regional Centres should support individual roles and functions. It should not be of a scale and character that prejudices the urban renaissance of the PUAs’⁹¹

⁸⁷ Part 2 of the East Midlands Draft RSS, paragraph 4.1.

⁸⁸ Ibid, paragraph 4.6.

⁸⁹ Ibid, paragraph 5.1.

⁹⁰ Part 1 of the East Midlands Draft RSS, paragraph 2.3.9.

⁹¹ Ibid, paragraph 2.3.10.

- There is.... potential for complementary growth in the Sub-Regional Centres [surrounding PUAs] to retain a higher proportion of local income and reduce pressure on strategic transport infrastructure'.⁹²
- 'The Sub-Regional Centres....are the focus for shopping and service provision. These settlements should be the focus of economic activity; otherwise their roles and functions may decline with resulting social consequences'.⁹³

- 5.3.20 The numerous constraints placed on development at the Sub-Regional Centres by regional policy as noted above have to be squared with the sustainability benefits of 'clustering' development noted above (with geographically close sites such as A1 and A6 and J1 and J3, clustering benefits could apply for both the Sub-Regional Centres in this study), as well as with the opportunities for rejuvenation and sustainable transport. This applies particularly in the case of Hucknall, which is unique among East Midlands sub-regional centres in having a tram link to its local PUA and therefore joined very clearly to employment opportunities in its nearest city centre.
- 5.3.21 This section makes clear the numerous difficult decisions that lie ahead during the process of deciding which land to allocate for development. The technical evidence base presented in this document provides the basis upon which these decisions may be made.
- 5.3.22 Ultimately, the study has demonstrated the existence of an adequate supply of land suitable for Sustainable Urban Extensions around the Nottingham PUA, Hucknall and Ilkeston. The fact that they have been assessed against a wide range of criteria should ensure that the growth anticipated for the subregion, as well as having an environmental impact that is as low as practicable, may be used as a tool to promote the area as a beacon of progressive urban development to the benefit of all residents, present and future.

⁹² Ibid, paragraph 3.2.14

⁹³ Part 1 of the Draft East midlands RSS, paragraph 6.12.

Appendix A – Workshop Participants

Workshop held at Nottingham Ice Arena, Nottingham, 20 February 2008

5.3.23 The following organisations provided verbal and written evidence that has been incorporated into this report, in particular forming the basis of the traffic-light assessment in Part A. The consultant team would like to thank them for their attendance at the workshop and the valuable information they provided.

- Broxtowe Borough Council
- Derbyshire County Council
- East Midlands Development Agency
- English Partnerships
- Environment Agency
- Erewash Borough Council
- Gedling Borough Council
- Greater Nottingham Partnership
- Highways Agency
- Natural England
- Nottingham City Council
- Nottingham Express Transit
- Nottingham Regeneration
- Nottinghamshire County Council
- Nottinghamshire Primary Care Trust
- Rushcliffe Borough Council

Appendix B- Questionnaire responses

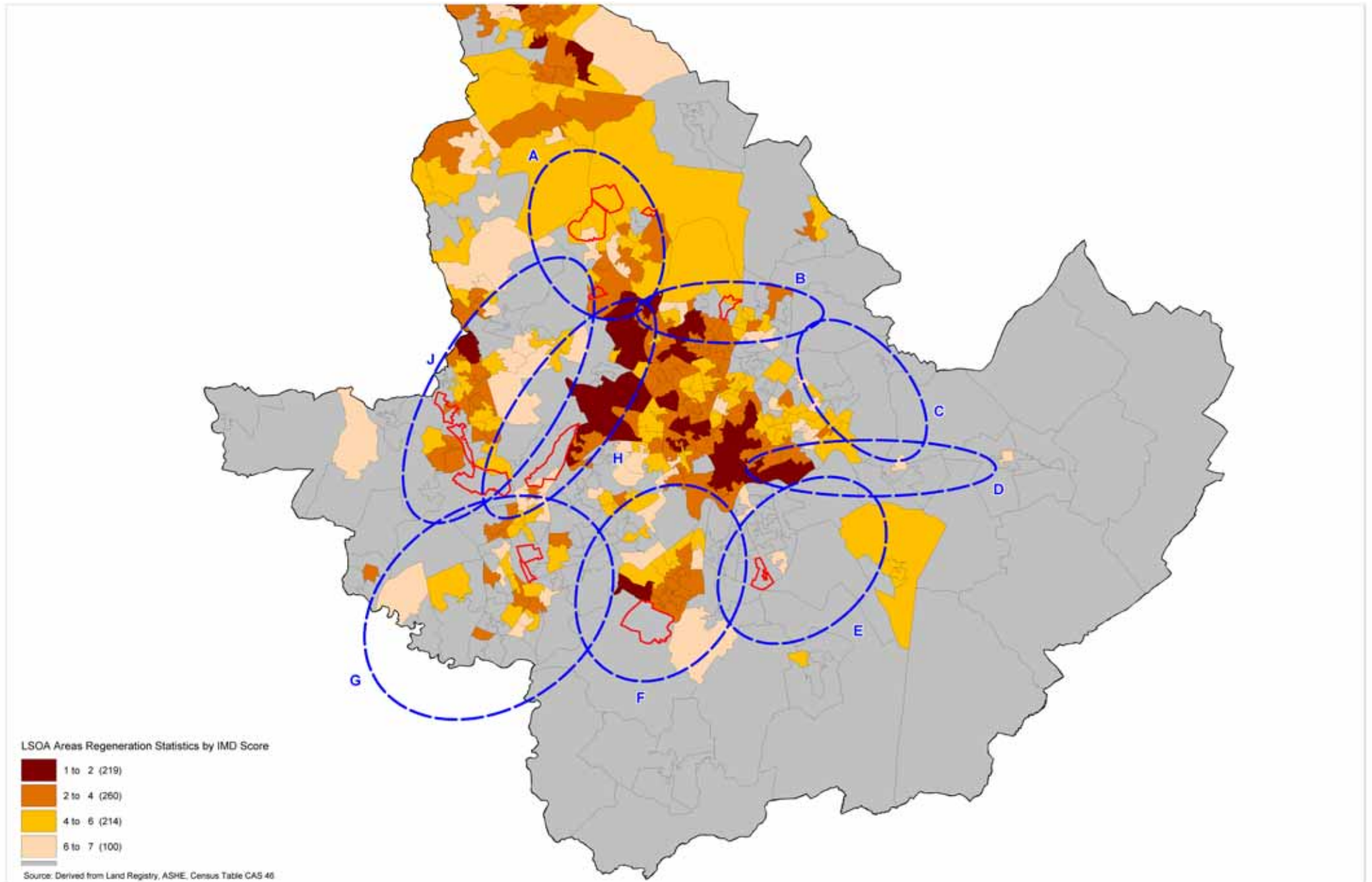
Respondents to project questionnaires sent out in January 2008

5.3.24 Information from two questionnaires (infrastructure and general) sent out in January 2008 was also used to compile the information in this report. Some questionnaires were returned by organisations that also attended the project workshop, and are named in Appendix A above. Other organisations that returned the questionnaire but that did not participate in the workshop are listed below; the consultant team would like to thank them for the valuable information they provided.

- British Gas
- British Telecom
- Derbyshire County Primary Care Trust
- Derbyshire Wildlife Trust
- East Midlands Regional Assembly
- English Heritage
- Eon Central Networks
- Greenwood Community Forest Partnership
- National Grid
- Nottingham City Primary Care Trust
- Nottingham City Transport
- Royal Society for the Protection of Birds
- Severn Trent Water

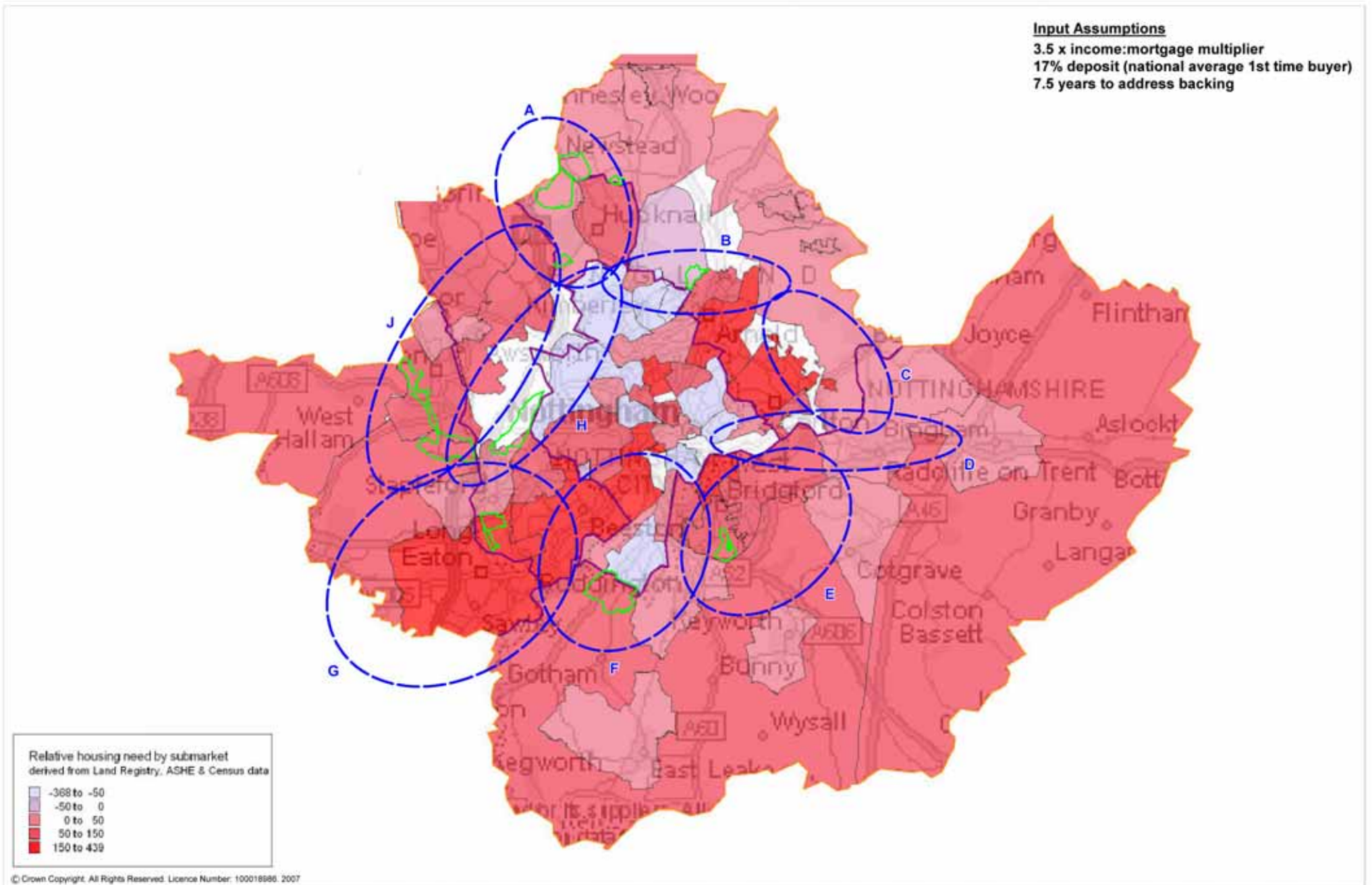
Appendix C- Map of Indices of Multiple Deprivation

Figure 70: Map of study area with accepted site boundaries and deprivation mapping



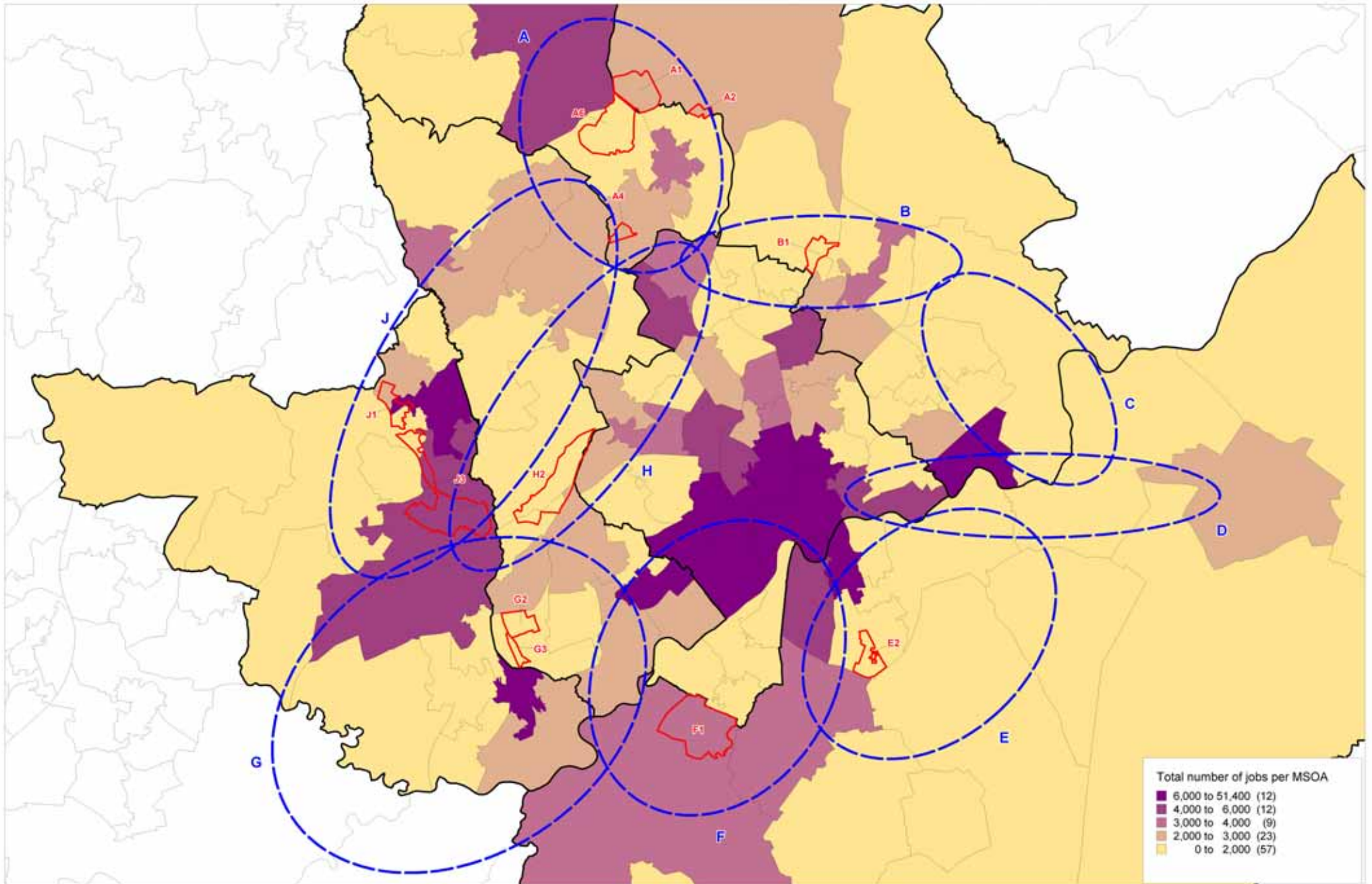
Appendix D- Map of Housing Need

Figure 71: Map of study area with accepted site boundaries and housing need mapping



Appendix E- Map of workplace employment by MSOA

Figure 72: Map of Directions for Growth and Accepted Sites with workplace employment



Appendix F- Landscape Assessment Form

The following form was filled out for each site on site visits in April 2008 and formed the basis for the landscape and boundary assessment process in Part B of the study.

Site Number:	Site Name:
Image:	
Address/Location	
Type:	
Current use:	
Topography:	
Description:	
Key features:	
Landscape Quality:	
Views :	
Edge conditions / Defensible edge/ natural site boundary?	
Does it feel like an extension of the existing urban area?	

Appendix G- Note on density calculations and assumptions

5.3.25 As noted in the Introduction to this report, Tribal Urban Studio has carried out over a number of years pioneering research into residential densities at a number of spatial scales. In order to explain the approach taken to density in this report as fully as possible, some context is required.

5.3.26 The often-quoted 30-40-50 dwellings per hectare measurements of PPG3 (with 30 dwellings per hectare carried forward into PPS3 as an indicative minimum) were formulated with a different policy context in mind- the recycling of usually smaller parcels of urban brownfield land was the main policy thrust. As defined in Annex C of PPG3 they measured 'net' densities, namely:

- access roads within the site;
- private garden space;
- car parking areas;
- incidental open space and landscaping; and
- children's play areas where these are to be provided.

They did not include land for uses generally described throughout this report as forming 'mixed-use' development when provided alongside residential areas (also defined in footnote 38), including:

- Rail, tram, guided bus or other public transport infrastructure
- Community facilities (hospitals, schools, community centres)
- Retail, office or industrial areas
- Major open space such as parks and nature reserves
- Major roads
- Other non-domestic buildings (places of worship, leisure facilities and so on)

5.3.27 With the publication of the Barker Report and PPS3, we are seeing a return to the development of larger-scale, often greenfield sites that can help to deliver the new housing needed over the next 25 years. If these larger sites are to be built as genuinely sustainable neighbourhoods, they will need to include some or all of the uses forming PPG3 exclusions noted above as well as those included within the PPG3 definition. It is also clear that the features that are included within the PPG3 measure (e.g. incidental open space, landscaping and parking areas within residential areas) will become increasingly irrelevant to overall density when areas for thousands rather than dozens of houses are being assessed.

5.3.28 The densities required for larger areas will therefore need to take account of a wide range of uses as well as housing, and the land required for these uses renders the old 30-40-50 dwellings per hectare distinction less useful. At the scale of an entire town or city in

England, land for enough other uses is required for densities to drop well below the 30-40-50 distinction, even in smaller towns. Here are some examples:

- Buxton, Derbyshire: 447 hectares, 20,836 people, 8,568 dwellings. Town density: **19.16 dph**
- Chichester, Sussex: 823 hectares, 27,477 people, 10,772 dwellings. Town density: **13.08 dph**
- Witney, Oxfordshire: 587 hectares, 22,765 people, 9,241 dwellings. Town density: **15.74 dph**
- Kendal, Cumbria: 788 hectares, 28,030 people, 12,405 dwellings. Town density: **15.74 dph**
- Stratford-upon-Avon, Warwickshire: 639 hectares, 22,187 people, 9,712 dwellings. **Town density: 15.19 dph⁹⁴**

- 5.3.29 The average density for a free-standing town in England of about 10,000 dwellings, therefore, seems to be in the range 10-20 dph. This density reflects the numerous non-domestic uses required for the town to function as a service centre. What is interesting, however, is that densities do not change a great deal even for larger towns and cities, and if anything, increase slightly- for example, the Nottingham urban area⁹⁵ is built at about 21 dwellings per hectare. This reflects the fact that larger cities tend to have proportionally larger suburban areas (i.e. mainly residential areas) in relation to city centre uses than do smaller towns, where the area covered by suburb may be only about twice as large as the town centre- by contrast, it is clear that Nottingham's suburbs and contiguous towns are many times larger than Nottingham city centre.
- 5.3.30 For a fully sustainable neighbourhood, including employment land, health and education facilities, retail areas, open space and public transport infrastructure, it would seem logical to project forward from a portfolio of existing suburban exemplars. This would allow for a more accurate assessment of dwelling capacity at the neighbourhood scale, particularly if the urban design exercise approach can be modified to fit this size of development.
- 5.3.31 Tribal are carrying out as yet unpublished research into sustainable suburban exemplars in England that exhibit a balance of residential uses, employment land, open space, community facilities and/or retail.
- 5.3.32 For English suburban areas, it was expected that the greater proportion of residential use will increase the residential density beyond the 10-20 dph level, although it is likely still to fall short of the minimum indicative PPS3 density of 30 dph for (solely) residential areas at a smaller scale.
- 5.3.33 This is indeed the case. The average density of suburban MSOAs in England has been found to be in the range of **25** dwellings per hectare, and this has been taken as a starting point in the calculations for the study area in this report. However, it should be noted that these MSOAs constitute existing urban development, much of which can hardly be taken as a model of sustainable density. However, conversely, too high of a residential density

⁹⁴ All population and dwelling number statistics from Census 2001.

⁹⁵ This Office of National Statistics-based definition includes Arnold, Beeston and Stapleford, Carlton, Clifton, Long Eaton, Nottingham, Ruddington and West Bridgford.

can in fact indicate a lack of sustainability, as large, monofunctional housing estates with few local services that act as dormitories to other service centres are often built at over 30 dwellings per hectare. To ensure that urban extensions in the study area can be truly sustainable, offering local employment, schools, hospitals and retail (while still encompassing residential areas at net densities not wasteful of land and able to sustain public transport provision), it would seem sensible to widen the average density range to 20-30 dwellings per hectare.

- 5.3.34 It should be clear by now that as the area of land within the red line changes, so does the density. Therefore, for those smaller areas of land in the study area that are suitable for housing, higher densities will need to be applied, as they are not of sufficient size to be able to include schools, employment areas and so on within their boundaries. Here, densities approximate more closely to the PPS3 levels and therefore may be raised to 30-40 dph (this is still 'gross' and includes generous allowance for local open space). Likewise, some sites for development could be described as 'medium-sized'- they are smaller than the ones over 100 hectares but larger than the very smallest. Here, again indicatively, a 'mid-range' of 25-35 dph has been applied.
- 5.3.35 Finally, a disclaimer must be applied to the density assumptions. This work represents a very early stage in the planning and urban design timeline for sustainable urban extensions in the study area. Each site differs from the others in the quantum of non-residential uses that it would be appropriate to provide, and only at a later stage will precise densities be able to be applied, based on detailed contextual analysis for each site. There are very many factors that affect the densities of new urban areas, and many will be at too local a level (e.g. subtle changes in height of land across the site, the proposed location of local facilities within the red line, the density of neighbouring housing areas and so on) for a broad-brush assessment such as this to cover accurately. However, the ranges of density that have been applied should form a firm, evidence-based foundation for the eventual development of sustainable suburban extensions that are not wasteful of land, offer a wide range of local services and can support public transport while also reducing the need to travel.

Appendix H- Legal Notice

We have not verified the reliability or accuracy of any information obtained from third parties in the course of this study. Any party that obtains access to this Report or a copy (under Freedom of Information Act 2000 or otherwise) and chooses to rely on this Report (or any part of it) does so at their own risk.

To the fullest extent permitted by law, Tribal do not assume any responsibility and will not accept any responsibility in respect of this Report to any party other than the original addressee.

Clients should note that Tribal are not tax advisers, financial advisers or lawyers and do not assume any responsibility or accept any liability for any tax, financial or legal advice that may be given by or on behalf of Tribal. If such advice is required, advice from a relevant professional adviser should be sought.

Appendix I- Statement of Freedom from Conflicting Interests

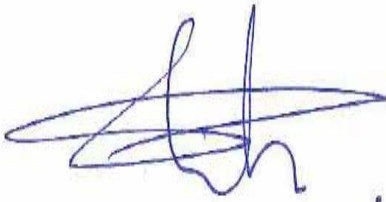
The consultant team declares that throughout the commissioning, researching and final reporting stages of this project they were entirely free from conflicts of interest within the study area that might have prejudiced, influenced or otherwise affected in any way the judgements and recommendations contained herein.

Signed on behalf of **Tribal Urban Studio**:



.....
Ben Castell, Practice Director and Project Director

Signed on behalf of **Roger Tym & Partners**:




.....
Shilpa Rasaiah, Senior Associate and Project Director, Infrastructure Input

Signed on behalf of **CampbellReith**



.....
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