Land South of Dearne Valley Parkway

Environmental Impact Assessment

Non-Technical Summary

On behalf of **Equites Newlands (Goldthorpe) Ltd**

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For and on behalf of Stantec UK Limited					

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1 Introduction

1.1 Overview

1.1.1 Equites Newlands (Goldthorpe) Ltd (the 'Applicant') is applying for hybrid planning permission[1] for employment development and associated infrastructure. The outline application[2] element is for up to 204,000 square metres (sqm) Gross Internal Area (GIA) of Storage and Distribution (Use Class B8) and General Employment (Use Class B2) space, with ancillary offices. The full application[3] element is for engineering infrastructure works comprising access roads, earthworks to create the proposed development platforms/bunding, drainage works, flood compensation area and strategic landscaping. The outline application and the full application collectively form 'the Development' which is located on land south of Dearne Valley Parkway (the 'Site', see Figure 1.1).

1.1.2 The Site is located within the administrative area of Barnsley Metropolitan Borough Council (BMBC) and extends to approximately 85.31 hectares (ha). This document is the Non-Technical Summary of the Environmental Statement (ES) submitted in support of the planning application. An ES is the report of the Environmental Impact Assessment process undertaken and is taken into account by BMBC when deciding whether to grant planning permission.

1.2 Environmental Statement Availability

1.2.1 Comments on the planning application can either be made via the Council's (BMBC's) website or can be forwarded to the Planning Department at the following address:

Planning Development Management

Barnsley Metropolitan Borough Council

PO Boc 634

Barnsley

S70 9GG

Tel: 01226 772595

Email: developmentmanagement@barnsley.gov.uk

Website: https://www.barnsley.gov.uk/barnsley-maps/planning-applications/

1.2.2 The ES may be purchased in volumes, the costs for which are set out below:

Non-Technical Summary (NTS) - £15

Volume 1: ES Main Text & Figures - £250

Volume 2: ES Appendices - £650

Full copy (Volumes 1 and 2 with NTS) of the ES on a data stick - £15

For copies of any of the above please contact the Environmental Planning team at Stantec:

[1] A hybrid planning application seeks both full and outline planning permission for different aspects of development on the same site.

[2] Outline planning permission establishes the general principles (i.e. use and nature) of the Development. Specific details known as 'reserved matters' can then be confirmed later in the planning process.

[3] Full planning permission establishes the detailed proposals of the Development.

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2 EIA Methodology

2.1 Overview

2.1.1 EIA is a procedure used to assess the likely significant effects of a proposed development on the environment. The results are written into an ES which is submitted with the planning application. The ES provides the local planning authority (in this case BMBC) with sufficient information about the potential environmental effects of the Development before a decision is made about the planning application. Effects may arise during the construction and operational phases of the Development.

2.1.2 The ES has been prepared in accordance with national legislation (the EIA Regulations) and reference has also been made to currently available good practice guidance on EIA including the Planning Practice Guidance issued by the Government Department for Levelling Up, Housing and Communities.

2.2 Scoping

2.2.1 Scoping involves focusing the content of an ES on issues of significance through agreement with the Local Planning Authority. It is an important tool for identifying the likely significant effects of a proposed development through its design, construction and completed phases and ensures that appropriate mitigation options are considered where necessary. A request for an EIA Scoping Opinion, accompanied by an EIA Scoping Report (Appendix 2.1 of the ES), was submitted to BMBC on 10th October 2022. The Scoping Report identified the topics to be scoped into and out of the ES and for those assessments to be included, details of the scope of the assessments. BMBC subsequently adopted their Scoping Opinion[4] on 25th November 2022 (Appendix 2.2 of the ES) setting out the required scope.

2.2.2 The topics scoped into the ES comprise:

- Socio-Economics;
- Cultural Heritage;
- Landscape Character and Visual Amenity;
- Biodiversity;
- Water Resources and Flood Risk;
- Soils and Agricultural Land;
- Noise and Vibration;
- Transport and Access;
- Air Quality; and
- Climate Change.

[4] An EIA Scoping Opinion is issued by the relevant LPA (in this case BMBC) in response to the submitted EIA Scoping Report in which they agree to the proposed ES Chapters scoped into the Environmental Statement.

2.3 EIA Methodology

2.3.1 The EIA Regulations stipulate that an ES should identify, describe and assess the likely significant effects of a development on the environment during the demolition/ construction and operational phases. The significance of each environmental effect identified is generally determined by two factors:

- The sensitivity, importance or value of the environment (such as people or wildlife); and
- The actual change taking place to the environment (i.e. the size or severity of change taking place).

2.3.2 Most environmental disciplines classify effects as negligible, adverse, or beneficial, where effects are minor, moderate or major. Some disciplines use bespoke criteria based on published guidance. The technical studies have been undertaken in accordance with current best practice. Specific guidance used is referenced within each of the respective ES chapters. The majority of assessments involved consultations with statutory and non-statutory bodies, desk-based research, site inspections and surveys, impact prediction and mitigation.

2.3.3 Environmental effects have been evaluated with reference to definitive standards and legislation, where available. Where it has not been possible to quantify effects, qualitative assessments have been carried out, based on available knowledge and professional judgement. Where uncertainty exists, this has been noted and considered in the applicable assessment chapter.

2.3.4 The ES includes a description of the current environmental conditions known as the baseline conditions, against which the likely significant environmental effects of the Development have been assessed. The ES also looks at the future baseline and how, in the absence of the Development, the Site may change.

2.4 Consultation Process

2.4.1 An extensive period of consultation has occurred prior to the submission of the Application. This has included various different forms including engagement with stakeholders and wider community. An advanced notification of the community consultation process was issued to relevant stakeholders on Thursday 22nd December 2022. The notification (in the form of a letter) invited recipients to attend the public exhibition and offered a meeting with the project team should they not be able to attend the public exhibition.

2.4.2 As part of the community consultation period, a mix of digital and in-person consultation techniques have been utilised to ensure a broad reach across the communities living close to the Site. These techniques comprised a consultation website (https://goldthorpe.consultationonline.co.uk/) whereby information is provided about the Development in an accessible manner,.

2.4.3 A community newsletter has been published and sent to 297 local properties and businesses. The newsletter provided a summary of information regarding the Site and the Development, advertised the consultation website and provided all relevant information in order to engage with the Development, invited the community to attend the in-person consultation events, provided residents the opportunity to request hard-copy materials to ensure those without internet access to be reached as well as providing residents information on how they can contact the project team with any questions.

2.4.4 The in-person consultation event was held on Thursday 19th January 2023 at the Goldthorpe Library (S63 9NE) and was open from 2pm until 7pm to enable members of the community to speak with the project team about the Development.

2.5 Cumulative Effects

2.5.1 An EIA must assess the potentially significant effects of a development that may arise cumulatively (when combined with) other major development with planning permission or under construction in the local area. The EIA Regulations state that *'existing and/or approved'* developments should be considered.

2.5.2 Table 2.1 provides details of the cumulative schemes considered in the assessment. As agreed with BMBC, and the locations of the schemes are shown on Figure 2.1.

Table 2.1 Cumulative Schemes

Location on Figure	Site Address and Application Reference Number	Description	Distance from the Site
1	Fields End Business Park, Portwest, Colliery Lane, Thurnscoe, Rotherham, S63 0JF (2021/0012)	Erection of extension to existing storage and distribution warehouse (Approved in February 2022 subject to legal agreement)	1.3km north-east
2	Former Goldthorpe Primary School, High Street, Goldthorpe, S63 9NQ (2022/0056)	Erection of a 1,979 sq.m (gross) retail unit (Use Class E) with vehicular and pedestrian accesses; parking; hard and soft landscaping; boundary treatments; trolley bay; electricity substation and associated works (Approved in July 2022 subject to legal agreement)	1.4km east
3	Land Bmbc Asset Id E00061, Barnburgh Lane, Goldthorpe, Rotherham, S63 9FL (2020/1439)	Erection of 68no. 2,3, and 4 bed dwellings with associated access and landscaping (Amended Plans and Description) (Approved in March 2023 subject to legal conditions)	1.7km east
4	Lockwood Road, Goldthorpe, Rotherham, S63 9JY (2021/1171)	Erection of 125 2, 3 and 4 bed dwellings with associated access and landscaping (Amended Plans) (Approved in October 2023 subject to legal conditions)	1.7km east
5	Land off Barnburgh Lane, Goldthorpe, Rotherham, S63 9NT (2015/1198)	Erection of 61 dwellings with garages and/or parking spaces together with the provision of open space and associated roads and sewers. (Approved June 2016, under construction)	1.8km east
6	Land at Kingsmark Way, Goldthorpe, Rotherham (2019/1274)	Residential development of 116 dwellings and associated works (Reserved Matters for approval of details relating to layout, scale, design, external appearance and landscaping in relation to application 2018/0103). (Amended Plan) (Approved in January 2021 subject to legal agreement)	1.9km east
7	Land BMBC Asset ID E00546, Land off Willow Road, Thurnscoe, Rotherham, S63 0PG (2017/1051)	Erection of 129 dwellings (Phase 2), associated infrastructure and public open space (Full Consent). Residential Development (Phase 3) and associated infrastructure (Outline) - Hybrid Application. (Approved in 2017, under construction)	2.2km north

Location on Figure	Site Address and Application Reference Number	Description	Distance from the Site
8	Land at Houghton Main, Park Spring Road, Little Houghton, Barnsley, S72 0HR (2021/1282)	Outline planning permission for the erection of c. 19,147m2 (206,100 sq ft) flexible employment space (Class E, B2 and B8) including ancillary car parking and landscaping. All matters reserved with the exception of access (Approved in July 2023 subject to legal conditions)	2.3km north-west
9	Land at Everill Gate Lane, Wombwell, Barnsley (2018/1353)	Development of the site for employment uses within use classes B1 (Business), B2 (General Industrial) and B8 (Storage and Distribution) and associated access, parking and circulation areas,and infrastructure. (Approved in April 2019 with conditions)	2.6km south-west
10	58 Lundhill Road, Wombwell, Barnsley, S73 0RJ (2019/0089)	Demolition of existing bungalow and the development of 235 no. dwellings with formation of new access, car parking, landscaping and public open space (Amended plans and description). (S73 application approved in April 2020)	3.4km south-west
11	The Symphony Group, Park Spring Road, Grimethorpe, Barnsley, S72 7EZ (2020/1032)	Erection of a new factory/warehouse (Use Class B2 General Industrial & Use Class B8 Storage & Distribution) with installation of up to a 1 MW biomass boiler, associated parking and circulation space (Approved in January 2021 subject to legal agreement)	5.4km north-west

2.5.3 In addition, although they do not fall into the '*existing and approved'* remit of schemes to be included within the assessment of cumulative effects under EIA Regulations, a number of developments under consideration and or/allocated[5] through the BMBC Local Plan[i] have been included in the cumulative assessment of the transport related disciplines as is normal practice for Transport Assessments.

[5] A site allocation means that the local planning authority has established that the land is suitable and can be used for development.

3 Site and Development Description

3.1 Site Description

3.1.1 The Site, extends to 85.31 hectares (ha) and is irregular in shape, comprising several agricultural fields, separated by hedgerows and Carr Dike. The majority of the Site falls within the ES10 employment allocation 'Land South of Dearne Valley Parkway' of the Barnsley Local Plan, however a portion of the western part of the site falls within Green Belt[6] (no built development is proposed within this Green Belt area).

3.1.2 The Site is mostly located on agricultural land defined by standards to be of moderate quality. There are pockets of better quality land in the east and southeast.

3.1.3 There is currently no vehicular access to the Site. Pedestrian access is available via a Public Right of Way (PRoW)[7] on the eastern boundary (Reference: Dearne UD 15) and National Cycle Route 62 passes to the south of the Site.

3.2 Site Context

3.2.1 The Site is located to the south of Dearne Valley Parkway and is located to the north west of Bolton upon Dearne/Goldthorpe: a settlement between Barnsley (9.5km to the west of the Site) and Doncaster (12.5km to the east) in South Yorkshire, within the administrative boundary of BMBC.

3.2.2 The north of the Site is bound by the A635 Dearne Valley Parkway (along which lie two residential dwellings that are external to the Site boundary) and the south of the Site is bound by Carr Head Lane. To the east, the Site is bound by the ALDI Goldthorpe Distribution Centre, with Goldthorpe Industrial Estate beyond; and to the west, the Site is bound by open fields. Dearne Community Children's Centre and residential development of Bolton upon Dearne are situated to the southeast. To the south, the Site borders Green Belt, beyond which lies the Royal Society for the Protection of Birds (RSPB) Dearne Valley Old Moor and Bolton Ings Reserves site.

3.2.3 The local road network includes the A635 Doncaster Road to the north and the A6195 to the west. There are several bus stops within proximity of the Site serving routes 22c, 22x, 72, 72a, 208, 218, 218a, 220, 226, 668, X19 and X20. The bus network provides a connection from the Site to Barnsley Town Centre, however, also provides services to Grimethorpe. Goldthorpe and Bolton upon Dearne train stations are 1.6km to the north east and 2.5km to the south east of the Site, respectively.

3.2.4 The Site is not covered by any national/local landscape, ecological or heritage designations. The nearest statutory ecological designation to the Site is the Dearne Valley Wetlands Site of Special Scientific Interest (SSSI)[8], located approximately 145m to the south west of the Site, at its closest point.

3.2.5 Within 2km of the Site boundary, there are two Scheduled Monuments[9], one a 'Heavy Anti-aircraft gun site 35m south east of Lowfield Farm', located approximately 1.8km to the south east, and the second is a 'Cross in the churchyard of All Saints' Church', located approximately 1.9km to the west. There are

[6] Green Belts are designated areas of land which are protected from most forms of development, in order to prevent urban sprawl by keeping land permanently open.

[7] Public Rights of Way (PRoW) are routes over land which can be used by the public at all times, even if the land is privately owned.

[8] Sites of Special Scientific Interest (SSSI) are a type of conservation designation in Great Britain which must be managed effectively and appropriately to conserve the special features of the site.

[9] A Scheduled Monument is a nationally important archaeological site or historic building, given protection against unauthorised change. They are listed on the National Heritage List for England.

two Grade I and 24 Grade II Listed Buildings[10] within 2km of the Site, of which Billingley Hall Grade II Listed Building is the closest at approximately 580m to the north. The closest non-statutory designated site is Hickleton Hall Registered Park and Garden, approximately 3.3km to the north east of the Site. There are no Registered Battlefields within 2km of the Site boundary.

3.2.6 The Site is not located within a Conservation Area[11]. The nearest Conservation Area is Billingley Conservation Area, 500m to the north of the Site. The Site does not fall within an area of archaeological significance or priority.

3.2.7 The majority of the Site is located within Flood Zone 1, which is considered to be at the lowest risk of fluvial flooding. The Carr Dike (an existing watercourse running on a northeast-southwest alignment across centre of the Site) is flanked by Flood Zone 2 and 3. Flood Zone 3 is defined as being at the highest (>1%) chance of fluvial flooding in any given year. The Site is not located within a groundwater Source Protection Zone.

3.2.8 The Site is not located within an Air Quality Management Area (AQMA)[12]. There are seven AQMAs currently designated within BMBC, the closest of which, AQMA 7, is approximately 3.4km to the east of the Site.

3.3 The Development

3.3.1 The Applicant is submitting a Hybrid planning application for proposed employment development and associated infrastructure. The outline application element is for up to 204,000 sqm GIA[13] for Storage and Distribution (Use Class B8) and General Employment (Use Class B2) space, with ancillary offices and gatehouses with a maximum of 30% of the floorspace being for a B2 use. The full application element is for engineering infrastructure works comprising the access roads; earthworks to create the proposed development platforms/bunding; drainage and culvert works; a flood compensation area and strategic landscaping areas. Figure 3.1 illustrates the Parameters Plan for the outline element of the application and shows the 204,000 sqm of development to occur within four separate development zones within the Site boundary.

3.3.2 The formal Description of Development can be seen below:

"Outline permission sought for the construction of Storage and Distribution (Use Class B8) and General Employment (Use Class B2) space with ancillary offices and gatehouses on four separate, self-contained and severable plots as shown on the submitted Parameters Plan. All matters reserved except for site access. Full permission sought for engineering infrastructure works to support the employment development comprising: the access roads; earthworks to create the development platform zones/bunding; drainage and culvert works; a flood compensation area; and strategic landscaping areas."

3.3.3 Each technical chapter within the ES assesses the Parameters Plan (Figures 3.1), and specifically, the form of development that would lead to the 'worst case' effects for that discipline. This will ensure that any detailed proposals coming forward within the parameters of a future outline consent would not lead to greater (more adverse or beneficial) effects on the environment than have been assessed at this stage.

[10] A Listed Building is a structure of particular architectural and/or historic interest deserving of special protection. They are listed on the National Heritage List for England.

[11] A Conservation Area is an area of special architectural or historic interest, the character or appearance of which is desirable to preserve or enhance.

[12] An Air Quality Management Area (AQMA) is a geographical area where the air quality does not meet the Government's national objectives.

[13] Gross Internal Area (GIA) is the whole enclosed area of a building within the external walls.

3.3.4 The height of the Development will be up to a maximum of 52.70m above ordnance datum (AOD) (refer to Table 3.1 below).

Table 3.1 Development Building Heights

Development Zone	Plateau Height (mAOD)	Maximum Finished Floor Level (mAOD) [+1.000m above proposed plateau]	Maximum Building Height to Roof Ridge (mAOD)	Ridge Height Above Finished Floor Level (mAOD)
Zone 1	24.50	25.50	43.50	18.00
Zone 2	25.00	26.00	44.00	
Zone 3	33.70	34.70	52.70	
Zone 4	33.70	34.70	52.70	

Lighting

3.3.5 The Development will introduce new artificial light sources primarily related to external lighting for car and lorry parking, at loading bays and around the peripheries of the buildings. Lighting will be designed to provide a safe environment for workers, vehicles, cyclists and pedestrians while also avoiding light pollution, especially with regard to sensitive habitats.

Energy, Sustainability and Climate Change

3.3.6 The Development will provide 5% active and 20% passive electric vehicle (EV) charging points which will be provided in each of the four zones delivered on the Site and can be used by employees. The use of EV will be encouraged via the sustainable travel plan to be developed at a later stage of design. The Development will encourage active travel measures through providing cycle stores and showers.

4 Alternatives

4.1 Overview

4.1.1 Under the EIA Regulations an ES is required to provide a description of the reasonable alternatives studied by the Applicant and describe the reasons for the choices made, taking into account the environmental effects. The main alternatives to a development typically comprise:

- The 'do nothing' alternative where the Development is not progressed;
- Alternative locations for the Development;
- Alternative uses for the Site; and
- Alternative design/layout for the Development in the context of the design evolution.

4.2 The 'do nothing' Alternative and Consideration of Alternative Sites

4.2.1 The 'do nothing' Alternative refers to the option of leaving the Site in its current state. Under the 'do nothing' option the Site would remain in its current state. This option was not considered by the Applicant. No alterative locations or uses have been considered.

4.3 Consideration of Alternative Uses

4.3.1 As the Site is allocated for Development in policy (BMBC Local Plan Allocation ES10) and there is an approved Goldthorpe Masterplan Framework, no alternative uses have been considered by the Applicant.

4.4 Design Evolution

4.4.1 The Development has evolved through a series of stages each refining the design of the Development. The submitted Design and Access Statement (DAS) demonstrates how the Development has responded positively to the principles set out within the Goldthorpe Masterplan Framework that is intended to guide development at the site.

4.4.2 Initial Site analysis established constraints and opportunities which guided the principal transport corridors, development units and landscape zones. The identification of plateaus for the built development within the principal road and footpath corridors, along with blue and green infrastructure, were then established. The design continued to evolve through use of visual impact analysis, understanding the landscaping strategy, noise mitigation, movement and amenity. At this stage of the Development, the strategic planting strategies are confirmed.

4.4.3 As the access arrangements and development ground levels have been designed in detail, a proposed illustrative masterplan was produced (Figure 4.1) showing the buildings' service yards and car parks which was used as a basis for the public consultation exercises. The illustrative masterplan shows one possible way the Development could be built out, but this will not form an approved plan.

Design Evolution Summary

4.4.4 As discussed through the DAS, the design evolution period culminated in six key principles that the Development is based upon and are explained in detail further below.

- Establish a high-quality development in a prominent gateway location;
- Contribute directly to creating safe, attractive spaces with high quality buildings and landscape;
- Design buildings which respect existing context and comply with height parameters set out within the Masterplan Framework;
- Create sustainable, well-designed buildings, which are good places to work;
- The buildings and Site layout should fulfil a required level of security and operational functionality; and
- Ensure inclusive design to allow for a good level of accessibility within and between buildings;

5 Construction Methodology and Phasing

5.1 Overview

5.1.1 Planning for construction is broad at this stage and may be subject to modification. The assessment of construction phase environmental effects is based on reasonable assumptions and experience. A detailed Construction and Environmental Management Plan (CEMP) setting out controls to limit and mitigate construction phase impacts will be secured and implemented at the detailed design stage in line with a Framework CEMP (CEMPF) submitted with the application.

5.1.2 The construction phase of the Development is anticipated to commence in summer 2024, subject to gaining planning permission, and span approximately two years, with the buildings to follow. Overall, the construction process is expected to be completed by summer 2026.

5.1.3 Each chapter of the ES has assessed the worst-case scenario for construction to ensure all realistic likely significant effects have been considered and appropriate mitigation proposed.

5.2 Construction Phase Vehicle Movements

5.2.1 Construction phase vehicle movements will be managed to minimise the impact on the local road network. Table 5.1 provides an indicative worse case level of average daily one-way movements for each year of construction based on the likely construction materials and phasing of the Development.

Table 5.1 Indicative Construction Traffic

Vehicle Type	Average Daily One Way Movements (Year 1)	Average Daily One Way Movements (Year 2)	Average Daily One Way Movements (Year 3)
Heavy Goods Vehicles (HGV)	72	150	61
Light Goods Vehicles	17	24	6
Cars	93	197	81
Vans	153	308	123

5.2.2 HGV movements, including deliveries to the Site, would aim to be dispersed across the working day. The arrival and departure of light vehicles would have some impact during the morning and evening periods; however, it is likely that a significant majority of construction workers would travel outside the network peak periods due to an early daily start on-Site.

5.3 Controls to Protect the Environment

5.3.1 The environmental controls (or mitigation measures) to eliminate, reduce or offset likely significant adverse effects on the environment during the construction phase are below. The CEMP would be agreed with BMBC in line with the CEMPF:

- Preparation of CEMPs, including the Construction Traffic Management Plan (CTMP), which clearly sets out the methods of managing environmental issues for all involved with the construction works, including supply chain management. These will need to accord with the overarching CEMP Framework submitted as part of the planning application;
- Requirement to comply with the CEMP included as part of the contract conditions for each element of the work. All contractors tendering for work will be required to demonstrate that their

proposals can comply with the content of the CEMP and any conditions or obligations secured through the planning permission;

- In respect of necessary departures from the above, procedures for prior notification to BMBC, as appropriate, and affected parties will be established;
- Establishing a dedicated point of contact and assigning responsibility to deal with construction-related issues if they arise. This will be a named representative from the construction team; and
- Regular dialogue with BMBC and the local community.

5.3.2 Working hours on the Site during the construction phase have been agreed with BMBC and comprise:

- Monday to Friday, 8am to 6pm;
- Saturday, 8am to 1pm; and
- No work will commence on the Site on Sundays or Bank Holidays.

5.3.3 All noisy works outside these hours will be subject to prior agreement of, and/or reasonable notice to BMBC, as appropriate.

5.3.4 Night-time working will be restricted to infrequent circumstances, and will be undertaken following prior arrangement with BMBC. By arrangement, there may be some out of hours construction deliveries made to the Site.

6 Socio-Economics

6.1 Overview

6.1.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of socio-economic issues.

6.2 Baseline Conditions

6.2.1 The BMBC area has a similar age profile to South Yorkshire and England. Approximately 153,000 BMBC area residents are of working age. The unemployment rate in the BMBC area is lower than the average for South Yorkshire and England. Residents of the BMBC area tend to have a lower level of education attainment than the average for South Yorkshire and England and therefore a higher proportion of BMBC area residents work in lower skilled occupations. The BMBC area has fewer jobs for every resident of working age than compared to the South Yorkshire and national average. The health sector accounts for the larger proportion of employment in the BMBC area, but the BMBC area has a comparatively high proportion of employment in the manufacturing sector and the transport and storage sector compared to South Yorkshire and national average. Economic output in the BMBC area is lower than the average for South Yorkshire and England.

6.3 Construction Effects

6.3.1 It is anticipated that the Development will take 20 months to complete and will support the equivalent of 20% of construction employment in the BMBC area currently which would result in a temporary, major-moderate beneficial effect. No mitigation is required therefore the residual effects remains as major-moderate beneficial.

6.3.2 The Development's net employment effect to the BMBC area over the construction period will generate £80.6m per annum in Gross Value Added[14], again providing a temporary, major-moderate beneficial effect prior to mitigation. No mitigation is required therefore the residual effects remains as major-moderate beneficial.

6.3.3 The Development's construction workforce will generate additional expenditure in the BMBC area through purchasing lunch in local shops. It is estimated that the workforce will increase workforce expenditure in the BMBC area by 1% providing a temporary, minor beneficial effect. No mitigation is required therefore the residual effects remains as minor beneficial.

6.4 Operational Effects

6.4.1 Once the Development is complete and operational, a minimum of 2,260 FTE[15] jobs will be supported on-Site. Some of the jobs created by the Development will be filled by people who live outside of the BMBC area, and some will displace employment from elsewhere within the BMBC area. Taking account of these factors, along with potential spin-off and multiplier effects through the supply chain, it is calculated that the Development will provide net additional employment in the BMBC area of 1,677 FTE jobs providing a permanent, moderate-minor beneficial effect on job creation in the BMBC area. Of those jobs, 1,198 will provide employment for residents of the BMBC area having a permanent, moderate-minor beneficial effect on resident employment. No mitigation is required therefore the residual effects on employment and residential employment remain as moderate-minor beneficial.

[14] Gross Value Added (GVA) is an economic productivity metric that measures the contribution of an area, industry or sector of an economy.

[15] Full-time equivalent (FTE) is a unit of measurement standardised to equal the number of hours worked by the typical full-time employee.

6.4.2 The net additional employment effect to the BMBC area will generate GVA of £70.1m per annum, increasing GVA in the BMBC area by 1.8% and thereby having a permanent, minor beneficial effect. No mitigation is required therefore the residual effects remain as minor beneficial for economic output.

6.4.3 Furthermore, the net additional employment effect will increase workforce expenditure in the BMBC area by 1.7%, also having a permanent, minor beneficial effect. No mitigation is required therefore the residual effects remain as minor beneficial for workforce expenditure.

6.5 Cumulative Effects

6.5.1 During the construction phase, a temporary, major-moderate beneficial effect is anticipated in respect to employment and economic output and a minor beneficial effect is anticipated for workforce expenditure prior to mitigation. No mitigation is required therefore the effects remain.

6.5.2 During the operational phase, a permanent, moderate-minor beneficial cumulative effect is anticipated for resident employment and employment, with a permanent, minor beneficial cumulative effect on economic output and workforce expenditure. No mitigation is required therefore the effects remain.

7 Cultural Heritage

7.1 Overview

7.1.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of built heritage and archaeology.

7.2 Baseline

7.2.1 The assessment has been informed by baseline studies comprising an Archaeological Desk-Based Assessment, Built Heritage Statement, Geophysical Survey and Assessment of Aerial Photographs. In addition, the results of archaeological field work (trial trenching) will be provided prior to a decision being made on whether or not to grant planning permission. This approach has been agreed with relevant consultees.

7.2.2 There are no designated heritage assets in or adjacent to the Site, however within 1km of the Site there is Billingley Conservation Area and seven Grade II Listed Buildings. The baseline studies have recorded elements of an extensive Iron Age/Romano-British field system and associated features within the Site. In addition, there is high potential for as yet unrecorded archaeology of Early Prehistoric or Early Medieval date to be present. Four hedges within the Site meet the criteria for consideration as historic hedges under the Hedgerow Regulations.

7.3 Construction Effects

7.3.1 Three potential effects during the construction phase have been identified within the Cultural Heritage ES Chapter that may give rise to likely significant effects; change in the setting of the Billingley Conservation Area, removal of archaeology within site and removal of historic hedges. The significance of the effects prior to mitigation has been assessed to be minor adverse, moderate adverse and moderate adverse respectively. Mitigation has been proposed for the removal of archaeology within Site. The residual effects for the removal of archaeology and chance in the setting of the Billingley Conservation Area are both minor adverse whilst the removal of historic hedges has been assessed to be moderate adverse and is therefore significant.

7.4 Operational Effects

7.4.1 One potential effect has been identified that may give rise to significant effects during the operational phase, change in the setting of Billingley Conservation Area. Units in Zones 3 and 4 will be visible form the southern part of the Conservation Area, they lie 1.2km to the south of the Conservation Area. The foreground of the view will remain unchanged. No additional mitigation is proposed. As such, the residual effect on the Conservation Area is considered to be minor adverse which is not significant.

7.5 Cumulative Effects

7.5.1 No potential for cumulative effects in respect of cultural heritage assets has been identified during either the construction or operation phases.

8 Landscape Character and Visual Amenity

8.1 Overview

8.1.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of landscape and visual amenity.

8.2 Baseline

8.2.1 The study area is not covered by any statutory landscape designations, such as National Parks, AONB's[16] or Special Landscape Areas[17].

8.2.2 At a national level, the Site lies within Natural England's NCA[18] Profile 38 'Nottinghamshire, Derbyshire and Yorkshire Coalfield'. At a local level, the Site and its immediate context are covered by Landscape Character Area (LCA) D2: 'East Dearne Settled Arable Slopes' within the BMBC Landscape Character Assessment (2002), which was reviewed in 2016.

8.2.3 The Site largely comprises large, open, and gently sloping agricultural fields, with Carr Dike and an unnamed minor watercourse running through the central and northern areas and hedgerows. The Site lies adjacent to the A635 Dearne Valley Parkway, residential properties and primary schools, and arable fields.

8.3 Construction Effects

8.3.1 The landscape effect of the Development upon NCA 38 is assessed as negligible adverse prior to mitigation during the construction phase which is not significant. Mitigation is proposed in the form of construction management approaches, the residual effects have been assessed to be negligible adverse.

8.3.2 The landscape effect of the Development on LCA D2 has been assessed to be moderate / minor adverse during construction which is not significant. Mitigation is proposed in the form of construction management approaches, the residual effects have been assessed to be moderate/ minor adverse.

8.3.3 The landscape effect of the Development on LCA's within 3km has been assessed to be none (not significant) prior to mitigation. No mitigation is required therefore the effects remain as none (not significant).

8.3.4 The landscape effect of the Development on the Site and Immediate Context has been assessed to be major/ moderate adverse prior to migration. Mitigation has been proposed in the form of construction management approaches and subsequently, the residual effects remain as major/ moderate adverse and is therefore significant.

8.3.5 Construction visual effects for a number of residential receptors near to the Site have been assessed ranging from major/ moderate adverse to none (not significant). Mitigation measures have been proposed in the form construction management approaches for all potential visual effects. Three significant residual effects have been identified on Receptor A (Residents on A635, adjacent to the northern boundary of the Site (Woodbine Cottage & Rose Valley Cottage)), Receptor B (Residents on Billingley View, adjacent to south-eastern edge of the Site) and Receptor E (Residents of the

[16] Areas of Outstanding Natural Beauty (AONB) are areas of land protected by the Countryside and Rights of Way Act 2000 to conserve and enhance its natural beauty.

[17] Special Landscape Areas are a non-statutory designation applied by the local planning authority to define areas of high landscape importance.

[18] National Character Areas (NCA) are 159 distinct natural areas in England defined by a unique combination of landscape, biodiversity, geodiversity, history, and cultural and economic activity, as assessed by Natural England.

farmhouse to the north of Hollygrove Roundabout / A635). The significance of the effect has been assessed to be major/ moderate adverse.

8.4 Operational Effects

8.4.1 The landscape effect of the Development on NCA 38 is assessed as negligible adverse prior to mitigation during the operation phase which is not significant. Mitigation is proposed in the form of embedded mitigation shown of the Parameters Plan (Figure 3.1) and Landscape Location Plan (Figure 3.2) and proposed landscape plans, the residual effects have been assessed to be negligible adverse.

8.4.2 The landscape effect of the Development on LCA D2 has been assessed to be moderate / minor adverse during operation which is not significant. Mitigation is proposed in the form of embedded mitigation shown of the Parameters Plan and proposed landscape plans, the residual effects have been assessed to be moderate/ minor adverse.

8.4.3 The landscape effect of the Development on LCA's within 3km has been assessed to be none (not significant) prior to mitigation. No mitigation is required therefore the effects remain as none (not significant).

8.4.4 The landscape effect of the Development on the Site and Immediate Context has been assessed to be major/ moderate adverse prior to migration. Mitigation is proposed in the form of embedded mitigation shown of the Parameters Plan and proposed landscape plans and subsequently, the residual effects have been assessed to be moderate adverse and therefore not significant.

8.4.5 Operational visual effects for a number of residential receptors near to the Site have been assessed ranging from major/ moderate adverse to none (not significant). Mitigation is proposed in the form of embedded mitigation shown of the Parameters Plan and proposed landscape plans for all potential visual effects. Two significant residual effects have been identified on Receptor A (Residents on A635, adjacent to the northern boundary of the Site (Woodbine Cottage & Rose Valley Cottage)) and Receptor B (Residents on Billingley View, adjacent to south-eastern edge of the Site). The significance of the effect has been assessed to be major/ moderate adverse.

8.5 Cumulative Effects

8.5.1 It is considered that landscape and visual effects from the selected cumulative sites would be no greater than those at completed or operational development stage mentioned above. As such, there are no significant cumulative effects anticipated.

9 Biodiversity

9.1 Overview

9.1.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of biodiversity.

9.2 Baseline

9.2.1 There are no statutory designated site within the Site boundary and no sites of international nature conservation importance within 15km of the Site.

9.2.2 There is one non-statutory designated site within 1km of the Site, Old Moor and Wath Ings Local Wildlife Site (LWS), located 930m south west. This LWS is within Dearn Valley Wetland Site of Special Scientific Interest (SSSI), a cluster of wetland, scrub and woodland areas, located approximately 100m south-west of the Site.

9.2.3 Habitats of Principal Importance (HPI) on the Site include hedgerows, woodland plantation areas, arable field margins and the Carr Dike watercourse. The arable field margins are considered a priority habitat within the Barnsley Biodiversity Action Plan (BAP) and provide potential support to wildlife.

9.2.4 Fauna assemblages present are mainly of common and widespread species, or in numbers not sufficient to be significant at more than local ecological importance. There are low numbers of bat activity, breeding birds or winter bird assemblages. Marsh harriers have used the Site for foraging and dispersal. Development effects on this fauna could have indirect impacts on local species.

9.3 Construction Effects

9.3.1 The following eighteen effects have been identified that may rise significant effects in relation to biodiversity during the construction phase:

- Environmental releases of dust impacting upon SSSI;
- Environmental release to ground impacting upon SSSI;
- Environmental release to water impacting upon SSSI;
- Increase in traffic pollutants impacting on SSSI;
- Loss of terrestrial habitats within the Site;
- Loss of hedgerows within the Site;
- Damage to retained habitats from construction activities;
- Loss of habitat to watercourses;
- Environmental release impacting terrestrial habitats at the Site;
- Environmental release impacting terrestrial habitats at the Site;
- Loss of habitat used by commuting foraging birds;
- Disturbance to commuting and foraging bats;

- Loss of two trees with potential bat roots (if present);
- Loss of arable habitats used by breeding farmland birds;
- Loss of arable foraging habitat for wintering birds;
- Loss of terrestrial habitat (hedgerow and woodland) for breeding birds;
- Disturbance or direct impact (injury/death) of breeding birds from construction activities; and
- Disturbance to marsh harriers using the Site due to habitat loss and construction activities.

9.3.2 The significance of these effects ranges from negligible to moderate adverse. Three have been identified to have moderate adverse effects prior to mitigation, including disturbance or direct impact of breeding birds, loss of two trees and environmental release impacting watercourses. Various mitigation measures have been identified to decrease the significance of these effects. These measures include Construction Environmental Management Plan (CEMP) which will implement good practice for storage of hazardous materials and avoid breeding bird season or employ measures to identify and protect nesting for birds. Post mitigation the residual effects range from negligible to moderate adverse.

9.3.3 The moderate adverse residual effect identified comprise loss of two trees with potential bat roosts. The residual effect is therefore significant. No other residual effects identified are significant.

9.4 Operational Effects

9.4.1 The following fourteen effects have been identified to rise significant effects in relation to biodiversity during the operational phase:

- Environmental releases to water from Site operation impacting upon SSSI;
- Increase in traffic pollutants impacting on SSSI;
- Creation of terrestrial woodland habitat;
- Creation of terrestrial grassland habitat;
- Creation of waterbodies/pond habitats;
- Creation of hedgerows;
- Environmental releases to water courses;
- Land use change reducing diffuse nutrient inputs to watercourses;
- Habitat creation impacts on foraging/commuting bats;
- Operational activities impact on bats;
- Habitat creation impacts on roosting bats;
- Habitat creation for breeding bids;
- Habitat creation for breeding/foraging farmland birds; and
- Habitat creation for marsh harriers.

9.4.2 The significance of these effects ranges from moderate beneficial to minor adverse prior to mitigation. Mitigation measures include habitat creation, implementing a Lighting Strategy, as well as ponds and SuDS creation to reduce impacts. Following mitigation, the residual effects range from moderate beneficial to minor adverse.

9.4.3 The moderate beneficial effects identified comprise the creation of terrestrial woodland habitat, creation of terrestrial grassland habitat, creation of waterbodies/ pond habitat, creation of hedgerows and habitat creation impacts on forging/ commuting bats. The residual effects are therefore significant. There are no other significant residual effects identified during the operational phase.

9.5 Cumulative Effects

9.5.1 A total of nine applications have been assessed that may give rise to cumulative effects in addition to the Development during the construction phase. The significance of these effects ranges from negligible to minor adverse. Increased traffic pollution impact to the SSSI was identified as a minor adverse effect. No mitigation measures have been proposed at this stage.

9.5.2 The following six effects have been assessed that may give rise to cumulative effects in addition to the development during the operational phase:

- Increase traffic pollution impact to SSSI;
- Habitat creation;
- Impacts of local bat population;
- Impacts to farmland bird breeding/foraging;
- Impacts to breeding/foraging birds; and
- Impacts to marsh harriers.

9.5.3 Impacts to farmland bird/breeding foraging was identified as a minor adverse effect, with mitigation measured of habitat creation and design of other schemes not changing this effect. As mentioned, there is a minor adverse effect of increase traffic pollution impact to SSSI.

10 Water Resources and Flood Risk

10.1 Overview

10.1.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of water resources and flood risk.

10.2 Baseline

10.2.1 A desk-based assessment was undertaken to include determination of site geology and hydrogeology, review of flood risk and drainage related constraints. Baseline conditions show a number of surface water features to be present across the site, including the Carr Dike and Highgate Lane Dike. Modelling undertaken confirm the Site to be at risk of flooding in all events modelled including the 100-year plus climate change allowances event, with flooding predicted to overtop the banks of the Carr Dike and spill into the western and eastern portions of the Site. The Site is at low risk of all other sources of flooding.

10.3 Construction Effects

10.3.1 The Water Resources and Flood Risk ES Chapter has identified five potential significant effects during the construction phase from fluvial flood risk, surface water flooding, surface water drainage, foul water drainage and surface water quality. The likely significant effects range from minor adverse to negligible. Mitigation has been proposed in the form of effective implementation of the CEMP. As such, the residual effects have been assessed to be negligible for all potential effects.

10.4 Operational Effects

10.4.1 The Water Resources and Flood Risk ES Chapter has identified five potential significant effects during the operation phase from fluvial flood risk, surface water flooding, surface water drainage, foul water drainage and surface water quality. The likely significant effects range from minor adverse to negligible. Mitigation has been proposed in the form of effective implementation of the CEMP and agreement in principle with Yorkshire Water to discharge to public foul sewer at unrestricted rate and additional treatment measures. As such, the residual effects have been assessed to be negligible for all potential effects.

10.5 Cumulative Effects

10.5.1 The effects of the Development in combination with the cumulative developments during construction and operation will be very similar when compared to the Development on its own as the committed developments will also have development specific CEMPs, Surface Water Strategies and Foul Water Drainage Strategies to minimise effects on the water environment. Overall, during construction of the Development in combination with the committed developments the use of embedded and additional mitigation will reduce the effects to negligible adverse significance. During operation of the Development in combination with the committed developments there will be negligible adverse significance to flood risk, surface water drainage, foul water drainage and surface water quality within the Site and surrounding area.

11 Soils and Agricultural Land

11.1 Overview

11.1.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of soils and agricultural land.

11.2 Baseline

11.2.1 A detailed soils and agricultural land quality survey of the Site has been conducted, showing the Site to contain an area of 31.8 ha of Best and Most Versatile quality land (known as Grades 2 and 3a) (and 40.3 ha of lower quality land, known as Grade 3b) and mixed soil resources of variable quality for reuse.

11.3 Construction Effects

11.3.1 Construction of the Development will require the use of the agricultural land at the Site. All of the land would be taken out of agricultural production at the beginning of the construction phase which would result in the loss of 8.6 ha of Grade 2 and 23.2 ha of Subgrade 3a agricultural land. The likely significant effect for the loss of agricultural land is moderate adverse. No mitigation for the loss of agricultural land is possible and as such the residual effect remains moderate adverse. This is considered to be a significant effect.

11.3.2 In addition, the soils could be lost or damaged during construction, but mitigation in the form of a site-specific Soil Management Plan which separates and protects soils resources for reuse in accordance with the findings would ensure there are sufficient quality soil resources to support landscaping proposals. Following the implementation of mitigation measures, the residual effect would be negligible which is not significant.

11.4 Operational Effects

11.4.1 As all effects are anticipated to occur during the construction phase of the Development, no mitigation measures are required in the operational phase.

11.5 Cumulative Effects

11.5.1 The effects on agricultural land are only relevant to land within the Site; there are not judged to be any relevant cumulative effects on these receptors.

12 Noise

12.1 Overview

12.1.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of noise and vibration.

12.2 Baseline

12.2.1 To characterise and quantify the baseline noise environment, baseline noise surveys were undertaken between June 2022 and August 2022. This included a combination of long-term unattended monitoring and short-term spot measurements, which were discussed and agreed with BMBC's Environmental Health Officer. The baseline noise environment, as observed during the noise survey, was dominated by road traffic noise from nearby roads, particularly the A635.

12.3 Construction Effects

12.3.1 The Noise ES Chapter has identified two potential effects during the construction phase which comprise disturbance from construction noise and disturbance from construction traffic noise. The significance of the effects has been assessed to be negligible to minor adverse and negligible, respectively. No mitigation measures have been included therefore the residual effects have been assessed to be negligible to minor adverse and negligible and therefore are not significant.

12.4 Operational Effects

12.4.1 During the operational phase of the Development, most receptors are predicted to experience a negligible change in road traffic noise during both the day and night-time periods. Therefore, no significant effects are expected at these locations. However, during the night-time period, significant adverse effects are indicated at two receptors (R02 Rose Valley and R03 Woodbine). However, following the implementation of mitigation measures to include noise insulation such as enhanced glazing and alternative ventilation methods to receptors R02 and R03 and a 5m high barrier, there are no residual adverse or significant effects. Further mitigation measures may be agreed at the Reserved Matters stage.

12.4.2 Noise from on-site HGV activities is not indicated to give rise to any adverse effects at most receptors during the day or night-time period. At one receptor (R03 Woodbine) during the night-time, a potentially adverse (non- significant) effect is predicted.

12.4.3 Noise from fixed plant has not been assessed as no specific information is available at this stage. However, it is proposed that details of any fixed plant will be submitted to, and approved by, BMBC, including details of how significant effects will be avoided. On this basis, no significant effects are indicated from fixed plant noise.

12.4.4 The ES chapter also considers the potential road traffic impacts on the village of Hickleton during the operational phase of the Development. The assessment has concluded that the increase in road traffic noise associated with the Development would result in negligible impacts during the day. During the night the increased traffic noise exceeds the category for minor adverse effects therefore significant impacts are predicted. As such, a mitigation scheme for the properties in Hickleton has been proposed which will secured through a Section 106 agreement.

12.5 Cumulative Effects

12.5.1 No cumulative effects have been identified during the construction and operational phase with respect to Noise.

13 Transport and Access

13.1 Overview

13.1.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of transport and access.

13.2 Baseline

13.2.1 Baseline traffic data on the study network has been obtained from junction turning count surveys undertaken by an independent traffic survey company and automatic traffic count data obtained from City of Doncaster Council (CDC). Descriptions of the local highway network, and pedestrian and cycling networks have been obtained from site visits, desktop study and information published online by BMBC and Sustrans. Personal injury collision data has been obtained from both BMBC and CDC.

13.3 Construction Effects

13.3.1 The Transport and Access ES Chapter has identified five potential effects during the construction phase that may give rise to significant effects; severance, driver delay, pedestrian delay, non-motorised amenity and fear and intimidation. The significance of the effects has been assessed to be negligible for all effects prior to mitigation. No mitigation is necessary, however, mitigation is proposed in the form of a CEMP framework and future plot specific CEMPs. The significance of the effects post mitigation has been assessed to be negligible for all effects.

13.4 Operational Effects

13.4.1 The Transport and Access ES Chapter has identified five potential effects during the operational phase that may give rise to significant effects; severance, driver delay, pedestrian delay, non-motorised amenity and fear and intimidation. The significance of the effects has been assessed to be negligible for driver delay and non-motorised user amenity and minor adverse for severance, pedestrian delay and fear and intimidation. No mitigation is necessary, however, mitigation is proposed in the form of a CEMP framework and future plot specific CEMPs. Additionally, it is proposed that the Applicant will make a financial contribution commensurate with the impact of the Development. The intention is that such a contribution will be used to facilitate either delivery of the identified scheme layout by CDC, or support CDC in delivering a bypass for Hickleton as part of the wider A19-A1 Hickleton bypass scheme identified by the ‘Network North’ vision. The significance of the effects post mitigation has been assessed to remain as was prior to mitigation; negligible for driver delay and non-motorised user amenity and minor adverse for severance, pedestrian delay and fear intimidation.

13.5 Cumulative Effects

13.5.1 No cumulative effects have been identified during the construction and operational phases of the Development with respect to Transport and Access.

14 Air Quality

14.1 Overview

14.1.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of air quality.

14.2 Baseline

14.2.1 There is no Air Quality Management Area (AQMA) on the Site. The nearest AQMA is approximately 3.3km east of the Site, which has been declared by CDC for exceedances of NO_2. The most recent air quality monitoring was published by BMB in 2023. The monitoring carried out closest to the Development shows the Site is within compliance of the NO_2 annual mean objective for the past 4 years of available data.

14.3 Construction Effects

14.3.1 The following four effects may give rise to significant effects in relation to air quality during the construction phase:

- Human receptors exposed to elevated pollutant concentrations (PM_{10}) (construction dust emissions);
- Human receptors exposed to elevated pollutant concentration (NO_2, PM_{10} and $PM_{2.5}$) (emissions from vehicle exhaustions) – Goldthorpe;
- Ecological Receptors exposed to elevated pollutant concentration (NO_x, NH_3, nitrogen and acid deposition) (emissions from vehicle exhausts) – Goldthorpe; and
- Human receptors exposed to elevated pollutant concentration (NO_2, PM_{10} and $PM_{2.5}$) (emission from vehicle exhausts) – Hickleton.

14.3.2 The significance of the effects was assessed to be negligible adverse for human receptors exposed to elevated pollutant concentration prior to mitigation. The significance of the effect on human receptors exposed to elevated pollutant concentration within Hickleton was assessed to range from major adverse to negligible. Mitigation has been proposed in the form of a Construction Dust Assessment and Best Practice Guidance as well as providing mechanical ventilation with filtration at the John O Gaunts property, which would aid in improving exposure at the specific receptor. Following the mitigation measures, the residual effects have been identified to be negligible for all receptors.

14.4 Operational Effects

14.4.1 The following three effects have been identified to potentially give rise to significant effects in relation to air quality during the operational phase:

- Human receptors exposed to elevated pollutant concentration (NO2, PM10 and PM2.5) (emissions from vehicle exhausts) – Goldthorpe;
- Ecological receptors exposed to elevated pollutant concentration (NOx, NH3, nitrogen and acid deposition) (emissions from vehicle exhausts) – Goldthorpe; and
- Human receptors exposed to elevated pollutant concentration (NO2, PM10 and PM2.5) (emissions from vehicle exhausts) – Hickleton.

14.4.2 The nature of the effects human receptors in Goldthorpe and ecological receptors in Goldthorpe are permanent. The significance of the effect human receptors exposed to elevated pollutant concentration within Goldthorpe were found to be moderate to minor adverse for NO_2 and $PM_{2.5}$ prior to mitigation. The significance of the effect prior to migration for human receptors within Hickleton was assessed to range from major adverse to negligible. Mitigation has been proposed in the form of a Construction Dust Assessment and Best Practice Guidance as well as utilising the damage cost contribution to provide mechanical ventilation with filtration at the John O Gaunts property, which would aid in improving exposure at the specific receptor. Following the mitigation measures proposed the residual effects have been assessed to be moderate to minor adverse for human receptors within Goldthorpe and negligible within Hickleton.

14.5 Cumulative Effects

14.5.1 The following three effects may give rise to cumulative effects in addition to the Development during the construction phase:

- Human receptors exposed to elevated pollutant concentrations (PM_{10}) (construction dust emissions);
- Human receptors exposed to elevated pollutant concentration (NO_2, PM_{10} and $PM_{2.5}$) (emissions from vehicle exhausts) – Goldthorpe;
- Ecological receptors exposed to elevated pollutant concentration (NO_x, NH_3, nitrogen and acid deposition) (emissions from vehicle exhausts) – Goldthorpe; and
- Human receptors exposed to elevated pollutant concentration (NO_2, PM_{10} and $PM_{2.5}$) (emissions from vehicle exhausts) – Hickleton.

14.5.2 The nature of these effects were found to be temporary. Human receptors exposed to elevated pollutant concentration in Goldthorpe will have a moderate to minor effect for NO_2 and PM_{10} but negligible adverse for PM_{10}. Human receptors exposed to elevated pollutant concentration in Hickleton is found to be negligible adverse for NO_2, PM_{10} and $PM_{2.5}$ at majority of receptors. Mitigation measures will be implemented.

14.5.3 The following three effects may give rise to cumulative effects in addition to the Development during the operational phase:

- Human receptors exposed to elevated pollutant concentration (NO_2, PM_{10} and $PM_{2.5}$) (emissions from vehicle exhausts) – Goldthorpe;
- Ecological receptors expose4d to elevated pollutant concentration (NO_2, NH_3, nitrogen and acid deposition) (emissions from vehicle exhausts) – Goldthorpe; and
- Human receptors exposed to elevated pollutant concentration (NO_2, PM_{10} and $PM_{2.5}$) (emissions form vehicle exhausts) – Hickleton.

14.5.4 The natures of these effects are identified as permanent. Human receptors in Goldthorpe may have a negligible to major adverse effect for NO_2 and $PM_{2.5}$, but negligible for PM_{10}. For human receptors in Hickleton, the effects were found to be moderate to negligible for NO_2 and negligible at all receptors for PM_{10} and $PM_{2.5}$.

15 Climate Change

15.1 Overview

15.1.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of climate change.

15.2 Baseline

15.2.1 BMBC has seen a declining trend in greenhouse gas (GHG) emissions across all sectors. Between 2005 and 2021 per capita emissions fell from 9.3 tonnes CO_2 to 5.4. GHG emissions have fallen in 75% in the commercial sector, 25% in the industrial sector, and 19% in the transport sector. Future GHG emissions in BMBC are expected to decrease.

15.3 Construction Effects

15.3.1 Construction transport emissions was identified to give rise to temporary negligible effects. Mitigation measures will include the implementation of a CEMP which will be secured through a planning condition. Following the mitigation measures the residual effects have been assessed to be negligible.

15.4 Operational Effects

15.4.1 Seven effects were considered to give potential rise to significant effects in relation to climate change mitigation and resilience. These effects include:

- Operational transport emissions;
- Operational energy emissions;
- Carbon sequestration potential;
- Effects of climate change on future site users;
- Effects of climate change on infrastructure;
- Effects of climate change on the natural environment; and
- Effects of climate change on flood risk.

15.4.2 These effects, prior to mitigation, were assessed in terms of significance, in a range from negligible to moderate adverse. Operational transport emissions have been assessed to be moderate adverse prior to mitigation and following the implementation of the travel plan, provision of cycle spaces, improved pedestrian connectivity, EV charging spaces the residual effect remains as moderate adverse and therefore significant.

15.4.3 The operational energy emissions have been assessed to be minor adverse prior to mitigation. Mitigation has been proposed to be the adherence to the Energy Hierarchy and implementation of Be Lean, Be Clean and Be Green Measures. Following these measures, the residual effects have been assessed to be minor adverse.

15.4.4 Carbon sequestration potential has been assessed to be moderate adverse prior to mitigation. Mitigation has been proposed in the form of a long-term maintenance and management plan to be secured through a planning condition. Following these measures, the significance of the effects has been assessed to be minor adverse.

15.4.5 The potential effects of climate change on future users of the Site, on infrastructure, on the natural environment and on flood risk have been assessed to be minor adverse, minor adverse, moderate adverse and minor adverse, respectively. Mitigation has been proposed in the form of adherence to the Energy Hierarchy, infrastructure to be safeguarded at the detailed design stage and long term maintenance and management plan. Following these measures, the residual effects have been assessed minor adverse for the four identified effects.

15.5 Cumulative Effects

15.5.1 In combination with the cumulative schemes, two potential effects have been identified that may give rise to significant effects; Operational Energy Emissions and carbon Sequestration Potential. The significance of the effect has been assessed to be minor adverse. Following mitigation in the form of adherence to the Energy Hierarchy and Implementation of Be Lean, Be Clean and Be Green Measures as well as a long term maintenance and management plan to be secured through planning conditions. The residual effects have been assessed to be minor adverse and therefore not significant.

16 Summary and Residual Effects

16.1.1 An ES including this Non-Technical Summary has been prepared to support a planning application which seeks hybrid planning permission for the employment-led development at the land south of Dearne Valley Parkway, South Yorkshire.

16.1.2 Mitigation measures have been incorporated into the construction and operational phases of Development in order to avoid, reduce or offset significant environmental effects.

16.1.3 The Development will result in the following significant beneficial residual effects:

Construction:

- Major / Moderate Beneficial effects on Employment and Economic Output during the Construction Phase;

Operation:

- Moderate Beneficial effects on the Creation of Terrestrial Woodland Habitat, Creation of Terrestrial Grassland Habitat, Creation of Waterbodies/ Pond Habitats, Creation of Hedgerows and Habitat Creation Impacts on Foraging/ Commuting Bats.

16.1.4 The Development will result in the following significant adverse residual effects:

Construction:

- Major / Moderate Adverse effects on Landscape (Site and Immediate Context);
- Major / Moderate Adverse effects on Visual Amenity (Receptors A, B, E and I);
- Moderate Adverse effects on the Loss of Two Trees with Potential Bat Roosts;
- Moderate Adverse effects on the Loss of Agricultural Land;

Operation:

- Moderate Adverse effects on Historic Hedges;
- Moderate Adverse effects on Operational Transport Emissions;
- Major / Moderate for NO_2 and $PM_{2.5}$ for Human Receptors Exposed to Elevated Pollutant Concentration.

Interactive Effects

16.1.5 The ES considers the interrelationship between the significant effects outlined above. During the construction and operational phases of the Development, it is considered that interactions could potentially occur between the local population and Site users, landscape and views, users of the local road network, and biodiversity. It is considered that interactive effects during construction and operation are minor, and therefore not significant.

16.2 Cumulative Effects

16.2.1 Each of the technical assessments considers the likely significant cumulative effects of the proposed development with the cumulative schemes set out in Chapter 2 of the ES.

16.2.2 The Development will result in the following significant beneficial cumulative effects:

Construction:

- Major / Moderate Beneficial effects on Employment and Economic Output during the Construction Phase;
- Moderate / Minor Beneficial effects on Residential Employment and Employment during the Operational Phase;

16.2.3 The Development will result in the following significant adverse cumulative effects:

Operation:

- Major / Moderate adverse for NO_2 and $PM_{2.5}$ for Human Receptors Exposed to Elevated Pollutant Concentration.

REFERENCES

[i] Barnsley Metropolitan Borough Council Local Plan https://www.barnsley.gov.uk/media/17249/local-plan-adopted.pdf

Figure 1.1 - Site Location Plan

- Dimensions are in millimeters, unless stated otherwise.
- Scaling of this drawing is not recommended.
- It is the recipients responsibility to print this document to the correct scale.
- All relevant drawings and specifications should be read in conjunction with this drawing.

N

Key

Planning Application Boundary	210.81 ac	85.31 ha

Site boundary to be confirmed by the client

rev	amendments	by	ckd	date
A	Initial Issue	SS	SM	07.11.23

Barnsley Road, Goldthorpe

Location Plan

PLANNING

THIS DRAWING IS FOR PLANNING CONSIDERATION ONLY AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE

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Drawing Status:	Planning
Drawn / Checked:	SS / SM
Date:	07/11/2023
Scale:	1:2500 A1
Drawing no:	Revision:
22081 P0501	B

SCALE 1:2500

50m

Figure 2.1 – Cumulative Schemes Plan

The scaling of this drawing cannot be assured

Revision		Date	Drn	Ckd
A	Addition of Schemes	08.11.23	EJ	AD

N

LEGEND

- Site Boundary
- 1. Fields End Business Park, Ref: 2021/0012
- 2. Former Goldthorpe Primary School, Ref: 2022/0056
- 3. Land Bmbc Asset Id E00061, Ref: 2020/1439
- 4. Lockwood Road, Ref: 2021/1171
- 5. Land off Barnburgh Lane, Ref: 2015/1198
- 6. Land at Kingsmark Way, Ref: 2019/1274
- 7. Land BMBC Asset ID E00546, Ref: 2017/1051
- 8. Land at Houghton Main, Ref: 2021/1282
- 9. Land at Everill Gate Lane, Ref: 2018/1353
- 10. 58 Lundhill Road, Ref: 2019/0089
- 11. The Symphony Group, Ref: 2020/1032

FIGURE 2.1

Project
33905
Land West of Goldthorpe

Drawing Title
Cumulative Schemes Plan

Date	Scale	Drawn by	Check by
28.04.2023	1:50,000 @A3	WD	AD

Project No	Drawing No	Revision
33905	LN-E-01	A

0 200 400 600 800 1000m

Stantec

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stantec.com\uk

J:\33000\33905 - West Of Goldthorpe\A4 - Drawings & Registers\Planning\33905 LN-E-01 Cumulative Schemes Plan.dwg - A3

Figure 3.1 – Parameters Plan

- Dimensions are in millimeters, unless stated otherwise.
- Scaling of this drawing is not recommended.
- It is the recipients responsibility to print this document to the correct scale.
- All relevant drawings and specifications should be read in conjunction with this drawing.

N

Key

Planning Application Boundary — 210.81 ac — 85.31 ha

Parameters Key

- Development Plot Boundary
- Green and Blue infrastructure
- Strategic Landscape screening
- Estate Road infrastructure
- Indicative access points (subject to reserved matters)
- Safeguarded land

Roundabout delivered under a separate planning application [Ref. No. 2021/1511]

Flood Compensation Area

Flood Compensation Area

Plot 1

Plot 2

Plot 3

Plot 4

Rose Valley

Woodbine Cottage

Billingley Green

A635 Barnsley Road

Hollygrove Roundabout

Dudley Drive

Aldi Goldthorpe RDC

Heather Garth Primary School

Lacewood Primary School

Carr Head Lane

Carr Dike

Dike

50m SCALE 1:2500

Development Schedule

Zone	Plot Size NDA (ha)	Maximum GIA Floor Space (m^2)	Plateau Height(in meters above ordnance datum)	Maximum Finished Floor Level (in meters above ordnance datum) [+1.000m above proposed plateau]	Maximum Building Height Measured to roof ridge / highest point (in meters above ordnance datum)	Ridge Height (above F.F.L. level)
Zone 1	11.35	**204,000m²** Total Area distributed across Zones 1,2, 3 & 4	24.50	25.50	43.50	18.00
Zone 2	8.46		25.00	26.00	44.00	18.00
Zone 3	17.92		33.70	34.70	52.70	18.00
Zone 4	6.29		33.70	34.70	52.70	18.00
Total	44.02					

The use class applied for is primarily Class B8 with up to 30% of the floorspace being for Class B2 together with ancillary office space

For the avoidance of doubt, the information shown within the development plots is indicative only, and will be subject to subsequent Reserved Matters Applications

PLANNING

THIS DRAWING IS FOR PLANNING CONSIDERATION ONLY AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE

rev	amendments	by	ckd	date

Barnsley Road, Goldthorpe

Parameters Plan

newlands developments

umc architects
Newark Beacon, Cafferata Way, Newark, Nottinghamshire NG24 2TN
o. +44 (0)1636 653027 e. info@umcarchitects.com

Drawing Status:	Planning
Drawn / Checked:	SS / SM
Date:	07/11/2023
Scale:	1:2500 A1
Drawing no:	22081 P0520
Revision:	E

Figure 4.1 – Illustrative Masterplan

KEY

- EXISTING VEGETATION
- EXISTING LAND TO BE RETAINED
- CARR DYKE
- PROPOSED TREES
- PROPOSED SHRUB PLANTING
- PROPOSED WOODLAND MIX PLANTING
- PROPOSED THICKET MIX PLANTING
- PROPOSED INDIGENOUS HEDGEROW
- PROPOSED CLOSE MOWN GRASS
- PROPOSED WILDFLOWER GRASS
- SAFEGUARDED LAND
- PLANNING APPLICATION BOUNDARY
- PLOT BOUNDARY

Note:

- For the avoidance of doubt, the information shown within the development plots is indicative only, and will be subject to subsequent Reserved Matters Applications.
- This drawing is to be read in conjunction with BCA Landscape Species Schedule and Proposed Landscape Plans (drawings 01, 03, 04, 05, 06, 07, 08 and 09)

SCALE 1:2500 0 62.5 125 187.5 250m

SCALE 1:1 0 10 20 30 40 50 60 70 80 90 100mm

NORTH

P6.	Safeguarded land added.	23/11/2023 MG
P5.	Addition of key and notes.	20/11/2023 MGO
P4.	Layout amends to Yorkshire Water requirements.	16/08/2023 MGO
P3.	Additional tree planting adj. roundabout to JHP request.	04/05/2023 MG
P2.	Amendment to accommodate diverted HV and Water Main.	21/04/2023 MGO
P1.	Issued for planning purposes.	09/03/2023 MGO

Revisions

Barnsley Road
Goldthorpe

newlands developments

BARRY CHINN ASSOCIATES LTD.

www.bca-landscape.com

Landscape Location Plan

Drawing Status:	For Planning
CAD Reference:	2267-22_Soft-Lscp-Plans+Sects.dwg
Drawn:	MGO Checked: MG
Date:	09/03/2023
Scale @A1:	1:2500

Project No:	Drawing No:	Rev:
2267/22	GDT-BCA-ELS-XX-DR-L-2267/22-02-S4-P6	