Application Number:	2019/0294/RG3
Site Address:	Western Growth Corridor, Skellingthorpe Road, Lincoln
Target Date:	24th July 2020
Agent Name:	Mark Foster
Applicant Name:	City of Lincoln Council And Lindum Western Growth Community Ltd
Proposal:	Hybrid planning application for the sustainable urban extension of Lincoln on the site of the Western Growth Corridor to comprise:- In Outline - Housing development of up to 3,200 dwellings; local centre comprising community, retail (E, F.2 and Pub or drinking establishment/Takeaway as Sui Generis uses), employment (E) uses and parking; a primary school; up to 8HA of land (including key infrastructure) for up to 40,000sq.m of E and B2 development; up to 12ha of land (including key infrastructure) for sport, recreation and leisure (E and F.1 and F.2), a hotel (C1) food and drink outlets (E and Sui Generis) and a new community stadium for Lincoln City Football Club; Areas of formal and informal public openspace; a network of public footpaths and cycleways associated engineering works to inform development platform and drainage system; new transport bridge link over to Beevor Street, and a new public footpath bridge over to Tritton Road. In Full - Details for means of access into the site from Skellingthorpe Road and Tritton Road (revised description).

1.0 Introduction

1.1 Proposed Development

Outline planning permission is sought for the sustainable urban extension (SUE) of Lincoln on the site of Western Growth Corridor. All matters are Reserved except for two points of access.

At this stage the applicants are seeking to approve the principle of the following uses:

- Housing development of up to 3,200 dwellings;
- local centre comprising community, retail (E, F.2 and Pub or drinking establishment/Takeaway as Sui Generis uses),
- employment (E) uses and parking;
- a primary school;
- up to 8HA of land (including key infrastructure) for up to 40,000sq.m of E and B2 development;
- up to 12ha of land (including key infrastructure) for sport, recreation and leisure (E and F.1 and F.2),
- a hotel (C1) food and drink outlets (E and Sui Generis) and
- a new community stadium for Lincoln City Football Club;
- Areas of formal and informal public openspace;
- a network of public footpaths and cycleways associated engineering works to inform development platform and drainage system;
- new transport bridge link over to Beevor Street, and a
- new public footpath bridge over to Tritton Road.

In addition, full planning permission is sought for two new access points to the site as follows:
• The Skellingthorpe Road access/egress and the initial access Spine Road spur into the site.
• A new signal-controlled junction at Tritton Road, including the associated bridge over the railway line.

The application is accompanied by a suite of documents including:

- Plans for Information
- Illustrative Masterplan

- Design and Access Statement
- Environmental Statement
- Planning Statement
- Drainage Strategy
- Flood Risk Assessment
- Transport Assessment
- Framework Travel Plan
- Design Code
- Health Impact Assessment
- Sustainable Energy Statement

All of these documents can be found online

2019/0294/RG3 | Hybrid planning application for the sustainable urban extension of Lincoln on the site of the Western Growth Corridor to comprise:- In Outline - Housing development of up to 3,200 dwellings; local centre comprising community, retail (E, F.2 and Pub or drinking establishment/Takeaway as Sui Generis uses), employment (E) uses and parking; a primary school; up to 8HA of land (including key infrastructure) for up to 40,000sq.m of E and B2 development; up to 12ha of land (including key infrastructure) for sport, recreation and leisure (E and F.1 and F.2), a hotel (C1) food and drink outlets (E and Sui Generis) and a new community stadium for Lincoln City Football Club; Areas of formal and informal public openspace; a network of public footpaths and cycleways associated engineering works to inform development platform and drainage system; new transport bridge link over to Beevor Street, and a new public footpath bridge over to Tritton Road. In Full - Details for means of access into the site from Skellingthorpe Road and Tritton Road (revised description). | Western Growth Corridor Skellingthorpe Road Lincoln Lincolnshire

1.2 EIA Development

Under the EIA Regulations, the Proposed Development does not fall within the definition of a 'Schedule 1 development', however it does fall within Schedule 2, Part 10(a): Industrial estate development projects and Part 10(b): Urban development projects, including the construction of shopping centres and car parks, sports stadiums, leisure centres and multiplex cinemas. For Schedule 2, Part 10a development, EIA is required where the area of the development exceeds 0.5 hectares and the development is likely to have significant effects on the environment. For Schedule 2, Part 10b development, EIA is required where (i) the area of development exceeds 1.0 ha, of urban development which is not dwellinghouse development; or (ii) the development includes more than 150 dwellings; or (iii) the overall area of the development exceeds 5 ha, and the development is likely to have significant effects on the environment. In the case of the Proposed Development all of these criteria apply and, as such, an environmental statement has been submitted with the planning application.

1.3 Site Location

The Western Growth Corridor application site extends to 238.5 hectares and is located approximately 1.5km south west of Lincoln City Centre. It is bound by the Skellingthorpe Main Drain and the Lincoln to Gainsborough railway line to the north; the Lincoln to Nottingham railway line and Tritton Road to the east, existing residential development around Skellingthorpe Road and the Catchwater Drain to the south and agricultural land to the west with Decoy Farm and the A46 beyond.

The majority of the site is currently in arable agricultural use and is divided into rectilinear fields by existing hedgerows and drainage ditches. There is an area of woodland within the site towards the south west, with a larger wooded area around the Skewbridge landfill tip to the north east (which also falls within the application site).

There are a variety of land uses immediately surrounding the site. To the north west lies the former Skellingthorpe Duck Decoy (which is a scheduled ancient monument) with further agricultural land and the A46 dual carriageway beyond. Land to the south west is mostly in residential use, with several groups of houses lying between the application site boundary and Skellingthorpe Road – one of the main arterial routes into the city from the A46.

The Skellingthorpe Recreation Ground lies to the south of the site, with Hartsholme Park beyond to the south west of Skellingthorpe Road. Further residential development including Swanpool Conservation Area lies south of the site to the east of Stones Park, along with The Priory City of Lincoln Academy.

Land beyond the railway lines to the east and north east is in a variety of retail, commercial and industrial uses, Lincoln city centre is some 1.4km from the north eastern corner of the site. Land to the east is mixed use served off Tritton Road. The area off Beevor Street to the north east includes commercial and retail uses as well as the Lincoln Science and Innovation Park and the main University building.

1.4 Planning Policy

The site has long been promoted for the creation of an urban extension. An application was submitted in 2006 for development of 4,500 dwellings plus employment, leisure and retail uses, open space and a park and ride site. This was on a larger area of land than now being proposed which extended further west, beyond the A46 and included land within North Kesteven as well as the City of Lincoln. This application was subsequently withdrawn. A revised application for 5,100 dwellings was submitted in March 2008, and subsequently withdrawn in February 2016.

The Central Lincolnshire Local Plan which was adopted by City of Lincoln Council (in conjunction with North Kesteven and West Lindsey Councils) in April 2017. The Plan went through a comprehensive preparation and consultation process culminating in an Examination held in the latter part of 2016. The Western Growth Corridor is allocated as one of four Sustainable Urban Extensions (SUE's) of Lincoln to allow the Central Lincolnshire area to provide for both housing and employment growth through the Plan period ending in 2036.

The Western Growth Corridor was submitted with a joint delivery statement which set out how the site would be delivered. The paper set out the constraints and issues with the site and how these could be overcome through extensive work with the statutory consultees. The outcome of the Examination was that the policies confirming the principle of development of the SUE's and the policies for the individual SUE's themselves were regarded as 'sound'.

Policy LP28, Sustainable Urban Extensions, is the overarching policy for all urban extensions. The Central Lincolnshire Local Plan supporting text states that "Urban extensions must be developed as sustainable places: they must provide a range of residential opportunities in order to create balanced and mixed communities, and they must provide employment opportunities and the services and facilities that will enable residents to meet their day to day needs locally. They must be designed to integrate with the existing built and natural environment, integrate with existing communities, and maximise travel by sustainable travel modes, so that they do not result in a physically and socially segregated community."

The applicants have sought to submit a policy compliant scheme where all the key requirements of Policy LP28 could be secured either by planning condition or through a legal agreement.

Policy LP30 sets out the locally specific requirements for the Western Growth Corridor allocation, on top of those requirements set out in LP28. Part of policy LP28 states:

"Proposals for the WGC area, as identified on the Policies Map, should provide:

- Approximately 3,200 houses;
- Approximately 20 ha of land for mixed employment (B Use Classes) and leisure (D2 Use Class) serving the wider Lincoln area for significant local growth and inward investment of strategic importance complimentary to that on the adjacent Lincoln Science and Innovation Park;
- A distinctive place to live that has its own identity and respects its local surroundings including key views and vistas of and from Lincoln Cathedral and the historic core of the City and the setting of Decoy Farm scheduled monument and Hartsholme Registered Park;

- Comprehensive solutions to drainage and flood risk, guided by an agreed flood risk assessment and water management plan;
- A direct route incorporating priority for public transport linking Skellingthorpe Road through to the city centre via the Beevor Street area with connection onto the A46 if required;
- Transport infrastructure, such as measures to encourage walking, cycling and use of public transport (which might include park and ride facilities) in order to maximise opportunities for sustainable modes of travel, in line with the aims of the Lincoln Integrated Transport Strategy;
- A wide range of community facilities including a new Local Centre;
- A wide range of open space, recreation and leisure uses, together with consideration of the provision of a regional leisure complex;
- A development that maximises the opportunities for low carbon and sustainable design including, if feasible, use of the heat from the Energy from Waste plant at North Hykeham;
- Comprehensive solutions to reclaim and remediate the former tip on the eastern part of the site; and
- Improved linkages, enhancement and support of green wedges and other green infrastructure."

1.4.1 Local Plan Review

The Local Plan Review is proposed to replace the Local Plan adopted in 2017. It addresses a range of issues such as climate change, housing, employment, shopping and more. The review was begun with an Issues and Options consultation undertaken in June and July 2019 followed by a Draft Local Plan consultation undertaken between 30 June and 24 August 2021.

Policy S67 is the overarching policy covering all of the SUEs with Policy S68 setting out the locally specific requirements of each SUE. The content of these policies has stayed in line with the adopted local plan with the exception that there will no longer be a requirement for any Gypsy and Traveller provision on SUEs.

It is likely that the application for WGC will be determined before the adoption of the new Local Plan, therefore limited weight should be given to the policies within. That being said the SUE specific policies remain largely unaltered and the themes are carried across from the previous local plan.

1.4.2 Pre application public consultation

The NPPF encourages community engagement before planning applications are submitted (para 189), so that they may be shaped by early, proportionate and meaningful engagement between plan-makers and communities, local organisations, businesses, infrastructure providers and statutory consultees (para 16c). The Applicants have proactively sought engagement of the local community in the evolution of the development proposals, giving people the opportunity to obtain information, voice concerns and suggestions, and influence the shape of the proposed development, before any planning application is submitted.

Initial public consultation on the draft masterplan for the Western Growth Corridor was undertaken between 28 June and 15 November 2017. The questionnaire issued at that stage had a series of open-ended questions and an open comments section. Nine consultation events also took place facilitated by independent consultants, OpenPlan.

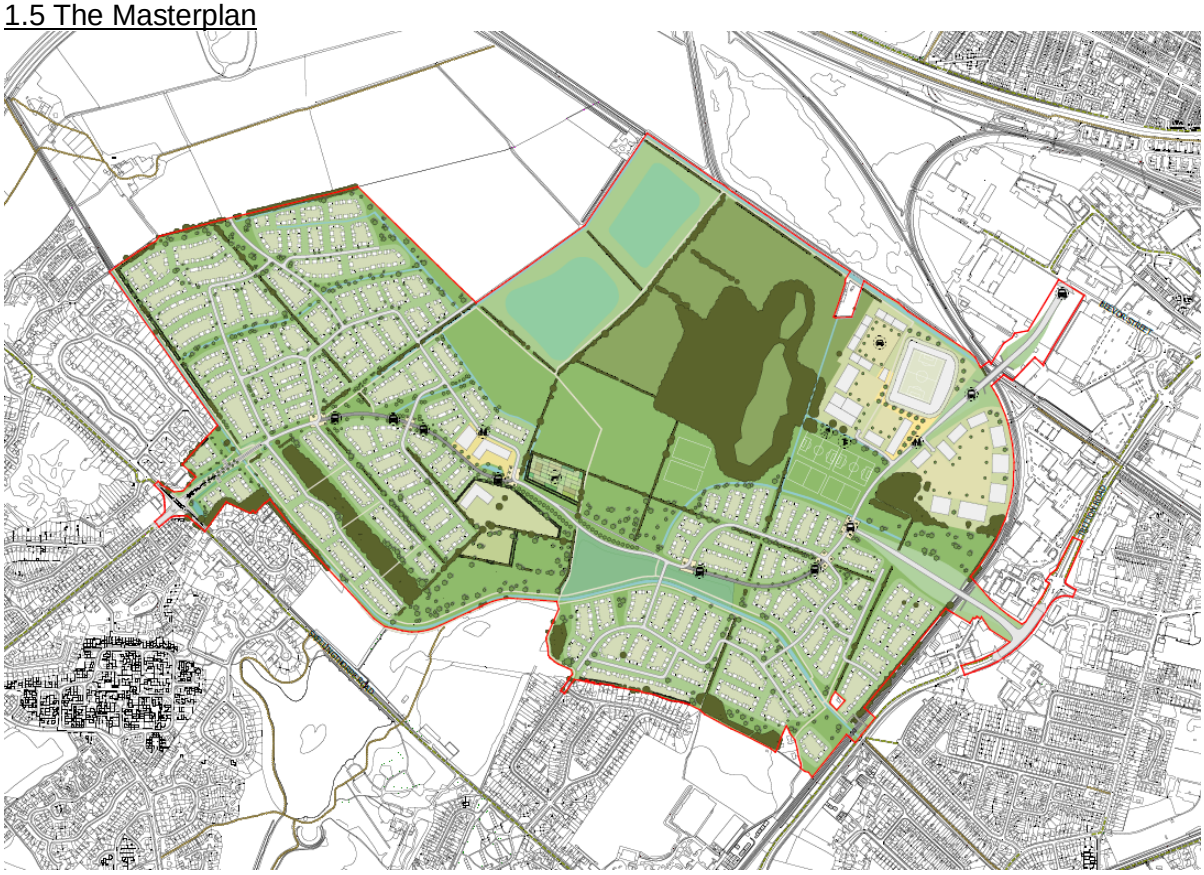
A second series of consultation events was held during February 2019. The main purpose of these events was to provide further information regarding the two matters which had been the subject of the most concern in responses to the previous (2017) consultation: traffic and drainage / flood risk management. A further six public consultation events were therefore held which included two technical presentations focusing on transport and drainage / flood risk management.

Amendments resulting from the 2017 consultation responses and further transport modelling and related discussions included:

i. confirmation that the access from Hartsholme Drive will be a cycle/pedestrian link only;
ii. proposed improvement of the Skellingthorpe Road / A46 roundabout;

iii. removal of a potential future additional access to/from the A46 in between the Skellingthorpe Road and A57 roundabouts.

1.5 The Masterplan



The planning application seeks consent for up to 3,200 dwellings on some 97 hectares of land; 20 hectares of commercial/leisure development in the form of a business park; a sports and leisure park including hotel and food and drink uses and a new football stadium; a local centre; a primary school; 39.6 hectares of formal and informal open space; 44.2 hectares of ecological enhancement area; with land being excavated to provide material (182,000 cubic metres) to help form development platforms and ultimately to create water retention basins. Up to 40,000 sq.m. of B1/B2 uses will be provided within the commercial areas and local centre.

The application site has an area of 238.5 hectares – smaller than the area that comprises the "Western Growth Corridor" Sustainable Urban Extension allocation for planning policy purposes. The application is submitted with a Broad Concept Plan which sets out the Local Plan allocated site.

1.5.1 Site Constraints

There are a number of key constraints that have been taken into account in arriving at the site area required to meet the policy objectives for the site. These are:

- flood risk/drainage (blue infrastructure);
- contamination; access;
- surrounding land uses;
- green infrastructure;
- heritage and other environmental factors.

Establishing a developable area upon which housing could be built (and any other uses sensitive to flood risk) without undue risk of flooding has been fundamental. The means of providing a flood free area is through the formation of development platforms in its south-western part – created in part by excavation of areas in its northern part and transfer of earth to establish the platforms upon which

the new housing in that part of the site could be safely built. Material would also need to be imported for this purpose. The development of the south-eastern and north-eastern parts of the site are less sensitive to flood risk so raised platforms do not need to be constructed.

Therefore most of the southern part of the site is made developable in flood risk terms whereas the northern and central part are left for open uses or ecological areas (taking account of the excavation of land in that part of the site); public open space etc. These areas remain subject to flood risk.

The second area of constraint is the need to avoid development (particularly housing) being unacceptably close to the Skewbridge tip in the central/northern part of the site, which the Masterplan addresses.

The key access points into the site are Skellingthorpe Road, Tritton Road and Beevor Street. Access onto the latter two roads – to allow the site to be particularly accessible into Lincoln city centre and adjacent areas – requires bridge links over the existing railway line. This access strategy reflects the need for an access corridor through the centre of the site from Skellingthorpe Road to the south to the city centre via either Tritton Road or Beevor Street to the east and north-east. This route would provide an alternative to Skellingthorpe Road and provide a route into the city which doesn't require crossing the railway. This barrier down time is often noted by local residents as the cause of delay in car journey times in this part of the city.

To accommodate development in a way that would be the most suitable in terms of impact on the surrounding uses, the concentration of housing development in the southern half of the site with commercial and leisure development being located closest to Lincoln city centre – with the local centre and primary school at the centre of the site to maximise accessibility for local residents.

1.5.2 Neighbourhood Planning

It is proposed that the WGC site will have its own sense of place. The separation of the two main housing areas, with one lying to the east of the main central open space and one to the west, ensures that the housing development areas are separate and will not feel like one large expanse of development. The application is submitted with a street hierarchy plan which sets out what might happen in the future in terms of a hierarchy of residential estate roads; disposition of informal open spaces and play areas within the housing areas and the relationship with the central area of open space.

The sense of place within WGC would be enhanced by the retention of a number of access/open corridors that will maintain views through the scheme to Lincoln city centre and in particular to the Cathedral and historic hillside. The applicant has submitted a 'design code' which will guide the principles of the detail of development in accordance with the masterplan. All of these elements would help to create the sense of place for the new development.

The local centre proposed is at the centre of the application site which makes it the most accessible from both of the housing areas, located to the south-west and south-east of the application site. The local centre is also easily accessed from the main transport route through the centre of the site. The local centre is anticipated to be an area of some 1.8 ha and could comprise the following facilities:

- A small local supermarket – this is currently intended (subject to operator interest) to comprise a convenience store of approximately 1,800 to 2,000 sq.m.
- A limited range of small scale individual shops such as chemist, newsagent and food and drink outlets.
- Local employment facilities (included within the 40,000 sq.m. figure in the application description).
- Community facilities
- Nursery/creche.

1.5.3 Phasing and Delivery Strategy

Clearly the development as a whole must be planned carefully over a long period. It also needs to be delivered in a way that can be managed in terms of infrastructure support to housing and

employment as well as the provision of appropriate funding from external sources as and when required. The phasing of the housing development needs to be directly linked to the provision of supporting highway infrastructure in relation to allowing suitable access to and from the site by cars; the provision of public transport infrastructure and suitable sustainability measures such as footpaths and cycle routes. This will ensure that development can be accommodated through its lifetime of construction either through existing or enhanced infrastructure.

The broad phasing of the scheme can be described as follows:

Phase 1A	• Construction of new junction into site from Skellingthorpe Road. • Development of up to 300 dwellings off Skellingthorpe Road access. • Offsite highway improvements to the junction of Birchwood Avenue/ Doddington Road, the junction of Whisby Road and Doddington Road and the junction of Doddington Road/Tritton Road
Phase 1B	• Bridge link (both highways and separate pedestrian footway) from site to Tritton Road. • Development of up to 300 dwellings off Tritton Road.
Phase 1C Approximate time taken to complete phase 1 – 6 years.	• Connection of main on-site access link between Skellingthorpe Road to end of Tritton Road bridge link (before occupation of any of phase 2).
Phase 2	• Development of main central part of the site for housing/local centre/open space/primary school • Improvements to the A46/Skellingthorpe Road Roundabout
Phase 2A Approximate time to complete phase 3 years.	• Development of 400 dwellings. • Provision of primary school. • Part provision of strategic POS.
Phase 2B Approximate time to complete phase 3 years.	• Development of 600 dwellings. • Commencement of local centre. • Land provided for up to 5,000 sq.m. commercial development. • Part provision of strategic POS.
Phase 2C Approximate time to complete phase 3 years.	• Development of 600 dwellings. • Part provision of strategic POS. • Further provision of commercial area (5,000 sq.m.).
Phase 2D Approximate time to complete phase 3 years.	• Development of 600 dwellings. • Final part of strategic POS. • Further provision of commercial area (5,000 sq.m.). • Commence building of Beevor Street bridge link.
Phase 3 Approximate time to complete phase 1-2 years.	• Building and completion of Beevor Street link (before any part of phase 4 occupied).
Phase 4A	• Development of 400 dwellings.
Phase 4B	• Final provision of commercial area 25,000 sq.m.
Phase 4C	• Development of leisure village.

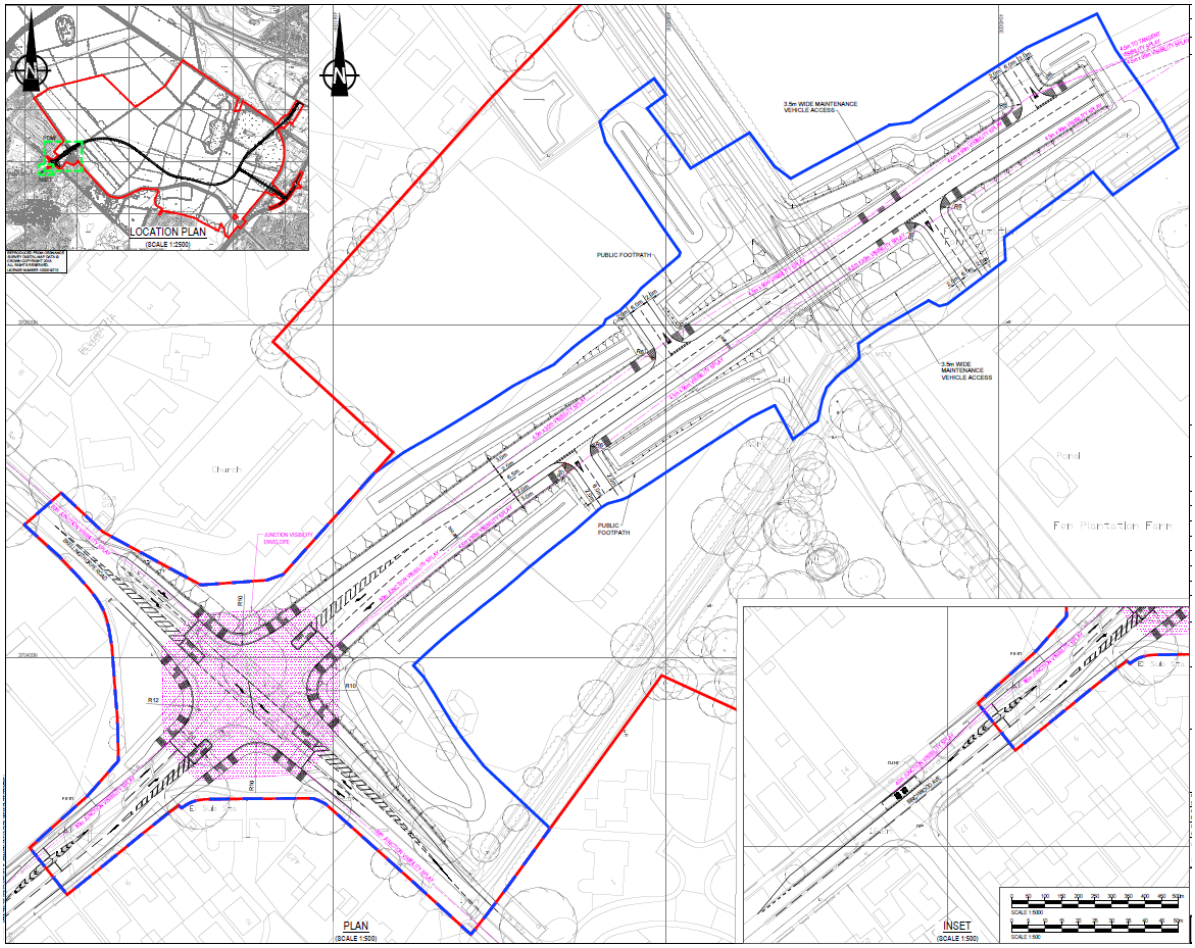
Phase 4D Approximate time to complete all of phase 4 - 3 years.	• Development of stadium.

Total approximate time to complete development = 22-23 years.

1.6 Detail on the full planning application

1.6.1 Skellingthorpe Road Access

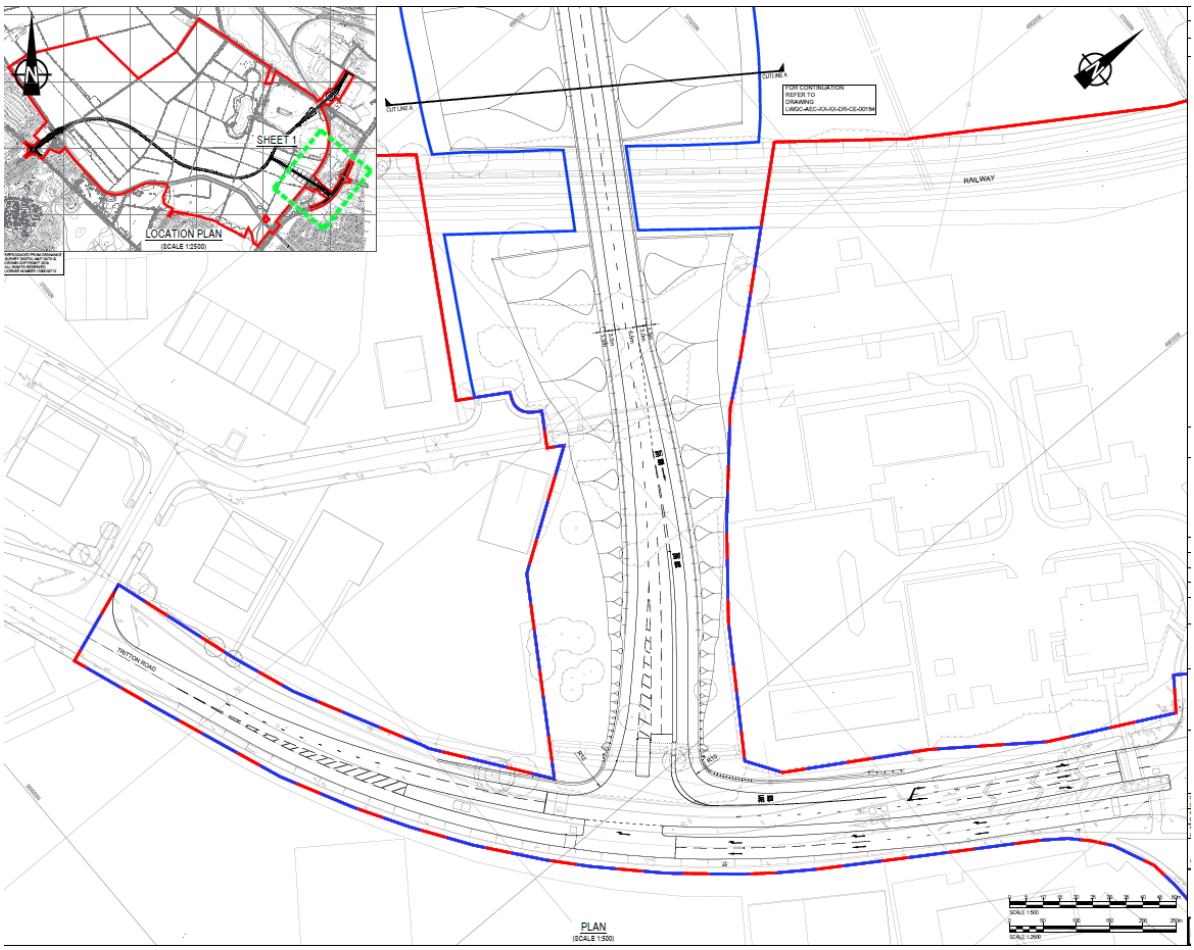
In Phase 1A, to enable the first 300 houses to be built, the access point from Skellingthorpe Road would be constructed first. Permission is sought for this access as well as the initial access Spine Road spur into the site, as shown on the plan below. Originally proposed as a roundabout the applications took on board advice from the Highways Authority and have changed the site access to a signalled crossing. The first section of road is being constructed to cross the Catchwater to access the initial phases of development near Fen Plantation Farm.



1.6.2 Tritton Road Access

In Phase 1B access to the site from Tritton Road would be required to enable development of the second set of 300 dwellings to be constructed. This access would require a bridge from the site, over the railway line, landing to the west of Tritton Road.

At the bridge crossing the existing ground is 5.8m Above Ordnance Datum. The carriageway level is 15.0m AOD so from ground level the bridge is approximately 9.2m to carriageway level. The guard rail would be 1.8metres above this level. At the crest of the road, which is composed of earthworks, the existing ground is 4.6m AOD with the carriageway level at 17.3m AOD. Here the structure would be 12.7m.



2.0 Issues

- Landscape & Visual Amenity
- Ecology and Nature Conservation
- Cultural Heritage including Archaeology
- Ground Conditions including land contamination
- Materials
- Water Resources and Flood Risk
- Transportation
- Noise and Vibration
- Air Quality
- Socio-economics
- Housing provision
- Health
- Education
- Sport Provision
- Design and visual amenity

3.0 Consultations

Consultations were carried out in accordance with the Statement of Community Involvement, adopted January 2018.

3.1 Statutory Consultation Responses

Consultee	Comment
Woodland Trust	Ask that the veteran trees capped at 15m are afforded full un-encroached Root Protection Areas (RPA) in line with Natural England's Standing Advice
Anglian Water	Conditions suggested.
Environment Agency	No objections subject to the imposition of a number of proposed conditions.
Education Planning Manager, Lincolnshire County Council	S106 contributions sought
Highways & Planning Lincolnshire County Council	Recommends refusal based on the first 300 dwellings. Supports the principle of the scheme.
Upper Witham, Witham First District & Witham Third District	The Board Objects to the proposed development. The location is within flood plain that has histrionically flooded, it is also is identified on the Environment Agency Flood maps as being in Zone 3/2.
Lincolnshire Fire And Rescue	No Response Received
Lincolnshire Trust For Nature Conservation	No Response Received
Lincolnshire Police	No objections
Lincolnshire Wildlife Trust	No objections but a number of recommendations made.
Natural England	Natural England considers that the proposed development will not have significant adverse impacts on designated sites and has no objection.
North Kesteven District Council	Concerns expressed but overall support for the scheme.
Network Rail	No objections
Open Spaces Society	No Response Received
Skellingthorpe Parish Council	Objects to the scheme

Sport England, East Midlands	Sport England's position is to raise a non-statutory objection to the application at this stage.
Stagecoach East Midlands	No Response Received
The Ramblers Association	No Response Received
West Lindsey District Council	Welcomes and support the proposal
Western Power Distribution (East Midlands) Plc	No Response Received
Historic England	Historic England has concerns regarding the application on heritage grounds.
Highways England	Comments Received
NHS England	Comments received and request for contribution towards improvement of health services
RSPB	No Response Received
Cycling UK	No Response Received
Lincoln Civic Trust	No Response Received
Greater Lincolnshire Nature Partnership	Opportunities should be taken to secure net gain as required by the National Planning Policy Framework (paragraphs 174b and 175d)

Copies of the Statutory Consultee responses are copied within Appendix C of this report. They can also be found on the Planning Portal 2019/0294/RG3 | Hybrid planning application for the sustainable urban extension of Lincoln on the site of the Western Growth Corridor to comprise:- In Outline - Housing development of up to 3,200 dwellings; local centre comprising community, retail (E, F.2 and Pub or drinking establishment/Takeaway as Sui Generis uses), employment (E) uses and parking; a primary school; up to 8HA of land (including key infrastructure) for up to 40,000sq.m of E and B2 development; up to 12ha of land (including key infrastructure) for sport, recreation and leisure (E and F.1 and F.2), a hotel (C1) food and drink outlets (E and Sui Generis) and a new community stadium for Lincoln City Football Club; Areas of formal and informal public openspace; a network of public footpaths and cycleways associated engineering works to inform development platform and drainage system; new transport bridge link over to Beevor Street, and a new public footpath bridge over to Tritton Road. In Full - Details for means of access into the site from Skellingthorpe Road and Tritton Road (revised description). | Western Growth Corridor Skellingthorpe Road Lincoln Lincolnshire

3.2 Public Consultation Responses

Name	Address
Councillor Dr Mike Thompson	Lincolnshire County Council Councillor Eagle & Hykeham West (Including Skellingthorpe)Executive Support Councillor NHS Liaison And Community Engagement
Mr Douglas Shooter	23 Woodfield Avenue Lincoln Lincolnshire LN6 0LJ
Mr Brian Porter	4 Chalgrove Way Lincoln LN6 0QH
Mr John Radford	1 Sywell Close Lincoln Lincolnshire LN6 3NY
Mrs Jill Reynolds	9 Haddon Close Lincoln Lincolnshire LN6 7YF
John Orr	2 Webster Close Lincoln Lincolnshire LN6 7JD
Dr Peter Gostelow	1 Westwood Drive Lincoln Lincolnshire LN6 0HL
Mrs Valerie Wilkinson	25 Lee Road Lincoln Lincolnshire LN2 4BJ
Mr David Lyon	28 Westwood Drive Lincoln Lincolnshire LN6 0HL
Mr Ray Butterworth	23 Malham Drive Lincoln Lincolnshire LN6 0XD
Mrs Leila Watta	5 Belgravia Close Lincoln Lincolnshire LN6 0QJ
Mr G Wilson	236A Boultham Park Road Lincoln Lincolnshire LN6 7SU
Mr Paul Frodsham	2 Roxborough Close Lincoln Lincolnshire LN6 0QL
Mr Christopher Page	13 Cherry Grove Lincoln Lincolnshire LN6 0HE
Mr David Hall	10 Farrington Close Lincoln Lincolnshire LN6 0XH
Mrs Sarah Marshall	37 Bucknall Avenue Lincoln Lincolnshire LN6 0BL
Mr Darren Smith	29 Almond Avenue Lincoln Lincolnshire LN6 0HB
Mr James Carratt	Farrington Cresent Lincoln LN6 0YG
Mr Emre Ozturk	13 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mr Brian Daulton	27 Woodfield Avenue Lincoln Lincolnshire LN6 0LJ
John Hopkins	
Mrs Gillian Winter	23 Elsham Close Lincoln Lincolnshire LN6 3YY
Mrs Anne Wilson	236A Boultham Park Road Lincoln Lincolnshire LN6 7SU
Mr David Godfrey	1 Rochester Drive Lincoln Lincolnshire LN6 0XQ
County Councillor Clarke	
Mr Richard Newton	12 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Barwood Land	
Mr And Mrs Wilson	
Mrs Melissa Wareham	33 Hartsholme Drive Lincoln Lincolnshire LN6 0HF

Mr Andrew Butlin	15 Rosewood Close Lincoln Lincolnshire LN6 0NQ
Mr Jacob Duce	7 Hartsholme Drive Lincoln Lincolnshire LN6 0HF
Mrs Sheila Buck	
Mrs Christine Bishop	6 Shearwater Road Lincoln Lincolnshire LN6 0XX
Mr Roger Reynolds	9 Haddon Close Lincoln Lincolnshire LN6 7YF
John Hopkins	11 Prospect Court Courteenhall Road Blisworth Northamptonshire NN7 3DG
Mr Peter Harrod	14 Landmere Grove Lincoln Lincolnshire LN6 0PD
Mr Max Buck	30 Westwood Drive Lincoln Lincolnshire LN6 0HL
Dr Apostolos Papadopoulos	11 Burghley Road Lincoln Lincolnshire LN6 7YE
Mrs Tina Nash	24 Malham Drive Lincoln Lincolnshire LN6 0XD
Mrs Elizabeth Doughty	45 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mr Paul Davenport	5 Chalgrove Way Lincoln Lincolnshire LN6 0QH
Miss Sharon Jean Horne	6 Belgravia Close Lincoln Lincolnshire LN6 0QJ
Mr Johan Els	9 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mrs Leila Watts	5 Belgravia Close Lincoln Lincolnshire LN6 0QJ
Richard Hall	5 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mrs Carol Robb	469 Skellingthorpe Road Lincoln Lincolnshire LN6 0QW
Mrs Sue Shooter	23 Woodfield Avenue Lincoln Lincolnshire LN6 0LJ
Mr Samuel Winton	171 Riverside Drive Lincoln Lincolnshire LN5 7NZ
Mrs Christine Blunn	3 Worcester Close Doddington Park Lincoln LN6 3LW
Mr Paul Davenport	5 Chalgrove Way Lincoln Lincolnshire LN6 0QH
Mr Richard Beecroft	30 Eton Close Lincoln Lincolnshire LN6 0YF
Mr Sam Farrow	9 Hartsholme Drive Lincoln Lincolnshire LN6 0HF
Mrs Helen Gostelow	1 Westwood Drive Lincoln Lincolnshire LN6 0HL
Mr Colin Smith	2 Belgravia Close Lincoln Lincolnshire LN6 0QJ
Mr Hiroyuki Nakai	41 Rochester Drive Lincoln Lincolnshire LN6 0XJ
Ms Beryl Hayden	9 Woodfield Avenue Lincoln Lincolnshire LN6 0LJ
Mr Stan Bullock	
Hilary Campbell	

Mrs Jill Reynolds	9 Haddon Close Lincoln Lincolnshire LN6 7YF
Mr Christopher Wilson	2 Rochester Drive Lincoln Lincolnshire LN6 0XQ
Mr Rob Ward	High Trees 94 Shearwater Road. Lincoln LN6 0XA
Mr Philip Jackson	58 Princess Street Lincoln Lincolnshire LN5 7QL
Christine Jefferies	
Roderick Tait	63 Abingdon Avenue Lincoln Lincolnshire LN6 3LB
Mr Franz Funk	7 Burghley Road Lincoln Lincolnshire LN6 7YE
Pauline Tait	63 Abingdon Avenue Lincoln Lincolnshire LN6 3LB
Mr Richard Newton	12 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mr Johan Els	9 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Miss Christine Jefferies	7 Westwood Drive Lincoln Lincolnshire LN6 0HL
University Of Lincoln	
Mr Peter Arbourne	3 Chelsea Close Lincoln Lincolnshire LN6 0XF
Mr Nick Stark	1 Cherry Grove Lincoln Lincolnshire LN6 0HE
R Cunningham	2 Burghley Road Lincoln Lincolnshire LN6 7YE
Mrs D Richardson	15 Birchwood Avenue Lincoln Lincolnshire LN6 0HX
Mrs Hilary Campbell	23 Westwood Drive Lincoln Lincolnshire LN6 0HL
Mr Graham Clapham	Westwood Drive Swanpool Lincoln LN6 0HL
Mr Richard Rushby	26 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mr Philip Tutty	29 Shaftesbury Avenue Lincoln Lincolnshire LN6 0QN
J Brown	3 Haddon Close Lincoln Lincolnshire LN6 7YF
Mrs Rosemary Bradshaw	35 Burghley Road Lincoln Lincolnshire LN6 7YE
Mr David Bishop	6 Shearwater Road Lincoln Lincolnshire LN6 0XX
Mr Barry Anderson	9 Lime Tree Close Lincoln Lincolnshire LN6 0RT
Mr Danny Coy	3 Burghley Close Lincoln Lincolnshire LN6 7YH
Mr Anthony Hayden	9 Woodfield Avenue Lincoln Lincolnshire LN6 0LJ
Miss Jamilah Nicholl	421 Skellingthorpe Road Lincoln Lincolnshire LN6 0PA
Mr Richard Rushby	26 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mrs Jo Brown	3 Haddon Close Lincoln Lincolnshire LN6 7YF

Mr & Mrs R Bradshaw	4 Burghley Close Lincoln Lincolnshire LN6 7YH
Gillian Martin	30 Burghley Road Lincoln Lincolnshire LN6 7YE
Karen Gostick	3 Burghley Road Lincoln Lincolnshire LN6 7YE
Christine And Franz Funk	7 Burghley Road Lincoln Lincolnshire LN6 7YE
Jane Fry	8 Haddon Close Lincoln Lincolnshire LN6 7YF
Richard J Rushby	26 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Terry Johnson	16 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mr C G Beat	3 Landmere Grove Lincoln Lincolnshire LN6 0PD
D A And Mrs A Watson	29 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
David Godfrey	1 Rochester Drive Lincoln Lincolnshire LN6 0XQ
Kathleen Hall	5 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mr Ken Cross	24 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Linda Godley	9 Chelsea Close Lincoln Lincolnshire LN6 0XF
Mr And Mrs D Calvert	6 Chelsea Close Lincoln Lincolnshire LN6 0XF
Mr S Bullock	41 Westwood Drive Lincoln Lincolnshire LN6 0HL
Jayne Thorpe	37 Almond Crescent Lincoln Lincolnshire LN6 0HN
Mr Robert Clarke	12 Shaftesbury Avenue Lincoln Lincolnshire LN6 0QN
J L Barron	5 Belgravia Close Lincoln Lincolnshire LN6 0QJ
David & Margaret Beckers	34 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mr D J Stock	4 Euston Close Lincoln Lincolnshire LN6 0XG
Simon Biggs	9 Chalgrove Way Lincoln Lincolnshire LN6 0QH
Christine Bray	34 Birchwood Avenue Lincoln Lincolnshire LN6 0JB
Gordon Reedman	5 Farrington Crescent Lincoln Lincolnshire LN6 0YG
Paul Wragg	15 Westwood Drive Lincoln Lincolnshire LN6 0HL
J P McConnell-Wood	34 Westwood Drive Lincoln Lincolnshire LN6 0HL
Mr & Mrs K Rogers	36 Rochester Drive Lincoln Lincolnshire LN6 0XJ
Graham Turner	47 Eton Close Lincoln Lincolnshire LN6 0YF
M.E. Sharpe	445 Skellingthorpe Road Lincoln Lincolnshire LN6 0QW

Mrs M Davenport	5 Chalgrove Way Lincoln Lincolnshire LN6 0QH
Mrs Diane Richardson	15 Birchwood Avenue Lincoln Lincolnshire LN6 0HX
Mr Patrick & Suzanne Sanders	10 Haddon Close Lincoln Lincolnshire LN6 7YF
Nicky Toynbee	5 Burghley Road Lincoln Lincolnshire LN6 7YE
J P Warner	6 Burghley Road Lincoln Lincolnshire LN6 7YE
Max Buck	30 Westwood Drive Lincoln Lincolnshire LN6 0HL
Mr Richard Beecroft	30 Eton Close Lincoln Lincolnshire LN6 0YF
Mr S W Holland	6 Chalgrove Way Lincoln Lincolnshire LN6 0QH
Mark And Helen Pacey	7 Farrington Crescent Lincoln Lincolnshire LN6 0YG
Mr Richard Newton	12 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
	5 Roxborough Close Lincoln Lincolnshire LN6 0QL
John RN Ogle	Shiloh Birchwood Grange Lincoln Lincolnshire LN6 0LB
Peter Arbourne	3 Chelsea Close Lincoln Lincolnshire LN6 0XF
Mr W P And Mrs M Hull	The Loft 1 Belgravia Close Lincoln Lincolnshire LN6 0QJ
Mrs M Shillitto	Flat 14 Ferguson House Stones Lane Lincoln Lincolnshire LN6 0TH
Owner/Occupier	15 Burghley Road Lincoln Lincolnshire LN6 7YE
David Condon	41 Burghley Road Lincoln Lincolnshire LN6 7YE
Mr And Mrs Morris	11 Birchwood Avenue Lincoln Lincolnshire LN6 0HX
Dr Apostolos Papadopoulos	11 Burghley Road Lincoln Lincolnshire LN6 7YE
R Cunningham	2 Burghley Road Lincoln Lincolnshire LN6 7YE
Mr L And Mrs C Carter	Flat 11 Ferguson House Stones Lane Lincoln Lincolnshire LN6 0TH
Keith Eaton	32 Burghley Road Lincoln Lincolnshire LN6 7YE
Mr And Mrs Reynolds	9 Haddon Close Lincoln Lincolnshire LN6 7YF
Sam Dorrian	Grovelands Business Park West Haddon Road East Haddon Northamptonshire NN6 8FB
Marrons Planning	Waterfront House Waterfront Plaza 35 Station Street Nottingham NG2 3DQ
Mrs Loraine Humphreys	1 Burghley Road Lincoln Lincolnshire LN6 7YE
Mrs Sonja Heuer-Engelbert	22 Shaftesbury Avenue Lincoln Lincolnshire LN6 0QN

Mr Raymond Marshall	38 Hartsholme Drive Lincoln Lincolnshire LN6 0HQ
Councillor Chris Goldson	
Nicole Hillier	Woodland Trust Kempton Way Grantham Lincolnshire NG31 6LL
Mr Paul Frodsham	2 Roxborough Close Lincoln Lincolnshire LN6 0QL
Mr Colin Smith	2 Belgravia Close Lincoln Lincolnshire LN6 0QJ
Elizabeth Doughty	
Mr Leslie G W Smith	3 Woodfield Avenue Lincoln Lincolnshire LN6 0LJ
Thomas Blount	The Boole Technology Centre Lincoln Science And Innovation Park Beevor Street Lincoln Lincolnshire LN6 7DJ
Paul Mabbot	28 Staffordshire Crescent Lincoln Lincolnshire LN6 3LR
Mrs Deborah Ticehurst	The Spinneys Old Wood North Skellingthorpe Lincoln LN6 5UA
Mrs Carol Robb	469 Skellingthorpe Road Lincoln Lincolnshire LN6 0QW
Mr Scott Olivant	3 Burghley Close Lincoln Lincolnshire LN6 7YH
Mr Richard Morrant	18 Grosvenor Avenue Forest Park Lincoln LN6 0XT
T WIlkinson	Decoy Farming Company Decoy Farm Skellingthorpe Road Lincoln LN6 5SA
Mr Andrew Walshaw	Skellingthorpe Parish Council Parish Office Lincoln Road Skellingthorpe Lincoln LN6 5UT
Mary And Brian Daulton	
Mr Philip Jackson	58 Princess Street Lincoln LN5 7QL
George Fletcher	264 Skellingthorpe Road Lincoln Lincolnshire LN6 0ER
Mr Karl Nelson	3 Rochester Drive Hampton Park Lincoln LN6 0XQ
Mr Richard Johnston	8 Waterloo Lane Skellingthorpe Lincoln LN6 5SL
C L Jefferies	7 Westwood Drive Lincoln Lincolnshire LN6 0HL
Mr R Andrew Walshaw	2 Redwing Close Skellingthorpe Lincoln LN6 5SH
Mr Christopher Padley	54 Hewson Road Lincoln Lincolnshire LN1 1RX
Cllr Chris Goldson	
Ron Hills	15 Hartsholme Drive Lincoln Lincolnshire LN6 0HF
Mr Andrew & Leah Yell	11 Westwood Drive Lincoln LN6 0HL
Miss Shannon Yellowley	20 St Chads Way Barton Upon Humber DN18 5EN
Mr Colin Martin	12 Betula Grove Lincoln Lincolnshire LN6 0RF
Brian Dines And Jane Halliwell	39 Westwood Drive Lincoln Lincolnshire LN6 0HL

Mr Philip Barton	27 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mr Neil Harrison	8 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Miss Jamilah Nicholl	421 Skellingthorpe Road Lincoln Lincolnshire LN6 0PA
Sue Shooter	23 Woodfield Avenue Lincoln Lincolnshire LN6 0LJ
John Zubic	Hamilton House Beevor Street Lincoln Lincolnshire LN6 7DJ
Mrs J Drinkall	21 Woodfield Avenue Lincoln Lincolnshire LN6 0LJ
Mr Richard Johnston	8 Waterloo Lane Skellingthorpe LN6 5SL
Mr Peter Arbourne	3 Chelsea Close Lincoln Lincolnshire LN6 0XF
Miss Tasha Hopkin	64 Picton Street Lincoln Lincolnshire LN6 7FJ
Mr Paul Banfield	24 Rochester Drive Lincoln LN6 0XQ
Mr Nick Marshall	6 Beswick Close Lincoln Lincolnshire LN6 3NB
Mr Ian Whiting	5 Burghley Road Lincoln Lincolnshire LN6 7YE
Susan Gayler	
Mrs Gillian Newton	12 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Mr Ricky Greensmith	36 Grosvenor Avenue Lincoln Lincolnshire LN6 0XT
Debbie Grant	Roe Deer House Skellingthorpe Road Lincoln Lincolnshire LN6 0SB
Helen Lloyd	Hestia House 2 Edgewest Road Lincoln Lincolnshire LN6 7EL
Simon Gillott	Emr Metal Recycling Beevor Street Lincoln Lincolnshire LN6 7DJ
Mr Michael Tuson	12 Malham Drive Lincoln Lincolnshire LN6 0XD
Mr Jack Chapman	40 Hartsholme Drive Lincoln Lincolnshire LN6 0HQ
Mr Jim Wood	22 Rochester Drive Lincoln Lincolnshire LN6 0XQ
Mr Martyn Housley-Smith	7 Parkside Nettleham Lincoln LN2 2RZ
Mr Peter Radcliffe	1 Barley Way Horncastle LN9 5SS
Mr P Davenport	5 Chalgrove Way Forest Park Lincoln LN6 0QH
Ian Whiting	5 Burghley Road Lincoln LN6 7YE
Mr David Lyon	28 Westwood Drive Lincoln Lincolnshire LN6 0HL
Mr Philip Tutty	29 Shaftesbury Avenue Forest Park Lincoln LN6 0QN
Mr Ronald Price	2 Meadowlake Crescent Lincoln Lincolnshire LN6 0HZ

Lulu Woolner	
Michael Parkinson	
David Clarkson	20 Woodfield Avenue Lincoln Lincolnshire LN6 0LH
Peter Brett Associates LLP	
F Kipley	59 Stainton Gardens Lincoln Lincolnshire LN1 3TH
Mr Peter Arbourne	3 Chelsea Close Lincoln Lincolnshire LN6 0XF
Mr Christian Engelbert	22 Shaftesbury Avenue Lincoln LN6 0QN
Mr Richard Davidson	8 Maxwell Avenue Lincoln Lincolnshire LN6 7UX
Ron And Mandy Morris	
Mrs Sheila Buck	30 Westwood Drive Lincoln Lincolnshire LN6 0H
Mr Tom Hodgetts	5 Burghley Close Lincoln Lincolnshire LN6 7YH
Mr Leonard Beaumont	1 Chelsea Close Lincoln Lincolnshire LN6 0XF
Mr B Porter	4 Chalgrove Way Lincoln LN6 0QH
Ralph Godley	9 Chelsea Close Lincoln Lincolnshire LN6 0XF
John Watts	5 Belgravia Close Lincoln Lincolnshire LN6 0QJ
Mr Lee Wiles	7 Burghley Close Lincoln Lincolnshire LN6 7YH
Mr Ian Whiting	5 Burghley Road Lincoln Lincolnshire LN6 7YE
Mrs Barbara Kennard	

Copies of the public consultation responses are copied within the annexe of this report. They can also be found on the Planning Portal 2019/0294/RG3 | Hybrid planning application for the sustainable urban extension of Lincoln on the site of the Western Growth Corridor to comprise:- In Outline - Housing development of up to 3,200 dwellings; local centre comprising community, retail (E, F.2 and Pub or drinking establishment/Takeaway as Sui Generis uses), employment (E) uses and parking; a primary school; up to 8HA of land (including key infrastructure) for up to 40,000sq.m of E and B2 development; up to 12ha of land (including key infrastructure) for sport, recreation and leisure (E and F.1 and F.2), a hotel (C1) food and drink outlets (E and Sui Generis) and a new community stadium for Lincoln City Football Club; Areas of formal and informal public openspace; a network of public footpaths and cycleways associated engineering works to inform development platform and drainage system; new transport bridge link over to Beevor Street, and a new public footpath bridge over to Tritton Road. In Full - Details for means of access into the site from Skellingthorpe Road and Tritton Road (revised description). | Western Growth Corridor Skellingthorpe Road Lincoln Lincolnshire

The issues raised by the public are extensive and cover a range of topics. The issues are addressed throughout the body of the report, however below is a brief summary of the key issues raised.

- Traffic Congestion
- Air Pollution
- Flooding
- Change the character of the area
- Noise levels
- Impact on local wildlife and environment
- Pressure on existing infrastructure

- Noise and disturbance during construction
- Large number of heavy construction vehicles
- Access should come from Tritton Road first
- Loss of agricultural land
- Lack of GP services
- Effect on trees
- Lack of pedestrian and cycle ways
- Lack of park and ride
- Lack of low carbon sustainable design
- Impact on Skellingthorpe Village
- Phasing of the proposed accesses into the site
- Bridge designs
- Impact on house prices
- Wrong location for a football stadium
- TPO'd trees

There have also been letters received in support of the application. The main areas of support are:

- Will deliver sustainable growth and affordable homes in a sensible location
- New football stadium needed

4.0 Consideration

4.1 Environmental Impact Assessment

The Environmental Impact Assessment (EIA) is governed by the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended) ('The EIA Regulations'). These regulations apply the requirements of the Environmental Impact Assessment Directive "on the assessment of the effects of certain public and private projects on the environment" to the planning system in England. It aims to ensure that any significant effects arising from a development are identified, assessed and presented to help Local Planning Authorities, statutory consultees and other key stakeholders in their understanding of the impacts arising from development.

This assessment has been undertaken through the submission of an Environmental Statement (ES) which addresses a number of environmental issues, the scope of which was agreed on 5th August 2016 by the LPA. The ES covers the following chapters:

- Landscape & Visual Amenity
- Ecology and Nature Conservation
- Cultural Heritage
- Ground Conditions
- Materials
- Water Resources and Flood Risk
- Transportation
- Noise and Vibration
- Air Quality
- Socio-economics
- Cumulative Effects

The original ES has been independently assessed by a specialist consultant to establish its compliance against the requirements of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011. A technical review and interrogation of the ES and associated technical appendices has been undertaken in terms of legal requirements, government guidance and best practice.

This review concluded that there were two areas of concern which would cause the ES to fall short of the requirements of 2011 Regulations. Otherwise, the independent review concluded that the ES includes the information required by Schedule 4 and therefore complies with the 2011 Regulations.

The areas of concern were:

- The failure to assess impacts from proposed improvements to the Skellingthorpe Road/A46 junction; and
- Potential shortcomings in the assessment of cumulative impacts.

Subsequently the ES has been reviewed by the applicants, a number of changes made, and a revised ES submitted.

August 2021 Review
Following the submission of revised chapters of the Environmental Statement, a further independent legal review of the submission was made by Freeths and assessed against the Town and Country Planning (Environmental Impact Assessment) Regulations 2011.

This review concluded that there continued to be a potential area of non-compliance due to the failure to assess the cumulative impacts of the Skellingthorpe Road/A46 improvement works.
Further work was advised by the LPA on the basis of the legal review, to which the applicants submitted further information in the form of an Addendum to the Environmental Statement, addressing the outstanding areas of concern.

Environmental Statement Addendum November 2021
The ES Addendum was provided to the LPA to supplement and update the ES. It should be read alongside the ES and in confirming and clarifying the relevant environmental information where requested by the LPA. The latest review of the Addendum to the Environmental Statement has confirmed that the ES now contains all the information required by Schedule 4 and therefore complies with the 2011 Regulations.

The LPA are now satisfied that the information contained and the methods adopted within the assessment are adequate and meet the necessary requirements prescribed within the regulations.

4.1.1 Findings of the EIA
The technical chapters of the ES are discussed further in this report as they form part of the overall consideration of the planning application. However the summary of the ES concludes that there would be several significant residual adverse landscape and visual effects during the construction and operation of the Proposed Development due to the introduction of new built development into the Site area.

There would be moderate adverse significant effects after mitigation on cultural heritage as a result of the physical disturbance to archaeological remains. The completion of a successful programme of archaeological investigation and reporting would reduce the effect from major adverse to moderate adverse, as the evidential data would be contextualised and preserved by record and would be of regional and potentially national interest.

There would be potentially a significant residual adverse effects at the District level from construction on the Mormon Field LWS and potentially a significant adverse effect at the District level from construction on the breeding bird assemblage due to loss of habitats. However, there is potential for a significant beneficial effect (ie residual effect being minor beneficial) on habitats including grassland, trees, dry ditch, pond 10, scrub, tall ruderal and arable at the Local level in the medium to long-term through appropriate management and monitoring delivered through the LEMP.

There would be a significant adverse effect for noise and vibration on receptors located off Ruston Way and Poplar Avenue due to the additional traffic burden during the operation stage of the Proposed Development.

The loss of agricultural land would potentially constitute a significant adverse effect, however as the Site has already been allocated in the Development Plan as a Sustainable Urban Extension area the loss of agricultural land will previously have been approved through the Development Plan review process. The remediation of the landfill area would result in there being a significant beneficial effect on controlled waters during operation.

With regards to socio-economics there would be a moderate beneficial effect on employment during construction and a major beneficial effect once the Proposed Development is fully operational. There would also be a major beneficial effect on housing after completion of the Proposed Development through the housing provided, as well as a moderate beneficial effect on expenditure in the local area

With the implementation of embedded mitigation measures and good practice measures during construction and operation, there would be no significant effects on air quality, water resources or flood risk.

4.1.2 Cumulative impact

The ES carries out an assessment of potential cumulative effects and inter-relationships between effects (combined effects) that may occur as a result of the Proposed Development. Cumulative effects have the potential to arise where two or more developments are proposed within close enough proximity to lead to potential impacts on the same receptor.

The requirement for cumulative impact assessment is stated in the relevant European Directive and legislation.

Paragraph 4 1A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development

4.1.3 Type 1 Effects

There are several residential and other local receptors in the vicinity of the Proposed Development that has the potential to experience inter-relationship effects as a result of the construction and operation of the Proposed Development.

During the pre-construction (demolition and earthworks) and construction phases, the receptors most at risk from inter-relationship effects would be those closest to the Proposed Development boundary and therefore the construction activities. With mitigation in place construction activities are not anticipated to increase noise levels above thresholds for construction noise. However, a number of receptors in close proximity to the Proposed Development may temporarily experience noise levels at the threshold for noise levels during night and/ or evening works. Due to their proximity to the Proposed Development these receptors are also likely to experience a minor adverse effect on local amenity as a result of increases in dust and air quality emissions during the construction phase. Residential properties within close proximity on Grosvenor Avenue, Burghley Road and Haddon Close are also likely to experience a minor adverse effect due to short term increases in PM10 during construction. Visual effects on receptors directly adjacent to the Proposed Development (to the south of the Proposed Development site) are anticipated to experience a major adverse visual effect during construction. These receptors are likely to experience all of the effects outlined above. Due to the localised and temporary nature of these effects it is considered that the Proposed Development would result in a minor adverse cumulative effect which is not significant.

During operation, increases in air quality emissions are anticipated to be negligible at existing receptors during operation of the Proposed Development and are therefore not considered further within the assessment of inter-relationship effects. Operation of the Proposed Development is anticipated to have a negligible residual noise effect and is therefore not considered further within the assessment of inter-relationship effects.

Inter-relationship effects are therefore limited to effects associated with operational traffic noise and visual effects.

4.1.4 Type 2 Effects

Air Quality and Noise & Vibration

Is anticipated that any other developments in the vicinity of the Proposed Development with the potential to generate construction dust and noise and/or vibration impacts would be required to manage dust, noise and vibration generation through planning conditions to avoid adverse effects at nearby sensitive receptors. Therefore, it is considered unlikely that the construction of the Proposed Development would lead to cumulative effects on receptors.

The air quality, transportation and noise assessments as presented in this ES utilise predicted traffic flows which include the traffic associated with future developments and highways schemes. As these future developments are included in the traffic model which informs the air quality and noise models the operational assessments for air quality, transportation and noise are inherently cumulative.

Ground Conditions

It is not anticipated that the Proposed Development would result in significant cumulative effects associated with ground conditions during construction or operation due to appropriate mitigation measures being agreed with the Local Authority and implemented in order to minimise any potential adverse effects.

Materials

Due to the phasing and extended construction period (22 to 23 years) for the Proposed Development and the relatively small scale nature of other known developments it is considered that the Proposed Development would not result in a significant cumulative effect on materials and waste during construction or operation.

Cultural Heritage

Should archaeological remains be uncovered at any of the sites identified within the study area, as well as at the Proposed Development site, then there would be an overall cumulative effect on the archaeological resource of the local area.

Residual minor adverse effects are anticipated during construction and operation of the Proposed Development for two heritage assets outside the Site boundary, a duck decoy, north-west of the Proposed Development and Swanpool Conservation Area directly south of the Proposed Development. A residual minor adverse effect is also anticipated for Lincoln Castle and Cathedral and the Cathedral Church of St Mary (Grade I listed building) as a result in very low impacts to their setting.

Ecology and Nature Conservation

The April 2019 ES identifies eight planning applications that are considered to be of primary relevance to the Proposed Development because of their potential for cumulative impacts on ecological habitats and protected species and concludes it is unlikely that there would be any significant adverse cumulative effects as a result of the Proposed Development. The November 2021 ES Addendum identifies (in Table 4.1) a number of other developments with applications submitted since November 2018 and not included in the ES April 2019. The ES Addendum confirms “none of the developments identified in Table 4.1 are considered likely to result in the Proposed Development having additional significant cumulative effects to those already identified in the ES”.

Water Resources and Flood Risk

There would be no significant cumulative effects on water resources or flood risk as a result of the Proposed Development.

Landscape and Visual

In terms of cumulative visual impacts on receptors, moderate adverse significant effects are predicted at Viewpoint 6 during construction and on operation and Viewpoint 13 during construction. The cumulative impacts on these visual receptors are marginally greater than the impact of the

Proposed Development alone. However, the visual effect (moderate adverse) is not considered to be any greater than with the Proposed Development alone.

Socio-Economics
Due to the extended construction period for the Proposed Development (22 to 23 years) it is considered likely that the other identified committed developments will be constructed during the construction of the Proposed Development. This has the potential to result in an increase in employment in the area above that required for the construction of the Proposed Development (Moderate beneficial effect).

Transportation
Cumulative effects associated with traffic are an intrinsic part of the assessment of operational traffic impacts presented in the ES. No significant residual effects are anticipated in relation to transportation.

4.2 Design and Layout

4.2.1 Relevant Planning Policy
Chapter 12 of the NPPF sets how applicants and local authorities should create high quality, beautiful and sustainable buildings and places.

Applicants may choose to prepare design codes in support of a planning application. “All guides and codes should be based on effective community engagement and reflect local aspirations for the development of their area, taking into account the guidance contained in the National Design Guide and the National Model Design Code.

Policy LP28, Sustainable Urban Extensions, is the overarching policy for all urban extensions: the site-specific SUE policies in the settlement chapters provide details of the particular considerations for the individual SUEs. Policy LP30 of the Local Plan sets out the specific requirements of WGC, the elements which should be planned for within the Masterplan.

4.2.2 The Masterplan

The application for Western Growth Corridor is submitted with a detailed Masterplan and a Design Code. The aspiration for the development is to a create a new distinctive place which adopts the best traditions and characters of the local area whilst also adopting up to date sustainable design and responding to the unique opportunities on the site.

The submitted Design Code is a design tool. Its purpose is to coordinate detailed design through the life of the implementation of (WGC), which is anticipated to be over some 20+ years. The code sets basic expectations which numerous developers, housebuilders and designers would respond to through detailed design of the component parts of Western Growth Corridor. The Code provides a high level of flexibility for design, creativity and innovation.

The Code should be read alongside other design guidance relating to building, highway design and landscape design. The LPA will be able to control the planning and design of all reserved matters applications through the submission of future applications. The Council will expect all reserved matters applications to be planned and designed to respond directly and clearly to this code.

4.2.3 Access Points and Spine Road

The first access into the site, constructed in the first phase of development, would be the access from Skellingthorpe Road. This gateway creates a crucial first impression for the development and progression towards the city. It is proposed that this access is characterised by a green setting and new residential development. The design code sets out that properties in this area should have high quality frontages to address the gateway with parking, access and servicing from the rear of plots either side of the Spine Road to minimise the visual impact of road space in this area. The LPA supports this approach and will have further discussions with the applicants prior to the submission to the first phases of residential development.

The second point of access to be constructed would be the access to Tritton Road the new Spine Road bridge over the railway. The bridge itself poses a specific design challenge in that it breaks the townscape flow. The whole structure has a very green setting and as the bridge and Spine Road

land on Tritton Road there is no new built development in that location. There are a number of mature trees and the context is mixed including open green areas and modest employment development.

The final access to be constructed, in the later phases of WGC, would be the Beevor Street access which links into the Lincoln Science and Innovation Park via the new Spine Road bridge over the railway. This is envisaged to be delivered in phase 3 although could be brought forward earlier in the phasing if required. The bridge poses less of a break in townscape than the Tritton Road area as there are other large-scale buildings and structures in this area in the site and nearby.

A plan is submitted with the application which sets out the street hierarchy across the site. The Spine Road is defined as a tier 1 route, tier 2 routes are those streets that provide access into principal development zones and tier 3 routes provide local access. It is important to establish what the form, function and character of the different roads is to balance the access function and place function. All tiers will be both welcoming to pedestrians and residents and have permeability and legibility for all. The design code sets out building heights and scale in line with each tier.

Following discussions with the Highways Authority there have been significant changes to the use of the spine road. There are now 2 sections of the spine road which are bus/cycling only routes, to allow a traffic free route for buses to travel through part of the site. Access for cars would be via longer tier 2 streets looping around the residential parcels of land. The reasoning behind this is explained elsewhere in this report, however for the purposes of setting out the design principles of the scheme it is important as this change allows traffic free areas to be developed along the spine road which would have a different feel to other parts of the spine road.

There is a parcel of land between the two areas of residential development which passes through an area with no development. This is kept development free which in design terms creates a unique opportunity to build on the design aspirations for the site to have a green setting and to integrate the existing agricultural use of the site into the proposed use. This green corridor also provides views of Lincoln Cathedral which visually links the development with the heritage of the city and makes a positive feature of the sustainable drainage channels.

4.2.4 Local Centre

The Local Centre would comprise a variety of local facilities as well as a Primary School. It is proposed that the area would be an open space, forming a focal point at the heart of the site. The spine road, at this point of the development, would be for buses only. This would a create a safe, lightly trafficked area where the road can be secondary to the development around it. A high-quality frontage to the road would be created along with the primary school being visible within this area.

The exact uses within the Local Centre are not determined by the Outline application, not are the exact designs of the buildings within this area. However the LPA are supportive of the principles, as

set out in the Design Guide, and would condition that a design guide for the specific part of the development is submitted prior to the first building being approved on the local centre.

4.2.5 Commercial Area

This commercial area is identified for up to 40,000sqm of commercial space including offices. It is a substantial commercial development area, the design of which is very important to the overall character of the development. There is the potential for some of the buildings to be tall structures and of a larger scale and mass than those buildings found elsewhere on WGC. Where larger format buildings are proposed, the scale and mass should be broken-down through their architectural expression.

Space is also allocated within the commercial area for a leisure village. The leisure village would provide sport, recreation and leisure development, including commercial leisure. This could include uses such as a hotel, gym, sports centre, swimming pool and ten-pin bowling alley along with a new community stadium for Lincoln City Football Club.

The design code sets out that buildings within this part of the site should be well-related to one another to help create townscape value. The stadium design would create a local landmark for the site and give a clear identity for Lincoln City.

4.2.6 Residential Areas

Key to the successful delivery of WGC will be the design quality of the new residential development. This is about the quality of individual homes as well as the quality of streets and living places. The Design Code doesn't set out a standardised design to be applied across the site, rather each future application will be assessed on its merits. However it is important that a key theme running through the life of the development is that whichever architectural style is adopted there will need to give a sense of belonging to Lincoln. The affordable dwellings should be indistinguishable in design terms from market dwellings and should be spread through the site in small clusters.

Residential densities may vary across the development. This overall density of approximately 33 dwellings / hectare is a figure which can flex, but this level is required to deliver the 3,200 homes evenly across WGC. Higher density development will be encouraged around the local centre. Parking will need to be well-integrated into each residential phase of development. Typically, on plot parking will be preferred and in only exceptional cases will parking courtyards be desirable.

4.2.7 Conclusion

Chapter 12 of the NPPF sets how applicants and local authorities should create high quality, beautiful and sustainable buildings and places. The applicants have submitted a design code in support of the planning application which is supported by the Local Planning Authority. Whilst the application is in Outline, the code sets out some broad principles which all future applications on the site would need to be mindful of and there would need to be sufficient justification for a submission which wasn't inline with these principles.

The aspirations for the overall design of the site are sound and would be in keeping with the NPPF and its requirement to create high quality sustainable places. The Masterplan has indicatively set out where all the requirements of LP30 could be accommodated within the site and the LPA are satisfied that all the requirements of LP30 can be provided for within the proposed application boundary.

4.3 Transportation

4.3.1 Policy Background

Section 9 of the NPPF seeks to promote sustainable transport. Paragraph 105 states that "The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes."

Paragraph 111 states that "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

Policy LP13 of the Local Plan states that "Development proposals which contribute towards an efficient and safe transport network that offers a range of transport choices for the movement of people and goods will be supported.

Policy LP28 of the Local Plan states "key to the sustainable delivery of the urban extensions will be the requirement to minimise the need to travel, whilst maximising sustainable transport modes. This will be achieved by locating key facilities such as schools and local shops within easy walking and cycling distance of most properties, incorporating high quality walking and cycling networks linking to the wider area, and providing access to high quality public transport services and facilities, including bus priority corridors and, where appropriate, park and ride."

Policy LP30 of the Local Plan sets out the following transport specific requirements:-

- A direct route incorporating priority for public transport linking Skellingthorpe Road through to the city centre via the Beevor Street area with connection onto the A46 if required;
- Transport infrastructure, such as measures to encourage walking, cycling and use of public transport (which might include park and ride facilities) in order to maximise opportunities for sustainable modes of travel, in line with the aims of the Lincoln Integrated Transport Strategy;

4.3.2 Proposed Development

The main vehicular access through the site would be in the form of a new road running from Skellingthorpe Road in the south-west progressing north and east through the site with the two bridge links (one over Tritton Road to the east and one over Beevor Street in the north-east) enabling access into the city centre. The proposal also includes a new public footpath bridge over the railway line onto Tritton Road. A public footpath link would also be provided to the south of the site into the Swanpool Conservation Area as well as linkages into the adjacent playing fields at Hartsholme Park to the south (over the Catchwater Drain).

The proposed access from Skellingthorpe Road and the access/bridge from Tritton Road are being applied for in full as part of this planning application. All other access arrangements referred to in this report are indictive and could be subject to change.

The possibility of a road link running through the site from the west joining up with the A46, as set out in Policy LP30, was reviewed in detail as part of the Transport Assessment and discussed further in this report.

The road through the site would be designed to promote alternative modes of transport to the private car, including prioritising public transport through a new bus dedicated route and the integration of cycle routes/links into the scheme from the outset. This is as set out within the detailed requirements of all SUES in Policy LP30.

A significant level of information accompanies the planning application about how the road through the site could work, as set out in the broad concept plan of the site, however the detailed design of the road would be submitted at a later date.

4.3.3 Environmental Statement

The potential environmental impacts within the study area that could be created by the Proposed Development fall under the general headings:

- disruption due to construction;
- impacts on pedestrians, cyclists and equestrians; and
- impacts on vehicle travellers.

Disruption due to construction

There are two elements that need to be considered in the construction of the Proposed Development. The first comprises the clearing and preparation of the land for development, and usually involves exporting waste material and importing material such as sub-soil and gravel. The second comprises the construction phase where the Proposed Development is built out, and includes the deliveries of construction parts such as concrete etc.

As part of creating the Proposed Development platforms, approximately 590,000 tonnes (327,729 m3) of material would be imported onto the Site. Assuming a volume of 28T per HGV, this equates to 21,071 HGV arrivals and 21,071 HGV departures over the period of importing material. This period could last 11 years. Assuming a 275 working day year this equates to approximately 7 HGV arrivals per day. Over a 10 hour working day, this is negligible and would have negligible environmental impact, especially given the HGVs would be on routes already carrying HGV traffic.

In terms of the second element, this relates to the construction of internal roads and buildings. The spine road and Tritton Road bridge would be constructed in the first six years of development. This strategy has been agreed with the local highway authority in order to ensure network routeing benefits are enabled as soon as possible. A detailed Construction Traffic Management Plan would be created to manage trips associated with this stage, to keep environmental impacts (and congestion) to a minimum.

The construction of housing would be at a rate of up to 250 units per year. This level of development is not anticipated to generate HGVs at a level which would create environmental impacts. Similarly, it is assumed that there would be approximately 80 two-way light vehicle movements per day (40 arrive and 40 depart) generated by construction staff, operatives and deliveries etc. associated with construction on the Site.

Impact on Pedestrians, Cyclists and Equestrians
In terms of journey length and time, the key issue would be the potential opportunities to cross roads on pedestrian "desire lines". It is likely that such opportunities would be reduced at times of peak traffic generation (i.e. during the morning and evening peak hours, when employees and residents are travelling to / from work).

The main desire lines are likely to be to the north, towards the retail, leisure and residential opportunities in Lincoln City centre as well as towards the retail and residential areas in east (i.e. Tritton Retail Park and Boultham). Routes across the site would be improved by the proposed pedestrian / cycle infrastructure associated with the spine road (including its junctions at either end), and also the proposed new bridges to both Tritton Road and Beevor Street.

Future pedestrian users of the Site would be employees / visitors at the proposed employment centres, residents, leisure users and pupils attending the local primary school. For all users, the WGC spine road would be designed to include for a shared footway / cycleway along both of its side throughout the Proposed Development.

Amenity is defined in DMRB as "the relative pleasantness of a journey for pedestrians and others". Roads within the Site would be new and would therefore be designed to provide a good level of amenity. The road carriageways would be of an appropriate width, with good surfacing, lighting and visibility. Furthermore, the Proposed Development proposals include for the provision of landscaping, which would increase amenity by improving the attraction and pleasantness of the routes and increase the perception of safety amongst road users.

Community severance is defined as "the separation of residents from the facilities and services they use within their community, caused by increased traffic flows" and "the demolition of a community facility or loss of land used by members of the public."

The Site does not currently provide any services and facilities, although there is an existing PRoW (Lincolnshire 36/4 footpath) crossing the Site. The existing PRoW would be maintained and the spine road would provide crossing points.

Impact on vehicle travellers
Views from the road are defined as "the extent to which travellers, including drivers, are exposed to the different types of scenery through which a route passes".

The Proposed Development would involve the construction of buildings on greenfield land. Given the topography of the land and the scale of the proposed units, the view from the Site access is likely to be an open view onto the buildings and landscaping. Therefore, the view from the road would be good and no mitigation measures are necessary. Overall impacts are therefore considered negligible.

Driver stress is defined as "the adverse mental and physiological effects experienced by a driver travelling through a road network." Factors influencing the level of stress include: road layout and geometry; surface riding characteristics; junction frequency; and the speed and flow per lane. There are three main components of driver stress: frustration; fear of potential accidents; and uncertainty of the route being followed.

Frustration is caused by a driver's inability to drive at a speed consistent with his or her own wishes in relation to the general standards of the road. The WGC spine road would be designed with the Proposed Development in mind and, as such, is of the relevant design standard (inclusive of junction / access spacing) and capacity.

A key benefit of the WGC is to provide an alternative route away from the Skellingthorpe level crossing, which is a major source of existing delay and journey time uncertainty. In addition, proposed off-site highway mitigation includes an improvement to the A46 / Skellingthorpe Road junction. With regards to fear of accidents, the WGC spine road would be designed to the latest highway design standards and would be the subject of the Road Safety Audit procedure. The entire site will be designed as a 20mph zone. As such, the road should be perceived as 'safe' by drivers approaching the Proposed Development.

4.3.4 Transport Assessment

The planning application has seen a number of reviews since its first submission in 2019. Transport has been an ongoing discussion resulting in a revised Transport Assessment being submitted in September 2020. Transport Assessments are a way of assessing the potential transport impacts of developments and proposing mitigation measures to promote sustainable development. The revised assessment followed lengthy discussions with the County Council as Highways Authority. The discussions have resulted in a change to the proposed junction at Skellingthorpe Road, from a roundabout to a signalised junction, and amendments to principles of the way the spine road would operate moving through the site.

The assessment of the planning application is based on the new Transport Assessment and the associated documents.

The two points of access into the site, from Skellingthorpe Road and Tritton Road are being applied for, in full, as part of this planning application. All other transport/highways matters are being agreed in principle as part of the proposed masterplan.

4.3.5 Impact on Highway capacity

Full application

Since the submission of the planning application, there have been ongoing discussions with the applicant, the local highway authority and local planning authority in relation to this application. In addition, further iterations of modelling runs have been undertaken of the Greater Lincoln Traffic Model (GLTM) to further understand the expected overarching effects of the development.

The early phases of development (known as Phase 1a and Phase 1b) have been assessed by undertaking traffic surveys, in February 2020, calculating and assigning the traffic effect of the development via a spreadsheet model.

The traffic effects of Phase 1a have been calculated, distributed and manually assigned to the road network. This is to provide a better understanding of the effects of the proposed first phase of development, prior to the anticipated modal shift being achieved, and prior to the mitigation provided by the new connecting infrastructure between Skellingthorpe Road and Tritton Road, over the existing railway, being provided.

The preferred method of easing the existing local highway network conditions is to achieve modal shift away from private vehicles, towards public transport, walking and cycling. This is a specific aim within the Lincoln Transport Strategy 2020 – 2036 (LTS) and of Local and National Planning Policy. Prior to the implementation of the infrastructure connecting Skellingthorpe Road and Tritton Road through the WGC site (via a bridge over the railway) which will specifically prioritise bus, cycle and pedestrian movement throughout the site, there are, however, limited opportunities to achieve this specifically along the Skellingthorpe Road / Tritton Road route. On this basis, the results of the GLTM traffic modelling and traffic surveys have been analysed to identify issues and opportunities nearby on the highway network. This is with the aim of providing improvements to public transport journey

times, and seeking to achieve nil detriment in terms of vehicle capacity, queuing and delays particularly during the sensitive weekday AM peak.

Phase 1a and Phase 1b Assessment - Surveys
As agreed with the Highways Authority traffic surveys were undertaken on Tuesday 4th February 2020 at the following junctions:
1) A46 / Skellingthorpe Road
2) Birchwood Avenue / Skellingthorpe Road
3) Skellingthorpe Road / Tritton Road, including the level crossing
4) Pershore Way / Doddington Road
5) Birchwood Avenue / Doddington Road
6) Whisby Road / Doddington Road
7) Doddington Road / Tritton Road
8) Tritton Road / Dixon Street
9) Dixon Street / High Street

In addition, a survey of queuing has been undertaken (recording the maximum queue lengths every 5 minutes) along Skellingthorpe Road, eastbound towards Tritton Road and westbound towards the A46, along with eastbound queuing along Birchwood Avenue towards Skellingthorpe Road.

The survey of the sum of maximum queue lengths indicates low to moderate queuing (with queues building and dissipating) along Skellingthorpe Road westbound to the A46 and along Birchwood Avenue towards Skellingthorpe Road during both peak hours, and along Skellingthorpe Road eastbound to Tritton Road during the PM Peak hour.

The sum of the maximum queue lengths (which could have only occurred for an instant) have been surveyed to be more substantial along Skellingthorpe Road eastbound to Tritton Road during the AM Peak hour, with the recorded values starting at 115 vehicles, building to 191 vehicles in the middle of the peak hour, and falling to 145 vehicles at the end.

Phases 1a and 1b Assessment – Access and Mitigation Proposals
Mitigation proposals have been considered which address two main areas:
· Improving bus journey times
· Providing short term traffic capacity improvements

The following mitigation is proposed to be associated with Phase 1a, intended to be implemented at agreed (with the Highways Authority) trigger points during Phase 1a of the development. These trigger points would be secured by condition.

- Site Access / Skellingthorpe Road / Birchwood Avenue. The proposed signal junction will provide additional traffic capacity and a bus lane with priority measures eastbound along Birchwood Avenue.
- Doddington Road / Birchwood Avenue. The proposals include signalisation of this existing priority junction. This will benefit pedestrians and cyclists by providing a controlled crossing, will provide additional traffic capacity including for buses, offering an alternative route for buses heading from Pershore Way and Birchwood Avenue towards Doddington Road and Sadler Road.
- Doddington Road / Whisby Road. The proposals include provision of yellow box markings on Doddington Road eastbound through the junction, to assist in balancing eastbound flow out of Whisby Road with eastbound flow along Doddington Road which is envisaged to benefit buses travelling this route.
- Doddington Road / Tritton Road. The proposals include additional capacity at this signal junction in the northbound direction along Tritton Road in the form of an additional lane on

the Tritton Road northbound exit, this will allow the lane markings and signal timings to be adjusted such that additional green time is allocated to the Doddington Road eastbound approach, improving journey times along this corridor. These measures are intended to operate together to improve the route for buses and other vehicles out of Birchwood Avenue, Whisby Road and along Doddington Road towards Lincoln City Centre.

- High Street / Dixon Street. The proposals include banning right turning vehicles from Dixon Street to High Street southbound. This will reduce traffic flow along Dixon Street and improve journey times for buses turning left from Dixon Street to High Street northbound.

Part of the aim of the mitigation elements is to enhance capacity along an alternative route between Birchwood Avenue, and Tritton Road / Lincoln City Centre. Adding capacity along Birchwood Avenue – Doddington Road – Tritton Road, creates the opportunity for drivers with a choice of routes to switch from travelling along Skellingthorpe Road, to travelling along Doddington Road. This shift in traffic route will provide greater route choice for occupants of Phase 1a, and offset the effect of Phase 1a traffic travelling along Skellingthorpe Road towards Tritton Road, particularly during the AM peak hour.

The proposed mitigation package importantly provides the potential for re-routeing of existing trips from
Birchwood estate towards Lincoln City Centre during the weekday AM peak hour, of at least
100 vehicle movements which more than offsets the effect of the 81 predicted vehicle movements associated with Phase 1a and travelling eastbound along Skellingthorpe Road during the weekday AM peak hour.

In addition to this, delays are predicted to be reduced at key points on the bus route network
local to the site, and the infrastructure includes bus priority, and the possibility for further future enhancements.

Phase 1b sees a parcel of the development accessed via a new junction on Tritton Road (which includes a free-flow left turn for bus priority, in preparation for the bus route(s) through the site); the traffic effect from Phase 1b has also been assessed using the 2020 survey results and found to be acceptable.

4.3.6 Outline application

The traffic effect of the latter phases of the WGC has been modelled and tested using the Greater Lincoln Transport Model (GLTM), a strategic (area-wide) traffic model covering the road network of the wider Lincoln area. The GLTM modelling work was led by LCC and its consultant WSP, with the results provided to the project team for the preparation of the Transport Assessment supporting this planning application.

Traffic Generation

The number of trips that are predicted to be generated and attracted by the proposed development has been calculated, for the 2020 GLTM, using industry standard software. The predicted trip generation / attraction for flows used on the Strategic Road Network (DSA Flows from the 2018 GLTM) has been audited and accepted by HE. The predicted trip generation / attraction flows used on the local highway network, in the 2020 GLTM, has been accepted by LCC. The access strategy for the site has been developed following a number of years of modelling multiple site access options and potential off-site mitigation options. A number of junctions have been identified as experiencing an increase in traffic flow as a result of the WGC development; these, along with any junction where the development proposed changes to the layout, be analysed in detail.

Junction Capacity
The detailed analysis of capacity, queuing and delay at the junctions where the development is predicted to result in an increase in traffic has resulted in no junctions being predicted to operate above theoretical capacity with the WGC Development in place, without the new junction to the A46. This provides evidence that there is no requirement for the development to provide a new junction to the A46.

Furthermore, the VISSIM analysis using the Highways England A46 corridor model comparing the effect of Option A (without a new A46 link but with improvements to the A46 / Skellingthorpe Road roundabout) and Option B (with a new A46 link and without improvements to the A46 / Skellingthorpe Road roundabout) has been undertaken. This exercise demonstrates that not only does Option A provide suitable mitigation for the WGC Development, but also that Option B results in longer journey times along the A46.

Overall, the capacity assessment, shows that the effects of the proposed development, without a new link to the A46, are acceptable when considering the package of mitigation included in the proposals.

4.3.7 Impact on Highway Safety
A study of recent road accident statistics identifies that collisions on the local road network tend to occur at a rate comparable to what would be expected for the type of roads and volumes of traffic.

4.3.8 Sustainable Travel Choices
The proposed development seeks to maximise the number of trips being made by sustainable travel modes; walking, cycling and public transport, and in turn minimize the number of trips made by car. There are a number of ways in which the future users and occupiers of the development can be encouraged to adopt sustainable travel habits, thereby reducing the traffic effect of the development.

Cycle routes and footpaths would be provided on both sides of the vehicular access points to provide safe and attractive routes, and to maximise cycling / walking opportunities. New pedestrian infrastructure would be incorporated into the design of a new access onto Tritton road (south of Dixon Street), and via the Catchwater drain route and the new pedestrian bridge to be constructed over the railway.

The new junction on Skellingthorpe Road is designed with pedestrian / cycle crossing facilities to connect the development to the existing communities in Birchwood and Swanpool and tie the development into existing cycle routes along Skellingthorpe Road.

A car-free pedestrian and cycle link connection to Hartsholme Drive is included in the masterplan to allow better connections between the existing housing and the Priory City of Lincoln Academy and the WGC housing and facilities.

The WGC is well placed to both take advantage of existing public transport routes, and to offer benefits to existing services routeing past the site. Recent improvements to Lincoln city centre have removed the requirement for bus services to pass over the High Street level crossing. The WGC provides the potential to bypass the level crossing on Skellingthorpe Road.

One of the amendments to the originally submitted scheme is that the spine road through the development is now more specifically prioritised as a bus, cycling and pedestrian movement corridor. As a result, large parts of the main spine road would be for buses, pedestrians and cyclists only, ensuring buses will have a specific, dedicated carfree route between Skellingthorpe Road and the City Centre.

The Skellingthorpe Road access has been amended from a roundabout to a signal-controlled crossing, in line with advice from the County Council, to ensure the movement of pedestrians and cyclists is prioritised. A signal-controlled crossing enables bus priority through the junction, which has been enhanced through the incorporation of a new, dedicated bus lane along Birchwood Avenue approaching the junction.

The Tritton Road access would have a dedicated bus lane along the bridge and partially along Tritton Road north bound, towards the City Centre.

Beevor Street has also been revised to ensure that pedestrian, cyclists and buses to and from the City Centre are prioritised here, with cars specifically restricted. As a result, sustainable modes of transport will be prioritised, with cars having no through route and gaining access/egress to the Commercial and Leisure areas only.

Off site it is proposed to include the provision of a new, dedicated bus lane along High Street towards the City Centre from Dixon Street to merge with the existing bus lane north of Tanners Lane. The High Street and Dixon Street junction would be made left turn only, to remove vehicular flow from cars wishing to turn right and allow for improved throughput specifically for buses wishing to turn left to access the new dedicated route towards the City Centre.

Prior to the full link being developed, early phasing of housing would be located near the proposed Skellingthorpe Road and Tritton Road junctions. Existing services route along Skellingthorpe Road. Residents moving into the WGC in the early phases of the development would therefore be able to use these existing services.

The sustainable travel measures proposed by the applicant would be supported by a Travel Plan, submitted with the application.

4.3.9 Travel Plan

A Framework Travel Plan has been submitted as part of the application. This sets out an overarching plan for the whole site, however the detail would come with each of the reserved matters applications.

Prior to the appointment of a Travel Plan Co-ordinator, the developer would be responsible for the implementation of the measures listed in the FTP, including the production and distribution of the Travel Information Packs. The Development Travel Plan Co-ordinator would arrange and maintain a sustainable travel website for the development that would include details of methods of sustainable travel to the site. This would allow future residents and employees to be fully informed of their travel options prior to making their journey. A bi-annual Travel Plan update would be distributed to all residents and employees of the development and a Travel User Group would be set up.

Lincolnshire County Council as Highways Authority have commented on the content and provided some areas for revision. “The Framework should set the foundations for which the above developments should aspire to. Currently the document does not provide sufficient direction to future users of the development on their individual responsibilities to meet the aspirations of the City of Lincoln Council. The document also lacks commitment to sufficient sustainable transport measures to enable a reduction in single car occupancy. The measures suggested are mainly promotion based. The DfT publication 'Making Travel Plans Work: Lessons from UK Case studies' states that Travel Plans containing only marketing and promotional works will not achieve modal shift. Most relatively basic travel plans can achieve a 3-5% shift, providing the package of measures included is robust. Such measures should include promotions, car sharing and walking and cycling measures. However, in order to achieve a higher target and ensure the delivery of mode shift, the development requires additional measures such as discounts on public transport and/or vouchers towards

sustainable modes. In order to achieve mode shift, the measures suggested will need to be supported by incentives for change."

Taking on board these comments, the LPA would condition that an up to date Framework Travel Plan is submitted prior to the commencement of development on the first phase of housing development. This is to ensure that there are overarching targets to work towards in terms of modal shift. Each application would then have to be supported by a development specific Travel Plan outlining how this part of the development would contribute to modal shift. This would include a Stadium Travel Pan, should an application for the Football stadium come forward. A specific Stadium Travel Plan would be conditioned to address the comments of LCC as Highways Authority.

4.3.10 LCC Comments

In November 2020, Lincolnshire County Council as Highways Authority submitted their formal response to the planning application.

"It is expected that LCC could support the application for the whole development subject to agreeing detailed mitigation and further technical checks and clarifications as identified in this response.

LCC objects to Phase 1A on grounds of severe impact and lack of alternative sustainable travel modes in accordance with NPPF.

Focusing on the areas of objection, LCC have offered the following comment:-

"The planning submission includes a phasing proposal which sets out the intended Phasing for the development. Phase 1A is for 300 dwellings to be accessed from the new signalised site access on Skellingthorpe Road. Mitigation Packages A and B would be completed by completion of Phase 1A.

LCC raised concerns with the City of Lincoln Planning Department and the developers in response to the original application in April 2019. As a result the applicant has undertaken a series of traffic surveys of the existing highway network in Feb 2020. These surveys show the observed turning movements and queues, the survey results corroborate anecdotal evidence collected by LCC Officers and reported by local residents that Skellingthorpe Road in particular experiences lengthy queues especially in the am peak. The survey showed that throughout the peak hour these queues were over 100 vehicles and reaching around 200 vehicles at times.

The Phase 1A proposals are forecast to add a further 81 vehicles to this eastbound movement in the am peak hour. The existing surveyed flows are 447 for this link and therefore this would be an increase of around 18%.

Mitigation on Skellingthorpe Road is not possible due to physical constraints and the applicant has proposed mitigation on an alternative route into the City from Birchwood via Doddington Road and Tritton Road in the form of junction improvements in Mitigation Packages A and B described above.

These junction improvements could provide increased capacity, however, they will not provide relief for the residents of the new development and it is questionable how many existing residents from Birchwood would reallocate to Doddington Road, given the existing distribution, journey times and destinations.

The mitigation packages for Phase 1A are junction improvements remote from the site and a bus lane on the High Street, also remote from the site. There are no pedestrian or cycling mitigation measures proposed for Phase 1 A, and the Developer has advised that Phase 1A would not have a restricted parking ratio of 1.5 spaces per dwelling.

*For all of the above reasons LCC **objects** to Phase 1A since it would result in a severe impact on the local road network and does not accord with the sustainable objectives within Local Plan Policies LP28 and LP30 and the guidance within the NPPF.*

Phase 1A is a development which does not adequately promote alternative sustainable modes, there is no improvement for walking and cycling. The bus services will be adversely affected by additional traffic on the local network and the pinch point of Skellingthorpe Road is not addressed. The development adds 18% additional car traffic to a link which is already under severe stress, operating at capacity with frequent extensive queuing and suppressed demand manifest in demand and queues extending beyond the peak hours."

The County Council as Highways Authority has supported the Local Plan allocation process and was consequently supportive of the development of Western Growth Corridor as part of the Central Lincolnshire Local Plan adoption process. Equally, when the Inspector reported on the Examination in Public he specifically referred to the traffic impact of Western Growth Corridor as follows:

Due to the size of the allocation there would also be an inevitable increase in traffic on local roads, especially around Skellingthorpe Road which provides a direct link between the City Centre and the A46. Nevertheless, LCC confirm that recent work with the site promoters has shown that access could be taken from Skellingthorpe Road without the residual cumulative impacts becoming severe.

Given this context and then the objection from the Highways Authority, it was determined that external highway and transport consultancy advice would provide a useful third party opinion. The LPA therefore commissioned BSP, as an independent highways consultancy to assess the evidence and give their advice.

4.3.11 Third party BSP advice

LCC in their capacity as Local Highways Authority have stated that they consider the impact of Phase 1a on Skellingthorpe Road to be severe and is not adequately mitigated by the proposed package of mitigation. Furthermore, they do not accept the argument that any impact of this phase will be temporary and will be alleviated once the additional site access and link through to Tritton Road are provided. This is on the basis that there is no mechanism that can guarantee the delivery of any future phases, with high upfront costs to provide the additional highway infrastructure required (including a bridge over the railway), and therefore there is a risk that Phase 1a could be a long-term, or even a permanent, scenario. The LCC as Highways Authority has also concluded that there is a lack of sustainable travel opportunities and promotion associated with this phase of development.

In the first instance the LPA sought a third party review of the Transport Assessment and the information contained, secondly the LPA required the applicants to submit a Deliverability report, which has been independently assessed, to provide some comfort to the LPA that the bridge as part of Phase 1b will come forward.

LCC objection is based on two elements; the impact on Skellingthorpe Road and the sustainable travel options for the site.

Skellingthorpe Road

Phase 1a (300 dwellings) is forecast to add a further 81 vehicles to the eastbound movement in the AM peak hour. LCC considers this an "18% increase in traffic in the critical am peak hour on the Skellingthorpe Road link, which already operates over capacity and has queuing in excess of 100 vehicles throughout the peak hour is, in our view, severe. The applicant has not addressed the magnitude of this impact but has responded along the lines that it is "temporary" in nature."

Mitigation has been proposed in the Transport Assessment which would suggest that it is accepted by both parties that Phase 1a will have an impact that warrants mitigating. The disparity between the applicant and the LHA lies as to whether this impact "can be cost effectively mitigated to an acceptable degree" (NPPF paragraph 108 c) so that the "residual cumulative impacts on the road network" is not "severe" (NPPF paragraph 109).

The applicants have set out a package of mitigation measures which could be adopted as part of the first phase of development to help provide additional highway capacity in the immediate area which would provide an alternative to the Skellingthorpe Road/ Birchwood Avenue junction.

LCC have accepted that the junction improvement works would increase capacity on the local highway network but suggests that these mitigation measures "will not provide relief for the residents of the new development" and question if it meets the test in NPPF paragraph 56 b of being "directly related to the development". However, it is the view the LPA that if the increase in capacity off-sets the impact of Phase 1a via a reassignment of existing traffic, it will have a mitigation affect for existing and new residents, and it is considered to be directly related to the development.

Sustainability

LCC as Highways Authority state that Phase 1a is not a sustainable development in terms of access to local amenities, education and workplaces by sustainable modes of transport. The LHA consultation response dated 18th November 2020 states that the Phase 1a proposals do "not accord with the sustainable objectives within Local Plan Policies LP28 and LP30 and the guidance within the NPPF" as they do "not adequately promote alternative sustainable modes", "there is no improvement for walking and cycling" and "bus services will be adversely affected by additional traffic on the local network".

In terms of measures to maximise the use of sustainable transport, the site access arrangements include a new bus lane with priority measures eastbound along Birchwood Avenue approaching the Skellingthorpe Road/site access junction. Mitigation Package A also includes capacity improvements, that would assist bus journey times, at the Doddington Road/Birchwood Avenue junction and Doddington Road/Tritton Road junction.

Mitigation Package B includes a new length of bus lane on a key route into the city (details to be confirmed via condition) and measures to improve journey times for buses at the Dixon Street/High Street junction.

Pedestrian and cycle crossing facilities would be provided at the Skellingthorpe Road / site access junction, with connection to the existing pedestrian and off-carriageway cycle facilities along Skellingthorpe Road and Birchwood Avenue. Within Mitigation Package A, the signalisation of the existing priority junction Doddington Road / Birchwood Avenue incorporates improved pedestrian and cycle crossings. There are no other off-site pedestrian and cycle improvements proposed.

A Travel Plan has been submitted which sets out possible ways that sustainable travel across the site. As the application is only in Outline, with all matters reserved, a further Travel Plan would be conditioned to be submitted with each Reserved Matters application. This is because the different phases of development would have different needs and the potential for different.

LCC accept mitigation on Skellingthorpe Road is not physically possible and also accept that the Mitigation Package A would create additional capacity. The 2020 Transport Assessment sets out that the proposed junction improvements proposed as Mitigation Package A would improve capacity along the alternative route to the city centre via Doddington Road by at least 100 trips which exceeds the 81 vehicle impact of Phase 1a. It is considered a reasonable assumption that the increased capacity along the alternative route could draw sufficient existing traffic from Skellingthorpe Road to

Doddington Road from the Birchwood Estate area, to mitigate the impact of development traffic on Skellingthorpe Road.

Taking into account the proposed sustainability measures, as well as the measures to increase highway capacity, BSP have concluded that in combination, these measures are considered to mitigate the traffic impact of the proposed 300 dwellings to an acceptable degree in accordance with NPPF paragraph 108 c. They do not therefore consider that the impact on Skellingthorpe Road in this case would be `severe', and hence Phase 1a of the proposed SUE development is considered to be acceptable in transport and highways terms.

The LPA accepts this advice and consider that whilst there would be some short term impacts from the first phase of the development, the longer term benefits would have greater positive impacts on local residents. The applicants have worked closely with the LPA and the Highways Authority to find acceptable solutions to mitigate the impact of the first phase of development. They have not been able to reach agreement with the Highways Authority, however the LPA are satisfied that sufficient work has been carried out to demonstrate that the current proposal is acceptable.

Deliverability Report
Policy LP28 requires the SUEs to demonstrate availability and deliverability of the proposed scheme. Whilst phasing may be agreed, the local planning authority will need to be satisfied that the key aspects of the concept plan will be delivered. Therefore, to prevent the provision of appropriate infrastructure being either delayed or never materialising, appropriate safeguards will be put in place, normally through a Section 106 agreement, which ensure that specific aspects of the scheme are delivered when an appropriate trigger point is reached.
With this in mind the LPA commissioned Aspinall Verdi to assess the deliverability of this scheme - distinct from its viability - with one area of focus being the deliverability of the bridge over the railway to Tritton Road, which allows the build out of Phase 1b.

With regard to LCC as Highways Authority concern that the developer could simply walk away from the site after completing Phase 1a without having completed the major infrastructure works that are required from Phase 1b onwards Aspinall Verdi have looked at the peak debt which occurs after building the first 300 homes. They have concluded that it is very unlikely that the applicants could walk away from the scheme after Phase 1A, as due to the up-front infrastructure costs prior to the development of the Phase 1A homes, the Gross Development Value is still less than the Gross Development Costs. Therefore, the applicants need to move on to future phases to be able to make a profit from the development.

4.3.12 National Highways Comments

"National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

National Highways was first consulted on the Western Growth Corridor (WGC) proposal in 2017, during the pre-application stage. Since then, we have been in ongoing discussions with the applicant, providing advice on the transport work to be undertaken in support of the proposal.

When formally consulted on the planning application for the proposal in April 2019, we issued a holding recommendation due to outstanding highway matters that were required to be addressed by the applicant. Subsequently, changes to the proposed masterplan and phasing of the development required the applicant to prepare a revised Transport Assessment (TA). In October 2020 we reviewed the updated TA and due to outstanding issues related to contributions, the GLTM Saturn

model assessment, trip generation and distribution used in the new proposal, trigger point assessment and Road Safety Audit, the holding recommendation has been extended several times, the latest being November 2021.

With regards to the highways works, National Highways had previously agreed that a roundabout improvement at the A46 / Skellingthorpe Road roundabout would be delivered as a scheme rather than accepting financial contributions. The revised TA, although it had retained the scheme improvements, proposed to provide a financial contribution rather than to deliver the scheme. We have clarified our position on this matter in an email dated 29 November 2020 informing the applicant that developers are required to mitigate the impact of proposals on the SRN and therefore the mitigation would need to be carried out under an S278 Agreement.

The revised TA also proposed that Mitigation Package C, namely A46 / Skellingthorpe Road roundabout improvements, be delivered prior to the occupation of 1,000 dwellings. The applicant had provided a trigger point assessment for 600 dwellings instead. Should a trigger point of 1,000 dwellings be required the applicant could submit a S73 application to amend the condition and it would be subject to the required transport evidence.

With regards to the transport impact assessment presented by the applicant in the revised TA, we undertook an independent review of the Vissim models. This review concluded that in terms of travel times, queues, and turn delays the impact from the development is minimal.
The applicant carried out a trigger point testing for 600 dwellings. Following our review of the information provided, we are content the applicant has satisfactorily demonstrated that 600 dwellings can be occupied before improvement works at A46 / Skellingthorpe Road roundabout are required.

Following the review of Technical Note 11 Rev B which contained further modelling work, a potential safety issue was identified due to a likely queuing back at the exit arms of the Skellingthorpe Roundabout. National Highways requested the applicant to carried out a Safety Risk Assessment (GG 104) to look at this matter more closely and identify any potential safety impacts on the SRN. We have reviewed the Safety Risk Assessment prepared by the applicant and can conclude that it is acceptable and soundly prepared.

Given our most recent comments and review of the information presented by the applicant, we have concluded that the applicant has addressed all outstanding matters. The applicant should therefore implement the proposed improvements at the A46 / Skellingthorpe Road roundabout identified in Connect Consultants drawing 18133-010, dated July 2020 (as contained within the Stage 1 RSA and dated August 2020) prior to occupation of the 601st dwelling of the Western Growth Corridor development."

4.3.13 Barwood Objection

Barwood Development Securities Ltd has an interest in land to the west of the application site, within the overall CLLP allocation for the SUE, adjacent to the A46. They have objected to the WGC development since its submission, with the first objection being received in May 2019. The applicants have responded to these objections and to comments from LCC Highways and other parties with a series of further works including further testing of options using the Greater Lincoln Transport Model. This work led to the submission of a revised Transport Assessment which has subsequently been thoroughly assessed as detailed elsewhere in this report.

Barwood continues to object to the application with the following matters that they consider to be unresolved:

i) clarity on the test that will be applied to respond to the Adopted Central Lincolnshire Local Plan (April 2017) Policy LP30 Sustainable Urban Extensions which states "… Proposals for the WGC area should provide …. a connection onto the A46 if required". Presumably, this test would reflect NPPF Paragraph 109, which states "Development should only be prevented or refused on highways

grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe";

ii) that the Applicants resolve the unrepresentative journey times currently modelled within the GLTM along Skellingthorpe Road between the A46 and Tritton Road. The journey time difference between observed and modelled - of 2 minutes 42 seconds - would specifically influence the route choice assignment of inbound movements from the A46 Corridor towards Tritton Road within the GLTM, hence any differential benefit of assigning through WGC on the A46 Link would be under-reported;

iii) the Applicants define a deliverable mitigation scheme for the A46 / Skellingthorpe Road Roundabout that complies with all necessary requirements of the Department of Transport's Design Manual for Roads and Bridges, within land in the control of the Applicant;

iv) that further information is sought of the forecast highway network conditions at the end of WGC Phase 3 - immediately prior to the opening of the Beevor Street Link and upon completion of 2,800 dwellings at WGC. This is likely to represent the worst case conditions in the development / infrastructure delivery cycle in terms of capacity.

The LPA have considered the points raised by Barwood and has concluded as follows:

i) Policy LP30 does require the applicants to consider a link to the A46 and the application sets out that consideration. The LPA has no reason to question that consideration once the applicant has demonstrated that the entirety of the SUE can be developed without the need for this link.

ii) The GLTM is the responsibility of LCC, and the applicant has used it at LCC's request. LCC have previously confirmed that the transport models adhere to DfT TAG guidance - Screenline, cordon and journey time target criteria are met, as well as demand model responsiveness tests. The models converge to a high level and are considered a stable and appropriate tool for local development and infrastructure testing.

iii) National Highways have confirmed that Mitigation Package C, namely A46 / Skellingthorpe Road roundabout improvements, be delivered prior to the occupation of 601 dwellings. The applicant had provided a trigger point assessment for 600 dwellings. National Highways are content the applicant has satisfactorily demonstrated that 600 dwellings can be occupied before improvement works at A46 / Skellingthorpe Road roundabout are required.

iv) The applicants have undertaken a significant number of assessments as required by LCC and, in our view, these adequately assess the existing network and the highway impact of the scheme. More specifically, as there is no through function to / from the Beevor Street access, Beevor Street would provide a limited reduction in demand at the Tritton Road access anyway, and importantly the Tritton Road access is predicted to operate within capacity with the full development in place. Furthermore, this phase would happen in an earlier year than the end of development, and so background growth / traffic effect of other planned developments would be lower.

4.3.14 Network Rail

Network Rail have no objections to the proposed scheme subject to the applicants continuing to engage in conversations with the authority. The application includes elements which would impact on Network Rail owned assets. There are separate processes outside of the planning application which the applicants would be required to secure to enable these works to take place.

4.3.15 Transport Summary

The highway and transport implications of Western Growth Corridor have been discussed at length over a number of years with all of the key stakeholders. The principle of the developing the site as an Urban Extension was supported by Lincolnshire County Council as the Highway Authority at the Local Plan stage prior to allocation. The principle continues to be supported by the Highway Authority, even though they have objected as summarised below. Much of the application is submitted in Outline with indicative solutions outlined to demonstrate deliverability of the site. The detailed highway layout internal to the site would be agreed through a series of Reserved Matters applications at a later date. Similarly the requirement for off-site mitigation to off-set the impacts of the development would be agreed at a later date, with such details secured by way of a planning condition.

Two points of access into the site are applied for in detail, a signal controlled junction at Skellingthorpe Road and a signalled junction at Tritton Road with a bridge over the railway into the site. These detailed elements have been assessed and are acceptable in planning terms. They would also be the subject of further detailed design checks outside of the planning process with Lincolnshire county Council and Network Rail.

The Highway Authority has objected to the proposed first phase of the development, 300 dwellings off of Skellingthorpe Road, due to the impact on Highway Capacity on the local highway network. Further advice sought by the Planning Authority has concluded that whilst there would be short-term impacts from this first phase of the development, until the full link road is in place to Tritton Road, the applicants have submitted sufficient evidence that there are suitable mitigation measures which could be taken to ensure that any impacts are minimised. Equally, the deliverability of the development has been independently assessed and there are good reasons to believe that development will proceed beyond the first phase at which time, through the delivery of the bridge to Tritton road and the link road the temporary impact of the first phase will be resolved. The LPA has considered all of the advice received through the application process and considers that the impacts of the early phases of development are outweighed by the long-term benefits of bringing forward the SUE in its entirety. The proposed phasing of the scheme is appropriate and necessary to be able to bring forward the whole site given the significant highway infrastructure costs to develop a fully policy compliant scheme.

Policies LP28 and LP30 of the Local Plan require the SUE to incorporate priorities for public transport and suitable infrastructure measures to encourage walking and cycling in order to maximise opportunities for sustainable modes of travel. The LPA are satisfied that the applicants have demonstrated that such modes can comfortably be accommodated on site and that significant consideration of the off-site connections have been made. The transport aspects and impacts of the development are considered to comply with local planning policy.

4.4 Water Resources and Flood Risk

The Lincoln Western Growth Corridor (LWGC) site is situated within Environment Agency (EA) flood zones 1, 2 and 3, which indicates that part of the site is subject to a flood risk in excess of a 1 in 100 year return period (0.1% Annual Exceedance Probability). Potential sources of flooding to the site include tidal, rivers (fluvial) and extreme rainfall (pluvial), as well as flooding from the breach of flood defences and reservoirs. In accordance with the National Planning Policy Framework (NPPF), the Sequential Test for the site has been undertaken, and is detailed in the Central Lincolnshire Local Plan Site Allocations Sequential Test (published April 2016). The allocation of the site was considered to pass the sequential test and that “there are clear sustainability reasons” for the allocation of the site in line with the Local Plan strategy. A Level 1 Strategic Flood Risk Assessment (SFRA) was prepared to inform the Site Allocations Sequential Test and a Level 2 SFRA was prepared to inform the subsequent Exception Test that supported the allocation.

The Adopted Local Plan for Central Lincolnshire (published April 2017) and the Sustainable Urban Extension Topic Paper for LWGC (published August 2016) set out the strategic importance of LWGC to the development of the city of Lincoln and the surrounding areas.

In response to flood risk issues which have previously inhibited development of the site, a Technical Working Group (TWG) was established to set the principles for any development of the site. The work overseen by the TWG has included the assessment of the impact of a breach of flood defences in the vicinity of the site, in order to establish a safe and sustainable extent of development that does not increase the risk of flooding to surrounding areas by incorporating a number of flood risk management measures.

The water resources and flood risk chapter identifies and assesses the potential effects that the proposed development may have on the local water environment including surface water and groundwater quality, hydromorphology and flood risk.

The main water features within the study area include:
· Skellingthorpe Main Drain and Boultham Catchwater Drain which border the Site to the north and south respectively, and River Witham 400 m east and downstream of the
Proposed Development, all of which are Main Rivers and designated as Water Framework Directive water bodies;
· Ordinary watercourses consisting of ditches and drains within and outside the planning application boundary;
· surface water pond on site (Swanpool) and various other ponds within the study area;
· areas at risk of flooding from a variety of sources; and
· groundwater and aquifers lying beneath the site.

4.4.1 Baseline Conditions

Topography, Rainfall and Land Use

The Site is generally low lying with gentle gradients and is predominantly agricultural, and contains low lying, marshy ground, with a network of drains, dykes and ditches. There is a gentle fall from the Boultham Catchwater Drain in the south towards the northeast boundary
of the Site.

The existing Skewbridge and Swanpool landfills in the northeastern corner of the Site are at a higher level than the surrounding land. The highest level of the landfill is approximately 8.80m AOD, compared to surrounding ground levels on the Site of between 4.20 m AOD and 3.50 m AOD.

The land use on the Site is mostly arable an 10.4.9 d improved grassland, with the exception of the former landfill areas of the Swanpool and Skewbridge landfill sites towards the northeast of the Site, which consists of densely vegetated woodland and poorly vegetated grassland, respectively. Chapter 8 Ground Conditions includes information on the former landfill sites location.

Watercourses

The Site is within the Witham upper operational catchment, of the Witham management catchment, within the Anglian river basin district. The whole area is classified as a surface water nitrate vulnerable zone. The following watercourses were noted within the study area:
· River Witham (400 m east of the Site);
· Skellingthorpe Main Drain (adjacent to the north of the Site boundary);
· Boultham Catchwater Drain (adjacent to the south of the Site boundary);
· Fossdyke Navigation, listed as Roman Canal on OS mapping (500 m north of the Site),
· drains and aqueducts parallel to Main Drain and Fossdyke Navigation;
· Prial Drain (tributary of Boultham Catchwater Drain, flowing north through Hartsholme Lake and entering Boultham Catchwater Drain to the west of the Sports Field area); and
· various man-made drainage ditches.

Boultham Catchwater Drain

The drainage from south of the Site is directed to the Boultham Catchwater Drain. This flows eastwards into the River Witham. Bankside habitat structure is poor with trees lining the right bank and managed grass and shrubbery on the left bank. There was some evidence of Duckweed (*Lemna* sp) and it is possible that the water is nutrient enriched, potentially due to sewage misconnections via the numerous surface water outfalls from urban areas to the south, agricultural runoff, and discharges from a large abattoir and rendering plant upstream of Skellingthorpe. Further downstream the channel is wider and more exposed. In this location narrow formations for reeds along either bank had created shallow berms narrowing the channel locally.

Skellingthorpe Main Drain
The drainage from the majority of the Site is directed towards Skellingthorpe Main Drain to the north of the Site. The Skellingthorpe Main Drain is a straight channel, with deeper water than Boultham Catchwater Drain. Its man-made form has the appearance of a canalised channel. The width of the watercourse is approximately 8 m. The summary of the exceedances for upstream, adjacent and downstream locations show that the concentrations of the elevated contaminants are considerably lower upstream of the Site in comparison to adjacent and downstream locations.

Fossdyke Navigation
The Fossdyke Navigation is a former Roman Canal located parallel to and approximately 450m north- east of the Skellingthorpe Main Drain. It takes water from the River Trent southeastwards to the River Witham. This is not a WFD waterbody and is contained within the catchment for Skellingthorpe Main Drain. At its eastern end it flows into Brayford Pool and enters the River Witham. It is not hydrologically linked to the Skellingthorpe Main Drain or ditches in that area. A tributary to Skellingthorpe Main Drain passes under the Fossdyke Navigation with a series of sluices.

Still Waterbodies
In the surrounding area there are several waterbodies:
· Ballast Holes located 30 m north of Skellingthorpe Main Drain;
· Old Decoy located 285 m northwest of the Site (Photo 4 on Figure 10.1);
· Hartsholme Lake located 175 m southwest (Photo 5 on Figure 10.1), flowing into Boultham Catchwater Drain (Photo 1 on Figure 10.1); and
· five lakes in the residential area 230-400 m southwest of Boultham Catchwater Drain.

Groundwater
From the British Geological Survey website GeoIndex, the geology of the area appears to consist of superficial alluvium and river terrace deposits, overlying the Lias Scunthorpe Mudstone and Charmouth Mudstone Formation. The Site and surrounding area have a relatively high groundwater table as there is marshy ground, standing water in shallow depressions and numerous ponds and small lakes within the surrounding area.

Groundwater conditions
The Remediation Strategy outlines a history of the groundwater investigations which have taken place on the Site. More recent groundwater monitoring has been undertaken by AECOM on four occasions between May to October 2015. Groundwater levels range from 0.69 m below ground level (bgl) to 4.79 m bgl, although very slow recharge was noted in the locations with deeper groundwater levels during sampling.

4.4.2 Flood Risk Areas

Tidal Flooding
In 1975, a tidal flooding event breached the embankments on the River Trent and caused flooding in Lincoln. The Environment Agency maps for modelled tidal risk show that the Site is not at risk of tidal flooding for a 1 in 200 year event plus an allowance for climate change. Whilst the Site may be at risk of tidal flooding from the River Trent during extreme events, the risk of flooding to the Site from tidal sources is considered to be low.

Fluvial – non IDB Watercourses

The Fossdyke Canal to the north of the Site is a source of historical flooding to the Site. The basic FRA map provided by the Environment Agency during consultation shows areas at risk of flooding from rivers or sea if there were no flood defences present. Flood Risk maps taking into account the flood defences present along the neighbouring Drains were received from the Environment Agency (EA). These illustrate the modelled extent of flooding, taking into account the flood defence in place, and show that mostly the northern part of the Site is at risk. The Proposed Development is situated outside the 1 in 20 year functional floodplain.

Fluvial - IDB Watercourses

Internal Drainage Board (IDB) watercourses are also a flood risk to the Site as the water level within the Skellingthorpe Main Drain is managed by pumps which are under the control and management of the IDB. Upper Witham Internal Drainage Board drawings for the Lincoln Combined Catchment StudyScenario Flood Mapping, within the FRA, show the extents of flooding to the Site, with and without pumps operational.

For a 1 in 100 year event, when all pumps are operational, surface water within the Site is limited to only the drainage ditches within the northern part of the Site. By comparison, when no pumps are operational the extent of flooding to the Site for a 1 in 100 year return period is increased, encompassing the northern part of the Site up to a depth of 0.25 m, with some areas experiencing flooding up to a depth of 0.50 m. Deeper areas of water are indicated in channels, around the Swanpool area, and in the Old Decoy. In contrast, the extent of surface water to the south of the Site is shown to be very limited. Some drainage channels south and west of the Swanpool area are shown to be affected along with small areas surrounding the south of the Swanpool area experiencing up to 0.25 m depth of flooding.

Breach of Flood Defences

The SFRA for Central Lincolnshire s tates that watercourses which are served by flood defences in the vicinity of the Site pose a flood risk to the Site and surrounding areas. A breach of the defences on the River Witham, the Fossdyke Canal or the Boultham Catchwater Drain could have substantial consequences and could inundate the Site and surrounding areas. However, the SFRA for Central Lincolnshire states that the likelihood of a breach is generally low.

A breach of a watercourse to the east of the Site, such as the River Witham, would lead to flooding of the Boultham area. However, the scale of flooding would be limited as flood water would spread westwards and be stored in the LWGC site.

Groundwater

A number of Ground Investigations (GIs) at locations across the Site have found groundwater levels to be typically between 1.4 m bgl and 2.5 m bgl. However, in some locations, groundwater levels were found to be as shallow as 0.54 m bgl. Groundwater at the Site is managed and artificially lowered by the existing drainage ditches and pumps for land drainage management.

Reservoir Flooding

Hartsholme Lake is situated approximately 175 m to the south of the Site, between the residential areas of Birchwood and Swanpool. The lake has an estimated capacity of 33,000 m3 which is stored above the surrounding ground level and is therefore categorised as a large raised reservoir under the 1975 Reservoirs Act.

Historical Flooding

The Environment Agency provided a map which showed the extent of previously recorded flood events, notably a flooding event in March 1947. The extents of this flood event are shown to inundate the north side of the Site from the Fossdyke Canal, across the Site including the Old Decoy and Swanpool area.

Areas along the south west boundary for the Site including Decoy Farm, Fen Farm, Fen Plantation and Oak Farm are shown to not be affected by historical flooding. A tidal flooding

incident in 1975 is also noted.

Flood Hazard Class
Flood Hazard is a combination of depth of flood waters and the velocity of the flows. The Environment Agency provided maps (included as Figure 9 and 10 within the FRA) for the 1 in 100 year and 1 in 1000 year return periods. For the 1 in 100 year return period the northern part of the site is shown to be affected by a significant flood hazard 'danger for most', with some small areas shown as 'danger to all'.
To the south of the Boultham Catchwater Drain, most of the area is shown not to pose a hazard with only areas immediately alongside the Boultham Catchwater Drain indicated to pose a low hazard and 'danger for some', with a few small areas shown to pose a 'danger for most'. The raised land within the Skewbridge and Swanpool areas show no hazard.

4.4.3 Environmental Design and Management
The ES sets out how potential environmental impacts have been, or would be, avoided, prevented, reduced or offset through design and/or management measures. In order to avoid, minimise and reduce adverse effects where possible, both direct and indirect, on the local surface water and groundwater receiving environment, a Construction and Environmental Management Plan (CEMP) would be required to be developed by the appointed contractor. The CEMP would be secured by condition and would be applied to all future applications for the site.

The detailed planning application includes the means of access into the site for vehicles, with road junctions at Skellingthorpe Road and Tritton Road. There are new bridge links being provided over the railway to the east to Tritton Road. A new bridge would be required over Boultham Catchwater Drain to access the south of the Site from Skellingthorpe Road, which would be of a clear span design.

The Proposed Development site is contained within land at risk of flooding. The future development of the infrastructure and roadways in preparation for future individual plot development would involve an increase in impermeable area. The NPPF Policy states when development is necessary, flood risk should be mitigated to a safe state and should not increase flood risk elsewhere.

The application includes the provision of a sustainable urban drainage system based around the principle that development would be located on established development platforms that would be free from significant flood risk.

Surface Water Drainage
The following hierarchy has been followed when determining how surface water runoff from the Proposed Development would be managed:
· into the ground (infiltration);
· to a surface water body;
· to a surface water sewer, highway drain or another drainage system; and
· to a combined sewer.

Construction and operation of the Proposed Development would result in an increase in impermeable area. This has the potential to increase runoff rates to the Boultham Catchwater and Skellingthorpe Main Drain. However, the drainage design ensures that during a 1 in 100 year event, plus a 40% allowance for climate change, surface water would be retained within the Site in areas of grassed open space and would not affect any buildings or adjacent land.

Residential development would take place on the higher ground to the south and west of the development area and would be on raised development platforms that should be no less than the modelled flood water level for a breach scenario. Therefore, post development the residential areas of development would be positioned outside Flood Zone 3.

The following features are included within the Proposed Development as part of the flood risk management strategy:

· linear channels that will provide storage and become part of the IDB network;
· flow routes to accommodate waters in the event of a breach of the River Witham, Fossdyke Navigation and the Harstholme Lake to provide relief for surrounding residential areas;
· raised platforms for the proposed development so that it is set above the maximum flood water level; and
· SuDS treatment train to provide water quality treatment and attenuation of surface water runoff alongside tertiary benefits (e.g. ecology and landscaping).

Foul Water
Foul water drainage from residential dwellings, the local centre and the commercial areas would drain to a below ground piped network located within the main spine and residential roads. This would connect to the existing Anglian Water foul sewer which runs west to east across the Site from Skellingthorpe Road to Tritton Road. The existing foul sewer ultimately discharges to Canwick Water Recycling Centre (WRC) which discharges to the River Witham downstream of the Proposed Development, approximately 5 km east of the Site.

Surface Watercourses
The current site contains a number of drainage ditches. The Proposed Development would modify these in order to accommodate SuDS features. The remodelling of the drainage within the Site would be phased and carried out in such a way that runoff containing high levels of suspended solids would not be able to enter the WFD watercourses bordering the Site. It is intended that modifications to these ditches would also bring about environmental enhancement (e.g. through wetland creation).

4.4.4 Assessment
Construction
The construction activities which could potentially affect
watercourses the most include:
· earthworks and excavations, including borrowpits and the construction of development platforms and SuDS features;
· runoff from exposed ground or stockpiles;
· build-up of mud/dust on site roads, especially near watercourses or where there is positive land drainage outfalling to watercourses; and
· construction works close to and adjacent to water bodies, including new bridges, surface water outfalls, and setting back flood embankments along the Boultham Catchwater Drain.

Construction works would alter the flow regime of the ditches draining the Site and thus has the potential to also change flows in the Boultham Catchwater Drain and the Skellingthorpe Main Drain. Earthworks and the creation of new SuDS would change the flow pathways across the Site. The temporary removal of vegetation and soil compaction may also increase the rate and volume of runoff in a given storm event. However, providing a temporary surface water drainage system is implemented in accordance with the measures to be included in the CEMP and Flood Risk Assessment (FRA). It is considered that the impact on existing flood risk would be negligible, resulting in a neutral effect (insignificant).

Construction on the Site would be in accordance with the measures to be included in the CEMP and FRA (AECOM. 2019), it is therefore considered that the impact on the hydromorphology of the watercourses Boultham Catchwater Drain and Skellingthorpe Main Drain would be negligible, resulting in a neutral effect (insignificant).

Taking into account the proposed mitigation measures, it is considered that there would be negligible impact on groundwater quality in the area as a result of construction activities.

The Proposed Development site has high groundwater levels. Therefore, any reduction in ground level or excavations would be likely to encounter groundwater. Groundwater may be encountered within the area of borrow pit and SuDS construction dependant on the depths of excavation works required. The excavations during construction would, by the nature of construction, be short term and temporary (with any permanent features being discussed in the operational impacts section to

follow). Construction of the development platforms would be above current ground level and therefore would not interrupt groundwater flow through the Site. Overall, it is considered that the potential impact on groundwater flow would be negligible during construction, resulting in a neutral effect (insignificant).

Operation
Surface water quality has the potential to be affected during the operation of the Proposed Development through road runoff and urban diffuse pollutants (both including accidental spillages).

It is considered that due to the implementation of SuDS within the drainage strategy, there would be a negligible impact on surface water quality as a result of the Proposed Development. This would result in a neutral (insignificant) effect on Skellingthorpe Main Drain and the Boultham Catchwater Drain. It is believed that the Skellingthorpe Main Drain is currently adversely impacted by pollutants leached from the Swanpool historic landfill. A groundwater remediation strategy is proposed as part of the Proposed Development.

There is considered to be no significant increased risk to water quality from dissolved metals or sediment-bound pollutants from the link road and associated junctions with the wider highway network. The inclusion of attenuation ponds and SuDS features within the Proposed Development drainage strategy would further minimise potential negative impacts to water quality within the receiving watercourses. Therefore, it is considered the impact on surface water quality as a result of the operation of the Proposed Development would be negligible. This would result in a neutral effect (insignificant) from the new roads.

Anglian Water has confirmed it has capacity in its sewer network and Canwick WRC to treat foul flows from the Proposed Development with the necessary upgrades they have identified and are planning. There would be no impact on the watercourse that the Canwick WRC discharges to.Therefore, it is considered there would be a negligible impact on the capacity of the Canwick WRC to treat the foul flows from the Proposed Development.

The Proposed Development would not change the probability of tidal flooding and is therefore considered to have a negligible impact on the tidal flooding risk. Therefore, the resultant effect is neutral (insignificant). The Site is currently protected by flood defences and the likelihood of a breach is generally low. The Proposed Development would not result in degradation or impairment of the existing flood defences and would therefore have a negligible effect on the risk of breach of existing flood defences.

The Proposed Development includes a surface water drainage strategy that would reduce the risk of pluvial flooding as a formal and adopted/ maintained drainage network would be provided in place of the informal agricultural land drainage network that currently exists. Therefore, it is considered that there would be a reduction in the risk from surface water flooding resulting in a minor beneficial effect (insignificant). The Proposed Development would not change the probability of groundwater flooding and is therefore considered to have a negligible impact.

With the inclusion of SuDS features within the surface water drainage strategy for the Proposed Development, it is considered that there would be a negligible impact on groundwater flow. All negligible impacts give rise to neutral effects on the receptor. Therefore, there is neutral effect on groundwater (insignificant).

It is considered that any impacts on groundwater quality would be negligible and the effect on groundwater quality would be neutral (not significant).

There would be construction of a wetland area adjacent to the north bank of the Boultham Catchwater Drain. It is considered that this would have the potential to result in beneficial effects on hydromorphology, water quality and biodiversity of the Boultham Catchwater Drain within the area.

Therefore, the installation of the new wetland area and set back embankment would potentially result in a minor beneficial impact.

4.4.5 ES Summary

The assessment has considered the potential impacts on water resources which may occur during construction and operation of the Proposed Development, taking into account design mitigation measures and best practice measures to be included within the Proposed Development. The majority of effects on surface water, groundwater and flood risk would be neutral and there would be no significant effects. There is one effect of low significance identified, that of constructional impacts on surface water quality within Skellingthorpe Main Drain and Boultham Catchwater Drain.

4.4.6 Planning Consideration

The Environment Agency requires the extent and severity of identified flood risks to be appraised within a site specific Flood Risk Assessment prepared in accordance with the National Planning Policy Framework (NPPF) and supporting Planning Practice Guidance (PPG) on Flood Risk and Coastal Change. The NPPF sets out the government's planning policies for England and how they are expected to be applied and is supported by the National Planning Practice Guidance (NPPG) for Flood Risk and Coastal Change.

Paragraph 102 of the NPPF states that in order to pass the exception test, a site specific FRA is required to demonstrate:

· that the wider sustainability benefits of the development outweigh the flood risk; and

· that the development will be safe for its lifetime, without increasing flood risk elsewhere and will reduce the risk, where possible.

Both parts of the test must be passed in order for development to be permitted. The exception test is a process to make sure flood risk to people and property is managed in an appropriate way to protect people and property. The test is also designed to permit development where sites at a lower risk of flooding are not available.

Policy LP14 of the Local Plan deals specifically with managing water resources and flood risk.

All development proposals will be considered against the NPPF, including application of the sequential and, if necessary, the exception test. The proposed application is supported by a Flood Risk Assessment which has been compiled in consultation for the relevant statutory consultees.

The Environment Agency have been consulted on the application and have responded positively to the scheme.

"The site has areas within Flood Zones 1, 2 and 3 (low, medium and high probabilities of flooding respectively). As noted in the Planning Statement, '…through the Local Plan Examination…the allocation of the Western Growth Corridor site was confirmed to be sound within the context of NPPF Policy on flood risk'.

We are satisfied with the proposals as set out in the Flood Risk Assessment (FRA). In essence a development platform of 4.7mAOD will ensure residential properties are above the potential flood level. Through modelling, a design has been developed that will not increase flood risk to third parties."

The Environment Agency have requested a number of conditions which relate to the findings of the Flood Risk Assessment and would ensure that required mitigation is implemented on site at the correct times in the proposed phasing of the scheme.

The site is within the Upper Witham Internal Drainage Board district. The proposed development will affect a number of Board land drainage pumping stations and Board maintained watercourses.

The Board Objects to the proposed development because the application site is within flood plain that has historically flooded, it is also identified on the Environment Agency Flood maps as being in Zone 3/2. Alternate locations outside the flood plain are available for development. However, whilst

the Board objects to the development they have stated that they will continue to work with the developer, Environment Agency, Lincolnshire CC and City of Lincoln Council through the Task and Finish Group/Technical Group. This is because the development will have a significant impact on the Board's pumped drainage system that serves Lincoln and the surrounding area and the Board wishes to ensure there is no negative impact on the surface water drainage to this area.

In terms of Foul sewage disposal Anglian Water has confirmed there is currently capacity at Canwick Water Recycling Centre to accommodate the discharge from the development when considered in isolation; however, this would need to be reviewed should other sites come forward first. The data available to us shows that the WRC has maintained dry-weather-flow (DWF) compliance since 2014 but has been over 80% of its permitted DWF between 2015 and 2018. It is recognised that there is insufficient capacity in the network leading to the recycling centre, which would lead to surcharging and flooding if upgrade works are not carried out. The applicant is working with Anglian Water to identify appropriate upgrades and investment.

A condition would be added to ensure that no building is built, which would require to be served by water services, until full details of a scheme, including phasing, for the provision of mains foul sewage infrastructure on and off site has been submitted to and approved in writing by the Local Planning Authority. The LPA are satisfied that this would satisfactorily address the concerns raised by Anglian Water and the Environment Agency.

4.4.7 Conclusion

The Lincoln Western Growth Corridor (LWGC) site is situated within Environment Agency (EA) flood zones 1, 2 and 3, which indicates that part of the site is subject to a flood risk in excess of a 1 in 100 year return period (0.1% Annual Exceedance Probability). Potential sources of flooding to the site include tidal, rivers (fluvial) and extreme rainfall (pluvial), as well as flooding from the breach of flood defences and reservoirs. In accordance with the National Planning Policy Framework (NPPF), the Sequential Test for the site was undertaken at the time of allocation and the associated SFRA supported the Exception Test.. The strategic importance of the site and the opportunities that its sustainable location could provide were acknowledged and supported when the Local Plan was Examined.

In response to flood risk issues which have previously inhibited development of the site, a Technical Working Group (TWG) was established to set the principles for any development of the site. The work overseen by the TWG has included the assessment of the impact of a breach of flood defences in the vicinity of the site, in order to establish a safe and sustainable extent of development that does not increase the risk of flooding to surrounding areas by incorporating a number of flood risk management measures (as detailed below). The applicant has submitted a detailed site specific Flood Risk Assessment which has references the Local Plan work and deals in detail with the specifics of the application proposals.

It is proposed that surface water runoff from the proposed development would be collected by a network of SuDS features within each of the development plots, where water will be stored and allowed to infiltrate to the ground where possible. The application is supported by a Surface Water Management Plan which shows how this could be achieved on the site. The specific detail would be secured by condition. The agreed detail would be the result of cross party working with the relevant statutory consultees.

Excess flows will pass to a network of swales, which will convey the water from the residential development to widened linear drainage channels. The linear channels will connect the development to the existing UWIDB network, with storage being provided within the freeboard of the channels.

Analysis of Upper Witham Internal Drainage Board's (UWIDB) pumped network, using hydraulic modelling, has shown that there is no clear trend of increased pumping when the proposed development is incorporated, demonstrating that the proposed development has no negative impact on the operation of the UWIDB network. Modelling has also shown that the water levels within the

existing UWIDB network are not increased, as a result of the proposed development, therefore demonstrating that the proposed development would not increase the risk of flooding to the UWIDB network.

The following drainage features will be provided as part of the development to ensure that there is no increase in flood hazard class to the proposed development or the surrounding residential areas.

- Widened linear channels that will provide additional storage and link the development to the managed UWIDB network.
- Green corridors will be provided to protect potential flood flow routes, allowing flood water in the event of a breach of flood defences to enter the site, where it can be safely stored within green space, providing relief for surrounding residential areas.
- Raised platforms will be constructed, so that the proposed development is situated above the maximum flood water level.
- A SuDS treatment train will be provided as part of the development to reduce peak flows and provide water quality treatment.
- Ground levels in the northern part of the site will be lowered to form wetlands, providing additional storage in the area that is most at risk of flooding.

4.4.8 Planning Consideration

Local Plan Policy LP14 requires all developments to demonstrate they flood risk will be managed as part of a development and has considered the requirements of the NPPF.

Many of the objections received from local residents have cited flooding as a major concern, flooding of the site and the potential for the development of the site to create flooding off site in existing residential areas. Flooding of this site has been a long-standing issue and has halted development in the past. The LPA are satisfied that the applicants have worked closely with the technical authorities through Multi Agency Group meetings to ensure that their concerns are satisfactorily addressed. A significant amount of technical work has been carried out and the EA have confirmed that they are comfortable with the proposed development. The LPA are given confidence by this support that the development would have no adverse impacts on existing residents and that technical matters have either been dealt with or are capable of being dealt with by condition.

It is therefore considered that the proposal accords with National Policy and Local Plan Policy LP14 as well as the SUE specific Local Plan policies.

4.5 Cultural Heritage

The Cultural Heritage chapter of the Environmental Statement identifies the potential impacts and effects of the Proposed Development on cultural heritage assets (archaeological remains, historic buildings and the historic landscape).

The objective of the assessment is to identify any effects on heritage assets / receptors that are likely to arise from construction and / or operation of the Proposed Development. It describes the cultural heritage assets in the vicinity of the Proposed Development site including their heritage value and assesses the potential impacts and effects of the Proposed Development on those assets.

4.5.1 Impacts during construction

The Proposed Development has a number of elements, each of which has the potential to impact cultural heritage assets during construction.

Assets within the Site

An area of industrial and possibly settlement-related activity has been identified in the southern part of the Site, extending either side of the Catchwater Drain. The results of archaeological fieldwork evaluation identified an extensive area of Roman pottery kilns and associated enclosures, pits and boundary features. In addition, a human cremation was also recovered from the Site. The results of archaeological evaluation, plus evidence from previous investigations beyond the planning application boundary, suggest that the industrial activity is concentrated within the Site and that the

entirety of the pottery making activity may be present within the Site as no evidence of the continuation of the industry has been recorded beyond the Site boundary.

Archaeological evaluation has confirmed that the remains have a good level of preservation with excavated kiln structures recorded as being relatively intact. The evidential value associated with the remains enhances the importance of the features and contributes to their heritage value. The archaeological remains associated with pottery manufacture are likely to be of national importance and are assessed to be of high value. The construction of the Proposed Development would result in changes such that the archaeological resource would be completely removed. The magnitude of impact is assessed to be high, resulting in a major
adverse effect which is significant.

A purported medieval monastic cell at Haw Hill, a natural topographical high point in the centre of the Proposed Development site, survives as cropmark remains. The asset may have been located within the medieval parish of Boultham and may hold information relating to the status of the residents of the site, local economies and consumption. The evidential value associated with the buried remains is assessed to be of low value. Haw Hill is within an area proposed for ecological enhancement, comprising grassland scrub. This would entail no impact to existing topsoil layers and no change to current ground level. Mitigation measures would be required during construction to ensure that the asset is preserved in situ. These would need to be written into the Construction Environmental Management Plan (CEMP). Provided that these measures are implemented, there would be no impact arising from the construction of the Proposed Development and the significance of effect is assessed to be Neutral.

The Swanpool is an area of natural marshland and open water in the northern section of the site. Seasonal flooding episodes during the early and later prehistoric periods are the likely origin of the Swanpool and historic OS map evidence shows former river courses within the Site emptying into the Swanpool, which covered a larger area than its current form. It is likely that the Swanpool and the wider area would have been a focal point for water-edge hunting activity and there is high potential for waterlogged artefacts and deposits containing palaeoenvironmental data to be present. The Site is located within the valley floor and while historically the entire Site would have been within the floodplain, the lower lying parts of the Site, towards the north and north-east, have the greatest potential for palaeoenvironmental data to survive at depth. Palaeoenvironmental data could provide information relating to previous environmental conditions, eco-habitats and landscape changes that would contribute to regional research, therefore the value of this asset is assessed to be medium.

A review of borehole data has suggested that there are no buried palaeosoils within the Site. However, there is a potential for localised deposits with palaeoenvironmental potential to be present that derive from former watercourses or from the former extent of the Swanpool. Piled foundations associated with the construction of commercial buildings and leisure facilities, hotel and the proposed football stadium have the potential to impact buried deposits that may contain palaeoenvironmental data. In addition, the piled foundations associated with the proposed bridge links also have the potential to impact buried deposits.

Pile clusters would remove a proportion of a buried resource that likely extends beyond the site's boundary, and therefore while the physical impact arising from construction is permanent, the magnitude of the impact is assessed to be medium as construction would not remove the entire resource. The effect is assessed to be moderate adverse, which is significant.

Archaeological areas recorded on the Historic Environment Record (HER)within the site also include the location of find spot evidence. Abraded find spot evidence, such as a postmedieval pottery scatter (MLI70170) may derive from former manuring activities, has no surviving contextual associations and is of no heritage value. Other find spot evidence, such as asset 1585, a concentration of Roman pottery, may represent surface evidence of a buried archaeological site. The location of asset 1585 is in the location of the proposed Skellingthorpe Road link road and primary school. This location was targeted during a trial trench survey which confirmed that features relating to Roman field enclosure and possible settlement were present. These features are located

away from the core of Roman industrial activity in the south-east corner of the Site, but there is likely to be a level of association. The value of the buried resource in this area is therefore assessed to be high, due to the potential for it to be related to features of national importance. The impact arising from the construction of the proposed road link and primary school would result in the total loss of the buried resource; therefore the magnitude is assessed to be high, resulting in a major adverse effect which is significant.

Other sites recorded on the HER that are located within the Proposed Development site include a cropmark relating to a former windmill and find spot evidence in the vicinity of Haw Hill. These sites are located outside of the areas required for the construction of the Proposed Development and would not be impacted. The effect on these sites is neutral value.

Assets beyond the Site

Swanpool Conservation Area is located approximately 68 m to the south of the Development Site. At its present extent, the Swanpool housing development represents a very small fraction of the intended 1920 Garden Suburb design. The limited extent of the housing development means that its roads have light traffic only as there are no through routes and no shops and the only public building that attracts visitor traffic appears to be Almond House. The development is flanked on its north-west side by open green space as was intended in the original 1920 design, although some of that on the south-east side. This open land contributes to the setting of the Conservation Area and contributes to a tranquil sense of place.

The Swanpool Conservation Area is assessed to be of medium value. The construction of the Proposed Development would result in an increase in noise and dust which may affect the tranquil baseline setting of the conservation area. Construction activities would be restricted to the north of the site and would be screened to an extent by intervening settlement and a line of trees that form a buffer between the Proposed Development and the existing housing estate. Furthermore, construction activities would be contained within the Proposed Development site and construction traffic would not pass through the conservation area. The impact would be temporary, lasting for the duration of the construction of Phase B8 to B12 inclusive which comprises Phases 2 and 4 of the Proposed Development. This would result in a change that would have a slight effect upon the character of the asset. The magnitude of the impact is assessed to be low, resulting in a minor adverse effect which is not significant.

The scheduled duck decoy (NHLE 1015809) is located approximately 340 m north-west of the Proposed Development and as a scheduled monument is of high value. The evidential value associated with well-preserved waterlogged archaeological remains contributes to the value of the duck decoy. The setting of the decoy also contributes to its value and enables an understanding and appreciation of the asset. The asset's surroundings are quite tranquil, emphasised by vegetation which encircles the asset resulting in an enclosed setting.

Beyond the outer extent of the decoy the setting is defined by the surrounding areas of open agricultural land, which historically would have comprised marshland and would have been the primary reason for the choice of site for the decoy. This setting positively contributes to the ability to understand the significance of the asset. There may be an associative relationship with the site of a former non-designated decoy within the centre of the Proposed Development site. Asset 1084693 (same as asset MLI88929) represents the cropmark remains of a post-medieval decoy approximately 1.2 km from the scheduled decoy and both assets are likely to have been in use at the same time. The construction of the Proposed Development would not impede lines of sight between these two assets.

Construction activity would be visible from the decoy and there would also be a discernible level of noise arising from the activities. The impact from the construction activity would be temporary, lasting for the duration of the construction of housing in plots A4 to A7 and A12 to A13, all of which would have been constructed by the end Phase 2. The temporary impact would result in a slight change to the setting of the asset, but would have no impact on the ability to

appreciate and understand its heritage significance. The magnitude of impact is assessed to be very low, resulting in a minor adverse effect which is not significant.

Other heritage assets beyond the Site, comprising grade II designated Hartsholme park and Garden, Boultham park and garden and the conservation areas located to the north-east of the Site, have enclosed settings and would not be affected by construction activities within the Site. The effect on these assets is assessed to be neutral.

The majority of listed buildings in the study area are located within existing settlement associated with the historic City of Lincoln, with the greatest numbers located in the conservation areas to the north-east of the Proposed Development Site. The heritage value of the buildings derives from their architectural and historic interest, and individually and collectively they contribute heritage value by embodying the historical development of the city. The character and setting of the listed buildings is defined by their location and they are experienced as part of a streetscape. Construction activities associated with the Proposed Development would not affect the character or heritage value of listed buildings within the city and the effect is assessed as neutral.

4.5.2 Impacts during operation

Physical impacts to buried cultural heritage assets are limited to the construction phase of the Proposed Development. The operational phase of the Proposed Development would be the worst case scenario for heritage assets, as it represents the greatest magnitude of change to the baseline setting of cultural heritage assets, therefore also the greatest magnitude of possible impact to the heritage value of assets.

The setting of the scheduled duck decoy to the north-west of the Proposed Development is relatively tranquil and enclosed. Long-range views from the edge of the asset take in the low-lying landscape to the north and east of the monument and this component of its setting positively contributes to the ability to understand the significance of the asset. Views of the operational development would be visible from the asset therefore the change to the rural setting of the asset would be noticeable. However, a designed stand-off buffer and the creation of landscaped fringes at the edges of the Proposed Development helps soften the visual impact of the Proposed Development. In addition, the retention of existing hedgerows, tree lines and the creation of ecological enhancement zones conserve the rural character of views to the south-east and east from the duck decoy. The magnitude of change to the setting of the duck decoy is assessed to be very low, as although the operational Proposed Development would be visible in views from the asset, it will not affect the value of the asset, nor would it change the ability to understand and appreciate its value. The magnitude of impact is assessed to be very low, resulting in a minor adverse effect which is not significant.

Swanpool Conservation Area is of medium heritage value and is flanked on its north-west side by open green space as was intended in the original 1920 design. This open land contributes to the setting of the conservation area and contributes to a tranquil sense of place. The open space to the north of the conservation area, comprising the Proposed Development site, also contributes to the relative tranquillity of the conservation area, but views of the open space do not contribute to the character of the area due to intervening settlement and a tree belt which acts as a visual buffer. In principle, the development of the open space would not harm the character and appearance of the conservation area.

The design has ensured that there would be no vehicle access from the Proposed Development into and through the conservation area, therefore operational impacts would only arise from an increase in noise and light levels from street lighting. There may be an increase in noise and light levels arising from the operational development but these would not be incongruous with the existing baseline conditions within the Conservation Area and are unlikely to result in a significant change to the character and setting of the conservation area. Furthermore, existing and proposed tree planting at the southern edge of the Proposed Development would minimise noise and light incursion. The operational impacts on the conservation area are assessed to be very low resulting in a minor adverse effect which is not significant.

Lincoln Castle and Cathedral are located outside the study area but were visited during the baseline assessment in order to establish the baseline setting conditions of both assets.
Lincoln castle is designated a scheduled monument and Grade I listed building. The asset is of high value and its heritage significance derives from its archaeological, artistic, historic and architectural interest. The Proposed Development would comprise a new component in views from Lincoln Castle but it would not impede strategic views of historical relevance, nor would it change materially any component of the castle's setting. It is assessed that the Proposed Development would not diminish the ability to appreciate and understand the heritage significance of the castle and the impact is therefore assessed to be very low, resulting in a minor adverse effect which is not significant.

The Cathedral Church of St. Mary is a grade I listed building and includes the cloisters, chapter house and libraries in the listing. The asset is of high value and its heritage significance derives from its archaeological, artistic, historic and architectural interest. The Proposed Development would comprise a new component in views from the cathedral. However, the retention of green space and the hedgerow field boundaries, together with the inclusion in the design of green buffers around the Proposed Development parcels, lessens the magnitude of change. The Proposed Development would not challenge the visual prominence of the cathedral when viewed from afar and would not affect the ability to appreciate and understand the heritage significance of the structure. The impact arising from the Proposed Development when operational assessed to be very low, resulting in a minor adverse effect which is not significant.

The Environmental statement concludes that the residual effects post mitigation and during construction are assessed as minor to moderate adverse and during operation as minor adverse. The proposed programme of archaeological investigations to be undertaken preconstruction as mitigation would ensure that any finds are recorded and impacts of the site
being developed on the archaeology are minimised as far as is practicably possible.

4.5.3 Historic England Consultation Response
In their consultation response Historic England considered the planning submission to be non compliant with the National Planning Policy Framework.
"These issues fall into two categories; firstly, concerns where there is an insufficiency of detail necessary for the planning authority to minimise conflict between conservation of the significance of heritage assets and elements of the development or to be confident that proportionate mitigation can be delivered, and secondly concerns as to non-compliance with the NPPF's requirements as regards non-designated archaeological remains of demonstrably equivalent importance to a scheduled monument and the required justification of wholly exceptional circumstances in which substantial harm is necessary to deliver substantial public benefits that outweigh that harm or loss, given also that great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be)."

"One crucial issue will be to ensure that the northern boundary of the development will have the character of a green edge, thereby avoiding a hard urban edge. This would help ensure that aspects of the rural character of important views in this direction from the upper city are retained as much as possible, thereby helping to preserve this important aspect of the rural setting of the city, castle and cathedral. We are encouraged by the inclusion of green edges included in the 'Character and Placemaking Framework Plan'. We advise that the form of the green edges, including height of planting, and development adjacent to the green edges is fully defined in the Design Code. There is the potential for less dense development along the northern boundaries, in amongst trees and green spaces, to provide high quality dwellings which take advantage of the wonderful views of the cathedral and uphill Lincoln. We also advise that the local centre also avoids a hard urban edge and this is defined in the Design Code. We recommend that photomontages including the proposed development are provided for views 3, 4, and 5 to assess the extent of the mitigation proposed."

The application is supported by a number of viewpoint photomontages, taken from different areas of the city, the determine the long range visual impacts of the proposed development. The applicant has provided the additional photomontages as requested by Historic England.

"We welcome the retention of many hedge lines and tree lines within the development which has the potential to help preserve some of the rural character of views from uphill Lincoln views by retaining the succession of green 'horizons' (hedges or tree lines) seen in them, as well as screening some of the development. This would also retain much of the structure of the 19th century field pattern which has historically informed the later 19th and 20th century character of housing in Lincoln. The height of general residential development of up to 12m would be high in this context, especially on raised ground. A ridge height of 9m may well be more appropriate. We recommend that further information, including the height above existing ground level of the raised platforms and the photomontages mentioned above, is provided to understand the extent of mitigation proposed."

The retention of the existing water courses is welcomed which reflects the historical development and context of both the site and Lincoln. We also welcome the creation of view corridors within the development towards the cathedral which would help create a unique sense of place.

"The extension eastwards of the fields and green spaces of the site close towards the city centre contributes strongly to the setting of the cathedral and historic city by making evident the rural setting of the city. We therefore advise that the extent westwards of the proposed commercial and leisure village should be justified. The proposed stadium would have the potential to be an intrusive feature in views towards, and from, uphill Lincoln and the cathedral. We recommend that further information on the form and scale of the stadium is provided."

At this stage the application just seeks the principle of a stadium on the WGC site. The exact location, scale and form are not to be set as part of this application. A fully detailed scheme would be the subject of a separate planning application with all matters considered at that point.

Archaeological Remains
Historic England state *"The Swanpool pottery production site would pass the test of national archaeological importance for designation as a scheduled monument. However, we consider the NPPF is the preferable mechanism to manage development of the site on the basis that the equivalent archaeological assessment and mitigation to what might otherwise be ensured through Scheduled Monument Consent is secured: recognising also that the site is allocated for housing within the adopted local plan."*

The archaeological potential of the site has been assessed in previous Desk-based Assessments and confirmed by a staged programme of archaeological evaluation (ES Volume 3, Technical Appendices 7B and 7C). The assessments have identified activity associated with the prehistoric, Roman, medieval and post-medieval periods, and include extensive Roman remains associated with Swanpool pottery manufacture that may be of national importance.

Pre-application consultation with Historic England and the Archaeologist for City of Lincoln Council confirmed a requirement for geophysical survey and archaeological evaluation trenching to inform the planning decision. The focus of the archaeological evaluation would be areas of the proposed development where significant groundworks are proposed.

The Phase 1 trial trenching comprised the excavation of 62 evaluation trenches and the detailed excavation and recording of a Roman kiln. The evaluation recorded the absence of archaeological features and material across the western part of the site and confirmed that the densest archaeological activity was concentrated in the south-east. The Phase 2 trial trenching was carried out during September 2018 and comprised the excavation and recording
of another 21 trenches. The second phase of trial trenching revealed further evidence relating to the pottery manufacturing industry at the site and suggested that the densest areas of archaeological remains were in the fields to the south and immediately north of the Catchwater Drain.

Historic England consider the submitted archaeological mitigation strategy to be a robust piece of work setting out a generally proportionate and wholly necessary scope of work to address the current known significance of the ancient monument it would fail to be proportionate were it to be reduced in scope. However they do still have concerns regarding the application on heritage grounds and

refer the LPA to use our own City Archaeologist for specialist advice.

The Overarching Written Scheme of Investigation (OWSI) sets out the next stages of work required for the site. The document sets out a further phase of trial trench evaluation in the eastern edge of the Site, a programme of geoarchaeological assessment in the north eastern edge of the Site, and a programme of archaeological excavation in the southern part of the Site. One area of concerns is that the programme of archaeological works are not submitted with a robust cost estimate as well as a clear statement from the applicant that this mitigation is deliverable within their overall viability model for the development as submitted.

Since the submission of the Planning application the applicants have submitted a deliverability report, which has been reviewed by independent viability consultants. They have confirmed that the programme of works required has been costed into their overall viability model and it is at an appropriate, and agreed with the LPA, point in the scheme phasing.

Evaluation has yet to be carried out in certain areas which could not be accessed pre-submission. This work should be programmed for the earliest opportunity post any grant of consent. This would be secured by condition and carried out in consultation with the City Archaeologist.

4.5.4 Planning Consideration

The NPPF sets out policy on conserving and enhancing the historic environment in chapter 16.

Paragraph 194 states that in determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

Paragraph 197 states that in determining applications, local planning authorities should take account of:

a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;

b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and

c) the desirability of new development making a positive contribution to local character and distinctiveness.

The LPA consider that the applicants have sufficiently set out the heritage assets affected by the proposed development. There are both above ground and below ground assets which require consideration.

Paragraph 199 states "When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance."

In the case of the above ground impact on listed buildings the applicants have demonstrated that there would be no loss of the designated heritage assets. The masterplan has set out height parameters and view corridor to ensure long range views of Lincoln's historic hillside. They have also pulled development away from the duck decoy to the west of the site.

The NPPF states that "Non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.

The work carried out to date has confirmed that the archaeological remains below this site are of equivalent significance to scheduled monuments, as confirmed by Historic England.

NPPF Paragraph 201 states “Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss”. Policy and case law also indicates that any harm to designated heritage assets must be given considerable weight and importance.

The development of the Swanpool Pottery Production part of the site that Historic England advises *would pass the test of national archaeological importance for designation as a scheduled monument* will inevitably lead to the total loss of significance of that heritage asset. Added to this is the harm to designated heritage assets identified above (eg listed buildings, Swanpool Conservation Area and schedule duck decoy) The site is allocated for development and will contribute to the overall delivery of the SUE and the 3200 houses and associated infrastructure. The delivery of the development will provide substantial public benefits and, as a consequence, it is considered that, with suitable analysis, investigation and recording, there will be less than substantial harm to the above ground heritage assets and, in accordance with NPPF para 202 that harm is outweighed by the public benefits of the development.as set out in the planning balance below. Equally, the development will cause harm to the archaeology of the site to the extent that it should be considered to have substantial harm as defined by NPPF para201 and considerable weight and importance should be given to any harm to designated heritage assets or assets of an equivalent significance. The development, as identified below in the planning balance, delivers the substantial public benefits that are considered to outweigh that harm.

4.6 Ecology and Nature Conservation

4.6.1 Environmental Statement

The objective of the ES is to identify any likely significant effects upon designated and non-designated sites, habitats and protected and notable species that are likely to arise from construction and / or operation of the Proposed Development.

Design features which have been adopted within the Masterplan to avoid and / or reduce potential ecological impacts include:

- Retention of hedgerows where possible; borrow pits have been restricted to two areas to minimise any loss / direct impact on hedgerows.
- New drainage system to ensure water logging and soil mounding does not occur at hedgerow bases.
- Set-back of the Proposed Development from Boultham Catchwater Drain by 9 m to avoid any direct impacts on the watercourse (excluding necessary channel upgrade works).
- Provision of a waterside enhancement area to the north of Boultham Catchwater Drain (refer to wetland/ecology area adjacent to Boutlham Catchwater Drain on Figure 2.1)
- Maintaining a green wedge/corridor through the Site and maintaining linkages to other green infrastructure outside of LWGC such as Hartsholme Country Park LWS. New compensatory and mitigation habitats to be included in this area would include wetlands, scrub, grassland and scattered trees.
- Retention in the Illustrative Masterplan layout of all large woodland blocks within the Site including Swan Pool and Fen Plantation.
- Retention and restoration of the Swan Pool Local Wildlife Site (LWS) without encouraging public access in this area.
- Retention of all ponds, apart from the seasonal P10 (refer to Figure 6.5).
- Borrow pits to incorporate wetland habitats (but not large open water areas) of benefit to local flora without attracting large numbers of overwintering birds due to Ministry of Defence issues such as bird strike.

- Incorporation of green swales and other wetland features into the new SUDS drainage system for the Site to create new wetland habitats within the Proposed Development site.
- 2:1 replacement of hedgerows would be aimed for.
- Compensatory habitat would be created within the green wedge / corridor close to Swan Pool to offset the losses incurred through the Proposed Development. It is anticipated that the marginal habitats to be lost would be replaced with habitats of significantly higher quality. The habitat creation would be tailored towards the two species of reptile recorded during field surveys, namely viviparous lizard and grass snake. In addition to foraging areas, specific landscape features would be constructed, including earth banks for basking, above ground hibernacula (to minimise the risk of flooding) and egg-laying sites for the grass snakes. In turn, this area would have benefit for other fauna including amphibians, birds, bats and invertebrates.

Management of works to avoid and / or reduce potential ecological impacts includes the following measures:

- Seasonal timing of vegetation removal to avoid the nesting bird period (i.e. avoid March to August inclusive) and implementation of alternate monitoring and mitigation where not practical.
- Seasonal timing of works within 100 m of the occupied barn owl nest box to avoid disturbance within the breeding season (March to August inclusive).
- Signage of the ecological mitigation area(s) to encourage pedestrians to keep dogs on leads in the sensitive ground nesting bird season (March to August inclusive). This would apply both during construction and post-construction.

The Illustrative Masterplan incorporates all the above design and management measures. This would have a direct permanent benefit for wildlife, further creating habitat and corridors
likely to be of benefit to a range of wildlife.

Standard environmental best practice and mitigation would be implemented to ensure construction and operation of the Proposed Development complies with legislation relating to protected species. It would also aim to ensure the Proposed Development does not compromise the local conservation status of ecological features present within or near the Proposed Development. A European protected species licence will be required for Great Crested Newt. A European protected species licence may also possibly be required for bats if future pre-construction surveys confirm the presence of bats at locations where offence avoidance is inconsistent with the Proposed Development. These would be obtained from Natural England sufficiently in advance of the works to meet with the optimum
time for mitigation and to minimise any changes to the construction programme.

A Construction Environmental Management Plan (CEMP) would be prepared for the Proposed Development in line with best practice construction management approaches. The CEMP would be implemented to reduce the risk of significant environmental effects on sensitive ecological features during construction activities. Prior to commencement of construction, a Construction Ecological Management Plan (EcoCEMP) would be produced as part of the overarching CEMP. This would identify risks of ecological harm and set out method statements, designs and protocols to minimise these risks during the construction period. This document would be secured by condition.

The construction phase would be the most disruptive period for ecology and nature conservation. Vegetation clearance on Site would remove habitats in the short-term before the maturation of new landscape planting, whilst the exclusion of protected faunal species from the construction works area would be required. This would cause disruption to local habitats and local faunal populations in the short-term.

Habitat loss would be further mitigated through the timing, of planting and seeding, which wherever practical would be undertaken where in advance of each Proposed Development phase. The CEMP would also include measures to protect existing habitats from accidental damage during construction as well as protection of newly established mitigation and enhancement areas.

The full assessment of direct and indirect impacts on ecological features is contained with the ES. This takes into account designated and undesignated sites.

4.6.2 Mitigation and Monitoring

In the CIEEM assessment where it has been concluded that there is or the potential for a significant effect, additional mitigation is required.

The following lists set out the mitigation measures that are recommended in the Environmental Statement to be implemented on Site to reduce the impact of the Proposed Development on ecology and nature.

Designated Sites, Habitats and Flora Species Mitigation Measures

- Establishment of species-rich grassland areas to compensate for the loss of Mormon Field LWS. Mitigation would be provided for the qualifying habitats of higher ecological interest within the Mormon Field LWS and the species-rich grassland on the old landfill PSIG5 that would be impacted. Additional Mitigation measures would include translocation of grassland turves including yellow sedge from Mormon Field LWS into the green corridor.
- Method Statement for the restoration of Swan Pool LWS to ensure successful implementation and establishment of ecological enhancement measures.
- The success or otherwise of the mitigation and enhancement measures proposed for new vegetation establishment would be monitored over a minimum fifteen-year period as part of the LEMP.
- Hedgerow infill planting with suitable native species would also be undertaken where appropriate and there would be additional species-rich hedgerow planting across the Site at least on a ‘two for one’ replacement level.
- Waterside enhancements would provide new habitat areas for Blunt-fruited waterstarwort and careful drainage works would allow propagules and seeds to recolonise the drain following channel upgrade.
- New inundation habitat would be created within the waterside enhancement area and plant stock from the species-rich inundation area within PSIG5 including round-fruited rush, would be recovered for translocation and this may also include collection and sowing of seed material.
- Habitat management requirements for Swan Pool would be reviewed as part of the LEMP and may include control of pontic rhododendron and selective willow clearance in the wet woodland.
- Recreational activity would be diverted away from Hartsholme Park LWS, Swan Pool LWS and Boultham Mere LWS by creating other accessible, physically robust and inviting recreation and nature areas and by use of informative signage. This should significantly reduce foot fall into these LWS along with potential associated antisocial adverse impacts such as littering, wildlife disturbance and arson.

Terrestrial Invertebrates Mitigation Measures

- Desk study data indicates that the local area supports a good moth fauna and so planting specifications should include species and habitats that would be beneficial for moths. The invertebrate conservation measures that would be used for grassland, scrub, hedgerows, trees and woodland habitats would include protection of existing areas of invertebrate value, infill planting, replanting and seasonal cutting of vegetation. These are measures which enable the habitats to act as effective invertebrate habitats providing breeding, overwintering

and dispersal resources. The LEMP for both retained and created habitats should include management targets for terrestrial invertebrate conservation.

- By diverting the public away from sensitive invertebrate habitat areas such as new areas that may be created for butterflies, damage can be potentially minimised. Well thought out footpaths, information and access signage; and public open space would help to mitigate as well as the sensitive location of new invertebrate habitats to avoid areas with predicted high footfall.

Aquatic Macroinvertebrates Mitigation Measures

- Suitable habitat provision and replanting of Boultham Catchwater Drain following reprofiling.

Great Crested Newt Mitigation Measures

- GCN fencing, trapping and translocation under a Natural England licence (EPSML) in relation to construction works near pond S2 in Swan Pool.
- Habitat improvements within and around Swan Pool LWS would help to mitigate for loss of suitable GCN habitats to the proposed development. Improvements to the wetlands within Swan Pool would also mean that they should be more suitable for breeding GCN.
- At least two new GCN ponds and three hibernacula would be included in the green corridor to be established through the middle of the LWGC.
- Precautions to protect individual GCN during the construction phase would be included in the CEMP.
- The results of any mitigation work would need to be monitored as part of the EPSML and would also be included in the LEMP. This would aim to ensure appropriate and successful habitat management is implemented.

Reptile Mitigation Measures

- Purpose built receptor site. The receptor site would be located within the green wedge close to Swan Pool
- Four hibernacula would be constructed. Given the high water table, these hibernation sites would be constructed above ground.
- Earth banks would be created throughout the grassland area.
- Suitable egg-laying sites would be created would suitable and undisturbed spots.
- A green corridor connecting the Catchwater Drain to the large Skellingthorpe drain would be incorporated.
- To mitigate the increased human presence, important features such as hibernacula and egg-laying sites, would be enclosed by thorny vegetation such as dog-rose, hawthorn and bramble. The defensive features of these plants would afford reptiles protection from both humans and domestic pets alike.
- Semi-permanent fencing would be installed along Swan Pool's southern and eastern boundaries. This fence would remain in place throughout the construction phase.
- All measures would be included in a Reptile Mitigation Strategy as part of the CEMP that would be submitted to the Local Planning Authority for approval ahead of its implementation.

Breeding Bird Mitigation Measures

- Careful design of the new habitat specifications would be included to maximise bird feeding and nesting potential through suitable species choice and habitat design to mitigate for loss of key bird habitat losses including arable and the habitat mosaic on the old landfill area.
- New areas of trees, scrub, grassland and inundation would in time replicate bird habitats lost from the old landfill area and help to mitigate for loss of breeding bird habitat.
- Three artificial hobby nests would be erected in suitable undisturbed locations in advance of any works that would not be disturbed during the construction works and would likely have low human disturbance post construction. They would be erected as far in advance of any construction work as possible to enable hobbies to find them and potentially use them.
- Provision of a range of nesting features integral to 15 percent of new buildings would be erected in suitable locations.

- Bird deterrent measures would be used as appropriate for ground nesting birds.

Water Vole Mitigation Measures

- Ensuring where possible any in-channel works take place outside of the areas of highest water vole density and avoids damage to any water vole burrows.
- Ensure all watercourse crossings are clear span and maintain bankside vegetation.
- Ensure design of new habitat provides appropriate refugia to deter predation.
- A stand of distance of 9 m should be applied to Skellingthorpe Main Drain (D1) to help minimise the effects of vehicle disturbance during construction.
- Ensure all onsite temporary works, such as haul roads and compounds are located at an appropriate distance from the watercourse so as not to cause disturbance to water voles and their habitat;
- Ensure any built development, including lighting and footpaths, are located more than 10 m from the top of bank of any watercourse where water voles are present to help reduce disturbance from operation of the Proposed Development.
- A detailed Mitigation Method Statement for Water Vole informed by updated survey data would be produced to accompany the CEMP and this species would also be included in the LEMP.

Bat Mitigation Measures

- Preconstruction inspection surveys of structure(s) with potential to support roosting bats. A Natural England licence (EPSML) for bats will then be obtained where necessary

  Additional bat surveys on confirmed and potential tree roost features if proposed to be removed. Installation of bat boxes to enhance the site for bats. A Natural England licence (EPSML) for bats will then be obtained where necessary
- Buffer zones around retained bat roost features.
- A lighting plan for construction and operation.
- Sensor lighting
- Avoidance of night-time working.
- Landscape planting of higher quality for foraging bats.
- Timing of vegetation clearance to avoid spring, summer and autumn months.
- Monitoring surveys of habitats
- Dense planting to facilitate bats up and over the main access road at hedgerow severance points.
- Monitoring of bat crossing points at hedgerow severance points.
- A detailed Mitigation Method Statement for Bats would be produced to accompany the CEMP.

Hedgehog Enhancement Measures

- New landscape planting would include areas of dense shrub cover with adjacent tall grassland which would provide suitable foraging and refuge habitat for hedgehogs and potentially encourage them into the Proposed Development area dispersing in from the adjacent residential area.
- To assist with habitat linkage, boundary treatments should allow for free movement of hedgehogs between gardens and to and from the areas of open space. A minimum of one 'hedgehog hole' should be provided in each discrete internal fenced garden boundary and one for each external garden boundary where it abuts greenspace or the LWS.

The City Council has a legal duty to have regard to the requirements of the Birds and Habitats Directives in exercising any of its functions (reg 9(3) Conservation of Habitats and Species Regulations 2017). In the Supreme Court judgement of *Morge v Hampshire CC* [2011] UKSC 2, in the leading judgment of Lord Brown, it was held in relation to Habitats Directive (para 29) that:

"*Now, however, I cannot see why a planning permission (and, indeed, a full planning permission save only as to conditions necessary to secure any required mitigating measures) should not ordinarily be granted save only in cases where the Planning Committee conclude that the proposed development would both (a) be likely to offend article 12(1) and (b) be unlikely to be licensed pursuant to the derogation powers. After all, even if development permission is given, the criminal sanction against any offending (and unlicensed) activity remains available and it seems to me wrong in principle, when Natural England have the primary responsibility for ensuring compliance with the Directive, also to place a substantial burden on the planning authority in effect to police the fulfilment of Natural England's own duty*".

The Habitats Directive protects European Protected Species (EPS). In this planning application two EPS have been identified as potential constraints, see above ie GCN and bats.

In relation to GCN, as noted above, article 12(1) of the Habitats Directive *is* likely to be offended in relation to GCN thereby necessitating a GCN licence from Natural England. However the City Council has no reason to believe that a GCN licence is *unlikely* to be forthcoming from NE. The City Council can, on the contrary, be confident that a GCN licence *is likely* to be forthcoming in that (considering the 3 licensing tests) (i) there *are* likely to be imperative reasons of overriding public interest for the Proposed Development; (ii) there is *unlikely* to be any satisfactory alternative; and (iii) taking into account the measures above for GCN (which are described above as mitigation measures in terms of the ES, but which are mainly compensatory measures considered in the context of GCN licensing, the action authorised by the licence will not be detrimental to the maintenance of the population of the GCN species concerned at a favourable conservation status.

In relation to bats, as noted above, article 12(1) of the Habitats Directive *may*, following further bat surveys, be offended in relation to bats, thereby necessitating a bat licence from Natural England. Again the City Council has no reason to believe that a bat licence (if required) would be *unlikely* to be forthcoming from NE. The City Council can, on the contrary, be confident that a bat licence is likely to be forthcoming in that (considering the 3 licensing tests) (i) there are likely to be imperative reasons of overriding public interest for the Proposed Development; (ii) there is unlikely to be any satisfactory alternative; and (iii) taking into account the measures above for bats (which are described above as mitigation measures in terms of the ES, but some of which (eg erection of bat boxes as replacement roosts) are compensatory measures in relation to bat licensing, the action authorised by any such licence will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status.

The City Council also has a legal duty to wild birds to take appropriate steps in the exercise of their functions to contribute to preserving, maintaining and re-establishing a sufficient diversity and area of habitat for wild birds, with account also being taken of economic and recreational requirements; and to use all reasonable endeavours to avoid any pollution or deterioration of wild bird habitats (reg 10 of the Conservation of Habitats and Species Regs 2017). On this, Gov.uk states "If you're a local planning authority you should use planning and development control to conserve and enhance the natural environment. This is set out in the NPPF. This will include wild bird habitats…". The City Council has addressed and met these duties through the wild bird measures referred to above albeit it is acknowledged that that the ES predicts a moderate adverse residual effect which may lessen over 10 years for breeding birds and a potential moderate adverse residual effect (which may only be temporary) for nesting hobby.

4.6.3 Residual Effects

Taking into consideration the additional mitigation measures highlighted above, the residual effects upon identified ecological features due to Proposed Development construction are detailed below.

Construction Effects

Non-Statutory Designated Sites

There would be a permanent loss of Mormon Field LWS. Permanent loss of an LWS cannot be mitigated; the structure and function of the LWS would be lost. However, creation of new species-

rich grassland would compensate for the loss of the grassland habitat, which is its main qualifying feature. The grassland within the Mormon Field LWS has been adversely affected by re-seeding and poor management such that the qualifying grassland occupies only a small amount (circa 20 percent) of the LWS area. New species-rich grassland to be created as part of the mitigation would with appropriate management, potentially provide more than adequate mitigation for the loss of this grassland habitat. Therefore, it is assessed that there would be a potentially significant adverse residual effect at the District level on Mormon Field LWS from construction of the Proposed Development (ie a moderate adverse residual effect).

There is potential for there to be a permanent significant beneficial effect at the local level in the medium to longterm on Boultham Catchwater Drain LWS through the creation of Beneficial effects on waterside habitats following channel re-profiling works, replanting and creation of waterside enhancement area.

Habitats

Once the mitigation measures have been implemented, no significant residual effect from construction is expected in the short term on habitats (including hedgerows). However, there is potential for there to be a significant beneficial residual effect at the Local level in the medium to long term for some habitats (ie residual effect being therefore minor beneficial). The medium to long term success of new habitats created as part of the Proposed Development should be assured with suitable management guided by the LEMP.

Flora

No significant residual effect from construction is expected on notable flora species. However, there is potential for there to be a significant beneficial residual effect at the Local level in the medium to long term on blunt-fruited water-starwort, in association with enhancement / restoration of Boultham Catchwater Drain (residual effect being therefore negligible and potentially minor beneficial) .

Terrestrial Invertebrates

No significant residual effect from construction is expected. This assessment is applicable to both the Detailed and Outline applications.

Aquatic Invertebrates

It is unlikely that the Proposed Development would have residual significant adverse effects on the macroinvertebrate communities and species within the Proposed Development site in the long term. In addition, if replacement habitats for aquatic 6.9.8 macroinvertebrates are appropriately designed, included as part of the SUDS and well connected to existing waterbodies, it is anticipated that the Proposed Development would have a beneficial effect on macroinvertebrate communities and species through an increase in macroinvertebrate habitat available. Previous studies have shown that properly designed and managed SUDS can support a diverse range of aquatic invertebrates (URS, 2014). There would still be a short term significant adverse effect at the District level from the drainage modifications to Boultham Catchwater Drain, but this would be offset by potential significant beneficial effects in the long term.

If the appropriate pollution prevention measures are put in place, the risk of indirect impacts on macroinvertebrate communities and species during construction would be reduced and there would be no significant adverse effects on macroinvertebrate communities, such that the effects on the different waterbodies are considered as being not significant (due to very low probability of occurrence).

Great Crested Newts

There is potential for there to be a significant beneficial local effect in the medium to long term due to enhancement of low quality habitat and provision of additional breeding ponds which may improve the Site for GCN (ie residual effect minor beneficial).

Reptiles
No significant residual effect from construction is expected. However, there is potential for there to be a significant beneficial effect at the Local Level in the long term due to enhancement of low quality habitat which may improve the Site for reptiles.

Breeding Birds
It is acknowledged that there would be potentially significant adverse residual effects on the following,
which cannot be further mitigated:
· Breeding bird assemblage across the Proposed Development site from habitat loss during construction– potentially a significant residual adverse effect at the District level in the medium to long term (ie Moderate Adverse which may lessen in the medium to long term)
· Loss of nesting hobby as a result of habitat fragmentation and disturbance during construction– potentially a significant adverse effect at the County level which may be reduced to temporary significant at County level subject to the artificial nesting provision to be provided as part of the mitigation is used by nesting hobby (Ie potential moderate adverse but may be temporary).

Water vole
No significant residual impacts are expected.

Roosting bats (trees / buildings)
No significant residual effects are expected. Installation of bat boxes across the Proposed Development site may have a potentially significant beneficial effect at the Local level in the long term for roosting bats.

Foraging and commuting bats
No significant residual effects from construction are expected. Creation of higher quality habitat may have a potentially significant beneficial effect at the Local level in the long term.

Operational Effects
Non-Statutory Designated Sites
Once the mitigation measures have been implemented, there would be locally significant residual effects on Swan Pool LWS, Hartsholme park LWS, and Boultham Mere LWS from operation of the Proposed Development.

Habitats
There are local significant residual effects from operation predicted.

Flora
There are no significant residual effects from operation predicted.

Terrestrial Invertebrates
Minor adverse effects are expected from operation.

Aquatic Invertebrates
Once the mitigation measures have been implemented, the risk of direct and indirect impacts on macroinvertebrate communities and species during the operational phase would be reduced and

there would be no significant residual effects on macroinvertebrate communities in any of the waterbodies.

Great Crested Newts
No significant residual effects are expected from operation.

Reptiles
No significant residual effects are expected from operation.

Breeding Birds
There are Minor adverse residual effects from operation predicted.

Water Vole
Once the mitigation measures have been implemented, site level significant residual effects are expected from operation.

Roosting and foraging and commuting bats
No significant residual effects are expected from operation in relation to bats in buildings but for tree roosting and foraging bats there are minor adverse residual effects.

4.6.4 Planning Consideration
The assessments submitted with the planning application have been assessed by the Planning Authority and consultees.

Based on the plans submitted, Natural England considers that the proposed development will not have significant adverse impacts on designated sites and has no objection. They have provided detailed advice based on the submitted information.

"Natural England considers that the development of the Western Growth corridor could provide important opportunities to make positive gains for biodiversity and green infrastructure, both on the site itself and to make links throughout the City. We have had a number of meetings to discuss the proposals with the City Council, the applicants and other stakeholders as the proposals for the site have been progressed.

We generally welcome the commitment to blue and green infrastructure within the proposal. In particular we are pleased to note, from the illustrative masterplan, the specific areas for biodiversity and green infrastructure. The creation of the Waterside Enhancement Area for the Catchwater Drain will provide an ecological stepping stone between Hartsholme Park and Swanpool together with the areas of common land to the north of the site. The additional planting of suitable species around the Swanpool and Boultham Mere will complement the existing habitats. The ecology area based on the borrow pits will also provide an opportunity to create wetland habitats beside the Skellingthorpe Main Drain which would integrate into the proposed Sustainable Urban Drainage Schemes (SUDs)."

Whilst the detail of the SUDS areas and areas of biodiversity enhancement would be submitted as part of the Reserved Matters applications it is considered that the application has shown that it is possible to make improvements to biodiversity and green infrastructure. This is in accordance with Policy LP20: Green Infrastructure Network of the Local Plan as the application ensures that existing and new green infrastructure is considered and integrated into the scheme design from the outset. It also accords with Policy LP21 which requires the SUEs to adopt an ecosystem services approach, to biodiversity and geodiversity protection and enhancement.

Natural England advice that to maximise the benefits for both wildlife and people, detailed plans for Green Infrastructure and Ecological enhancements should be submitted. They also make a number

of recommendations for what these plans should contain. The planning authority would secure a comprehensive scheme of green infrastructure and biodiversity enhancements through the use of a suitably worded planning conditions.

The Lincolnshire Wildlife Trust have no objections to the proposed development. They have made a number of comments and recommendations for consideration to ensure that the scheme complies with national and local planning policy and maximises opportunities for environmental enhancements. They urge the applicants to be more ambitious in working towards the principle of biodiversity net gain. The current application is submitted in outline, so whilst the applicants have shown ways in which the scheme could be achieved, this is not the final layout. A number of conditions would be attached if consent is granted which ensure that issues would be dealt with through the submission of future applications. An Environmental Management Plan would form one of these conditions and would include, but not be exhaustive of, the mitigation measures outlined within the Environmental statement.

The Woodland Trust have raised no objections to the proposed scheme. There were some initial concerns about the root protection areas afforded to veteran and potential veteran trees on site. Natural England's Standing Advice is that this protection area is 15 times the stem diameter. This standard could be conditioned to ensure that no damage is done to those trees.

National policy sets out that planning should provide biodiversity net gains where possible. National Planning Policy Framework (NPPF) Paragraphs 170(d), 174(b) and 175(d) refer to this policy requirement and the Natural Environment Planning Practice Guidance (PPG) provides further explanation on how this should be done.

There is currently no mandatory requirement to deliver biodiversity net gain on a scheme. Mandatory biodiversity net gain as set out in the Environment Bill applies in England only by amending the Town & Country Planning Act (TCPA) and is likely to become law in 2023. Therefore whilst it is not a requirement of this Outline application it is likely that future applications should seek to a m**inimum 10% gain.**

4.6.5 Planning Policy

Paragraph 174 of the NPPF requires planning decisions to contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

When determining planning applications, local planning authorities should apply the following principles in line with paragraph 180:

- if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.

These themes are continued into the Local Plan, specifically Policies 20 and 21.

Policy 20 seeks to maintain and improve the green infrastructure network in Central Lincolnshire by enhancing, creating and managing multifunctional green space within and around settlements that are well connected to each other and the wider countryside. Development proposals should ensure that existing and new green infrastructure is considered and integrated into the scheme design from the outset. Where new green infrastructure is proposed, the design should maximise the delivery of ecosystem services and support healthy and active lifestyles.

All development should minimise impacts on biodiversity and geodiversity; and seek to deliver a net gain in biodiversity and geodiversity in line with Policy 21.

Proposals for major development should adopt an ecosystem services approach, and for large scale major development schemes (such as Sustainable Urban Extensions) also a landscape scale approach, to biodiversity and geodiversity protection and enhancement identified in the Central Lincolnshire Biodiversity Opportunity Mapping Study.

Both the green infrastructure constraints and opportunities identified in the Design and Access statement and the study of biodiversity in the ES have identified the significance of these factors in the overall design of development on the masterplan. The 'green infrastructure' plan sets out the way in which development has been planned around these constraints with opportunities being taken to enhance linkages and public access. The proposals for green infrastructure have been related to areas which are important for habitat creation and enhancement – such as retained hedgerows and trees.

With particular regard to enhancement of biodiversity, the opportunity is being taken to utilise the areas being excavated for the purposes of development platforms (i.e. the areas in the northern part of the site) for ecological enhancement given they could potentially be wet areas.

The impact of this large scheme on the existing green infrastructure and biodiversity on the site is being mitigated for and enhanced in accordance with these policies.

4.7 Air Quality

The Air Quality chapter of the Environmental Statement presents an assessment of the potential impacts due to dust generation and emissions from construction plant and vehicles during the construction phase of the Proposed Development and of the potential impacts associated with changes in road traffic emissions attributed to the Proposed Development once operational. Where necessary, control and mitigation measures are presented to minimise, or remove identified significant air quality impacts.

The study area has been defined to include sensitive receptors adjacent to Skellingthorpe Road (B1378), the A46, Lincoln Road, Saxilby Road and Carholme Road (A57), Brayford Way (B1273) and Tritton Road (B1003) and the Site access junctions which are located at the Skellingthorpe Road/ Birchwood Avenue junction, Tritton Road/ Dixon Street junction and off Beevor Street. The wider study area focuses on Rope Walk roundabout, Wragby Road, Lindum Road, Broadgate (A15), Canwick Road (A15), South Park Avenue (A15) and Cross O'Cliff Hill (A15).

A qualitative assessment has been undertaken to assess the significance of any effects on sensitive receptors associated with the demolition, construction and refurbishment phase of the development. The assessment assesses potential sources of emissions on the basis of the four main activity groupings:

· demolition;
· earthworks;
· construction; and
· track-out.

4.7.1 The construction phase

The construction phase of the Proposed Development is likely to lead to a small increase in the number of vehicles on the local highway network, for the duration of the construction works only. The estimated average daily number of heavy goods vehicle (HGV) movements is 24, with 12 arriving and 12 departing daily.

In order to determine baseline and operational phase air quality conditions at the Proposed Development, an air quality study has been undertaken using dispersion modelling to predict likely effects from road traffic. The traffic data used in this air quality assessment has been supplied from the Greater Lincoln Traffic Model (GLTM) and is the same data as that used in the updated Transport Assessment.

For amenity effects (including that of dust), the aim is to bring forward a development, including mitigation measures if necessary, that does not introduce the potential for additional complaints to be generated as a result of the Site being developed.

Where applicable, the way that potential environmental impacts have been or will be avoided, prevented, reduced or off-set through design and/or management of the Proposed Development are outlined below and will be taken into account as part of the assessment of the potential effects. A detailed dust and air quality management plan should form part of the CEMP which will be prepared by the contractor for the construction phase. It would be secured by a planning condition and would need to include the mitigation measures as outlined below:

Road Vehicle Emissions-

Vehicles arriving at the Site will need to be managed carefully in order to prevent on-site congestion and prevent peaks in the number of vehicles arriving simultaneously, therefore limiting the impact on the local highway network.

To minimise the likelihood of congestion, monitoring and control of all vehicles entering and exiting the Site will be maintained by:

· setting of specific delivery dates and collection times, where feasible;
· consolidating deliveries where feasible;
· using a system of ‘just in time’ deliveries;
· a requirement for authorisation when visiting the Site via vehicles; and
· safely maintaining pedestrian access around the Site perimeter.

Dust emission mitigation measures-

Demolition:

· soft strip inside buildings before any demolition;
· ensure effective water suppression is used during deconstruction operations;
· avoid blasting techniques, using appropriate manual or mechanical alternatives; and
· bag and remove any biological debris or damp down such material.

Earthworks:

· avoid scabbling (i.e. mechanical process of removing a thin layer of concrete from a structure, typically achieved by compressed air powered machines) if possible;
· re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable;
· use Hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable; and
· only remove the cover in small areas during work and not all at once.

Construction:

· avoid scabbling (roughening of concrete surfaces) if possible;
· ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place;

ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery; and

· for smaller supplies of fine powder materials ensure bags are sealed after use and stored to prevent dust.
Trackout:
· use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site;
· avoid dry sweeping of large areas;
· ensure vehicles entering and leaving the site are covered to prevent escape of materials during transport;
· inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable;
· record all inspections of haul routes and any subsequent action in a site log book;
· install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned;
· implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Site where reasonably practicable);
· ensure there is an adequate area of hard surfaced road between the wheel wash facility and the Site exit, wherever site size and layout permits; and
· access gates to be located at least 10 m from receptors where possible.

Overall the effects of the construction phase activities are considered to be minor adverse which is not considered to represent a significant effect.

4.7.2 Operational Phase Emissions
During the operational phase, the impact of emissions associated with road traffic movements have been considered in this assessment. The assessment has identified that such emissions will not have a significant effect on local air quality. However, an impact of some varying magnitude for each operational phase is still likely to occur, albeit the effect on receptors has been assessed to be insignificant.

4.7.3 Planning Consideration
Paragraph 103 of the NPPF states that:
“The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health.”
“Policy LP26: Design and Amenity:
Amenity Considerations:
The amenities which all existing and future occupants of neighbouring land and buildings may reasonably expect to enjoy must not be unduly harmed by or as a result of development. Proposals should demonstrate, where applicable and to a degree proportionate to the proposal, how the following matters have been considered, in relation to both the construction and life of the development:
… . Adverse impact upon air quality from odour, fumes, smoke, dust or other sources.”

The impacts from the development on air quality are closely related to the agreed transport principles for the site. By ensuring the development maximises opportunities for sustainable travel, the development minimises the impact on air quality.

Prior to the submission of the ES the applicants had discussions with the Environmental Health Officer for CoLC which resulted in several recommendations for air quality mitigation to be built into the detailed design of the Proposed Development. These include:
· electric vehicle recharge provision on all residential units allowing the occupants to decide whether to connect in the future;
· electrical vehicle recharge provision on 10% of all commercial parking;
· dedicated residential off-street parking to be provided with electric vehicle recharge points at a minimum rate of one per dwelling unit;

· on-site/communal parking to be provided with electric vehicle recharge points at a minimum of 10% of available parking spaces;
· low oxides of nitrogen boilers with domestic heating and hot water systems;
· cycle storage especially for apartments;
· car share club;
· maintain where possible all trees and hedges within the Proposed Development site; and
· introduction of hedges adjacent to main roads to separate footpaths and cycle ways from the main carriageway.

These proposed mitigation measures have been incorporated into the Masterplan and would be secured by condition.

There is potential for much to change during life time of the construction phase. For example, the Emission Factor Toolkit used in the air quality assessment has already been updated more than once since the assessment was originally carried out. There is also potential for the air quality objectives on which the assessment is based to become stricter, such as the UK adopting the World Health Organisation criteria. To ensure that each future application for the site is assessed on the latest industry best practice guidance it is proposed that a condition securing the details of specific air quality mitigation measures for each phase of the development is required

4.7.4 Summary
During the demolition and construction phase, the Proposed Development has the potential to impact on the level of dust deposition/soiling and short-term concentrations of particulate matter at sensitive receptor locations near to the Proposed Development site boundary. However providing that best practice particulate control measures are implemented throughout the construction phase it is predicted that potential impacts should be adequately controlled such that significant effects will not occur. The overall effect of the Proposed Development on local air quality is considered not to be significant and the development proposals and mitigation measures would ensure the development accords with local and national planning policy.

4.8 Noise and Vibration

The potential noise and vibration impacts associated with the Proposed Development have been identified as follows:
· Baseline and future road traffic noise impacts upon occupants of existing and proposed sensitive receptors.
· Noise and vibration from existing railway line impacting upon proposed sensitive receptors.
· Construction noise and vibration impacts upon existing and proposed sensitive receptors.
· Operational noise and vibration impacts associated with the proposed commercial development upon existing and proposed sensitive receptors.

4.8.1 Scope of Assessment
The scope of the assessment is as follows:
· Identification of the suitability of the site for residential, commercial and educational development given the noise and vibration levels to which future occupants will be exposed.
· Identification of potential construction noise and vibration impacts due to the Proposed Development upon existing and proposed sensitive receptors, including noise from construction traffic.
· Identification of potential operational noise impacts upon existing sensitive receptors due to changes in road traffic noise levels.
· Identification of potential operational noise impacts upon existing and proposed sensitive receptors due to noise emissions from the proposed commercial development and football stadium area.

The study area includes the Proposed Development and sensitive receptors in the vicinity with the potential to be affected by the impacts identified above.

In order to establish the baseline sound levels in the vicinity of the Proposed Development, a baseline survey has been undertaken. The proposed assessment methodology was agreed with CoLC Pollution Control department prior to the submission of the application.

The current land use of the Proposed Development site ('the Site') is farmland. The Site is located in an area that will be affected by road traffic noise from the A46 and local roads, the passage of trains on the Lincoln-Newark and Lincoln to Doncaster railway lines and existing industrial and commercial land uses. The existing noise climate is therefore typical of a semi-urban area.

In order to identify the existing baseline sound levels on the site, ambient noise levels were monitored at eight locations.

These locations were chosen to gain an understanding of the noise and vibration climate within the study area and to check traffic noise predictions, focussing on some of the closest residential areas to the Proposed Development.

Industry standards would be followed in order to minimise noise and vibration effects during enabling works and construction. Noise and vibration would be managed to avoid and minimise impacts and measures would be documented within a Construction Method Statement (CMS) and a Construction Environmental Management Plan (CEMP), which would be a condition of consent.

The preferred approach for controlling construction noise is to reduce source levels where possible, but with due regard to practicality. Sometimes a greater noise level may be acceptable if the duration of the construction activity and therefore the length of disruption, isreduced.

The following provisions would be adhered to where practicable during enabling works and construction:

· Fixed and semi-fixed ancillary plant such as generators, compressors etc. which can be located away from receptors to be positioned so as to cause minimum noise disturbance. If necessary, acoustic barriers or enclosures to be provided for specific items of fixed plant.
If necessary, use of site boundary acoustic barriers/hoarding to screen neighbouring receptors. Noise emitting machinery which is required to run continuously shall be housed in a suitable acoustically lined enclosure.

· Operation of plant in accordance with the manufacturer's instructions.

· Selection of inherently quiet plant where appropriate. All major compressors to be 'sound reduced' models fitted with properly lined and sealed acoustic covers which are kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools to be fitted with mufflers or silencers of the type recommended by the manufacturers.

· All plant used on site will be regularly maintained, paying particular attention to the integrity of silencers and acoustic enclosures. Plant will be kept in good working order so that extraneous noise from mechanical vibration, creaking and squeaking is kept to a minimum.

· Machines in intermittent use to be shut down in the intervening periods between work or throttled down to a minimum.

· Drop heights of materials from lorries and other plant will be kept to a minimum.

· Adherence to the codes of practice for construction working given in BS 5228:2009+A1:2014 and the guidance given therein for minimising noise and vibration emissions from the site.

· Vehicles and mechanical plant used for the purpose of the works shall be fitted with effective exhaust silencers, maintained in good and efficient working order and operated in such a manner as to minimise noise emissions. The contractor shall ensure that all plant complies with the relevant statutory requirements.

· Equipment which breaks concrete, brickwork or masonry by bending or bursting or "nibbling" shall be used in preference to percussive tools. Avoid the use of impact tools where the Site is close to occupied premises.

· Rotary drills and bursters activated by hydraulic, chemical or electrical power shall be used for excavating hard or extrusive material.
· Equipment powered by mains electricity shall be used in preference to equipment powered by internal combustion engine or locally generated electricity.
· No part of the works nor any maintenance of plant shall be carried out in such a manner as to cause unnecessary noise except in the case of an emergency when the work is absolutely necessary for the saving of life or property or the safety of the works.
· Provision of rest periods during any prolonged noisy activities.
· Prohibition of the use of stereos and radios on site.
· Compliance with Lincolnshire County Council's Highways Authoritys preferred working hours.
· Keeping local residents informed and provision of a contact name and number for any queries or complaints.

4.8.2 Full Assessment: Internal Noise Levels for Residential Development

To perform a worst-case scenario assessment, noise levels have been predicted at first floor level (at 4 m above ground level). It has also been assumed that there will be habitable rooms (i.e. bedrooms) on the worst noise affected facades of all dwellings.

Future noise levels have been predicted separately for each opening year. The predicted levels across areas where residential development is proposed to have been constructed by that time have been used to assess the suitability of the site for residential development and identify noise mitigation requirements. Impacts on each phase have therefore been considered in the opening year of that phase and in the opening year of each future phase.

Where internal noise levels are anticipated to exceed the guidelines with ventilation using open windows, further calculations of internal noise levels with closed windows have been performed. These calculations have assumed a standard roof/ceiling construction and an alternative means of background ventilation (i.e. trickle ventilator). Internal noise levels with the standard glazing and ventilation specifications have been calculated and this assessment identified locations where internal noise levels exceed the design criteria with closed windows and standard glazing and ventilation specifications. In order to meet the design criteria, dwellings in these locations will require enhanced glazing and/or ventilator specification.

Site suitability – baseline vibration levels

Vibration impacts have been assessed in terms of their potential to cause annoyance to future occupiers of the residential development.

A qualitative assessment focussing on best practicable means has been completed. In general the construction works with the greatest potential to generate noise are initial earthworks to level out the site (ground compaction) and the piling of foundations. Building construction itself generally results in lower noise levels. It is understood that the construction of bridges within the proposed Tritton Road and Beevor Street Access Roads and the construction of the commercial facilities and leisure village would require piling of foundations.

Most construction and demolition activities would be performed during daytime hours on weekdays. However, it is understood that the construction of bridges for the proposed Tritton
Road and Beevor Street access roads may occasionally require works outside normal daytime working hours. This would may be required to work within the restrictions placed by Network Rail. The majority of the construction works would be limited in duration and would not be considered significant. Any noise effects arising from construction activities would be mitigated. As a result, the overall impacts of construction noise and vibration are assessed as minor.

Construction Traffic Noise

The transport assessment identifies that there will be an average of 6 two-way HGV movements per day generated by the construction of the Proposed Development. It has been assumed that there could be 12 two-way HGV movements on a typical worst-case day. There
would be approximately 80 two-way light vehicle movements per day associated with the construction of the site. The predicted changes in road traffic noise emissions of Skellingthorpe and Tritton Road due to the construction activities are less than 0.1 dB LA10,18h. Therefore, the magnitude of the noise impact and significance of effect is classified as negligible.

Mitigation

Regarding the suitability of the Site for residential development, mitigation in the form of installation of enhanced glazing and acoustic trickle ventilation would be required for the properties closest to the central spine road serving the Proposed Development and the existing railway line. Once the site layout and design of the properties have been formalised, updated internal noise level calculations would be required to determine the exact mitigation requirements.

External sound levels in the vicinity of the proposed residential properties have been found to exceed the guideline criterion. However those areas exposed to the highest noise levels lie between the proposed properties and the identified noise sources such as the spine road. The properties, and if necessary additional mitigation in the form of barriers, can be used to provide shielding to the amenity areas.

No specific further mitigation is required to meet design criteria at the proposed other sensitive development as the internal noise levels do not exceed the design criteria with closed windows, standard glazing and ventilation specifications.

No specific mitigation is required for construction noise effects, with predicted effects considered to be of minor significance as a result of the Proposed Development.

With respect to vibration from piling works, it may be possible to use piling methods (dependent on the specific site conditions) such as hydraulic jacking which result in significantly lower noise and vibration levels than impact piling. If use of alternative piling methods to impact piling is not possible, close liaison with affected residents and the provision of information and reassurance (particularly in respect of the short term nature of the works and the negligible likelihood of building damage) are likely to mitigate effects such as annoyance.

When further developing the detailed design of the commercial units, consideration should include, but not be limited to, the following to minimise potential adverse effects at nearby noise sensitive receptors (NSRs):

· Careful positioning of buildings to provide additional screening between noise sources and NSRs.
· Provision of adequate sound insulation within the building envelope for the intended end use.
· Careful orientation of commercial buildings such that openings face away from NSRs and service yards are screened from NSRs.
· Specification of plant with the lowest noise emission for the purpose required.
· Use of localized noise barriers to reduce noise emissions where necessary.
· Positioning car parking away from NSRs to minimise potential disturbance.

In addition, operational measures including the following, should be considered:

· Reverse alarms on mobile plant to use ‘white noise’ types where possible and set to a low level but satisfying the requirements of Health and Safety on site.
· Appropriate scheduling of deliveries and dispatches to avoid vehicle movements during the night time hours.
· Regular maintenance of fixed and mobile plant on-site.

· Implementation and regular reviews of operational procedures to ensure that noise limiting measures are maintained.

4.8.3 Planning Consideration

Regarding the suitability of the Site for the Proposed Development, the proposed mitigation measures ensure that internal noise levels would not exceed the design criteria. With the proposed mitigation in place, the external baseline noise levels are anticipated to not exceed the guideline criteria. Therefore, the effect of the baseline noise impacts is classified as minor and not significant.

The effect of the baseline vibration impact on the Proposed Development is classified as minor and therefore not significant. The effect due to the impact of construction noise and vibration on the nearby residential properties would be minor and not significant. The effect due to the noise impact from construction traffic is assessed as negligible and not significant.

Policy LP26 states that "The amenities which all existing and future occupants of neighbouring land and buildings may reasonably expect to enjoy must not be unduly harmed by or as a result of development.
Proposals should demonstrate, where applicable and to a degree proportionate to the proposal, how the following matters have been considered, in relation to both the construction and life of the development:
r. Adverse noise and vibration"

The applicants have submitted sufficient evidence that the impacts of noise and vibration from the development could be adequately addressed. As the application is applied for in outline the impacts of a proposed concept have been modelled and adequately mitigated. The impacts resulting from the construction of the two access point, applied for in full, would be secured by planning condition. All future Reserved Matters applications would have to show how they can comply with noise and vibration standards and mitigate the impacts if required.

4.9 Materials

The purpose of the Environmental Statement Materials chapter is to identify and address the potential impacts and effects on materials and resources that are likely to arise from construction and / or operation of the Proposed Development.

The National Planning Policy for Waste (2014) sets out the Government's ambition to work towards a more sustainable and efficient approach to resource use and management.

The Lincolnshire Minerals and Waste Local Plan (LMWLP) – Core Strategy and Development Management Policies (Adopted June 2016) sets out the key principles to guide the future winning and working of minerals and the form of waste management development in the Lincolnshire County Council (LCC) up to 2031.

The following environmental design and management principles would be implemented for the Proposed Development in line with best practices:

- Site won materials (i.e. from cut areas and foundation excavations) would be used during earthworks subject to acceptability.
- Local materials would be sourced and used where possible during construction to minimise carbon footprint during transportation.
- Resources would be conserved to minimise waste generation.
- Waste management would be in accordance with the waste hierarchy (i.e. prevention, reuse, recycle, disposal).

- Grading out of earthworks would be considered in relation to the amount of surplus or deficit material. For example, grading out of embankments may be a useful way of maximising material use.
- Efforts would be made to ensure a balance of cut and fill of the earthworks materials.

However, in the event of material surpluses, efforts would be made for the materials to be reused locally. In the event of a deficit imported materials, would be sourced locally.

In addition, the following measures would be implemented to mitigate and minimise the impacts during the construction:

- Consideration to be given to crushing / reusing the inert materials from the demolition of the structures on Beevor Street within the Proposed Development where specification allows.
- Opportunities for reusing the surplus Topsoil stripped from the site at other development in the vicinity of the LWGC would be considered.
- Excavated material to be re-used on site where possible.
- Primary materials (such as aggregates) to be sourced locally wherever possible to minimise carbon footprint during transportation.
- Materials with recycled content would be procured, where specification allows.
- In procuring materials required the timing of delivery, quantity delivered and storage would be optimised to avoid waste and damage to materials on site.

4.9.1 Construction Phase

Demolition and Earthworks

For the outline planning area, the construction of the Beevor Street Link Road would require the demolition of three buildings with a total surface area of circa 9,870 m2 based on information from the landowners in this area. There are no other structures requiring demolition within the outline planning area at the WGC site. For the detailed planning area, demolition would also be required for the creation of the Skellingthorpe Road (B1378) Link Road. A total of 72,475m3 of waste is estimated to be generated from the demolition.

The earthworks volumes for the WGC provide the details of the materials balance during the earthworks for both the outline and detailed planning area. A summary of the earthworks figures across the site is presented in the table below.

Material Type		**Volume**	**Volume/Year**	**Estimated Weight/Year**
Fill Material	Total volume of fill required	820,527m3	39,073m3	66,424 tonnes
	Total volume of fill from cut areas	492,798m3	23,467m3	39,893 tonnes
	Net Total	**-327,729m3**	**-15,606m3**	**-26,530 tonnes**
Topsoil	Total volume of Topsoil to be used in Proposed Development	44,161m3	2,103m3	3,575 tonnes
	Total volume of Topsoil to be stripped at the site	238,973m3	11,380m3	19,345 tonnes
	Net Total	**+194,812m3**		

The data indicates a net total of 327,729 m3 of fill material would be imported to the site and a net total of 194,812 m3 excess topsoil would be taken offsite. However, these figures are across the total duration of the Proposed Development which would be undertaken in phases over a 23 year period. It is currently anticipated that site won materials would be used as fill during the first eleven years of the construction.

The proposed remediation strategy for the Skewbridge and Swanpool Landfill does not involve soil excavation within the landfill site. It involves the use of hardstanding and clean cover to break potential pathways between contaminated materials and future users. Therefore, it is considered that a negligible volume of potentially contaminated material would be generated during the earthworks.

Building of Structures
The details and quantities of the materials required for the building of structures at the Site is not known at this stage. However, it is considered that the materials required would be comparable to developments similar to the WGC. The anticipated material requirements include concrete, structural concrete, reinforcement bars, structural steel, pavement, drainage pipes, timber and other building materials. The main environmental impact for materials at this stage relates to the transportation from the material sources / manufacture to the Proposed Development.

4.9.2 Operational Phase
The construction materials requirement during the operational phase will be very limited; as such the environmental impacts relating to materials would be negligible.

4.9.3 Planning Consideration
It is considered that the application has adequately addressed the themes set out within the National Planning Policy for Waste (2014) in terms of materials use. The development would require significant earthworks in terms of building up the site to create the developable platform, but also the remediation of the tip and the excavation of the borrow pits. Sufficient mitigation measures have been proposed to avoid harmful impacts on residential amenity in accordance with Local Plan Policy.

4.10 Ground Conditions and Land Stability

This chapter of the Environmental statement identifies and addresses the potential impacts and effects of the Proposed Development on ground conditions, land quality and soil resources. The objective of the assessment is to identify any effects on ground conditions that are likely to arise from construction and / or operation of the Proposed Development. The assessment also considers any impacts from ground conditions on the identified receptors. The methodology considers the potential presence of land and groundwater contamination
as well as sites of geological/geomorphological significance (such as geological conservation features or mineral resources). Controlled waters, the built environment, human receptors and the presence of agricultural land / soil. Geotechnical constraints e.g. differential settlement, subsidence and the potential for explosive ground gas accumulation. The development infrastructure includes foundations, below-ground structures, utilities equipment and buildings.

4.10.1 Outline Application Area
Current Land Use
The majority of the land within the footprint of the Proposed Development for the outline application area lies between the Skellingthorpe Main Drain and the Boultham Catchwater Drain, with the exception of small parcels of land in the south west of the Site. There are several other networks of unnamed drains within the Site boundary. The Site consists mainly of arable land and the former Skewbridge and Swanpool Landfill. Most areas of the Site with the exception of the landfill are currently in agricultural use with the Fen Farm Plantation and other unspecified fields present.

The Skewbridge part of the current landfill comprises poorly vegetated grassland and bushes (dense in some areas) with grazing horses. The Swanpool area comprises thickly vegetated high grass and broad leaved woodland and a small pond in the eastern part of the area. A livestock farm and telecommunication masts are located outside the northern boundary of the landfill.

Geology

Geological information on the Site was sourced from the British Geological Service (BGS) Solid and Drift Maps for Lincoln and the previous borehole records at the Site. No Made Ground is shown on the BGS geological map. However, previous intrusive ground investigations have identified Made Ground containing landfill materials up to 5.7 m bgl across the majority of the former Skewbridge and Swanpool Landfill. The landfill materials comprise of domestic, commercial, industrial and construction and demolition waste including asbestos containing materials such as white (chrysotile) and blue (crocidolite) asbestos which are recorded to be buried within the landfill.

There has been no development in the remaining areas within the Site and as such the remaining areas have very limited Made Ground on the basis of the ground investigations undertaken to date.

The BGS Map for Lincoln Solid & Drift indicates that the north and north-eastern part of the site is underlain by strips of Alluvium (described as clay, silt sand and gravel) and undifferentiated River Terrace sand and gravel. There are no superficial deposits recorded to be present in the majority of the south and south-eastern part of the site, although a small patch of River terrace deposits is shown around the Old Decoy farm house and the Fen Plantation.

The BGS Map identifies the underlying solid geology as comprising undifferentiated Scunthorpe Mudstone and Charmouth Mudstone Formation (Lower Lias Clay Group) described as predominantly grey, well bedded, marine calcareous mudstone and silty mudstone.

Hydrogeology
The underlying superficial deposits identified within the site boundaries are classified by the Environment Agency (EA) as Secondary A aquifers. The underlying bedrock is defined as Secondary B aquifer. The EA describes Secondary A aquifers as “permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers” and Secondary B aquifers as “predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering”.

Hydrology
The key hydrological features in the vicinity of the Site are the Skellingthorpe Main Drain orientated north-west south-west through the centre of the Site and the Boultham Catchwater Drain to the southwest of the Site. There are several networks of unnamed drains within the Site boundary as well as a pond called Swanpool, located within the Skewbridge and Swanpool landfill boundary. The Fossdyke Navigation, which flows into the River Witham is located further north of the Site boundary. A Pond directly north of the Site is present associated with the historic Ballast Holes.

The Site is located within the Anglian River Basin District and the Witham Management Catchment Area. Two culverted drains pass beneath the Site. The Skellingthorpe Main Drain is classified by the Environment Agency as having an ecological status of moderate and a chemical status of Good in 2016. The Boultham Catchwater Drain is classified as having an Ecological status of Moderate and a Chemical status of Good in 2016. The Ecological status objective for 2027 is Good.

Landfill Sites and Waste Management Facilities
There are six (6) authorised and historical landfill sites located within 500 m of the outline planning application boundary. There are five Licensed Waste Management Facilities within 500 m of the Site.

Potentially Infilled Land (Non-Water and Water)
There are six areas of Potentially Infilled 8.4.29 Land (Non-Water) within 1 km of the site which are both related to Unknown Filled Ground (Pit, quarry, etc.). There is one area on-site situated west of the boundary. There are 34 areas of Potentially Infilled Land (Water) within 1 km of the site.

Geo-environmental (Contamination)Constraints

A review of the historical investigation at the Site was undertaken and detailed in the AECOM (2017c) Lincoln WGC Phase 1 Geo-environmental and Geotechnical Assessment.

Skewbridge and Swanpool Landfill area

Asbestos cement (chrysotile) was visually identified and asbestos screening reported loose fibres and asbestos (chrysotile) containing debris during the AEG (2007) and WSP (2014) investigations. A record of waste deposition at the Skewbridge landfill site indicates that several skips of asbestos containing materials were deposited between 1972 and 1978. Although limited asbestos containing materials were encountered during the investigations, it is considered that ground disturbance such as excavation or earthworks at the site could pose a risk to the construction workers and offsite receptors.

Within the former landfill area, the Proposed Development includes commercial, sports, hotel and leisure facilities and a local park. There are no residential developments proposed for this area of the Site. The Human Health Risk Assessment presented in the AECOM (2015) Skewbridge and Swanpool Landfill Phase II report based on the results of the previous intrusive investigation at the landfill concluded that the risks to human health from other contaminants in soils for commercial and public open space end-uses are not considered significant.

Wider Lincoln Western Growth Corridor

A human health risk assessment was carried out on natural soils samples from the wider LWGC site (excluding Skewbridge l) using Residential End Use with Plant Uptake and Commercial / Industrial assessment generic assessment criteria (GAC). Statistical analysis (mean and maximum value tests) of data sets was also undertaken. Locally elevated levels of arsenic were recorded within the site, however were not considered significant risk following statistical analysis. No specific remedial measures were considered to be required, within the wider LWGC site excluding the Skewbridge Tip area.

Two rounds of groundwater sampling were undertaken as part of the investigation with samples obtained from fifteen boreholes screened in the River Sand and Gravel deposits. Chemical analysis of the groundwater samples indicated that the majority of determinands were below the screening criteria. Concentrations of iron and manganese were found to be elevated across the site, while there were locally elevated concentrations of potassium and ammoniacal nitrogen.

Gas monitoring over an eight month period was undertaken across the LWGC site as part of the investigation. Boreholes located in the southern part of the site recorded no detectable methane, and low carbon dioxide (1.6% v/v max) and low flow (0.2 l/hr max) was recorded. No gas concentration was present above the detection limit of the monitoring equipment in the north-western part of the site.

The monitoring undertaken on the agricultural land adjacent to the west and south of the Skewbridge and Swanpool landfill area by WSP (2015) indicates that there is no evidence of offsite migration of ground gas from the landfill to the area.

Beevor Street Link Road

The assessment of the GI data indicates that potential risks to human health may be realised for a Public Open Space (Park) end-use due to the concentrations of benzo(a)pyrene, dibenz(a,h)anthracene and benzo(b)fluoranthene within Made Ground at the Site. The GI also confirmed the presence of asbestos within Made Ground present in the Skewbridge landfill area, to the north of the railway line and within the industrial area.

Tritton Road Footbridge

The assessment of the GI results indicates that there is negligible risk to human health for residential, public open space and / or commercial end-use from metals, inorganic and organic contaminants within soils at the Tritton Road footbridge area.

Aggressive Ground Conditions

A sulphate assessment was undertaken in the AECOM 2016 Phase II report based on the previous GIs within the Skewbridge and Swanpool landfill area. The sulphate assessment was undertaken to determine the Design Sulphate Class (DS Class) and Aggressive Chemical Environment for Concrete Class (ACEC Class). The DS Class is a five-level classification (DS-1 to DS-5) for ground conditions based principally on the sulphate content, including total potential sulphate of the ground, groundwater or both. The DS-1 Class indicates the lowest levels of sulphate in soils and groundwater and the minimum class of protection for concrete will be required. On the other hand, the DS-5 Class indicates the highest levels of sulphate with the maximum class of protection for concrete required. The ACEC Class (AC-1 to AC-5) is derived from the DS Class taking additional account of the type of the site (natural or brownfield) and the mobility and pH of groundwater.

The sulphate assessment undertaken for the landfill area classified Made Ground materials as DS-2, AC-2; natural superficial deposits as DS-1, AC-1 and the Mudstone bedrock as DS-5, AC-5. Ten soil samples from the Scunthorpe Mudstone and Charmouth Mudstone Bedrock were analysed using the BRE test suite for potentially pyritic ground during the AEG (2008) investigation. The assessment of the test results indicates design sulphate class for the mudstone samples is DS-5, with an ACEC class of AC-5. No ground Aggressivity data was available for assessment from the remainder of the site.

Agricultural Land

Agricultural land classed as Grades 1, 2 and subgrade 3a are regarded as the best and most versatile agricultural land (BMVL). The Natural England Agricultural Land Classification Map (1:250,000) for the East Midlands Region indicates that the majority of the land within the application areas is classed as Grade 3 (Good to Moderate) agricultural land. The Natural England maps do not differentiate between subgrades 3a and 3b. Poor agricultural land and non-agricultural land were identified along the boundary of the site. No Grades 1 or 2 land was shown within the site boundary.

4.10.2 Detailed Application Area

The detailed planning application includes the construction of a new access road connecting with Skellingthorpe Road (in the south-west of the site) and the new Tritton Road access (in the east of the Site). The majority of the footprints of the detailed application area are within the boundary of the LWGC outline application area. As such, the baseline conditions for the outline application area are applicable in these cases.

Geo-environmental Constraints

Tritton Road Overbridge

The assessment of the GI results indicates that potential risks to human health may be realised for Residential end-use due to the concentrations of dibenz(a,h)anthracene and benzo(b)fluoranthene in Made Ground. This relates to the proposed residential units in the immediate surroundings of the link road. The Ground Investigation at Tritton Road Overbridge confirmed the presence of asbestos within the Made Ground at one location (TP17-07 at 0.3 m bgl). The asbestos was identified as “Loose fibres”. The soil sample from the ground investigation undertaken at Tritton Road Overbridge was subjected to quantitative asbestos analysis, and did not contain asbestos in concentrations above 0.001% by weight, which is the laboratory’s mdl for quantification.

An elevated concentration of copper was recorded in the soil leachate derived from the Made Ground. Copper, lead and nickel were recorded elevated concentrations in the soil leachate derived from the superficial deposits. Analysis of groundwater screened within the superficial deposits recorded an apparent localised risk posed by mercury in BH17-08 and more widespread elevated

concentrations of cadmium, copper, iron, lead, nickel, zinc and ammoniacal nitrogen. Groundwater screened within the bedrock exhibited elevated concentrations of cadmium, copper, iron, lead, nickel and ammoniacal nitrogen. This suggests that there is a plausible pathway of metal and ammoniacal nitrogen migration to the deeper groundwater within the Mudstone.

Skellingthorpe Link Road
The assessment of the GI results indicates that there is 8.4.70 negligible risk to human health for residential end-use from metals, inorganic and organic contaminants within soils at the Skellingthorpe Link Road area. Exceedances of cadmium, copper, iron, lead, nickel, zinc and ammoniacal nitrogen were also recorded within the groundwater at this location.

During the AECOM 2017 GI at the Skellingthorpe Link Road, methane and carbon dioxide concentrations recorded were below 1 %v/v and 5%v/v respectively. Carbon monoxide and VOC were recorded up to 2 ppm and 6.6 ppm respectively. The maximum flow rate recorded was 0.1 l/hr

4.10.3 Environmental Design and Management
In order to manage potential impacts associated with soils and geology during the construction and operation phases of the Proposed Development a Construction Environmental Management Plan (CEMP) would be prepared and implemented by the selected construction contractor. The CEMP would include a range of measures for mitigating potential impacts associated with land contamination and would be secured by a planning condition.

The measures could include detailed Remediation and Reclamation Strategies and general Good Practice Measures.

4.10.4 Assessment of Impact on the Construction Phase
Effects on Human Receptors
During the construction phase on the landfill site, the construction workers are potentially at risk of short term acute exposure to contaminants in the Made Ground, via dermal, inhalation and ingestion pathways. Asbestos (predominantly chrysotile) was identified on the Skewbridge landfill and on the industrial park off Beevor Street.

During the construction phase for both the outline and detailed planning area, the use of heavy equipment and activities such as excavation, backfilling and compaction may disturb the soil and mobilise potentially contaminated materials and asbestos containing materials identified.

The sensitivities of the human receptors identified range from medium to high and the magnitude of impact following the adoption of the environmental design and management measures is very low. Therefore, the effect on human receptors is considered to be minor to negligible.

Effects on Controlled Waters (Groundwater and Surface Water)
There are no recorded groundwater abstractions within 1 km of the Site. There are seven licensed surface water abstractions within the boundary of the Site relating to abstractions for general agriculture / irrigation purposes at Scarborough Farms. There are no recorded potable water abstractions within 1 km of the Site. The main impact to controlled waters relate to the migration of contamination leachate/groundwater at the Skewbridge and Swanpool landfill to the Main Drain. The use of piling foundations for development (buildings and / or bridges) within the landfill area could create preferential pathways for the potential migration of landfill contaminants into the underlying aquifer.

The sensitivity of the controlled waters is medium and the magnitude of impact following the adoption of the environmental design and management measures would be low. Therefore, the effect on controlled waters is considered to be minor.

Effects on Development / Building Infrastructure
Development and building infrastructure can be impacted upon by the ground conditions. Where adequate mitigation is not incorporated during the design and construction, the impacts would be realised during the operational phase. There is potential for aggressive ground conditions to be present, which can cause damage to concrete. The specification of materials to be used during construction would need to be specific to the ground conditions into which they would be placed.

The sensitivity of development and building infrastructure is considered to be medium and the magnitude of impact following the adoption of the environmental design and management measures is considered to be low. Therefore, the effect on development and building infrastructure during the construction phase is considered to be minor.

Effects on Offsite Receptors
There are commercial / industrial developments to the east and northeast of the Site as well as residential properties to the south and west of the Site. Workers, residents and visitors at these properties are at risk from wind-blown dust and subsequent inhalation or direct contact with dusts or vapour generated by the construction activities.

The sensitivities of offsite receptors range from medium to high and the magnitude of impact following the adoption of the environmental design and management measures is low. Therefore, the potential effect on offsite receptors is considered to be negligible to minor.

Effects on Agricultural Land
The Proposed Development would result in the loss of best and most versatile land (BMVL) identified as Grade 3a of more than 50 ha. There is also potential loss of farming business mainly in the west and southeast of the Site and loss of employment associated with the farming businesses. Construction activities such as earthworks can adversely affect the quality of topsoil across the site, resulting in degradation of soil's structure and properties.

4.10.5 Assessment of Impact on the Operational Phase
The Skewbridge landfill would have undergone remediation and the wider site would have undergone reclamation during the operational phase. The objectives of the submitted strategies include remediation or mitigation to ensure that any on-site contamination and ground gas hazard is remediated or mitigated such that potential risks to human health, development infrastructure and controlled waters are minimised to a standard suitable for use of the Site for residential and industrial / commercial development;

Effects on Human Receptors
The exposure of the future end-users and maintenance workers would be limited as the developed Site would be covered with a variety of finishes including hard-standings (houses, roads, driveways, and pavements), gardens with a topsoil finish, and areas of top-soiled landscaping. The remediation and reclamation works would have been undertaken and a verification report would have been prepared demonstrating the effectiveness of the remediation and reclamation works as set out in the Remediation and Reclamation Strategy reports. The remediation and reclamation at the Skewbridge landfill and the wider WGC site will aim to ensure that the materials placed within 1 m of the finished ground level will not contain contaminants at concentrations greater than the risk-based criteria, referred to as the Remedial Target Values in the Remediation and Reclamation Strategy documents.

The sensitivity of the human receptors ranges from Medium (commercial / industrial future users) to high (residential future users) and the magnitude of impact is considered to be very
low. Thus the effect on human receptors prior to mitigation is considered to be negligible to minor.

Effects on Controlled Waters (groundwater and surface water)
The Proposed Development would include the installation of sustainable drainage in line with an approved drainage strategy. This would minimise the potential for infiltration of surface water and the downward migration of soluble contaminants into the ground. The remediation strategy for the Skewbridge landfill has proposed groundwater treatment using air-sparging to lower ammoniacal nitrogen concentrations, followed by installation of a system of groundwater capture/cut-off drains feeding to a passive wetland system. This would aim to achieve contaminant source reduction and prevent the impact of contaminated groundwater on the nearby surface water course (the Main Drain). Therefore, it is considered that the groundwater remediation would have a sustained beneficial impact on controlled waters. A wide range of potentially hazardous materials may be stored during the operational phase (predominantly in the commercial / industrial properties), although most likely in small quantities. This might include chemicals, oils, fuels, and wastes in various forms. In the event of uncontrolled releases of such materials, either from storage areas on the site, or during transportation / handling, contamination of local soils, drainage system, surface watercourses and groundwater may result. However, the inclusion of attenuation ponds and Sustainable Drainage Systems (SuDS) features within the Scheme's drainage strategy would further reduce potential negative impacts to water quality within the receiving watercourses.

Controlled waters are considered to be a receptor of medium sensitivity and the magnitude of impact following mitigation is medium beneficial due to the betterment of the groundwater and surface water. Therefore, effect on controlled waters during the operational phase compared with baseline conditions would be moderate beneficial.

Effects on Development / Building Infrastructure
Materials such as concrete, metals and plastics will be employed in the construction of the Proposed Development. These materials could be used underground or above ground level. Development infrastructure can be impacted where materials have been incorrectly specified at the design / construction stage. Buried concreted could be exposed to chemical attack especially from ground-borne acids and sulphates and this could compromise the structural integrity of the underground structures. The ground gas concentrations within the Skewbridge landfill area could pose risk of explosion to buildings if adequate mitigations are not incorporated. Appropriate gas protection measures have been specified in the remediation and reclamation strategy document and will be incorporated into design of the building and structures at the site.

The sensitivity of the Proposed Development infrastructure is medium. The magnitude of impacts on development infrastructure following the adoption of the environmental design and management measures is considered to be low. Therefore the significance of effect on the Proposed Development infrastructure is minor.

Effects on Offsite Receptors
The Proposed Development would not include activities during the operational phase that are likely to impact offsite receptors with respect to ground conditions. The sensitivities of offsite receptors range from medium to high and the magnitude of impact is very low. Therefore, the effect on offsite receptors during the operational phase is considered to be of negligible to minor significance.

Effects on Agricultural Land
The Proposed Development would result in the potential loss of BMVL present at the Site during the construction phase. The Proposed Development does not involve any activities that would result in

any further loss of agricultural land during its operation phase. Therefore, the effects on agricultural land during the operation of the Proposed Development is considered to be negligible.

In summary the residual effects on ground conditions as a result of the Proposed Development are assessed as being negligible to minor during construction with the exception of the impact on agricultural land which would be negligible to major adverse due to the unavoidable loss of agricultural land. During operation the effects would be negligible to minor with a moderate beneficial effect to controlled waters as a result of the betterment of ground water and surface water.

Whilst the loss of agricultural land would be potentially a major adverse effect, as the Proposed Development site has been identified as a SUE within the Development Plan (the Central Lincolnshire Local Plan), no mitigation is required.

4.10.6 Environment Agency Consultation Response

"The previous use of part of the proposed development site as a landfill site presents a risk of contamination that could be mobilised during construction to pollute controlled waters. Controlled waters are particularly sensitive in this location because part of the proposed development site is located upon a secondary aquifer A and is adjacent to surface waters including the Main Drain and the Catchwater Drain.

The application refers to the presence of hazardous substances from the landfill site within the development site leaching into the Main Drain.

We have been working with City of Lincoln Council (both the applicants and LPA) for several years and have provided advice on numerous reports including the Remediation Strategy dated July 2017 by AECOM. We will continue to provide advice and liaise with the Council. We understand that there is further work to be done to monitor and assess risk posed to surface waters from past use of part of the site as a landfill. This work will include refining the Remedial Strategy based on a series of trials to test the practicability, effectiveness and durability of the chosen remediation work. The submitted Remediation Strategy demonstrates that it will be possible to manage the risks posed to controlled waters by this development. Further detailed information will however be required before built development is undertaken. We believe that it would place an unreasonable burden on the developer to ask for more detailed information prior to the granting of planning permission but respect that this is a decision for the local planning authority.

In addition, the previous use of part of the site as a landfill presents a risk of contamination that could be mobilised by surface water infiltration from sustainable drainage systems or soakaways. This could pollute controlled waters. In light of the above, the proposed development will be acceptable if planning conditions are included as set out below. All work should be carried out by a competent person in line with paragraph 178 of the National Planning Policy Framework (NPPF). Without these conditions we would object to the proposal in line with paragraph 170 of the NPPF because it could not be guaranteed that the development would not be put at unacceptable risk from, or be adversely affected by, unacceptable levels of water pollution."

The conditions requested by the Environment Agency would be acceptable and would ensure that the full application, and all future proposals on the site would be acceptable and would accord with local and national planning policy.

4.10.7 Summary

Local Plan Policy LP30 states that "The Western Growth Corridor Sustainable Urban Extension will be required to meet some locally specific requirements which include provision of 'comprehensive solutions to reclaim and remediate the former tip on the eastern part of the site.'

The application is accompanied by a site Remediation Strategy and a Reclamation Strategy, this is along with the relevant chapter of the ES.

The Environment Agency have assessed the documents referred to above and have concluded that the proposed development would be acceptable subject to the inclusion of some relevant planning conditions. The development would not be put at unacceptable risk from, or be adversely affected by, unacceptable levels of water pollution in accordance with national planning policy and policies 14 and 16 of the local plan.

4.11 Landscape & Visual Amenity

4.11.1 Planning Policy

National Planning Policy Framework (NPPF)

The National Planning Policy Framework (Department for Communities and Local Government (DCLG), 2019) sets out a number of overriding core planning policies that are relevant to the landscape including that planning policies and decisions should:

· always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings;

· take account of the different roles and character of different areas; and

· contribute to conserving and enhancing the natural environment and reducing pollution.

Local Planning Policy

LP17 – Landscape, Townscape and Views, which seeks to preserve, enhance or create key local views and vistas particularly for significant buildings or areas particularly sensitive to change.

LP20 – Green Infrastructure Network, which encourages regard for and enhancement of the Green infrastructure Network.

LP22 – Green Wedges, which seeks to restrict development within important green spaces

LP23 – Which seeks to address the quality of, and access to existing public open space, sports and recreational facilities, and address their deficiency by ensuring development provides appropriate amounts of the same.

LP26 – Design and Amenity, which sets out the criteria to inform the layout and design of developments to create a sense of place, safeguarding features and respecting character and views.

4.11.2 Environmental Statement

This chapter of the ES reports the findings of an assessment of potential effects on the landscape character and visual amenity as a result of the Proposed Development. It considers direct and indirect effects of the Proposed Development on landscape and visual amenity, including construction and future operation scenarios.

A clear distinction is drawn between landscape and visual effects:

- Landscape effects relate to changes on the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character, resulting from the Proposed Development.
- Visual effects relate to changes within views of the landscape obtained by visual receptors arising from the Proposed Development, e.g. views experienced by local residents or motorists passing through the area.

In assessing the likely effects on the landscape as a result of the Proposed Development, the following criteria have been considered:

· Landscape character

· Landscape sensitivity

· Magnitude of likely impacts that may affect the landscape.

Landscape impacts are considered, including both the direct and indirect impacts of the Proposed Development upon landscape elements and features (or components), as well as
the impact upon the general landscape character of the surrounding area.

The Proposed Development (as illustrated in the Masterplan) seeks to avoid, prevent, reduce or offset potential landscape and visual impact through the following:

- the retention of trees, woodland and hedgerows where possible to integrate the Proposed Development and reduce its visibility;
- including an appropriate offset from existing trees and hedgerow for any areas of development to ensure the long term vitality of the vegetation retained;
- the incorporation of large areas of green open space to enable the creation of landscape areas, accommodate tree planting to reduce the long term impact of views and provide linkages to adjacent green infrastructure outside of the Site;
- maintaining a green wedge through the Site to enable long distance views towards important cultural features such as Lincoln Cathedral and Lincoln Castle;
- the Masterplan layout has been amended to retain woodland areas of Swanpool and avoid dissection of Fen Plantation;
- the incorporation of extension tree planting along primary and secondary streets to reduce the visibility of the Proposed Development in long distance views;
- the retention and incorporation of the borrow pits to provide landscape interest; and
- the incorporation of landscape areas at key junctions.

4.11.3 Landscape Effects

The potential landscape impacts of the Proposed Development relate to the loss of existing landscape features and the visibility of new landscape features. In the case of the construction of the Proposed Development this would relate to the following:

- the removal of existing vegetation, in particular trees and hedgerows;
- the movement of construction plant and heavy goods vehicles, both on site and in the surrounding area;
- the temporary stockpiling of soils and the storage of building materials on site;
- the establishment of site compounds resulting in temporary structures to serve the workforce;
- crane activity to assist high level construction works; and
- external lighting to illuminate site operations after dark.

In the case of the opening and operational phases of the Proposed Development, the potential landscape impacts would relate to the following:

- a change in land-use;
- permanent built structures including residential, commercial and leisure facilities;
- large scale earth embankments associated with the highway bridges;
- new sources of lighting;
- increased traffic volumes; and
- new areas of public open space.

The Proposed Development site is located on areas of existing agricultural land, bordered to the south, west, east and north east by residential and industrial development. The majority of the woodland and mature vegetation around the boundary of the site would be retained during all phases of the Proposed Development. Large areas of internal pasture and tree planting would be retained as part of the ecological enhancement areas.

The potential for effects on landscape character relates to the intervisibility between the Proposed Development and the wider area with the introduction of large scale structures into an agricultural landscape which is adjacent to residential and industrial areas. The Proposed Development is located within an area which is characterised by relatively low lying topography, an extensive existing

highway network, a strong network of intervening landscape features (such as hedgerows, trees and shrubs) and existing built form (such as large residential areas and large scale industrial buildings).

Construction activities undertaken as part of the Proposed Development, would introduce mobile plant and construction machinery to the site. Construction of the Proposed Development would necessitate removal of vegetation currently present within the Site and change from its current agricultural land use. Works to facilitate construction would require removal of areas of woodland and hedgerows present within site. No other on-site or off-site
landscape features would be impacted as a result of construction activities.

The Proposed Development may affect landscape character. The removal of characteristic landscape elements, or the introduction of uncharacteristic elements which contrast with the existing landscape character would be likely to result in adverse effects while the creation of elements that re-establish characteristic features in order to achieve biodiversity/ landscape objectives are likely to result in beneficial effects.

4.11.4 Design Code

The Outline application is submitted alongside a proposed Design Code, with which all future Reserved Matters application would have to comply. The code sets out height parameters and visualizations of how the WGC development could look. The visuals are just indicative at this stage but give a representation of how the site could be developed.

The expansive landscape is a defining part of the character of the Western Growth Corridor. The public open spaces which run through the heart of the development, provide a strong setting for the new development. Tree lined streets and avenues would ensure that all dwellings are connected to the landscape.

The development would be of a scale and density which is comfortable and well-related to existing residential areas nearby. A design statement would be expected to accompany all reserved matters applications explaining how that phase of the development meets the expectations of the Code and delivers high quality design and placemaking.

The plan below sets out how the proposed development would relate to the setting and the relationship with the boundaries of the site with existing development. The visual amenity afforded to current residents should not be compromised by the development, in accordance with Policy LP26 of the Local Plan. Therefore the views of the development from outside the site need careful consideration.

Gateway 1 is the development gateway at Skellingthorpe Road which would be delivered in phase 1 and is the subject of full planning approval. This gateway creates a crucial first impression for the development and progression towards the city. This would be a neighbourhood gateway characterised by a green setting and new residential development. Detailed highway designs including a new roundabout and Spine Road were submitted with the planning application. The landscaping at this part of the site will be crucial and a tree planting scheme, which would be agreed with the Highways Authority, would soften the visual impact of a new road in this location.

Gateway 2 is the Tritton Road gateway including the new Spine Road bridge over the railway. This is also delivered in phase 1 and is applied for in full. The bridge itself poses a specific design challenge in that it breaks the townscape flow. The whole structure has a very green setting and as the bridge and Spine Road land on Tritton Road there is no new built development in that location. There are a number of mature trees and the context is mixed including open green areas and modest employment development.

Gateway 3 is the Beevor Street gateway which links into the city and the University and Science Park areas via the new Spine Road bridge over the railway. This is envisaged to be delivered in phase 3. No detailed design works for this bridge have been carried out. However the bridge poses less of a break in townscape than the Tritton Road area as there are other large-scale buildings and structures in this area in the site and nearby. The nearby Lincoln Science and Innovation Park development as well as industrial buildings on Beevor Street would allow the bridge to blend into the surrounding context.

One of the special features within the masterplan is the series of green / blue corridors which align to provide views of Lincoln Cathedral and contain water channels. The purpose of these corridors is multi-functional. They visually link the development with the heritage of the city and to also make a positive feature of the sustainable drainage channels within the residential areas.

The green and blue corridors are visible and these could create very distinctive features for the scheme. The green corridors themselves link the green edges of the site to the north with the interior development parcels. The Design Code describes how green and blue corridors are orientated towards the Cathedral and cliff-escarpment. In the centre of the scheme, around the main open space, there is a major view corridor from the Spine Road across the development and open space towards the city skyline.

Scale and height
Indicative height parameters for the proposed development would comprise:
• Leisure / Commercial Areas = Typically up to 21m above ground level.
• Local centre = Typically up to 14m above the ground.
• Spine Road residential setting = Typically up to 14m above the ground.
• Residential areas = Typically up to 12m above the ground.
• Bridge locations = Typically up to 14m above the ground.

No further parameters are set by the Design Code. Given this is such a large site there is always scope that with the right design, new ideas and opportunities may present themselves where taller buildings could be further justified. Elsewhere, taller buildings may be justified on their merits so long as they do not compromise strategic views to the Cathedral. The individual applications would have to justify any heights outside of the parameters above.

As commented by Historic England, the closeness of the city centre to open rural spaces to the east and west, including the proposed site, makes a key contribution to the close relationship of the rural setting of Lincoln with the historic hillside and historic lower city which is an important part of the character of Lincoln and its significance. The rural character of the site of the proposed development includes the rectilinear pattern of fields and watercourses from 19th century enclosure and wetland drainage, as well as wonderful views of the cathedral on the north escarpment. The existing hedges create a series of horizontal features across views from the historic hillside which contribute to the rural setting of Lincoln. There would therefore be a visual impact of long range views from the hillside looking down to the site, as well as views from within the site to the surrounding area.

Historic England advise that the change of character from the 19th century enclosed and drained rural landscape to built development, in large areas, will harm the significance and setting of the cathedral, castle and Cathedral and City Centre conservation area through the erosion of their existing rural setting. However as previously advised, as a longstanding allocation in previous and current local plans Historic England does not object in principle to the allocation of this site for development.

“One crucial issue will be to ensure that the northern boundary of the development will have the character of a green edge, thereby avoiding a hard urban edge. This would help ensure that aspects of the rural character of important views in this direction from the upper city are retained as much as possible, thereby helping to preserve this important aspect of the rural setting of the city, castle and cathedral.”

The application is submitted with a ‘Character and Placemaking Framework Plan’ which includes green edges to the north of the site. The Design Code and photomontages also provide the LPA with comfort that the development would be able to assimilate comfortably into the setting whilst taking into account the historic long range views of the site and the past uses of this area of the city. Many hedge and tree lines would be retained, and protected by planning condition, to help preserve the rural setting.

4.11.5 Planning Consideration

A fundamental part of achieving high quality sustainable design, and ultimately high quality sustainable places, is the need to develop a thorough understanding of the local character and the qualities which contribute to local distinctiveness.

All development proposals must take into consideration the character and local distinctiveness of the area (and enhance or reinforce it, as appropriate) and create a sense of place. Policy LP26 of the Local Plan sets out criteria for development. The proposed development accords with this policy as it takes these criteria and applies them to the scheme. The development incorporates and retains as far as possible existing natural and historic features such as hedgerows, trees, field patterns and water features. It incorporates appropriate landscape treatment to ensure that the development can be satisfactorily assimilated into the surrounding area and provides well designed boundary treatments, and hard and soft landscaping that reflect the function and character of the development and its surroundings. Important local views across the site and onto the site have been protected through the Design Code criteria.

The importance of landscape, townscape and views is also set out in Policy LP17 of the Local Plan. "All development proposals should take account of views in to, out of and within development areas: schemes should be designed (through considerate development, layout and design) to preserve or enhance key local views and vistas, and create new public views where possible. Particular consideration should be given to views of significant buildings and views within landscapes which are more sensitive to change due to their open, exposed nature and extensive intervisibility from various viewpoints."

The proposed development is particularly successful at considering the context of the site and the sites setting. The masterplan layout has taken into account views of the hillside from the site, views looking down onto the site and how the site would be viewed from the periphery of the site boundary. It is considered that the site could be successfully assimilated into the existing landscape setting whilst still creating a new distinctive development.

4.12 Socio-economics

The purpose of the Environmental Statement Socio Economics chapter is to identify and address the potential impacts and effects of the Proposed Development on socio-economics through an assessment of the potential effects of the Scheme on employment, local businesses, and the local population.

Paragraph 81 of the NPPF states that "Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development."

This applicant's assessment considers the role of the Proposed Development in the generation of direct and indirect employment opportunities, during construction and operation and wider impacts upon the local population, businesses and community infrastructure.

4.12.1 Employment

Taking into account displacement and multiplier effects upon gross direct construction employment, the total net construction employment is 538 jobs per year, through the 23 year construction period.

The commercial element of the Proposed Development comprises:

- A local centre at the centre of the site to include a primary school, local employment buildings (up to 8,000 sq.m.) and local retail facilities (up to 2,000 sq.m.)
- A mixed community, health and regional leisure facility located in the north-eastern part of the Site. This is intended to comprise a number of elements including a commercial health

and leisure facility; swimming pool; a medical centre; food and drink units; a 120 bed hotel/public house and a community football stadium for Lincoln City Football Club.

- A B1 business park located in the north-eastern corner of the site. This would provide a number of modern B1 and B2 mainly office related uses of up to 40,000 sq.m in total.

Using benchmarks for employment densities it is possible to estimate the gross operational employment associated with the commercial element of the Proposed Development. The gross operational employment is estimated at 3,197 jobs.

To ensure that the use of local employment is considered first, a condition would be imposed to require a scheme of recruitment and employment on each phase of the proposed development. This scheme would demonstrate the measures taken to recruit works from the local area.

4.12.2 Housing

The Proposed Development would contribute 3,200 new homes. (7.5% of target) to the overall housing requirement (42,800 more homes by 2031) in Central Lincolnshire. Therefore it is expected that the Proposed Development would have a Major Beneficial longterm effect for new housing provision.

4.12.3 Disruption to residents and businesses

There are no residential or commercial units within the red line area of the outline application. However there are residential and commercial properties on the application boundary. These disruptions would be managed through the submission of a Construction Management Plan and mitigation measures put in place as appropriate.

4.12.4 Expenditure

The construction of 3,200 homes suggests the addition of 7,381 residents in the local area.
These households would generate expenditure within the local area, to the benefit of the local economy.

4.12.5 Health

The ES suggests that local healthcare could be provided through neighbourhood health services located within the local centre and leisure village. The application is submitted alongside a Health Impact Assessment which has identified a number of health issues across the City of Lincoln. This assessment has followed the 'HUDU Rapid Health Impact Assessment Matrix' and has assessed the principal health benefits to the residents at the Proposed Development, and within the local community as including:

• provision of a community primary school with 200 to 250 places will help serve the local community and the additional residents from the Proposed Development;

• provision of additional employment floor space to support job creation which is crucial given the long-term unemployment in the City of Lincoln. This will potentially give rise to positive health impacts associated with increased income, the establishment of networks, job satisfaction and a sense of self-worth;

• creation of established pedestrian and cycle routes, the permeable layout of the Proposed Development and enhancements to the public transport network will encourage sustainable modes of transport. These improvements will promote physical activity as well as reduce potential carbon emissions from vehicles;

• provision of leisure, community facilities and 20ha of parkland landscape (including allotments, playing fields and accessible green spaces) will encourage healthy lifestyles and social cohesion from people of all ages. The agricultural land to the north of the Site will be retained and there are various ecological improvements made to new and existing green spaces;

• provision of housing, including plans to include a range of housing types and sizes, which will contribute to meeting the demands of the local community; and

• implementation of Sustainable Drainage Systems (SuDS) within built environments and natural spaces, which are necessary considering the existing flood risk.

The main potential adverse health impacts are associated with construction phase air quality and noise effects which negatively affect local residences. A number of mitigation measures will be implemented through a Construction Environmental Management Plan to reduce these temporary impacts. The air quality effects can be mitigated in this way however, minor adverse noise effects from the construction works are likely to still exist. These are not significant but further measures to reduce this noise should be explored.

Once the Proposed Development is operational, appropriate design measures will ensure any potential adverse health impacts are mitigated. The key recommendations relevant to health and wellbeing associated with the Proposed Development, outlined in the Health Impact Assessment include the following.
• The Applicant should work with the NHS when further developing proposals for the medical centre to ensure the facility meets all NHS requirements and is appropriately resourced. This collaboration would ensure the facility contains sufficient GP provision to accommodate the additional demand from the Proposed Development and help improve primary healthcare in the area, which is particularly important given the current level of service.
• The Applicant should ensure the Reserved Matters Stage includes detailed information on the inclusion of accessible housing to meet the demands of the local community and the design of the housing to meet building regulations.
• The Applicant should ensure that the Construction Environmental Management Plan follows all best practice methods. In addition, additional measures set out in the Noise Assessment to reduce the noise from the construction works and operational road traffic should be considered. Any further potential mitigation methods to minimise these effects should be investigated.
• The Applicant should carefully develop the various Traffic Management Plans to help prevent and minimise road injures. These Plans must be implemented prior to their respective operations.
• In order to provide employment opportunities for local residents, the Applicant should seek a contractor who will implement requirements or company policies to offer training and local employment opportunities within the local community.

The LPA issatisfied that these recommendations have been reiterated in the other relevant chapters of the ES.

The applicants and LPA have been in consultation with the NHS as part of the scheme both prior to submission and since the submission of the scheme. It was the applicants intention that GP facilities would be constructed on the site, however following discussions with the Primary Care Provider they do not support this approach and have stated that S106 contributions should be made to bolster existing practices. Adequate offsite health provision will be secured by a condition. It is considered the use of conditions serve the purpose at least just as well as would S106 obligations and the Planning Practice Guidance (PPG) advises that the Council should use conditions rather than planning obligations in such cases.

When considering the level of population increase practices can safely absorb without changes to their infrastructure or ways of work, two factors must be considered- the practices premises utilisation and staff levels/skill mix.
Although staffing is not a consideration of planning condition provisions, it does have a significant impact on how GP practices are able to offer services and be flexible and adapt to increases in their patient list size. As such, any discussions on a practice's capacity assumes that, as a minimum, the practice can maintain their current staff levels.
Discussions have been held with the 3 practices considered most likely to be affected by the WGC development in an attempt forecast how large an increase in patient list they could accommodate in their current state and for how long.

- Boultham Park Medical Practice
- Birchwood Medical Practice
- Portland Medical Practice

Planning conditions would be used to ensure access to primary medical services for patients from the WGC will be through the development of technology and the expansion of existing local GP practices. Some flexibility would be required in the exact nature of the projects to ensure that where and how any funding secured is spent reflects patient flow and the needs of the population as the WGC progresses.

4.12.6 Open Space and Sport Provision

The increased population associated with the Proposed Development would increase demand for, and pressure upon existing, open space. A significant proportion of the wider 250 ha WGC site is reserved for green open space in the outline planning application.

It is considered that the Proposed Development would have an overall positive economic effect through the provision of employment and through associated multiplier effects. The significant effects associated with the construction phase are temporary effects with longer term beneficial effects resulting from the operation phase. There would be significant benefits in terms of employment during the construction phase and once complete, the proposed development would result in significant benefits for housing, employment and expenditure.

Sport Provision and Sport England's Comments

The Government, within their Planning Practice Guidance (Open Space, Sports and Recreation Facilities Section) advises Local Planning Authorities to consult Sport England on a wide range of applications.

Sport England assesses applications of this type in light of the National Planning Policy Framework (NPPF) and against its own planning objectives, which are Protect: - To protect the right opportunities in the right places; Enhance - To enhance opportunities through better use of existing provision; Provide - To provide new opportunities to meet the needs of current and future generations.

Where major sports facilities are proposed, whether in isolation or as part of a wider mixed use scheme, the level and nature of such proposals, the timing of their delivery and the details of the catchment/users they would serve should be informed by a robust evidence base such as an up to date Sports Facilities Strategy, Playing Pitch Strategy or other relevant needs assessment. This is to ensure that the scale and nature of facilities are appropriate to meet identified needs, taking into account the level of existing provision in the area and any planned changes that could affect this in the future. For a sports development of the scale proposed, this should include evidence across neighbouring areas and authorities, especially where the development sits in close proximity to local authority boundaries or contains a type of facility that has a sub-regional level catchment, as could be the case on this occasion.

Occupiers of certain types of new development, especially residential, will generate demand for sporting provision. The existing provision within an area may not be able to accommodate this increased demand without exacerbating current and/or predicted future deficiencies. Therefore, Sport England considers that new developments should contribute towards meeting the demand that they generate through the provision of on-site sports facilities and/or providing additional capacity off-site. Again, the level and nature of any provision (and whether it is provided on or off-site, or a mix of both) should be informed by a relevant needs assessment, to understand the current supply and availability of facilities, and identify any existing deficiencies that could be exacerbated by the extra demand or any initial spare capacity that could be absorbed.

The original planning application was accompanied by a Sports Planning Statement which provided a summary of available baseline information as a starting point and basis for further discussion

around formal sports provision within the proposal, and contained an acknowledgement that this would need to be developed further.

The Sports Planning Statement also provided commentary about supporting physical activity and active lifestyles through the wider design approach to the development and planned measures to encourage active travel, including walking and cycling routes.

The residential element of the application would generate a population of approximately 7,040 people. Without increased demand for sports facilities from the development's occupiers being met, then additional pressure would be placed on existing sports facilities, thereby creating potential deficiencies in provision.

As well as additional demand for sports facilities being created by the new residential occupiers, the employment uses included within the wider scheme could also create some extra demand for facilities that could feed into the business/strategic outcomes planning for sports facility investment at the site.

Sports Needs Generated by Occupiers of the Development
In terms of indoor sports facilities, Sport England's Sports Facilities Calculator (SFC) can help to provide an indication of the likely demand that will be generated by a development for certain facility types. The SFC indicates that a population of 7,040 people in this local authority area will generate a demand for 0.51 of a 4 badminton court sports hall and 71.65 square metres of swimming pool/water space. Based on 2020 (quarter 2) build costs, this would equate to a capital sum of approximately £1,312,000 (sports hall) and £1,330,000 (swimming pool) with a combined total of £2,642,000. The SFC does not factor in the extent to which existing facilities may or may not be able to contribute towards meeting the needs created by new development, but instead provides an understanding of what the additional needs would be from the development and the costs of meeting them.

Dependent on the proposals that are ultimately put forward within the on-site leisure sports/complex (and the associated community access arrangements), it is recognised that additional sports hall and swimming provision sufficient to meet the additional needs generated by residential occupiers of the development could potentially be accommodated on site, along with extra capacity to serve elements of wider city and sub-regional catchments. However, based on the phasing information submitted, on-site delivery of such facilities would not take place until the latter stages of the development, and so off-site facilities would need to be provided/available to residential occupiers of the earlier phases to ensure their needs were met.

"In principle, Sport England considers that there could be on-site and off-site solutions for meeting the additional indoor sports facility needs of future occupiers of the development, subject to a suitable mechanism (legal agreement and/or planning conditions) being put in place to secure delivery proportionate to those identified needs (whether in kind or via off-site financial contribution) and to a timetable suitably aligned to the generation of the additional needs."

The development is required to provide 7.74 hectares of playing fields across the scheme which will be entirely accommodated within the site and secured by planning condition. The playing field land is currently shown within the Masterplan as being close to the proposed 'leisure village', with a small area also provided as part of the primary school campus. There is no firm proposal advanced in relation to the pitch configuration, surface type or construction specification (including underdrainage) or the sports that the pitches would be designed to accommodate. A playing pitch strategy review is currently underway, which will help determine the precise nature and phasing of the provision. A scheme to provide on-site playing fields will be submitted for approval by the 300th dwelling.

“Sport England notes that the total amount of land indicated to be assigned to playing field/playing pitches accords with the Council’s 2018 adopted Supplementary Planning Document. However, as with the indoor sports facilities, none of this would be delivered in Phase 1 and the precise configuration and full extent of provision, including in qualitative terms, remains to be determined. To help secure the timely delivery of adequate outdoor sports provision to meet additional needs generated by occupiers of the development, a suitable legal mechanism would be required.”

The LPA are satisfied that the condition referenced above, and set out within the S106 section of this report, that the required amount of Playing Field space will be provided on site at the correct times within the phasing of the development.

Sport England’s consultation response states “Taking into account the points raised above, including the current lack of precision in terms of what sports facilities would be provided to meet the needs of the residential occupiers of the development, what facilities would be incorporated within the ‘leisure village’, the mechanism and timing of their delivery and the accompanying strategic rationale to support this, Sport England’s position is to raise a non-statutory objection to the application at this stage.

However, as indicated in previous discussions and within this main body of this response, Sport England is willing to provide constructive input with a view to identifying a positive way forward and enabling the identified issues to be resolved through the development of suitable legal mechanisms underpinned by robust needs analysis.”

Since the submission of the planning application in 2019 the City of Lincoln Council (CoLC) has undertaken an independent assessment to help determine the relationship between the sports and leisure provision across Lincoln (with specific reference to the Western Growth Corridor) and the proposed housing growth in the Western Growth Corridor Urban Extension. This has been submitted for consideration as part of the planning application.

The report considers the existing, spare, and future capacity of sport & leisure facilities across Lincoln. Having considered the existing sports provision and the predicted population growth, the report concludes that the existing sports & leisure provision is capable of meeting current and future demand as identified by recent studies within the delivery of phase 1a of the scheme. This equates to 300 dwellings until approximately 2025.

This position will be true until the identified playing pitch, indoor facility strategies and needs assessments have been completed and recommendations considered. At this point only, the City of Lincoln Council can begin to determine the WGC Facility mix alongside its key partners. This would then form the basis of future planning applications.

Policy LP30 requires Western Growth Corridor to provide a wide range of open space, recreation and leisure uses, together with consideration of the provision of a regional leisure complex. Whilst some further detailed work is required, and would be secured by planning condition, the LPA are satisfied that the application meets the requirements of the Local Plan Policy. There is sufficient space on the site to provide a policy compliant scheme in terms of open space and playing pitch provision. A principle of a leisure village has been considered and sufficient land allocated should future work confirm that there is need for a regional facility. In the interim period the LPA are satisfied that there is capacity in existing leisure facilities or where there is a shortage the applicants would be able to bolster facilities to ensure that the increased population arising from the WGC development would not have a negative impact on existing residents and leisure users in the local area.

4.12.7 Education

The increase in population associated with the Proposed Development would increase demand on existing school provision. In accordance with discussions with the Local Education Authority (LEA), the Applicant has agreed to the provision of a community primary school with 200/ 250 spaces, as included in the outline application.

LP28 requires all SUEs to incorporate appropriate pre-school(s), primary school(s), and a secondary school (potentially incorporating sixth-form provision), if the scale of the urban extension justifies any of these on-site, or, if not, contribute to provision offsite in order to meet the needs generated by the urban extension.

The site chosen for the primary school is close to the proposed community facilities and centrally located in relation to the two main residential areas on the application site. It is easily accessible by walking and cycling routes as well as by public transport. There is no requirement for a secondary school on the site. The development would, through CIL, make financial contributions to help capacity issues in local secondary to accommodate the children generated from the scheme.

The County Council originally objected to the application on the grounds of education.
"While mitigation has been proposed, the site currently put forward for a primary school does not offer appropriate mitigation as a school could not be feasibly opened on the site. The proposed site has a number of issues without any detailed surveys to ensure that there are no further problems below the surface, …..

In order to support the application from an education perspective, an acceptable site, or acceptable variations to the drainage plans submitted, will be necessary; this cannot be crossed by drainage. The site should be free from flood risk, archaeology, cabling etc. and allow for access/egress at a point appropriate at the time planning permission for the school is sought. It is clear that some of these items may be covered by condition, however the drainage is a fundamental issue as either the proposed school site or the drainage plan needs changing in order to ensure the impacts on school places can be mitigated – as well as ensuring that an on-site school is delivered, which will increase saleability of the houses on site."
The County Council subsequently withdrew their objection subject to the request for contributions being met. The County Council also requires the transfer of 2.7ha of land for a new on-site primary school; this is shown on the masterplan and, following the removal of a drain traversing the site, is considered an acceptable site based on the plan. The site should be fully serviced and free from encumbrances, including the re-directing of any over-head cabling that crosses the site.

As the development would result in a direct impact on local schools,as set out in LCCs consultation response, a contribution is requested to mitigate the impact of the development at local level. This is a recognisable and legitimate means of addressing an impact on infrastructure, accords with the NPPF (2019) and fully complies with CIL regulations. For the reasons explained later in the report, the request is to be dealt with by a condition for a scheme of additional primary school capacity to be approved and carried out in accordance with a programme.

4.12.8 The public sector equality duty (PSED)
The public sector equality duty (PSED) set out in the Equality Act 2010, requires, under section 149(1) of the act, that all public bodies are required in exercising their functions to eliminate discrimination, advance equality of opportunity and foster good relations. The "protected characteristics" to which the act applies include age, race, religion, sexual orientation, disability and pregnancy.
Local planning authorities need to give due regard to the PSED in their planning judgement of planning applications.
The proposals within the application have been considered with the duty in mind and there are net benefits which involve the applicant being required to contribute to additional local health care provision to deal with the impact of their development, which means the impact on the existing

population, who may have protected characteristics, is no worse than neutral. The same impact and compensatory provision is applied to the provision of a new primary school on the site and the potential of CIL contributions to be made to secondary education. The provision of a policy compliant level of affordable housing, the provision of open space and sporting facilities and the provision of new and improved footpath and cycle routes across the site are also positive contributions that can "advance opportunity and foster good relations".

4.12.9 Summary

The ES has demonstrated that the proposed development would be in accordance with the broad aspirations of the NPPF, Chapters 6 and 8, and that more specifically it would be in accordance with the socio economic aspects of Policy LP28 of the CLLP. Policy LP28 requires schemes to contribute to the provision of a wide range of local employment opportunities that offer a range of jobs in different sectors of the economy and incorporate appropriate schooling dependent on the scale of the urban extension. The LPA are satisfied that these criteria have been met.

4.13 Housing

4.13.1 Relevant Planning Policy

Policy LP28 requires the WGC development to provide a broad range of housing choice in terms of size and design.

Policy LP10 sets out that developers are expected to provide housing solutions that contribute to meeting the housing needs of the housing market area, as identified in the latest Strategic Housing Market Assessment (SHMA) and in any other appropriate local evidence. This means new residential development should maintain, provide or contribute to a mix of housing tenures, types and sizes to help support the creation of mixed, balanced and inclusive communities.

More specifically, to cater for the needs of less mobile occupants, including older people and disabled people, and to deliver dwellings which are capable of meeting peoples' changing circumstances over their lifetime, proposals for 6 or more dwellings (or 4 or more dwellings in small villages) must deliver housing which meets the higher access standards of Part M Building Regulations (Access to and use of buildings) by delivering 30% of dwellings to M4(2) of the Building Regulations, unless the characteristics of the site provide exceptional reasons for delivery of such dwellings to be inappropriate or impractical. Proposals which voluntarily deliver more than 30%, or deliver the 30% requirement to the higher M4(3) standard will be supported.

Policy LP11 sets out development affordable housing requirements.

a. Affordable housing will be sought on all qualifying housing development sites of 11 dwellings or more, or on development sites of less than 11 units if the total floorspace of the proposed units exceed 1,000 sqm.

b. Where a site qualifies for affordable housing, the percentage sought will be:

ii. Lincoln Strategy Area SUEs* 20%

c. Of the affordable dwellings provided, the exact tenure mix should be informed by and be compatible with the latest government guidance and an up-to-date local Strategic Housing Market Assessment (SHMA), and be informed by discussion with the local authority. This will form the basis of a S106 Agreement to accompany the planning application.

The Central Lincolnshire authorities will seek the level of affordable housing on the basis of the above targets, but will negotiate with developers if an accurate viability assessment demonstrates these cannot be met in full.

Affordable housing shall be provided on-site, unless it can be demonstrated that exceptional circumstances exist which necessitate provision on another site, or the payment of a financial contribution to the relevant local planning authority (equivalent in value to it being provided on-site), to enable the housing need to be met elsewhere.

Affordable housing should integrate seamlessly into the site layout amongst the private housing.

4.13.2 Housing Delivery

The proposal seeks permission for 3,200 dwellings which would be composed of a range of types and sizes of new homes. The mix of these dwellings is not fixed with this application and would be developed phase by phase and through consideration of the subsequent Reserved Matters applications. The overall approach would be to create a balanced community based on phased development which presents a broad range of accommodation types. This will include homes for first time buyers, family accommodation, executive homes and homes for downsizers and retirement accommodation.

Housing would be delivered in the following phases:-
Phase 1A - Development of up to 300 dwellings.
Phase 1B - Development of up to 300 dwellings.
Phase 2A - Development of 400 dwellings.
Phase 2B - Development of 600 dwellings.
Phase 2C - Development of 600 dwellings.
Phase 2D - Development of 600 dwellings.
Phase 4A - Development of 400 dwellings.

It is envisaged that there would be a mix of accommodation size and dwellings would include terraced homes, detached dwellings and linked dwellings. Dwellings could range in height and density as set out in the Design Code supporting the application. Affordable housing would be indistinguishable in design terms from market housing and spread through the site in small clusters.

4.13.3 Affordable Housing

It is the Council's policy that the WGC site should provide 20% of all housing as 'affordable' in accordance with Policy LP11. The strategy for affordable housing on the site is to provide specific affordable housing proposals on a phase by phase basis. The objective is to provide in total some 20% of the dwellings on the site to be 'affordable', i.e. approximately 640 dwellings. Given the likely timescale for the application of the WGC development will be in excess of 20 years the type and breakdown of affordable housing types has not been considered at this stage, rather these details would be secured by planning condition and a would be a requirement of each Reserved Matters application.

In the case of WGC, due to significant infrastructure investment required, it is proposed that the first phase of housing, 300 dwellings, would provide no affordable housing. The whole scheme would still be policy compliant and provide 20% affordable across the whole SUE area but the early phases would have less affordable provision. The policy requirement would be achieved by providing more than 20% affordable housing in the later years of the scheme.

Whilst the scheme would be policy compliant across the whole development, the LPA had some concerns about the lack of provision in the first phase of development. For this reason Aspinall Verdi, specialist viability consultants, were engaged to assess the financial commitments for WGC and whether deferring the affordable housing provision would be a reasonable and justifiable request.

4.13.4 Deliverability report

The LPA had concerns that the developer could simply walk away from the site after completing Phase 1A, having provided no affordable housing, and without having completed the major infrastructure works that are required from Phase 1B onwards.

Aspinal Verdi agree with the applicant that deferring the affordable housing would reduce the peak cash flow and reduce the level of funding required to take the scheme forward, therefore de-risking the future phases of the scheme.

"We have identified some areas where we might suggest amendments to the applicant's figures – an increase in some sales values, an increase in transfer values for affordable housing, profit on affordable housing and contingency, but the net effect of these changes does not produce a significant improvement on the overall viability, and particularly the change in the level of debt at the end of Phase 1A is negligible."

Aspinal Verdi also agree with the applicant that it is very unlikely that they could walk away from the scheme after Phase 1A, as due to the up-front infrastructure costs prior to the development of the Phase 1A homes, the Gross Development Value is still less than the Gross Development Costs. The debt at this stage of the scheme is substantial so they need to move forward with further phases until they would see a return on their investment.

At this stage the LPA consider this to be an acceptable approach. The risks of delivering no affordable units in the first phase of development has been assessed with a Deliverability Report and the LPA are satisfied that there will be sufficient controls in place to ensure that future phases will compensate and that overall the applicants will deliver a policy compliant scheme.

4.14 Planning Obligations

When assessing planning applications, the LPA consider the need to apply specific conditions, restrictions, and contributions necessary to make the development acceptable in planning terms, when the only other alternative would be to refuse the application. These planning obligations can include financial contributions towards a certain piece of defined infrastructure. New development such as that proposed by this application is expected to contribute to site related and other infrastructure, as appropriate, through a combination of planning conditions, planning obligations by way of a section 106 agreement and planning obligations by way of the Central Lincolnshire community infrastructure levy.

Paragraph 55 of the National Planning Policy Framework (NPPF) states that local planning authorities should consider whether otherwise unacceptable development could be made acceptable through the use of appropriate planning conditions. It states that a planning obligation should only ever be used where it is not possible to address any relevant impacts by using planning conditions. Where possible, issues that need to be addressed should therefore be dealt with by the application of planning conditions before seeking to negotiate section 106 agreements.

The PPG confirms that it may be possible to overcome a planning objection to a development proposal equally well by imposing a condition on the planning permission or by entering into a planning obligation under section 106 of the Town and Country Planning Act 1990. It advises that in such cases the local planning authority should use a condition rather than seeking to deal with the matter by means of a planning obligation.

However, planning conditions cannot be used to secure financial contributions, or secure measures through positively worded conditions which apply to land outside of the application site and must not be unreasonable. Section 106 agreements are an established delivery mechanism for securing financial contributions towards necessary infrastructure on or off site. The other mechanism for securing financial contributions for vital infrastructure is via the community infrastructure levy which is charged on residential development within urban extensions at a rate of £20 per square metre.

The community infrastructure levy was adopted on 22nd January 2018 as a tool to help deliver specific larger pieces of infrastructure following the adoption of the Central Lincolnshire Local Plan in April 2017. This levy is collected per dwelling towards secondary education and the Lincoln eastern bypass only and is in addition to other policy requirements to be met by planning obligations in the form of section 106 agreements. The levy amount will be calculated as each parcel of land is developed and reserved matters applications submitted, as the square meterage of each dwelling is required before an accurate figure can be calculated. Over the whole development, the community

infrastructure levy is likely to contribute several million pounds towards the infrastructure to be funded.

Planning policy for Central Lincolnshire requires that for development such as this to be sustainable and acceptable in planning terms, in addition to other infrastructure mentioned elsewhere in this report, such as affordable housing, it must provide the following either on or off site to accommodate the needs of the resultant new residents:

- Education
- Healthcare provision
- Highway/transport provision
- Open Space and green infrastructure
- Playing fields

Consideration has been given to the best mechanism for achieving the above policy requirements and securing vital infrastructure. Since appropriate planning conditions can secure that the development will be acceptable in planning terms, it is considered that, in this case, the most appropriate way to deliver policy compliance and achieve a sustainable urban extension is by the comprehensive application of robust planning conditions. No need for a section 106 agreement arises. In any event a section 106 agreement is not something that can be entered into for the obligations relating to the City Council functions in relation to the City Council owned land that forms the large majority of the site at this time, because the City Council as major landowner are a joint applicant for this development and the local planning authority, responsible for determining the application and enforcing the terms within a section 106 agreement. To enter into such a deed would see the City Council purporting to create legal relations with itself, which it is not possible to do legitimately.

Advice has been sought from external lawyers and counsel and both consider that these matters can be dealt with satisfactorily by the application of lawful planning conditions in any event. The conditions would be for a planning purpose, they would fairly and reasonably relate to this phased development and they would be reasonable in all other respects. The PPG sets out six policy tests for planning conditions requiring them to be: necessary; relevant to planning; relevant to the development; enforceable; precise and reasonable in all other respects. Planning conditions for this development would also satisfy these policy tests.

Relevant planning conditions would restrict development beyond a certain number of dwellings until certain infrastructure has been delivered. The trigger for each element of infrastructure has been carefully considered in relation to what infrastructure is required and when, throughout the life of the development. Statutory consultees who are responsible for the provision of services beyond those delivered by the City Council, such as the NHS and the County Council, have also been consulted and have responded with requests for what their service requires and by when in order to maintain the sustainable expansion of the population in this part of the City.

Having carefully considered the issue, officers consider that the use of conditions for securing the infrastructure in question would in the particular circumstances serve the relevant purposes at least just as well as would S106 obligations and, as such, the Planning Practice Guidance (PPG) advises that the Council should use conditions rather than planning obligations in such cases. In any event, the use of a S106 agreement is not possible at present for the obligations relating to the City Council functions in relation to the large majority of the site, which is owned by the City Council.

Set out below are the additional infrastructure requirements for a development of this size. Each of these elements will be required by planning condition, setting out what is required and the trigger point by which each piece of infrastructure identified needs to be in place by for the development to proceed. The actual wording of these conditions is detailed at the end of the report within the planning conditions section.

4.14.1 Education

The Local Education Authority confirms that there is current capacity within existing local schools, and they can accommodate the increase in population that this development will create up to and including 600 dwellings. At this point additional places will be required to be provided by this development. It is considered by the County Council, as Education Authority, that at this point in the development a two-form entry primary school will need to be provided to accommodate the increase in pupil population and satisfy the demand for primary school places. At this 600-dwelling point (approximately 5 years from commencement of development) planning conditions require a scheme securing the delivery of additional primary school capacity to meet the needs of pupils resident in the development to be submitted to and approved in writing by the local planning authority and a serviced site for the school to be provided and subsequently for the approved scheme for additional primary school capacity to be carried out as approved in accordance with a programme.

4.14.2 Healthcare provision

NHS Lincolnshire Clinical Commissioning Group were consulted in relation to this planning application and provided a response. The NHS Group consider that there is capacity within existing medical practices to absorb an increase in demand from the rise in population that this development will create up to and including 600 dwellings. At this point further provision would be required to accommodate new patients. The NHS Group do not wish for provision to be made on site by way of an additional medical practice as their model for securing adequate access to national health services determines that this would not be the best approach in this instance. Three medical practices have been identified by the NHS Group as being most likely to attract patients from this development and a financial contribution has been identified as being required.

Local Plan Policy and the Developer Contributions Supplementary Planning Document provides a calculation, where need is established for NHS services, of 605 per dwelling.

The three existing medical practices that the NHS Group consider that patients from this development would be most likely to seek primary medical care from are:

- Boultham Medical Practice
- Birchwood Medical Practice
- Portland Medical Practice

There is no detail at present as to how the NHS Group would increase capacity at these locations, for example by converting more rooms into clinical rooms or extending the premises, or whether capacity would need to be increased evenly across all three. It is therefore proposed that a planning condition for providing a scheme which deals with securing adequate NHS services should be agreed with the Local Planning Authority and NHS Group by the occupation of 300 dwellings. The scheme would be expected to include how the needs of patients created by the development will be met. The scheme is then to be carried out in accordance with a phased programme. In practice, the developer will have to reach an agreement with the NHS Group over the delivery of the offsite scheme.

4.14.3 Highway/transport provision

There are many highway matters relating to this application and discussed elsewhere in this report, not least the provision of two bridges, at points on Tritton Road and Beaver Street, as additional access points into the site. These will be dealt with by planning conditions, preventing further development until certain requirements such as design and timing of construction of these bridges has been formally approved.

Other highway matters which need to be addressed are the provision of enhanced bus connectivity between the development and the city centre and numerous off-site highway works to improve junction capacity on the highway network around the development site. This provision needs to be

in place as each phase completes and it is proposed to apply planning conditions to achieve a suitable solution. The City Council as LPA has taken independent highway advice from a transport specialist, in addition to consulting with the County Council. The number of vehicles the development is expected to generate and how to accommodate those has been the subject of much analysis. A solution to deal with this has been proposed and the transport specialists have reviewed this and commented, as detailed elsewhere in this report. It is considered that no more than 150 dwellings can be occupied before a suitable scheme identifying the works required to accommodate the additional vehicles has been formally submitted for approval by the LPA and County Council as Highways Authority and subsequently the scheme will have to be carried out by prior to the occupation of an approved number of dwellings.

4.14.4 Open space and green infrastructure

The development is required to provide 12.6 hectares of amenity space across the scheme. Much of this is to be provided on site, but until the areas identified in the masterplan for this purpose are released for development, it is proposed to provide a piece of equipment to increase capacity at Hartsholme Country Park to accommodate those new residents in the first phase and in situ by the occupation of the 100th dwelling. This will be required by planning condition and the piece of equipment will be provided to a specification to be agreed by the City Council. The on-site provision will be dealt with by planning conditions as each phase comes forward for development through the respective reserved matters application, the first element to be submitted for approval by the 150th dwelling.

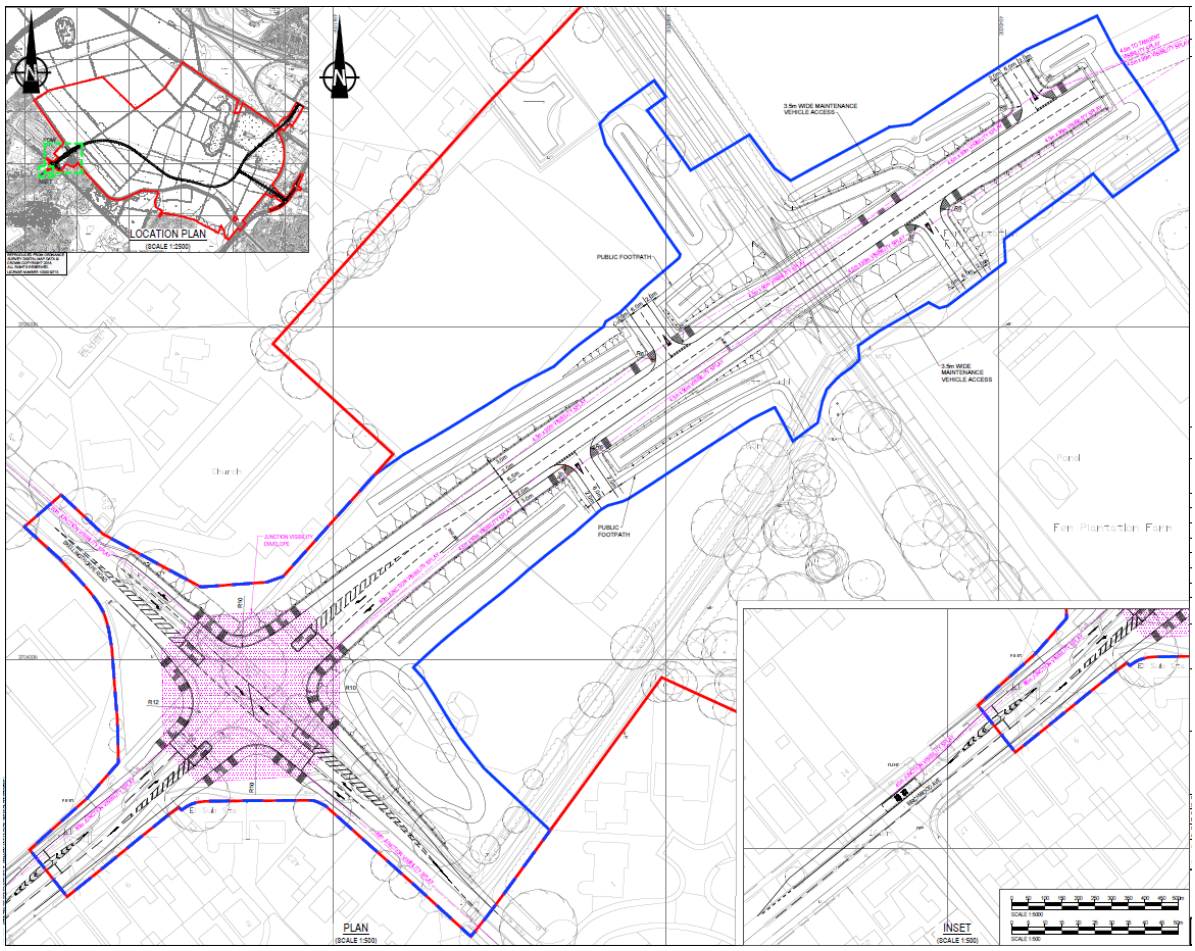
4.14.5 Playing Fields

The development is required to provide 7.74 hectares of playing fields across the scheme which will be entirely accommodated within the site and secured by planning condition. A playing pitch strategy review is currently underway, which will help determine the precise nature and phasing of the provision, but it is accepted that this will come forward in later phases of the development as it is likely that current facilities can absorb the increase in demand for playing fields the residents of the first phases will generate. A scheme to provide on-site playing fields will be submitted for approval by the 301stdwelling.

4.15 Full application

Full planning permission is sought for two access points into the site. In Phase 1A, to enable the first 300 houses to be built, the access point from Skellingthorpe Road would be constructed first. Permission is sought for this access as well as the initial access Spine Road spur into the site, as shown on the plan below.

4.15.1 Skellingthorpe Road Access

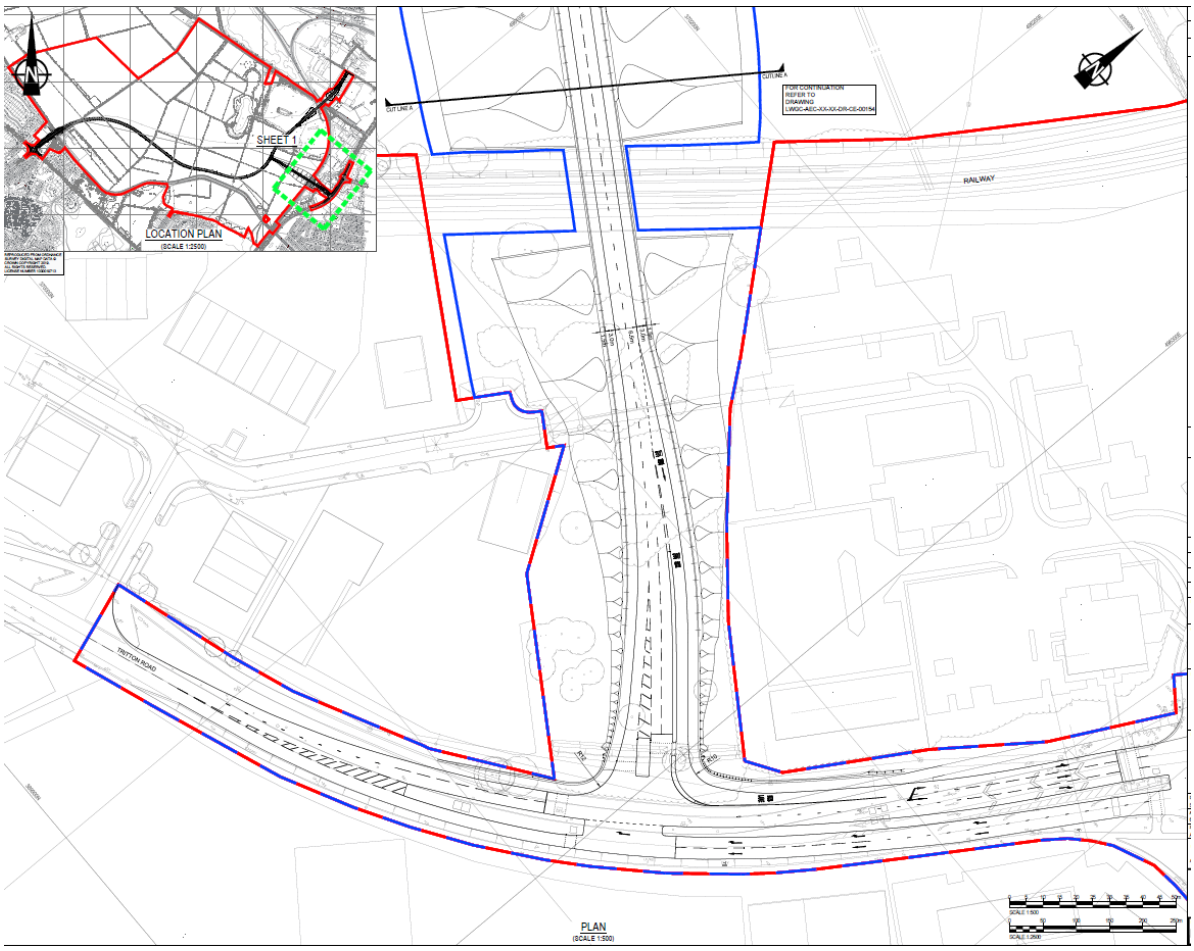


Originally proposed as a roundabout the applications took on board advice from the Highways Authority and have changed the site access to a signalled crossing. The highway capacity of both types of access were assessed, however the preference of a signal crossing has always been LCC's approach. A signalled crossing enables greater ease of movement for non-motorised modes of transport with footpath and cycleways proposed on all arms of the junction.

The first section of road is being constructed to cross the Catchwater to access the initial phases of development near Fen Farm.

4.15.2 Tritton Road Access

In Phase 1B access to the site from Tritton Road would be required to enable development of the second set of 300 dwelling to be constructed. This access would require a bridge from the site, over the railway line, landing to the west of Tritton Road. The vertical alignment of the Tritton Road access has been set to provide sufficient headroom over the railway line, as agreed with Network Rail.



As existing

4.15.3 Relevant Planning Policies

LP13 – Accessibility and Transport
LP25 – The Historic Environment
LP26 – Design and Amenity
LP29 - Protecting Lincoln's Setting and Character

4.15.4 Visual impacts

Tritton Road

The proposed bridge to Tritton Road has the potential to impact on long range views of Lincoln's historic hillside, and specifically the Castle and Cathedral. Policy LP29 sets out that proposals should "Protect the dominance and approach views of Lincoln Cathedral, Lincoln Castle and uphill Lincoln on the skyline"

Policy LP25 states that “Development proposals that affect the setting of a Listed Building will be supported where they preserve or better reveal the significance of the Listed building.” “Development within, affecting the setting of, or affecting views into or out of, a Conservation Area should preserve (and enhance or reinforce it, as appropriate) features that contribute positively to the area’s character, appearance and setting.”

At the bridge crossing the existing ground is 5.8m AOD. The carriageway level is 15.0m AOD so from ground level the bridge is approximately 9.2m to carriageway level. The guard rail would be 1.8metres above this level. This would be visually permeable finished with steeple coping to deter climbing. At the crest of the road, which is composed of earthworks, the existing ground is 4.6m AOD with the carriageway level at 17.3m AOD. Here the structure would be 12.7m.

As proposed

Skellingthorpe Road
The proposed access would have a visual impact on this area of the city due to the increased footprint of the junction, the increased volume of traffic using the junction and the change to the view looking across Skellingthorpe Road to the development site. It is considered by the LPA, and in discussions with LCC as Highways Auhtority, that the proposed signalled junction would have a lesser impact than the previously approved roundabout. The junction with Birchwood Avenue is currently signal controlled, and as such adding another arm to this junction would be less of a change than the previously proposed roundabout.

4.15.5 Residential amenity
The proposed access at Tritton Road would have limited impact on residential amenity.

The proposed access to Skellingthorpe Road would have greater impact on residential amenity by virtue of its proximity to a built-up residential area. The properties in the immediate area would experience increased levels of traffic using this junction and could be impacted by increased levels of noise.

4.15.6 Highways
The Highways Authority have recommended that the layouts and signal operation should be subject to a more detailed technical check to ensure the junctions can be delivered within the land take shown and that the phasing and staging of the signals assumed for the transport assessment is acceptable to the LHA.

The LPA are satisfied that for the purposes of the planning application there is sufficient information to assess the impact of the proposed junctions. The technical details would be checked further through the technical highways process and the highway legal agreement process.

Network Rail have raised no objections to the scheme and there is an agreement in principle between them and the applicant that they can cross the railway. The height of the bridge has already been agreed with Network Rail to ensure there is sufficient height for the future electrification of the line.

4.15.6 Air pollution

The impacts from the development on air quality are closely related to the agreed transport principles for the site. By ensuring the development maximises opportunities for sustainable travel, the development minimises the impact on air quality. This is in line with the principles set out in NPPF Paragraph 103 and Policy LP26 of the Local Plan.

There would be less sustainable travel interventions in the early stages of development, served by the two access points applied for, until the Spine Road has been completed in its entirety. Up until this point the mitigation measures are focused off site and would build on the existing sustainable travel infrastructure in the area. The mitigation measures would also see physical upgrades to the Birchwood/Doddington Road access with the intention of providing an alternative to the Skellingthorpe Road/Birchwood Avenue junction. This in itself would reduce waiting cars on the area, which is the biggest source of air pollution.

4.15.7 Conclusion

The existing residents would experience some disturbance from the construction of the Skellingthorpe Road access and there would be an increase in traffic using this junction for the first phases of WGC. As discussed within the Outline application, there has long been a recognition, and an acceptance, that to achieve long term modal shift and an alternative route into the city centre, the spine road through the site needs to be completed and this can't happen until both access points have been constructed and the first phases of housing delivered. The delivery of the spine road has been secured through condition and therefore the LPA are satisfied that the access on Skellingthorpe Road would be acceptable and that the impact of the increased traffic would be short term. The long-term benefits of providing a route into the city which doesn't require waiting at a level crossing would be a long term benefit to the residents of Birchwood and the surrounding areas as would a bus priority route into the City Centre.

The new bridge link at Tritton Road has been assessed to ensure its height is acceptable in terms of the view corridor towards the Cathedral. The Computer Generated Image illustrates that the bridge structure does not interfere with views of the Cathedral from Tritton Road. It is considered that the bridge would assimilate into the surrounding area and would not have a harmful visual impact.

5.0 Conclusion

5.1 Summary of the relevant issues

Design

The applicants have submitted a design code in support of the planning application which is supported by the Local Planning Authority. The aspirations for the overall design of the site are sound and would be in keeping with the NPPF and its requirement to create high quality sustainable places.

Transport

Two points of access into the site are applied for in detail, a signal controlled junction at Skellingthorpe Road and a signalled junction at Tritton Road with a bridge over the railway into the site. These detailed elements have been assessed and are acceptable in planning terms. The principle of the developing the site as an Urban Extension was supported by Lincolnshire County Council as the Highway Authority at the Local Plan stage prior to allocation. The principle continues to be supported by the Highway Authority. The Highway Authority has objected to the proposed first phase of the development, 300 dwellings off Skellingthorpe Road, due to the impact on Highway Capacity on the local highway network.

Flooding
The LPA are satisfied that the applicants have worked closely with the relevant authorities through Multi Agency Group meetings to ensure that the concerns of statutory consultees and local residents are satisfactorily addressed. A significant amount of technical work has been carried out and the EA have confirmed that they are comfortable with the proposed development. The LPA are given confidence by this support that the development would have no adverse impacts on existing residents and that technical matters have either been dealt with or are capable of being dealt with by condition.

Heritage
The applicants have sufficiently set out the heritage assets affected by the proposed development. There are both above ground and below ground assets which require consideration. In the case of the above ground impact on listed buildings the applicants have demonstrated that there would be a minor adverse impact. The work carried out to date has confirmed that the archaeological remain below this site are of equivalent significance to scheduled monuments, as confirmed by Historic England. The development of that part of the site will inevitably lead to the total loss of significance of the heritage asset. Added to this is the harm to designated heritage assets identified above (eg listed buildings, Swanpool Conservation Area and schedule duck decoy) The site is allocated for development and will contribute to the overall delivery of the SUE and the 3200 houses and associated infrastructure. The delivery of the development will provide substantial public benefits and, as a consequence, it is considered that, with suitable analysis, investigation and recording, the harm to heritage assets is outweighed and justified.

Nature/Ecology
Both the green infrastructure constraints and opportunities identified in the Design and Access statement and the study of biodiversity in the ES have identified the significance of these factors in the overall design of development on the masterplan. The 'green infrastructure' plan sets out the way in which development has been planned around these constraints with opportunities being taken to enhance linkages and public access. With particular regard to enhancement of biodiversity, the opportunity is being taken to utilise the areas being excavated for the purposes of development platforms (i.e. the areas in the northern part of the site) for ecological enhancement given they could potentially be wet areas.

Air Quality
During the demolition and construction phase, the Proposed Development has the potential to impact on the level of dust deposition/soiling and short-term concentrations of particulate matter at sensitive receptor locations near to the Proposed Development site boundary. However providing that best practice particulate control measures are implemented throughout the construction phase it is predicted that potential impacts should be adequately controlled such that significant effects will not occur. The overall effect of the Proposed Development on local air quality is considered not to be significant and the development proposals and mitigation measures would ensure the development accords with local and national planning policy.

Noise and vibration
With the proposed mitigation in place, the external baseline noise levels are anticipated to not exceed the guideline criteria. Therefore, the effect of the baseline noise impacts is classified as minor and not significant. The effect of the baseline vibration impact on the Proposed Development is classified as minor and therefore not significant. The effect due to the impact of construction noise and vibration on the nearby residential properties would be minor and not significant. The effect due to the noise impact from construction traffic is assessed as negligible and not significant.

Land stability
The Environment Agency have assessed the documents referred to above and have concluded that the proposed development would be acceptable subject to the inclusion of some relevant planning conditions. The development would not be put at unacceptable risk from, or be adversely affected

by, unacceptable levels of water pollution in accordance with national planning policy and policies 14 and 16 of the local plan.

Landscape and visual
The proposed development is particularly successful at considering the context of the site and the sites setting. The masterplan layout has taken into account views of the hillside from the site, views looking down onto the site and how the site would be viewed from the periphery of the site boundary. It is considered that the site could be successfully assimilated into the existing landscape setting whilst still creating a new distinctive development.

Socio economics
Policy LP28 requires schemes to contribute to the provision of a wide range of local employment opportunities that offer a range of jobs in different sectors of the economy and incorporate appropriate schooling dependent on the scale of the urban extension. The LPA are satisfied that these criteria have been met.

Housing
The application proposes to deliver the full allocation for the SUE of 3200 houses. It also proposes to deliver the policy compliant requirement for affordable housing and the Delivery Report that the LPA has had independently evaluated demonstrates that the site is viable and that delivery can be reasonably expected.

5.2 Compliance with the Local Plan

Local Plan Policy LP28
The main policy dealing with the location and approach to the Sustainable Urban Extensions (SUEs) is Policy LP28. This covers the allocation of SUEs at Lincoln, Gainsborough and Sleaford. This policy has a number of different elements which are appropriate to comment on in the order they are referred to in the policy.

The policy states *"Development of an urban extension must be planned and implemented in a coordinated way, through an agreed broad concept plan that is linked to the timely delivery of key infrastructure. With the exception of inconsequential development, proposals for development within the identified extensions which come forward prior to the production of, and agreement on, a broad concept plan will be refused.*
Working with the Central Lincolnshire authorities and other relevant stakeholders, a broad concept plan should be prepared for each urban extension (in its entirety) and should clearly evidence the support of all significant landowners; the concept plan should be submitted to the Council for approval. If one or more landowners are not supportive of the concept plan, it will need to be demonstrated that the development of the considerable majority of the urban extension can be delivered without their involvement. The concept plan could be submitted alongside an outline application for the urban extension."

The area of the planning application does not include all of the land designated on the WGC in the Local Plan proposals map - however not all of the allocated area is required to provide the scale of development that the site specific WGC policy requires. In this regard land broadly beyond the western boundary of the application site – comprising Decoy Farm and land up to the A46 together with parcels of land to the north west and south of the application site – are within the WGC allocated area but not required to deliver the quantum of development and associated necessary infrastructure and mitigation. The requirement of Policy LP28 is to evidence the support of all significant landowners in this application. These are City of Lincoln Council and Lindum WGC LTD – the joint applicants – who are both supportive of the masterplan in respect of this particular application proposal. There are further land ownerships lying to the west of the application area which are not part of the agreements between the City of Council and Lindum WGC LTD. In this context it is demonstrated by the masterplan that the scale of development required in the SUE extension of WGC (see Policy LP30 below) can be accommodated within the application area. There is no

requirement for additional land (albeit allocated within WGC in the Local Plan) to be included for any purpose. The land within the 'red line' application site is all under the control of the joint applicants.

The policy further states *"Whilst phasing may be agreed, the local planning authority will need to be satisfied that the key aspects of the concept plan will be delivered. Therefore, to prevent the provision of appropriate infrastructure being either delayed or never materialising, appropriate safeguards will be put in place, normally through a Section 106 agreement, which ensure that specific aspects of the scheme are delivered when an appropriate trigger point is reached.*
Alongside the timely delivery of necessary infrastructure, key to the sustainable delivery of the urban extensions will be the requirement to minimise the need to travel, whilst maximising sustainable transport modes. This will be achieved by locating key facilities such as schools and local shops within easy walking and cycling distance of most properties, incorporating high quality walking and cycling networks linking to the wider area, and providing access to high quality public transport services and facilities, including bus priority corridors and, where appropriate, park and ride."

In relation to this part of the policy the application is submitted with a broad concept plan, an outline masterplan as well as a phasing plan which sets out the timescales for the delivery of essential site infrastructure. The LPA have had extensive discussions with the applicants to ensure that key infrastructure on site is deliverable and by an appropriate trigger point. A deliverability report has been submitted and independently verified, and the LPA are satisfied that there are sufficient safeguards in place to ensure future phases of the scheme are brought forward.

Where appropriate, specific elements of the scheme would be secured through a planning condition such as the delivery of the school, off site highway works and NHS facilities. This is in place of a S106 agreement in line with the PPG guidance.

Key to the sustainable delivery of the urban extensions is the requirement to minimise the need to travel, whilst maximising sustainable transport modes. The application has been submitted alongside a Transport Assessment and Framework Travel Plan which set out the principles for travel around the site and the impacts off site. The school and local shops are provided within easy walking distance of dwellings within each of the two housing areas. Plans submitted with the application demonstrate the walking and cycling distances from the primary school and local centre – deliberately located at the centre of the site (on the eastern edge of the western housing area) to allow easy and convenient access for all residents on the site. The LPA are satisfied that the proposal adopts the policy key principles and that where possible sustainable travel modes have been the first choice of travel.

The next part of Policy LP28 sets out criteria a-h which are specific requirements for all SUE sites. This states:
"In addition to the above, each new urban extension proposal must, where applicable:
a. demonstrate availability and deliverability of the proposed scheme;
Given the cooperation between the City of Lincoln Council and Lindum WGC LTD as landowners – the whole of the application site is 'available' for development. The deliverability of the scheme has been verified through a deliverability report submitted to and agreed by the LPA and that has been independently reviewed by Aspinall Verdi who have assessed the development to be very likely to be deliverable.

b. provide a broad range of housing choice in terms of size and design;
A broad range of housing choice in terms of size and design would be provided as indicated in the Design and Access Statement.

c. set aside an area of land which is suitable for the provision of Gypsy and Traveller pitches. The size of the site shall be agreed through negotiation, though is likely to be of a size sufficient to accommodate 5-10 pitches. Such set aside land should be on-site unless the developer can demonstrate circumstances which demonstrate that provision on an alternative suitable site is identified, and is made available and deliverable by the applicant. Such set aside land (whether on

the SUE site or off-site) should be provided to the local planning authority at nil cost and be secured through an appropriate legal agreement;
No dedicated gypsy and traveller site is proposed on the site. The LPA will apply a planning condition requiring the applicants to make offsite provision.

d. contribute to the provision of a wide range of local employment opportunities that offer a range of jobs in different sectors of the economy;
A wide range of local employment opportunities would be made available through potential local employment in the local centre as well in the commercial and leisure area of the scheme.

e. incorporate appropriate pre-school(s), primary school(s), and a secondary school (potentially incorporating sixth-form provision), if the scale of the urban extension justifies any of these on-site, or, if not, contribute to provision offsite in order to meet the needs generated by the urban extension (subject to national regulations governing such contributions);
A new primary school is proposed to be provided on site and contributions through CIL made to secondary schools. There is space within the local centre for a creche or nursery facility to serve the development.

f. make provision for an appropriate level of retail without having an unacceptable impact on the vitality and viability of existing retail centres;
The local centre would have an element of retail provision within it of a scale suitable to serve the development. It would be less than 2,000 sq.m with appropriate small shops as market demand allows

g. consider the Agricultural Land Classification of the site, and where higher quality agricultural land exists on one part of the site compared with another, then, if possible, utilise such land (or part of such land) for productive use, such as community orchards and allotments; and h. demonstrate that the unnecessary sterilisation of minerals has been avoided."
The need to address the constraints related to flood risk have determined the main areas for development notwithstanding agricultural land classifications. The acceptance of the allocation for WGC in the Local Plan that agricultural land will be taken by the development was regarded as being 'sound' for policy purposes. The reduction in size of the application area compared to the allocation in the Local Plan allows agricultural land to be retained in that use.

h. demonstrate that the unnecessary sterilisation of minerals has been avoided.
There is no sterilisation of minerals.

The LPA are satisfied that the criteria of LP28 are complied with and any necessary infrastructure and mitigation can be dealt with by condition.

5.3 Local Plan Policy LP30
Policy LP30 further details the requirements of each SUE. Proposals for the WGC area should provide:
Approximately 3,200 houses – The proposal seeks permission for 3200 homes with a mix of housing types in terms of size and design. A broad breakdown of house sizes has been provided along with a Design Code which sets out the design principles for the residential parcels of the scheme.

Approximately 20 ha of land for mixed employment (B Use Classes) and leisure (D2 Use Class) serving the wider Lincoln area for significant local growth and inward investment of strategic importance complimentary to that on the adjacent Lincoln Science and Innovation Park
Approximately 20ha of land for B Class Uses and leisure facilities serving the wider Lincoln Area are proposed. 8ha are allocated for a business park in the north-eastern part of the site with 10ha D2 (leisure village) including the potential stadium, plus 2ha for supporting infrastructure. The approximate 20ha total figure is therefore provided. The 'commercial' uses are in a location that would be complimentary to the adjacent Lincoln Science and Innovation Park.

A distinctive place to live that has its own identity and respects its local surroundings including key views and vistas of and from Lincoln Cathedral and the historic core of the City and the setting of Decoy Farm scheduled monument and Hartsholme Registered Park
The Design Code and associated documents would ensure that the site will be a distinctive place to live. Future applications would ensure that each development parcel accords with the Design Guide and ensures that the site feels like one scheme rather than separate distinct development parcels. The positioning of development ensures that key views to and from Lincoln Cathedral and the historic hillside are integrated within the site.

Comprehensive solutions to drainage and flood risk, guided by an agreed flood risk assessment and water management plan – The application is submitted with a number of technical documents which focus on the issue of flooding on site and ensuring that the proposed development would not cause flooding whether on or off site. The flood risk assessment and surface water strategy have been assessed by Statutory consultees who are experts in the field and are satisfied that the submitted documents demonstrate that there is a solution for managing flood risk for this development. The detailed specification would be the subject of a planning condition to accompany each Reserved Matters application going forward.

A direct route incorporating priority for public transport linking Skellingthorpe Road through to the city centre via the Beevor Street area with connection onto the A46 if required – The transport and movement strategy for the site is based on a linear phasing programme. The first 300 dwellings would be accessed from Skellingthorpe Road and the next 300 accessed from Tritton Road. The link road between these two phases would then be constructed to allow for further housing development to occur in Phases 2 and onwards. Once the spine road is in place the bus priority measures, on site would be implemented. The connection via Beevor Street would come forward as part of the later phases of the development to serve the commercial and leisure area of the site. The Submitted Transport Assessment has demonstrated that a link to the A46 would not bring sufficient benefit to the site and that other mitigation measures would bring better benefits to the city and to the site itself.

Transport infrastructure, such as measures to encourage walking, cycling and use of public transport (which might include park and ride facilities) in order to maximise opportunities for sustainable modes of travel, in line with the aims of the Lincoln Integrated Transport Strategy;
The sustainable travel principle for the site mean that the spine road is prioritised for bus travel above the use of the private car. Walking and cycling facilities would be provided on site, as well as connecting to existing off site routes. The site would be required to provide a mobility hub, in line with the Transport Strategy.

A wide range of community facilities including a new Local Centre
It is proposed that the proposed development would have a new Local Centre at the heart of the site. The make up of the centre is not specific at this stage but it is likely to include retail space, employment uses along with a mobility hub.

A wide range of open space, recreation and leisure uses, together with consideration of the provision of a regional leisure complex
The development is required to provide 12.6 hectares of amenity space across the scheme. Much of this is to be provided on site, but until the areas identified in the masterplan for this purpose are released for development, it is proposed to provide a piece of equipment to increase capacity at Hartsholme Country Park. The development will provide at least 7.74 hectares of playing fields across the scheme. The need for a regional leisure complex is currently being reviewed by the City Council, however the Masterplan allocates sufficient land for a leisure centre should one be required. This is currently within the final phases of the scheme, however this could be brought forward depending on need and funding.

A development that maximises the opportunities for low carbon and sustainable design including, if feasible, use of the heat from the Energy from Waste plant at North Hykeham;
The potential for sustainable energy use and use of the energy from waste plant at North Hykeham is examined in the Sustainable Energy Statement submitted with the application. This considers the

options for energy use and includes the link to North Hykeham which can be examined in more detail.

Comprehensive solutions to reclaim and remediate the former tip on the eastern part of the site;
There is a comprehensive solution to reclaim or remediate the former Skewbridge tip landfill in the eastern part of the site to accommodate the commercial/sport/leisure village development.

Improved linkages, enhancement and support of green wedges and other green infrastructure.
As plan HG1264-07C shows, there are improved pedestrian and cycling linkages; enhancements and support of green wedges and other green infrastructure. This includes the linkages through the site – using the central area of open space and also public footpaths/cycling routes to the south, the east and north east (the city centre).

Therefore, the specific requirements of Policy LP30 relating to the WGC site are delivered by the application even though the entirety of the SUE allocated land is not needed for achieving that outcome.

5.4 The Planning Balance
The Central Lincolnshire Local Plan is the development plan. Policy 28 sets out the generic requirements for Sustainable Urban Extensions (SUEs) within Central Lincolnshire and Policy 30 sets out locally specific requirements for each of the allocated SUEs, including Western Growth Corridor.

Para 11 of the NPPF states that:
"Plans and decisions should apply a presumption in favour of sustainable development.
*For **decision taking** this means:*
c) approving development proposals that accord with an up-to-date development plan without delay; or
d) where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:

> *i. the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or*
> *ii. any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole."*

In having regard to the accordance with the development plan, as with having regard to accordance with the NPPF, it is necessary to establish whether the proposal is in accordance with the development plan as a whole and this is matter of planning judgement for the decision-takers; the members of the Planning Committee.

The Central Lincolnshire Local Plan, insofar as it relates to Western Growth Corridor is up to date and therefore if the development accords with the provisions of the development plan then it should be approved without delay. The various sections of this report set out in detail the proposals for the site and they refer to the relevant policies in the Local Plan as well as the relevant parts of the NPPF.

In order to establish compliance with the development plan as a whole it is beneficial to seek to attach weight to each element of the proposals, both positive and negative and to weigh these respective issues in the planning balance. The issues that attract the most weight are as follows:

Substantial positive weight should be given to the proposal to deliver the 3200 houses that are identified within the allocation of the Local Plan and to the delivery of a policy compliant level of affordable housing. The delivery of the houses and the trajectory for the delivery of the major pieces of infrastructure has been tested through the independent assessment by Aspinall Verdi of the Delivery report and also through a third party assessment by BSP of the impact of the proposals on the highway network, referenced in part 4.3.11 of this report.

Substantial positive weight should be given to the economic benefits of the proposals identified in the applicants' submission, the job creation during construction, the jobs created in the local centre, the school and ultimately within the leisure village.

Substantial positive weight should be given to the creation of a new bus priority route from Skellingthorpe Road to Tritton Road and the bridges over the railway. The new cycle and pedestrian routes through the site should also attract **substantial positive weight** as they, along with the bus priority, will encourage sustainable transport choices.
The raising of the land across parts of the site to create developable platforms and the subsequent positive drainage of the site where there is currently limited positive drainage should attract **neutral weight.** The raising of the land was considered during the local plan allocation process and the strategic location of the site and the potential to deliver the houses proposed was considered to outweigh the concerns in respect of some of the land being within Flood Zones 2 and 3.

The remediation of the former Skewbridge tip, which is proposed for the later phases of the development should attract **substantial positive weight.** The works will enable the provision of the bridge to Beevor Street and the development of the leisure village whilst also remediating a significant risk to human health and to controlled waters.

The development will cause harm to the archaeology of the site to the extent that it should be considered to have **substantial negative weight** and **considerable weight and importance** should be given to any harm to designated heritage assets**.**

The development will have an impact on air quality as a consequence of the additional traffic that it will generate. The development does however maximise opportunities for cycling and walking, it includes provision for electric vehicle charging and it seeks to prioritise bus travel. There will nevertheless be an impact on air quality which should be considered to have **negative weight**.

The impact of the traffic generated by the site has been considered at great length. Lincolnshire County Council has objected to the first phase of 300 dwellings stating that the impact on the local highway network will be severe, notwithstanding the mitigation proposed by the applicants. The considered assessment set out in this report, taking account of the local plan allocation, consultee responses, BSP advice and the Aspinall Verdi assessment of the applicants Deliverability report is that there will be short term impact on the local highway network pending the delivery of the bridge over the railway to Tritton Road and the construction of the link road within the site. This impact was recognised at the time of the allocation being made in the Local Plan and the point of access from Skellingthorpe Road as the initial entrance to the site was also recognised by the Inspector at the Examination in Public. The impact s mitigated and can reasonably be considered to be a short term and it is not considered therefore that it is an unacceptable impact. The traffic impact should accordingly be considered to have **negative weight** during the first phase of development and have **neutral weight** following the completion of the link road and bridge.

The Planning Balance was considered during the Local Plan allocation process and the Inspector at the Examination in Public ratified that process and agreed with the allocation of the site as a Sustainable Urban extension. The strategic benefits of the proposal were considered to outweigh any disbenefits. The assessment that has been made of this application and the detail provided within this report clearly sets out the benefits of the development in delivery against the Local Plan allocation and the Planning Balance is strongly weighted in favour of granting planning permission.

The application accords with the provisions of the development plan considered as a whole and can be granted.

Application Determined within Target Date

Yes – with an agreed extension of time

Recommendation

1. That the Petition is received.
2. That the application is Granted Conditionally.

Proposed Conditions

Full Application
Carried out within 3 years
Carried out in accordance with the plans
Tritton Road Bridge built prior to occupation of 301st dwelling

Outline Application
Reserved Matters (RM) standard conditions
Carried out in accordance with Design Guide
Each RM to include a Ecological Appraisal
Each RM to include an Archaeological Written Scheme of Investigation
Phasing Plan to be submitted prior to commencement of development
Each RM to have a Construction Management Plan
Detailed drainage phasing plan
Contaminated Land conditions
Stadium Traffic Management plan
Parking plan
Highway Construction Management Plan
Estate Road Phasing and Completion Plan
National Highways Construction Traffic Management Plan
Site wide Travel Plan
Scheme to secure NHS places
Scheme to secure enhanced bus connectivity
Scheme to deliver a primary school on site
Details of the link road
Design for a piece of play equipment at Hartsholme Park
Scheme for off-site Gypsy and Traveller provision
Open Space management and maintenance strategy
Leisure Strategy
Design details for the Beevor Street bridge
Updated Air Quality Assessment
Details for a Mobility Hub
Scheme for affordable housing phasing and delivery
Outline Drainage Straegy
Veteran tree buffer zones

Background Papers

BSP Transport Advice Note April 2021
Aspinall Verdi Deliverability Report September 2021

Glossary of Acronyms

AOD – Above Ordnance Datum
BGS – British Geological Service
CEMP – Construction and Environmental Management Plan
CLLP – Central Lincolnshire local Plan
EA – Environment Agency
EIA – Environmental Impact Assessment
ES – Environmental Statement

FRA – Flood Risk Assessment
FTP – Framework Travel Plan
GLTM – Greater Lincoln Traffic Model
HER – Historic Environment Record
IDB – Internal Drainage Board
LCC – Lincolnshire County Council
LEMP – Landscape and Ecological Master Plan
LHA – Local Highways Authority
LPA – Local Planning Authority
LTS – Lincoln Transport strategy
LWS – Local Wildlife Site
NPPF – National Planning Policy Framework
SUDs – Sustainable Urban Drainage System
SUE – Sustainable Urban Extension
TA – Transport Assessment
WFD – Water Framework Directive
WGC – Western Growth Corridor