16 SUMMARY AND RESIDUAL EFFECTS

Introduction

16.1 This chapter summarises the mitigation measures and residual effects identified in each of the technical assessments included in the ES, which has been prepared to accompany a hybrid planning application for development of Land South of Dearne Valley Parkway.

16.2 Planning consent is being sought for the following description of Development.

> **"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".**

16.3 Following assessment of the Development, additional mitigation measures have been proposed to be secured and implemented. These are set out in Table 16.1 below along with the residual effects of the Development following mitigation.

Table 16.1: Significance Table

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
Socio-Economics (Chapter 6)			
Construction	Employment	None required.	**Major/Moderate beneficial**
	Economic Output		**Major/Moderate beneficial**
	Workforce Expenditure		Minor beneficial
Operational	Resident Employment		Moderate/Minor beneficial
	Employment		Moderate/Minor beneficial
	Economic Output		Minor beneficial
	Workforce Expenditure		Minor beneficial
Cultural Heritage (Chapter 7)			
Construction	Change in the setting of Billingley Conservation Area	No additional mitigation proposed.	Minor adverse
	Removal of archaeology within Site	Programme of archaeological works to be secured by planning condition.	Minor adverse
	Historic hedges	No appropriate mitigation is available.	**Moderate adverse**
Operational	Billingley Conservation Area	No additional mitigation proposed	Minor adverse
Landscape Character and Visual Amenity (Chapter 8)			
Construction	Landscape – NCA 38	Construction management approaches, implemented through a CEMP, which will be secured by a planning condition.	Negligible Adverse (Not significant)
	Landscape – LCA D2		Moderate / Minor Adverse (Not significant)
	Landscape – Other LCAs within 3km Study Area		None (Not significant)
	Landscape – Site & Immediate Context		**Major / Moderate Adverse (Significant)**
	Visual Amenity – Receptor A - Residents on A635, adjacent to the northern boundary of the Site (Woodbine Cottage & Rose Valley Cottage)		**Major / Moderate Adverse (Significant)**
	Visual Amenity – Receptor B - Residents on Billingley View, adjacent to south-eastern edge of the Site		Major / Moderate Adverse (Significant)
	Visual Amenity – Receptor C - Residents on Fairfield		Minor Adverse (Not significant)
	Visual Amenity – Receptor D - Residents on Carr Head Lane / Commonwealth View		Minor Adverse (Not significant)
	Visual Amenity – Receptor E - Residents of the farmhouse to the north of Hollygrove Roundabout / A635		**Major / Moderate Adverse (Significant)**

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
	Visual Amenity – Receptor F - Residents on Barnsley Road / Holly Grove		Minor Adverse (Not significant)
	Visual Amenity – Receptor G - Residents on Ingsfield Lane / Broadwater / Maori Avenue		None (Not significant)
	Visual Amenity – Receptor H - Residents on A635 Doncaster Road, Millhouses / Darfield		Minor Adverse (Not significant)
	Visual Amenity – Receptor I - Residents on southern edge of Billingley (Billingley Green Lane & Flat Lane)		**Major / Moderate Adverse (Significant)**
	Visual Amenity – Receptor J - Residents on Pagnell Avenue / Southern edge of Thurnscoe		Moderate / Minor Adverse (Not significant)
	Visual Amenity – Receptor K - Residents on Rodes Avenue / Southern edge of Great Houghton		Negligible Adverse (Not significant)
	Visual Amenity – Receptor L - Residents on B6411 Lidget Lane, Hickleton		None (Not significant)
	Visual Amenity – Receptor M - Residents on Green Lane, Barnburgh		None (Not significant)
	Visual Amenity – Receptor N - Residents on Hickleton Road, Barnburgh		None (Not significant)
	Visual Amenity – Receptor O - Future residents of Allocated Site for Residential Development - HS44	Nature of potential views discussed within chapter. Effect not assessed.	
	Visual Amenity – Receptor P - Future residents of Allocated Site for Residential Development - HS51		
	Visual Amenity – Receptor Q - Users of public footpaths ‘Billingley CP 5’ & ‘Dearne UD 15’	Construction management approaches, implemented through a CEMP, which will be secured by a planning condition.	N/A
	Visual Amenity – Receptor R - Users of public footpath ‘Billingley CP 6’		Moderate Adverse (Not significant)
	Visual Amenity – Receptor S - Users of public footpath ‘Dearne UD 8’		Moderate Adverse (Not significant)
	Visual Amenity – Receptor T - Users of public footpath ‘Dearne UD 13’ / users of Phoenix Country Park		None (Not significant)
	Visual Amenity – Receptor U - Users of public footpath ‘Dearne UD 17’		None (Not significant)
	Visual Amenity – Receptor V - Users of Trans Pennine Trail		None (Not significant)

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
	Visual Amenity – Receptor W - Users of Chapel Lane / Restricted Byway 'Great Houghton CP 10'		None (Not significant)
	Visual Amenity – Receptor X - Road users A635, adjacent to the northern boundary of the Site		Moderate Adverse (Not significant)
	Visual Amenity – Receptor Y - Road users on Dudley Drive		Moderate / Minor Adverse (Not significant)
	Visual Amenity – Receptor Z - Road users on Billingley View		Minor Adverse (Not significant)
	Visual Amenity – Receptor AA - Road users on Carr Head Lane		Minor Adverse (Not significant)
	Visual Amenity – Receptor BB - Road users on Barnsley Road / Holly Grove		Minor Adverse (Not significant)
	Visual Amenity – Receptor CC - Road users on Ingsfield Lane / Broadwater / Maori Avenue		None (Not significant)
	Visual Amenity – Receptor DD - Road users on A6195		Moderate / Minor Adverse (Not significant)
	Visual Amenity – Receptor EE - Road users on Billingley Green Lane		Moderate / Minor Adverse (Not significant)
	Visual Amenity – Receptor FF - Road users on B6097 West Street / Montgomery Road, Wath-upon-Dearne		Negligible Adverse (Not significant)
	Visual Amenity – Receptor GG - Workers at Aldi RDC		Moderate / Minor Adverse (Not significant)
	Visual Amenity – Receptor HH - Workers at Goldthorpe Industrial Estate		Minor Adverse (Not significant)
	Visual Amenity – Receptor II - Visitors to RSPB reserves: Dearne Valley – Bolton Ings and Old Moor		None (Not significant)
	Visual Amenity – Receptor JJ - Users of Lacewood Primary School		Moderate Adverse (Not significant)
	Visual Amenity – Receptor KK - Users of Heather Garth Primary School		Minor Adverse (Not significant)
Operational	Landscape – NCA 38	The embedded mitigation shown on the Parameters Plan (Figure 3.1) and the Proposed Landscape Plans (Figure 3.2), and also within the 5-Year Soft Landscape Works Maintenance and Management Proposals Plan which will be secured through planning permission.	Year 15 = Negligible Adverse (Not significant)
	Landscape – LCA D2		Year 15 = Moderate / Minor Adverse (Not significant)
	Landscape – Other LCAs within 3km Study Area		Year 15 =

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
			None (Not significant)
	Landscape – Site & Immediate Context		Year 15 = Moderate Adverse (Not Significant)
	Visual Amenity – Receptor A - Residents on A635, adjacent to the northern boundary of the Site (Woodbine Cottage & Rose Valley Cottage)		Year 15 = Major / Moderate Adverse (Significant)
	Visual Amenity – Receptor B - Residents on Billingley View, adjacent to south-eastern edge of the Site		Year 15 = Major / Moderate Adverse (Significant)
	Visual Amenity – Receptor C - Residents on Fairfield		Year 15 = Negligible Adverse (Not significant)
	Visual Amenity – Receptor D - Residents on Carr Head Lane / Commonwealth View		Year 15 = Negligible Adverse (Not significant)
	Visual Amenity – Receptor E - Residents of the farmhouse to the north of Hollygrove Roundabout / A635		Year 15 = Moderate Adverse (Not significant)
	Visual Amenity – Receptor F - Residents on Barnsley Road / Holly Grove		Year 15 = Negligible Adverse (Not significant)
	Visual Amenity – Receptor G - Residents on Ingsfield Lane / Broadwater / Maori Avenue		Year 15 = Negligible Beneficial (Not significant)
	Visual Amenity – Receptor H - Residents on A635 Doncaster Road, Millhouses / Darfield		Year 15 = Negligible Adverse (Not significant)
	Visual Amenity – Receptor I - Residents on southern edge of Billingley (Billingley Green Lane & Flat Lane)		Year 15 = Moderate Adverse (Not significant)
	Visual Amenity – Receptor J - Residents on Pagnell Avenue / Southern edge of Thurnscoe		Year 15 = Minor Adverse (Not significant)
	Visual Amenity – Receptor K - Residents on Rodes Avenue / Southern edge of Great Houghton		Year 15 = Negligible Adverse (Not significant)
	Visual Amenity – Receptor L - Residents on B6411 Lidget Lane, Hickleton		Year 15 = None (Not significant)

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
	Visual Amenity – Receptor M - Residents on Green Lane, Barnburgh		Year 15 = None (Not significant)
	Visual Amenity – Receptor N - Residents on Hickleton Road, Barnburgh		Year 15 = None (Not significant)
	Visual Amenity – Receptor O - Future residents of Allocated Site for Residential Development - HS44	Nature of potential views discussed within chapter. Effect not assessed.	
	Visual Amenity – Receptor P - Future residents of Allocated Site for Residential Development - HS51		
	Visual Amenity – Receptor Q - Users of public footpaths 'Billingley CP 5' & 'Dearne UD 15'	The embedded mitigation shown on the Parameters Plan (Figure 3.1) and the Proposed Landscape Plans (Figure 3.2), and also within the 5-Year Soft Landscape Works Maintenance and Management Proposals Plan which will be secured through planning permission.	Year 15 = Moderate Adverse (Not significant)
	Visual Amenity – Receptor R - Users of public footpath 'Billingley CP 6'		Year 15 = Minor Adverse (Not significant)
	Visual Amenity – Receptor S - Users of public footpath 'Dearne UD 8'		Year 15 = Minor Adverse (Not significant)
	Visual Amenity – Receptor T - Users of public footpath 'Dearne UD 13' / users of Phoenix Country Park		Year 15 = None (Not significant)
	Visual Amenity – Receptor U - Users of public footpath 'Dearne UD 17'		Year 15 = None (Not significant)
	Visual Amenity – Receptor V - Users of Trans Pennine Trail		Year 15 = None (Not significant)
	Visual Amenity – Receptor W - Users of Chapel Lane / Restricted Byway 'Great Houghton CP 10'		Year 15 = None (Not significant)
	Visual Amenity – Receptor X - Road users A635, adjacent to the northern boundary of the Site		Year 15 = Moderate / Minor Adverse (Not significant)
	Visual Amenity – Receptor Y - Road users on Dudley Drive		Year 15 = Minor Adverse (Not significant)
	Visual Amenity – Receptor Z - Road users on Billingley View		Year 15 = Negligible Adverse (Not significant)
	Visual Amenity – Receptor AA - Road users on Carr Head Lane		Year 15 = Negligible Adverse (Not significant)
	Visual Amenity – Receptor BB - Road users on Barnsley Road / Holly Grove		Year 15 =

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
			Negligible Adverse (Not significant)
	Visual Amenity – Receptor CC - Road users on Ingsfield Lane / Broadwater / Maori Avenue		Year 15 = Negligible Beneficial (Not significant)
	Visual Amenity – Receptor DD - Road users on A6195		Year 15 = Minor Adverse (Not significant)
	Visual Amenity – Receptor EE - Road users on Billingley Green Lane		Year 15 = Minor Adverse (Not significant)
	Visual Amenity – Receptor FF - Road users on B6097 West Street / Montgomery Road, Wath-upon-Dearne		Year 15 = Negligible Beneficial (Not significant)
	Visual Amenity – Receptor GG - Workers at Aldi RDC		Year 15 = Minor Adverse (Not significant)
	Visual Amenity – Receptor HH - Workers at Goldthorpe Industrial Estate		Year 15 = Negligible Adverse (Not significant)
	Visual Amenity – Receptor II - Visitors to RSPB reserves: Dearne Valley – Bolton Ings and Old Moor		Year 15 = None (Not significant)
	Visual Amenity – Receptor JJ - Users of Lacewood Primary School		Year 15 = Minor Adverse (Not significant)
	Visual Amenity – Receptor KK - Users of Heather Garth Primary School		Year 15 = Negligible Adverse (Not significant)
Biodiversity (Chapter 9)			
Construction	Environmental releases of dust impacting upon SSSI	CEMP (secured through planning condition following submission of CEMP framework with the planning application) – Measures to damp down dust	Negligible
	Environmental release to ground impacting upon SSSI	CEMP (secured through planning condition following submission of CEMP framework with the planning application)) – good practice for storage of hazardous materials	Negligible
	Environmental release to water impacting upon SSSI	CEMP (secured through planning condition following submission of CEMP framework with the planning application)) – good practice for storage of hazardous materials	Negligible
	Increase in traffic pollutants impacting on SSSI	None proposed	Negligible

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
	Loss of terrestrial habitats within the Site	None proposed at construction stage	Minor Adverse
	Loss of hedgerows within Site	None proposed at construction stage	Minor Adverse
	Damage to retained habitats from construction activities	CEMP (secured through planning condition following submission of CEMP framework with the planning application)) – identify and fence off EPZ and provide awareness to contractors	Negligible
	Loss of habitat to watercourses	None proposed at construction stage	Negligible
	Environmental release impacting terrestrial habitats at the Site	CEMP (secured through planning condition following submission of CEMP framework with the planning application)) – good practice for storage of hazardous materials	Negligible
	Environmental release impacting watercourses at the Site	CEMP (secured through planning condition following submission of CEMP framework with the planning application)) – good practice for storage of hazardous materials	Negligible
	Loss of habitat used by commuting and foraging bats	None proposed at construction stage	Minor Adverse (Addressed further during operational phase through habitat creation)
	Disturbance to commuting and foraging bats	CEMP (secured through planning condition following submission of CEMP framework with the planning application)) – sensitive use of lighting	Minor Adverse
	Loss of two trees with potential bat roosts (if present)	None proposed at construction stage	**Moderate Adverse** **(Addressed further during operational phase through installation of bat boxes)**
	Loss of arable habitats used by breeding farmland birds	None proposed at construction stage	Minor Adverse (Addressed further during operational phase through habitat creation)
	Loss of arable foraging habitat for wintering birds	None proposed at construction stage	Minor Adverse (Addressed further during operational phase through habitat creation)
	Loss of terrestrial habitat (hedgerow and woodland) for breeding birds	None proposed at construction stage	Minor Adverse

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
			(Addressed further during operational phase through habitat creation)
	Disturbance or direct impact (injury/death) of breeding birds from construction activities	CEMP (secured through planning condition following submission of CEMP framework with the planning application)) – avoid breeding bird season or employ measures to identify and protect nesting birds during construction	Negligible
	Disturbance to marsh harriers using the Site due to habitat loss and construction activities	None proposed	Minor Adverse
Operational	Environmental releases to water from Site operation impacting upon SSSI	None proposed. SuDs features embedded within Site design will limit the extent of any potential release	Negligible
	Increase in traffic pollutants impacting on SSSI	None Proposed	Minor Adverse
	Creation of terrestrial woodland habitat	Habitat creation embedded within Site design LEMP (secured through condition) – to ensure habitats provide biodiversity/ecological value	**Moderate Beneficial**
	Creation of terrestrial grassland habitat	Habitat creation embedded within Site design LEMP (secured through condition) – to ensure habitats provide biodiversity/ecological value	**Moderate Beneficial**
	Creation of waterbodies/pond habitats	Habitat creation embedded within Site design LEMP (secured through condition) – to ensure habitats provide biodiversity/ecological value	**Moderate Beneficial**
	Creation of hedgerows	Habitat creation embedded within Site design LEMP (secured through condition) – to ensure habitats provide biodiversity/ecological value	**Moderate Beneficial**
	Environmental releases to watercourses	Ponds and SUDS creation embedded within Site design would reduce impacts	Minor Adverse
	Land use change reducing diffuse nutrient inputs to watercourses	None proposed	Minor Beneficial
	Habitat creation impacts on foraging/commuting bats	Habitat creation embedded within Site design	**Moderate Beneficial**

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
	Operational activities impact on bats	Habitat creation embedded within Site design Lighting Strategy	Minor Adverse
	Habitat creation impacts on roosting bats	Habitat creation embedded within Site design Bat boxes installed on-site	Minor Beneficial
	Habitat creation for breeding birds	Habitat creation embedded within Site design Bird boxes installed on-site	Minor Beneficial
	Habitat creation for breeding/foraging farmland birds	Habitat creation embedded within Site design	Negligible
	Habitat creation for marsh harriers	Habitat creation embedded within Site design	Minor Beneficial
Water Resources and Flood Risk (Chapter 10)			
Construction	Fluvial Flood Risk	Effective implementation of the CEMP	Negligible
	Surface Water Flooding	None required	Negligible
	Surface Water Drainage	Effective implementation of the CEMP	Negligible
	Foul Water Drainage	None required	Negligible
	Surface Water Quality	Effective implementation of the CEMP	Negligible
Operational	Fluvial Flood Risk	Effective implementation of CEMP, raising finished floor levels	Negligible
	Surface Water Flooding	None required	Negligible
	Surface Water Drainage	Effective implementation of the CEMP and maintenance strategy and use of class 1 oil separators	Negligible
	Foul Water Drainage	Agreement in principle with Yorkshire Water to discharge to public foul sewer at unrestricted rate	Negligible
	Surface Water Quality	Effective implementation of the CEMP, additional pollution treatment measures	Negligible
Soils and Agricultural Land (Chapter 11)			
Construction	Loss of agricultural land	None possible	**Moderate adverse**
	Loss of or degradation of soil resource	Site-specific Soil Management Plan, which will be secured by planning condition.	Negligible
Noise (Chapter 12)			
Construction	Disturbance from construction noise	Applicant has submitted a CEMP framework with the planning application, and subsequent plot-specific CEMPs will be submitted as part of any future Reserved Matters Applications	Negligible to Minor Adverse (not significant)
	Disturbance from construction traffic noise	N/A	Negligible (not significant)

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
Operational	Daytime noise disturbance from road traffic associated with the Development – all receptors	N/A	Negligible (not significant)
	Night-time noise disturbance from road traffic associated with the Development – all receptors except R02, R03 and R04	Applicant will offer to provide and install noise insulation and alternative ventilation to affected habitable rooms, secured through the Section 106 Agreement	Negligible to Minor Adverse (not significant)
	Night-time noise disturbance from road traffic associated with the Development – R02, R03 and R04	N/A	Negligible (not significant)
	Daytime noise disturbance from on-site HGV activities – all receptors	N/A	Negligible to Minor Adverse (not significant)
	Night-time noise disturbance from on-site HGV activities – all receptors except R03	Applicant will install a 5 m high barrier on the northern boundary of Plot 1. Further assessment at the Reserved Matters stage will be undertaken to assess if further mitigation is required.	Negligible to Minor Adverse (not significant)
	Night-time noise disturbance from on-site HGV activities – R03	N/A	Negligible (not significant)
Transport and Access (Chapter 13)			
Construction	Severance	Whilst mitigation measures are not required in accordance with the methodology set out in this chapter, to manage any environmental effects resulting from construction, a CEMPF has been submitted as part of the application to inform future plot-specific CEMPs. The CEMPF contains a CTMP. Further detail is provided at chapter 5.	Negligible
	Driver Delay		Negligible
	Pedestrian Delay		Negligible
	Non-Motorised User Amenity		Negligible
	Fear and Intimidation		Negligible
Operational	Severance	Whilst mitigation measures are not required in accordance with the methodology set out in this chapter, the proposed scheme at the A635/Red Hill Lane/ Hickleton Road junction is predicted to result in an improvement to the overall operation of the junction and with regard to road safety. Whilst the methodology shows that nothing is required, the Applicant will make a financial contribution commensurate with the impact of the Development at the junction. 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	Minor Adverse
	Driver Delay		Negligible
	Pedestrian Delay		Minor Adverse
	Non-Motorised User Amenity		Negligible
	Fear and Intimidation		Minor Adverse

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
		the wider A19-A1 Hickleton bypass scheme identified by the 'Network North' vision.	
Air Quality (Chapter 14)			
Construction	Human receptors exposed to elevated pollutant concentrations (PM10) (construction dust emissions)	Full details of mitigation contained within Appendix 14.5 (Construction Dust Assessment) and Appendix 14.11 (Best-Practice General Mitigation Measures). Additionally, a CEMPF has been submitted as part of the application to inform future plot-specific CEMPs.	Negligible Adverse (Not Significant)
	Human receptors exposed to elevated pollutant concentration (NO2, PM10 and PM2.5 (emissions from vehicle exhausts) – Goldthorpe		Negligible adverse (Not Significant).
	Ecological receptors exposed to elevated pollutant concentration (NOx, NH3, nitrogen and acid deposition) (emissions from vehicle exhausts) – Goldthorpe		Significance determined in Chapter 9.
	Human receptors exposed to elevated pollutant concentration (NO2, PM10 and PM2.5) (emissions from vehicle exhausts) Hickleton		Negligible adverse (Not Significant).
Operational	Human receptors exposed to elevated pollutant concentration (NO2, PM10 and PM2.5 (emissions from vehicle exhausts) – Goldthorpe	Full details of mitigation contained within Appendix 14.5 (Construction Dust Assessment) and Appendix 14.11 (Best-Practice General Mitigation Measures). Additionally, a CEMPF has been submitted as part of the application to inform future plot-specific CEMPs.	**Major - Moderate to negligible adverse for NO2 and PM2.5. Negligible for PM10.**
	Ecological receptors exposed to elevated pollutant concentration (NOx, NH3, nitrogen and acid deposition) (emissions from vehicle exhausts) – Goldthorpe		Significance determined in Chapter 9.
	Human receptors exposed to elevated pollutant concentration (NO2, PM10 and PM2.5) (emissions from vehicle exhausts) Hickleton	Full details of mitigation contained within Appendix 14.5 (Construction Dust Assessment) and Appendix 14.11 (Best-Practice General Mitigation Measures). Additionally, a CEMPF has been submitted as part of the application to inform future plot-specific CEMPs. Specific measures will be included within the village of Hickleton which include: • Provide mechanical ventilation with filtration at the John O Gaunts property, which would aid in improving exposure at the specific receptor.	Negligible adverse (Not Significant).

Phase	Effect/ Receptor	Mitigation	Residual Significance (Bold indicates significant effects)
		• The remaining offsetting amount will be offered for air quality measures within Hickleton, which should be discussed with Barnsley Metropolitan Borough Council and City of Doncaster Council (CDC), and could include a contribution towards an independent study, building on the initial emission study carried out by CDC.	
Climate Change (Chapter 15)			
Construction	Construction Transport Emissions	Implementation of a CEMP to be secured through a planning condition.	Negligible
Operational	Operational Transport Emissions	Implementation of a Travel Plan which is submitted alongside the application.	**Moderate Adverse and Significant**
	Operational Energy Emissions	Cycle spaces, improved pedestrian connectivity, EV charging spaces.	Minor Adverse
	Carbon Sequestration Potential	Adherence to the Energy Hierarchy and implementation of Be Lean, Be Clean and Be Green Measures.	Minor Adverse
	Effects of climate change on future site users	Adherence to the Energy Hierarchy and implementation of Be Lean, Be Clean and Be Green Measures. Appropriate landscaping and planting and flood mitigation. A LEMP will be secured through planning condition.	Minor Adverse
	Effects of climate change on infrastructure	Infrastructure to be safeguarded at detailed design stage e.g. Raised Finished Floor Levels.	Minor Adverse
	Effects of climate change on the natural environment	A long-term maintenance and management plan to be secured through a planning condition.	Minor Adverse
	Effects of climate change on flood risk	Designs specifications of SuDS and FCA planting to be secured at the detailed design stage.	Minor Adverse

Interactive Effects

16.4 Regulation 4 (2) states that an ES must include a description of the aspects of the environment likely to be significantly affected by the Development and the interrelationship between these effects. There is no published methodology for determining the significance of interactive or synergistic effects. Combining effects with respect to one environmental discipline with another has to be qualitative and is necessarily based on judgment.

16.5 This has been informed by the residual effects of the Development (as identified above in Table 16.1) and professional judgment.

16.6 Appropriate mitigation during the construction phase has been identified in the ES as necessary, such as best practice measures to reduce or eliminate potential adverse environmental effects of construction as far as possible. Furthermore, the Construction Methodology Chapter (Chapter 5) proposes a programme and approach to works which will ensure that the Development would be implemented in the most efficient and least intrusive manner. This includes measures set out and secured through the implementation of the CEMPF and site-specific CEMPs secured through planning condition for the Development (see Chapter 5 for further details). Relevant legislative requirements would also be adhered to.

16.7 During the construction and operational phases of the Development, it is considered that interactions could potentially occur between landscape and views and built heritage, as well as between the water environment and biodiversity. Given that these interactive effects have been inherently considered within the technical assessments no further consideration of interactive effects is required.

Cumulative Effects Summary

16.8 Each of the technical chapters have considered the likely significant cumulative effects of the Development with the cumulative schemes set out in Chapter 2.

Summary/Conclusions

16.9 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.

16.10 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

16.11 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.

Cumulative Effects

16.12 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.

16.13 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;

- 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.