Steeple Renewables Project

Chapter 18: Summary

Environmental Statement - Volume 1

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Chapter 18: Summary

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18. Summary

18.1 Introduction

18.1.1 This chapter of the Environmental Statement (ES) provides a summary of the various technical assessments which have been undertaken as part of the EIA (Environmental Impact Assessment) process.

18.1.2 A summary of all the likely significant effects (prior to mitigation), additional mitigation and residual effects assessed in the technical chapters of this ES are presented in this chapter within relevant tables for construction, operation and decommissioning.

18.1.3 This chapter also presents a summary of the cumulative effects and in-combination effects of the Proposed Development that have been assessed within each technical chapter.

18.1.4 Mitigation measures are identified and described in further detail within the individual topic chapters **(Chapters 6 – 17 [EN010163/APP/6.2.6 - EN010163/APP/6.2.17])** of this ES. These mitigation measures have been incorporated into the Proposed Development and/or control documents, as agreed with the project team and stakeholders (where necessary), to control residual effects.

18.2 Summary of Residual Effects

18.2.1 The residual effects are analysed as part of the Proposed Development. The residual effects are defined as those effects that remain following the implementation of mitigation measures. Residual effects and mitigation measures are discussed in full in the relevant technical chapters of this ES **(Chapters 6 – 17 [EN010163/APP/6.2.6 - EN010163/APP/6.2.17]).**

18.2.2 Each technical chapter contains detailed consideration of both the beneficial and adverse residual effects identified as likely to arise from the Proposed Development. The general criteria applied to define the significance of residual effects are outlined within **Chapter 2: EIA Methodology and Public Consultation [EN010163/APP/6.2.2]** of this ES, with further detail provided within the individual technical chapters.

18.2.3 The residual effects listed within the technical chapters of this ES **(Chapters 6 – 17 [EN010163/APP/6.2.6 - EN010163/APP/6.2.17])** are described with reference to the scale of effect (i.e., 'moderate' or 'major') and whether this is significant or not,

and the nature of the effect (i.e., adverse or beneficial). Residual effects assigned a rating of 'major' or 'moderate' are considered in general as significant and are identified in this summary chapter.

18.2.4 Where technical chapters have deviated from this standard methodology, this is explained in the respective chapters and justification for the reason provided (for example to align with industry-standard guidance for that discipline). This is pertinent to:

- **Chapter 6: Landscape and Visual Impact and Residential Amenity [EN010163/APP/6.2.6]** and **Chapter 9: Cultural Heritage [EN010163/APP/6.2.9]** whereby a 'moderate' effect could be considered to be significant, however this is subject to professional judgement.
- **Chapter 7: Ecology and Biodiversity [EN010163/APP/6.2.7]** denotes that effects are described to be either significant, or not significant, at the geographic level set out (e.g., at the Site level; at the Local level at the County level; at the National level; at the International level); or else they are negligible or neutral and not significant). Additionally, each phase is assessed using the likely status of each ecological receptor at the end of the previous phase as the baseline for the next phase. The significance of the residual effect for each feature is assessed against the project as a whole (i.e., with all phases combined) in line with relevant CIEEM guidance.
- **Chapter 13: Climate Change [EN010163/APP/6.2.13]** denotes any beneficial effects as significant.

18.2.5 The design of the Proposed Development has been an iterative process and developed in consultation with statutory and non-statutory consultees. The design parameters have been considered in detail by technical chapter authors and the results of the assessments are reported in the individual topic chapters of the ES. A number of measures have been implemented within the design of the Proposed Development to reduce adverse environmental effects, including landscape design to create habitat and screen views of the Proposed Development.

18.2.6 A summary of the identified significant residual effects for each topic are presented in Table 18.1 for the construction phase, Table 18.2 for the operational phase and Table 18.3 for the decommissioning phase. A description of the effect on the resource or receptor, initial significance of effect, proposed mitigation measures

and remaining residual effect with mitigation measures implemented is outlined in Table 18.1-18.3.

18.2.7 After the implementation of mitigation, significant residual effects are anticipated in relation to:

- Landscape and Visual Impact;
- Ecology and Biodiversity;
- Land Use and Agriculture;
- Climate Change; and
- Socio-Economics.

18.2.8 After the implementation of the proposed mitigation measures, significant residual effects are not anticipated in relation to the following topics:

- Hydrology, Hydrogeology and Flood Risk and Drainage;
- Cultural Heritage;
- Noise and Vibration;
- Transport and Access;
- Air Quality;
- ~~Land Use and Agriculture;~~
- Glint and Glare;
- Residential Amenity; and
- Miscellaneous Issues.

Table 18.1 - Summary of Significant Effects, Mitigation Measures and Residual Effects of the Proposed Development during the Construction Phase

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
Landscape and Visual and Residential Amenity			
Landscape features- hedgerows	**Chapter 6: Landscape and Visual Impact and Residential Amenity [EN010163/APP/6.2.6]** methodology has considered mitigation and enhancements within the 'Assessment of Likely Effects' section of the chapter, and therefore residual effects (with mitigation in place) are the only effects identified.	Embedded design features such as vegetation retained (where possible) and new planting. Implementation of the subsequent maintenance of the planting tmeasures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7**].	**Major-Moderate (adverse)**
Landscape features- ground cover		Embedded design features such as vegetation retained (where possible) and appropriate standoffs in the design to sensitive landscape features.	**Major-Moderate (adverse)**
Landscape character – Site		Embedded design features such as vegetation retained (where possible) and new planting. Implementation of the subsequent	**Major-Moderate (adverse)**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
		maintenance of the planting tmeasures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7].**	
Visual Receptors - Users of ProW (Bridleway BW5 [Sturton le Steeple], and Footpath FP19, FP21, FP22 [Sturton le Steeple])		Embedded design features such as vegetation retained (where possible) and new planting. Implementation of the subsequent maintenance of the planting tmeasures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7**].	**Major (adverse)**
Visual Receptors - Users of ProW (Trent Valley Way, Footpath FP15, FP16, FP39, FP38, FP18, FP20, FP41, FP24 [Sturton le Steeple], Bridleway BW23 [Sturton le Steeple] and Restricted Byway		Embedded design features such as vegetation retained (where possible) and new planting. Implementation of the subsequent maintenance of the planting tmeasures is set out within the **Outline Landscape and**	**Major-Moderate (adverse)**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
RB31 [Sturton le Steeple])		**Ecological Management Plan [EN010163/APP/6.3.7**].	
Visual Receptors - Users of ProW (Footpath FP1 [West Burton])		Embedded design features such as vegetation retained (where possible) and new planting. Implementation of the subsequent maintenance of the planting tmeasures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7**].	**Moderate (adverse)**
Visual Receptors – Users of the transport network (Three Leys Lane/ Fenton Lane)		Embedded design features such as vegetation retained (where possible) and new planting. Implementation of the subsequent maintenance of the planting tmeasures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7**].	**Major/Moderate (adverse)**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
Ecology and Biodiversity			
Local Wildlife Site within and adjacent the Site within 100m	Adverse, up to County Level	Implementation of mitigation measures such as standard measures for pollution prevention and dust management incorporated within the **Outline Construction and Environmental Management Plan [EN010163/APP/6.3.4]**	**Beneficial, Site Level**
Habitats of Principal Importance at the Site	Adverse, Site Level	Embedded design features such as retention of habitats (where possible) and buffers to these habitats, and implementation of mitigation measures such as to retain, create and manage retained and new ecological features during and after construction within the **Outline Construction and Environmental Management Plan [EN010163/APP/6.3.4]**	**Beneficial, Site Level**
Skylark	Adverse, District Level	Embedded design features such as development free zone	**Adverse, Local Level**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
		in Biodiversity Mitigation Areas and additional mitigation such as timing of certain works to avoid impacts on features, for example favouring vegetation clearance outside of the bird nesting period, and implementation of the mitigation measures within **Appendix 7.13 – Skylark Mitigation Strategy [EN010163/APP/6.3.7],**	
Barn Owl	Adverse, Site Level	Embedded design features such as retention of habitats (where possible) including building and trees with barn owl suitability and buffers to these habitats, and implementation of the mitigation measures such as to retain, create and manage retained and new ecological features during and after construction within the **Outline Construction and Environmental**	**Beneficial, Local Level**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
		Management Plan [EN010163/APP/6.3.4]	
Bats	Adverse, Site Level	Embedded design features such as retention of habitats (where possible) including building and trees with bat suitability and buffers to these habitats, additional mitigation such as bat roost boxes and implementation of the mitigation measures such as to retain, create and manage retained and new ecological features during and after construction within the **Outline Construction and Environmental Management Plan [EN010163/APP/6.3.4]**	**Beneficial, Local Level**
Aquatic Invertebrates	Adverse, County Level	Embedded design features such as new ponds throughout the Site and implementation of mitigation measures such as to retain, create and manage retained and new ecological	**Beneficial, Site Level**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
		features during and after construction within the **Outline Construction and Environmental Management Plan [EN010163/APP/6.3.4]**	
Terrestrial Invertebrates	Adverse, Local Level	Embedded design features such as retention of habitats (where possible) and buffers to these habitats, and implementation of mitigation measures such as to retain, create and manage retained and new ecological features during and after construction within the **Outline Construction and Environmental Management Plan [EN010163/APP/6.3.4]**	**Beneficial, Local Level**
Socio-Economic			
Employment – Primary Impact Zone (increase in employment in the construction sector)	Moderate beneficial (significant)	Implementation of enhancement measures such as employment opportunities for locals and partnering with education facilities to develop local skills within the **Outline**	**Moderate beneficial (significant)**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
		Supply Chain, Employment and Skills Plan (oSCESP) (Appendix 10.1, [EN010163/APP/6.3.10])	
Employment – Secondary Impact Zone (increase in employment in the construction sector)	Minor to Moderate beneficial (not significant)	Implementation of the enhancement measures such as employment opportunities for locals and partnering with education facilities to develop local skills within the **Outline Supply Chain, Employment and Skills Plan (oSCESP) (Appendix 10.1, [EN010163/APP/6.3.10])**	**Moderate beneficial (significant)**
Contribution to Economic Output- Primary Impact Zone	Major Beneficial (significant)	None Required	**Major Beneficial (significant)**
Accommodation Demand – Primary Impact Zone	Moderate Beneficial (significant)	None Required	**Moderate Beneficial (significant)**
Accommodation Demand – Secondary Impact Zone	Moderate Beneficial (significant)	None Required	**Moderate Beneficial (significant)**
Hydrology, Hydrogeology, Flood Risk and Drainage			

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
No significant residual effects on the water environment or from flood risk are predicted during construction of the Proposed Development.			
Cultural Heritage			
No significant residual effects on cultural heritage are predicted during construction of the Proposed Development.			
Noise and Vibration			
No significant residual effects to receptors from noise and vibration are predicted during construction of the Proposed Development.			
Climate Change			
No significant residual effects on climate change are predicted during construction of the Proposed Development.			
Transport and Access			
No significant residual effects on receptors of transport and access are predicted during construction of the Proposed Development.			
Air Quality			
No significant residual effects on air quality receptors are predicted during construction of the Proposed Development.			
Land Use and Agriculture			
No significant residual effects on land use and agriculture receptors ~~a~~were predicted during construction of the Proposed Development in the original version of the Land Use and Agriculture Chapter [APP-072B]. However, an updated version of the Land Use and Agriculture Chapter has now been prepared and submitted at Examination Deadline 5. The update responds to ongoing consultation with Natural England regarding the matter of potential effects arising from provision of new woodland and ponds. In a worst-case scenario, the permanent loss for ponds of c 1 ha of agricultural land (likely mostly non-BMV) and the potentially permanent downgrading of circa 12.1 ha of mostly BMV land for woodland planting, would be a medium magnitude impact, on land of high sensitivity,			

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
which would result in an effect of **moderate significance**. Taking this worst-case assessment the effect is therefore **significant.**			
Glint and Glare			
No significant residual effects on glint and glare receptors are predicted during construction of the Proposed Development.			
Miscellaneous Issues			
No significant residual effects from miscellaneous issues including vulnerability of the Proposed Development to risks of major accidents and disasters, telecommunications, television reception, and utilities, waste, and electric, magnetic and electromagnetic fields are predicted during construction of the Proposed Development.			

Table 18. 2 - Summary of Significant Effects, Mitigation Measures and Residual Effects of the Proposed Development during the Operational Phase

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
Landscape and Visual and Residential Amenity			
Landscape features – hedgerows (year 15)	**Chapter 6: Landscape and Visual Impact and Residential Amenity [EN010163/APP/6.2.6**] methodology has considered mitigation and enhancements within the 'Assessment of Likely Effects' section of the chapter, and therefore residual effects (with mitigation in place) are the only effects identified.	Embedded design features such as vegetation retained (where possible) and new planting Implementation of the subsequent maintenance of the planting measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7**]	**Moderate (beneficial)**
Landscape character – Site (year 1)		Embedded design features such as vegetation retained (where possible) and new planting Implementation of the subsequent maintenance of the planting measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7**]	**Major-Moderate (adverse)**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
Landscape character – Site (year 15)		Embedded design features such as vegetation retained (where possible) and new planting Implementation of the subsequent maintenance of the planting measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7**]	**Moderate (adverse)**
Visual Receptors – Users of PRoWs (year 1) (Bridleway BW5 [Sturton le Steeple], and Footpath FP19, FP21, FP22 [Sturton le Steeple])		Embedded design features such as vegetation retained (where possible) and new planting Implementation of the subsequent maintenance of the planting measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7**]	**Major (adverse)**
Visual Receptors – Users of PRoWs (year 1)		Embedded design features such as vegetation retained (where possible) and	**Major/Moderate (adverse)**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
(Trent Valley Way, Footpath FP15, FP16, FP39, FP38, FP18, FP20, FP41, FP24 [Sturton le Steeple], Bridleway BW23 [Sturton le Steeple] and Restricted Byway RB31 [Sturton le Steeple])		new planting Implementation of the subsequent maintenance of the planting measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7**]	
Visual Receptors – Users of PRoWs (year 1) (Footpath FP1 [West Burton])		Embedded design features such as vegetation retained (where possible) and new planting Implementation of the subsequent maintenance of the planting measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7**]	**Moderate (adverse)**
Visual Receptors – Users of the transport network (year 1) (Three Leys Lane/ Fenton Lane)		Embedded design features such as vegetation retained (where possible) and new planting Implementation of the subsequent	**Major/Moderate (adverse)**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
		maintenance of the planting measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7**]	
Ecology and Biodiversity			
Local Wildlife Site within and adjacent the Site within 100m	Neutral	Change in land management - No further mitigation required. Implementation of the subsequent maintenance of the planting and new ecological features mitigation measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]**	**Beneficial, Site Level**
Habitats of Principal Importance at the Site	Beneficial Site Level	Impact from habitat creation and management - No further mitigation required. Implementation of the subsequent	**Beneficial, Site Level**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
		maintenance of the planting and new ecological features mitigation measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]**	
Skylark	Beneficial	Impact from habitat creation and management - No further mitigation required. Implementation of the subsequent maintenance of the planting and new ecological features mitigation measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]**	**Adverse, Local Level**
Barn Owl	Adverse, Site Level	Impact from habitat creation and management - No further mitigation required.	**Beneficial, Local Level**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
		Implementation of the subsequent maintenance of the planting and new ecological features mitigation measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]**	
Bats	Adverse, Site Level	Impact from habitat creation and management - No further mitigation required. Implementation of the subsequent maintenance of the planting and new ecological features mitigation measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]**	**Beneficial, Local Level**
Aquatic Invertebrates	Beneficial, Site Level	Beneficial impact from habitat creation and site management - No	**Beneficial, Site Level**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
		further mitigation required. Implementation of the subsequent maintenance of the planting and new ecological features mitigation measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]**	
Terrestrial Invertebrates	Beneficial	Impact from habitat creation and management - No further mitigation required. Implementation of the subsequent maintenance of the planting and new ecological features mitigation measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]**	**Beneficial, Local Level**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
Socio- Economic			
Business Rates- Primary Impact Zone	Moderate Beneficial (significant)	None Required	**Moderate Beneficial (significant)**
Hydrology, Hydrogeology, Flood Risk and Drainage			
No significant residual effects on the water environment or from flood risk are predicted during operation of the Proposed Development.			
Cultural Heritage			
No significant residual effects on cultural heritage are predicted during operation of the Proposed Development.			
Noise and Vibration			
No significant residual effects to receptors from noise and vibration are predicted during operation of the Proposed Development.			
Climate Change			
Global atmosphere	Beneficial (significant)	None Required	**Beneficial (significant)**
Transport and Access			
No significant residual effects on receptors of transport and access are predicted during operation of the Proposed Development.			
Air Quality			
No significant residual effects on receptors of air quality are predicted during operation of the Proposed Development.			
Land Use and Agriculture			
No significant residual effects on land use and agriculture receptors are predicted during operation of the Proposed Development.			
Glint and Glare			

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
No significant residual effects on glint and glare receptors are predicted during operation of the Proposed Development.			
Miscellaneous Issues			
No significant residual effects from miscellaneous issues including vulnerability of the Proposed Development to risks of major accidents and disasters, telecommunications, television reception, and utilities, waste, and electric, magnetic and electromagnetic fields are predicted during operation of the Proposed Development.			

Table 19.3 - Summary of Significant Effects, Mitigation Measures and Residual Effects of the Proposed Development during the Decommissioning Phase

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
Landscape and Visual and Residential Amenity			
Landscape character – Site	**Chapter 6: Landscape and Visual Impact and Residential Amenity [EN010163/APP/6.2.6]** methodology has considered mitigation and enhancements within the 'Assessment of Likely Effects' section of the chapter, and therefore residual effects (with mitigation in place) are the only effects identified.	Embedded design features such as vegetation retained (where possible) and new planting. Implementation of the subsequent maintenance of the planting measures is set out within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7].**	**Moderate (adverse)**
Ecology and Biodiversity			
Local Wildlife Site within and adjacent the Site within 100m	Adverse, up to County Level	Implementation of the mitigation measures within the **Outline Decommissioning Plan [EN010163/APP/6.3.4]**	**Beneficial, Site Level**
Habitats of Principal Importance at the Site	Adverse, Site Level	Implementation of the mitigation measures within the **Outline Decommissioning Plan [EN010163/APP/6.3.4]**	**Beneficial, Site Level**

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
Skylark	Adverse, District Level	Implementation of the mitigation measures within the **Outline Decommissioning Plan [EN010163/APP/6.3.4]**	**Adverse, Local Level**
Barn Owl	Adverse, Site Level	Implementation of the mitigation measures within the **Outline Decommissioning Plan [EN010163/APP/6.3.4]**	**Beneficial, Local Level**
Bats	Adverse, Site Level	Additional mitigation such as bat roost boxes to be retained and implementation of the mitigation measures within the **Outline Decommissioning Plan [EN010163/APP/6.3.4]**	**Beneficial, Local Level**
Aquatic Invertebrates	Adverse, County Level	Implementation of the mitigation measures within the **Outline Decommissioning Plan [EN010163/APP/6.3.4]**	**Beneficial, Site Level**
Terrestrial Invertebrates	Adverse, Local Level	Implementation of the mitigation measures within the **Outline Decommissioning Plan [EN010163/APP/6.3.4]**	**Beneficial, Local Level**
Socio-Economic			

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
Employment – Primary Impact Zone (increase in employment in the construction sector)	Moderate beneficial (significant)	Implementation of the enhancement measures such as employment opportunities for locals and partnering with education facilities to develop local skills within the **Outline Supply Chain, Employment and Skills Plan (oSCESP) (Appendix 10.1, [EN010163/APP/6.3.10])**	**Major beneficial (significant)**
Contribution to Economic Output- Primary Impact Zone	Major Beneficial (significant)	None Required	**Major Beneficial (significant)**
Accommodation Demand – Primary Impact Zone	Moderate Beneficial (significant)	None Required	**Moderate Beneficial (significant)**
Accommodation Demand – Secondary Impact Zone	Minor to Moderate Beneficial (significant)	None Required	**Moderate Beneficial (significant)**
Hydrology, Hydrogeology, Flood Risk and Drainage			
No significant residual effects on the water environment or from flood risk are predicted during decommissioning of the Proposed Development.			
Cultural Heritage			
No significant residual effects on cultural heritage are predicted during decommissioning of the Proposed Development.			
Noise and Vibration			

Receptor/Receiving Environment of Effect	Significance of Effect	Mitigation	Residual Effect
No significant residual effects to receptors from noise and vibration are predicted during decommissioning of the Proposed Development.			
Climate Change			
No significant residual effects to receptors from noise and vibration are predicted during decommissioning of the Proposed Development.			
Transport and Access			
No significant residual effects on receptors of transport and access are predicted during decommissioning of the Proposed Development.			
Air Quality			
No significant residual effects on receptors of air quality are predicted during decommissioning of the Proposed Development.			
Land Use and Agriculture			
No significant residual effects on land use and agriculture receptors are predicted during decommissioning of the Proposed Development.			
Glint and Glare			
No significant residual effects on glint and glare receptors are predicted during decommissioning of the Proposed Development.			
Miscellaneous Issues			
No significant residual effects from miscellaneous issues including vulnerability of the Proposed Development to risks of major accidents and disasters, telecommunications, television reception, and utilities, waste, and electric, magnetic and electromagnetic fields are predicted during decommissioning of the Proposed Development.			

18.3 Residual Effects Conclusions

18.3.1 The residual effects (i.e., those that remain following implementation of mitigation measures), which are generally categorised as 'moderate' or 'major' and therefore considered to be 'likely significant environmental effects' are summarised below.

18.3.2 A number of environmental impact avoidance, design and mitigation measures have been identified to mitigate and control environmental effects during construction, operation and decommissioning of the Proposed Development. It is proposed that these are secured through requirements within the DCO application.

Construction Phase

18.3.3 For the construction phase, significant effects relating to landscape and visual and residential amenity receptors, ecological receptors, ~~and~~ socio-economic receptors and small areas of agricultural land are identified.

18.3.4 In terms of landscape and visual amenity effects on landscape features (hedgerows and ground cover), landscape character at Site level and users of the local PRoW and transport network, these residual adverse significant effects during the construction phase will be temporary, due to the transient nature of the construction works. The construction phase residual effects are due to the changes in surface landform, landcover, presence of construction machinery and the associated activity which is required to implement the Proposed Development.

18.3.5 In terms of ecological construction effects on receptors, most significant residual effects are beneficial (local wildlife site, habitats of principal importance at the site, barn owl, bats, aquatic invertebrate and terrestrial invertebrate) – although noting the methodology for **Chapter 7: Ecology and Biodiversity [EN010163/APP/6.2.7]** provides a residual effect for all phases combined in line with relevant CIEEM guidance. Therefore, as stated it is anticipated that these receptors would receive adverse effects during the construction phase, ranging from Site to County Level, however effects are temporary in nature.

18.3.6 In terms of socio-economic residual construction effects, it is anticipated that significant beneficial effects are expected through increase in local employment from the construction phase of the Proposed Development, and in turn increase in economic output to the local economy from increased employment. Additionally, accommodation demand will be beneficially impacted with an increase in the number of guest staying in local accommodation during the construction phase linked to the workforce.

Operational Phase

18.3.7 For the operational phase, significant effects relating to landscape and visual and residential amenity receptors, ecological receptors, climate change and socio-economic receptors are identified.

18.3.8 In terms of landscape and visual amenity effects on landscape features (hedgerows and ground cover), a beneficial residual effect is anticipated by year 15 with the design features of retention of hedgerows (where possible) and additional hedgerows as illustrated on **Figure 6.9 Landscape and Ecological Mitigation Strategy [EN010163/APP/6.4.6]**. Landscape character at Site level and users of the transport network would have due to the change of the baseline conditions to a renewable energy infrastructure.

18.3.9 In terms of ecological residual effects during the operational phase, most significant residual effects are beneficial (local wildlife site, habitats of principal importance at the site, barn owl, bats, aquatic invertebrate and terrestrial invertebrate) – although noting the methodology for **Chapter 7: Ecology and Biodiversity [EN010163/APP/6.2.7]** provides a residual effect for all phases combined in line with relevant CIEEM guidance. During the operational phase, beneficial effects will be experienced for many ecological receptors due to the habitat creation (implemented during the construction phase), and over the operational life as the habitats created develops.

18.3.10 During the operational phase of the Proposed Development, a beneficial effect on the global climate is anticipated through the net GHG emission savings due to the nature of the Proposed Development producing renewable energy and therefore displacing the need for other forms of conventional energy generation that would emit greenhouse gas emissions.

18.3.11 During the operational phase of the Proposed Development, a significant beneficial effect is anticipated on the increased business rates revenue as an important economic contributor to the area. It is anticipated for the intended 40-year lifespan of the Proposed Development, business rates generated could total around £44million (present value).

Decommissioning Phase

18.3.12 For the decommissioning phase, significant effects relating to landscape and visual and residential amenity receptors, ecological receptors and socio-economic receptors are identified.

18.3.13 Similar to the construction phase, the presence of site plant and machinery during the decommissioning phase will have significant adverse effects on the landscape character of the Site, albeit this phase is expected to be broadly similar if not slightly quicker than the construction phase, and therefore temporary.

18.3.14 In terms of ecological residual effects during the decommissioning phase, most significant residual effects are beneficial (local wildlife site, habitats of principal importance at the site, barn owl, bats, aquatic invertebrate and terrestrial invertebrate) – although noting the methodology for **Chapter 7: Ecology and Biodiversity [EN010163/APP/6.2.7]** provides a residual effect for all phases combined in line with relevant CIEEM guidance. During the decommissioning phase, beneficial effects will be experienced for many ecological receptors due to the habitat creation that has developed over the lifetime of the Proposed Development.

18.3.15 The decommissioning of the Proposed Development is expected to result in similar socio-economic residual effects. An increase in local employment and in turn increase in economic output to the local economy is expected during the decommissioning phase of the Proposed Development. Additionally, accommodation demand will be beneficially impacted with an increase in the number of guests staying in local accommodation during the decommissioning and decommissioning phases linked to the workforce.

18.4 Summary of Cumulative Effects

18.4.1 This section of the chapter reports the results of the cumulative effects assessment associated with the construction, operation and decommissioning of the Proposed Development, presenting both the 'significant' and ' not significant' effects. Cumulative effects may arise where there is the potential for two or more developments that are reasonably foreseeable and/or consented, but not yet constructed or operational, within close enough proximity to the Proposed Development to lead to effects on the same receptor.

18.4.2 The cumulative effects have been assessed within technical **(Chapters 6 – 17 [EN010163/APP/6.2.6 - EN010163/APP/6.2.17])** of this ES. However, a summary of the outcomes of these assessments is provided in Table 18.4 of this chapter.

18.4.3 Cumulative effects assigned a rating of 'major' or 'moderate' are considered in general as significant and are identified in this summary chapter.

18.4.4 A detailed description of the general assessment methodology for the cumulative effects assessment can be found in **Chapter 2: EIA Methodology and Public Consultation [EN010163/APP/6.2.2]** of this ES.

Table 18.4 -Summary of the cumulative effects identified within each of the technical Chapters 6 to 17 of this Environmental Statement

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
Landscape and Visual and Residential Amenity				
ID 1 - EN010133 ID 2 - EN010131 ID 3 - EN010142 ID 4 - EN010088 ID 5 - EN010132 ID 7 - 22/00358/FUL ID 8 - 20/00117/FUL ID 9 - 22/01713/FUL ID 10 - 23/00485/DEM ID 11 - V/4386 ID 12 - F/3581, and V/4079	Cumulative effects on landscape character		No additional mitigation required.	**Negligible** **(not significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
1D 14 - EN020034 1D 16 - EN010159				
ID 14 - EN020034	Cumulative effects on views and visual amenity		Implementation of the mitigation measures within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7].**	**Moderate (not significant)**
ID 1 - EN010133 ID 2 - EN010131 ID 3 - EN010142 ID 4 - EN010088 ID 5 - EN010132 ID 7 - 22/00358/FUL ID 8 - 20/00117/FUL ID 9 - 22/01713/FUL	Cumulative effects on views and visual amenity		Implementation of the mitigation measures within the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7].**	**Negligible (not significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
ID 10 - 23/00485/DEM ID 11 - V/4386 ID 12 - F/3581, and V/4079 1D 16 - EN010159				
Ecology and Biodiversity				
ID 1 - EN010133 ID 2 - EN010131 ID 3 - EN010142 ID 11 - V/4386	Cumulative effects on breeding skylark	The **Ecology and Biodiversity Chapter [EN010163/APP/6.2.7]** has only assessed cumulative effects with embedded mitigation measures in place and therefore residual effects are the only effects identified.	No additional mitigation required.	**Local to District Level adverse (significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
Hydrology, Hydrogeology, Flood Risk and Drainage				
ID 2 - EN010131 ID 8 - 20/00117/FUL 1D 9 - 22/01713/FUL ID 11 - V/4386	Cumulative effects on relevant receptors of hydrological impacts	The **Hydrology, Hydrogeology, Flood Risk and Drainage Chapter [EN010163/APP/6.2.8]** has only assessed cumulative effects with embedded mitigation measures in place and therefore residual effects are the only effects identified.	It is assumed the other developments would follow good industry practice in terms of the management of construction works and surface water runoff complying with local and national planning policy and the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. Other proposals will therefore be required to demonstrate (amongst other matters) that flood risk is not increased, that the surface water drainage	**Negligible** **(not significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
			regime and water quality are not adversely affected and that groundwater aquifers are not affected. No additional mitigation is required.	
Cultural Heritage				
ID 2 - EN010131 ID 11 - V/4386	Cumulative effects on relevant heritage receptors (Segelocum Roman town Scheduled Monument (NHLE ref. 1003669) and Medieval settlement and open field system immediately southeast of Low Farm) Scheduled Monument (NHLE ref. 1017741) – operational phase	Minor adverse (not significant)	No additional mitigation required.	**Minor adverse** **(not significant)**
Socio-Economic				

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
Secondary Impact Zone ID 1 - EN010133 ID 2 - EN010131 ID 3 - EN010142 ID 4 - EN010088 ID 5 - EN010132 ID 7 - 22/00358/FUL ID 8 - 20/00117/FUL 1D 9 - 22/01713/FUL 1D 14 - EN020034 1D 15 – EN010162 1D 16 - EN010159	Employment – construction phase (Increase in employment in the construction sector)	Major beneficial (significant)	Implementation of the mitigation measures within the **Outline Supply Chain, Employment and Skills Plan (oSCESP) (Appendix 10.1, [EN010163/APP/6.3.10])**	**Major beneficial (significant)**
Secondary Impact Zone ID 1 - EN010133	Contribution to Economic Output – construction phase	Moderate beneficial (significant)	None Required	**Moderate beneficial (significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
ID 2 - EN010131 ID 3 - EN010142 ID 4 - EN010088 ID 5 - EN010132 ID 7 - 22/00358/FUL ID 8 - 20/00117/FUL 1D 9 - 22/01713/FUL 1D 14 - EN020034 1D 15 – EN010162 1D 16 - EN010159				
Secondary Impact Zone ID 1 - EN010133 ID 2 - EN010131 ID 3 - EN010142	Accommodation Demand – construction phase	Moderate adverse (significant)	None Required	**Moderate adverse (significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
ID 4 - EN010088 ID 5 - EN010132 ID 7 - 22/00358/FUL ID 8 - 20/00117/FUL 1D 9 - 22/01713/FUL 1D 14 - EN020034 1D 15 – EN010162 1D 16 - EN010159				
Secondary Impact Zone ID 1 - EN010133 ID 2 - EN010131 ID 3 - EN010142 ID 4 - EN010088 ID 5 - EN010132	Employment – decommissioning phase (Increase in employment in the construction sector)	Moderate beneficial (significant)	Implementation of the mitigation measures within the **Outline Supply Chain, Employment and Skills Plan (oSCESP) (Appendix 10.1, [EN010163/APP/6.3.10])**	**Major beneficial (significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
ID 7 - 22/00358/FUL ID 8 - 20/00117/FUL 1D 9 - 22/01713/FUL 1D 14 - EN020034 1D 15 – EN010162 1D 16 - EN010159				
Secondary Impact Zone ID 1 - EN010133 ID 2 - EN010131 ID 3 - EN010142 ID 4 - EN010088 ID 5 - EN010132 ID 7 - 22/00358/FUL ID 8 - 20/00117/FUL	Contribution to Economic Output – decommissioning phase	Major beneficial (significant)	None Required	**Major beneficial (significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
1D 9 - 22/01713/FUL 1D 14 - EN020034 1D 15 – EN010162 1D 16 - EN010159				
Secondary Impact Zone ID 1 - EN010133 ID 2 - EN010131 ID 3 - EN010142 ID 4 - EN010088 ID 5 - EN010132 ID 7 - 22/00358/FUL ID 8 - 20/00117/FUL ID 9 - 22/01713/FUL ID 14 - EN020034	Accommodation Demand – decommissioning phase	Moderate beneficial (significant)	None Required	**Moderate beneficial (significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
ID 15 – EN010162 ID 16 - EN010159				
Noise and Vibration				
ID 8 - 20/00117/FUL ID 9 - 22/01713/FUL	Cumulative noise and vibration effects at residential receptors – construction/decommissioning phases	Major to Moderate adverse (significant)	Best practicable means, enhanced mitigation where necessary and via **Outline Construction and Environmental Management Plan [EN010163/APP/6.3.4].**	**Moderate to Minor adverse** **(not significant)**
ID 8 - 20/00117/FUL ID 9 - 22/01713/FUL	Cumulative noise and vibration effects at ProW receptors -– construction/decommissioning phases	Moderate to Minor adverse (not significant)	Best practicable means, enhanced mitigation where necessary and via **Outline Construction and Environmental Management Plan [EN010163/APP/6.3.4].**	**Minor adverse** **(not significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
ID 8 - 20/00117/FUL ID 9 - 22/01713/FUL	Cumulative noise and vibration effects at residential receptors – operational phase	Moderate to Minor adverse (not significant)	No additional mitigation required.	**Moderate to Minor adverse** **(not significant)**
ID 8 - 20/00117/FUL ID 9 - 22/01713/FUL	Cumulative noise and vibration effects at ProW receptors -– operational phase	Minor adverse (not significant)	No additional mitigation required.	**Minor adverse** **(not significant)**
Climate Change				
ID 1 - EN010133 ID 2 - EN010131 ID 3 - EN010142 ID 5 - EN010132 ID 6 – EN010123 ID 7 - 22/00358/FUL	Net GHG emissions as a consequence of the operation of the Proposed Development in addition to other solar schemes considered – operational phase	Beneficial (significant)	No additional mitigation required.	**Beneficial** **(significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
ID 8 - 20/00117/FUL ID 15 – EN010162 ID 16 - EN010159				
Transport and Access				
ID 5 - EN010132 ID 7 - 22/00358/FUL ID 8 - 20/00117/FUL ID 9 - 22/01713/FUL ID 11 - V/4386 ID 12 -NCC ref: F/3581, and V/4079 (variation of conditions 11, 13, and 53 of planning permission 1/18/00234/CDM)	Additional vehicles on the highway network – construction and decommissioning phases	Minor adverse (not significant)	No additional mitigation required.	**Negligible** **(not significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
Air Quality				
ID 5 - EN010132 ID 7 - 22/00358/FUL ID 8 - 20/00117/FUL ID 9 - 22/01713/FUL ID 11 - V/4386 ID 12 -NCC ref: F/3581, and V/4079 (variation of conditions 11, 13, and 53 of planning permission 1/18/00234/CDM)	Cumulative effects from Dust Soiling Potential increase in concentrations of NO2, PM10 and PM2.5 as a result of additional construction traffic or NRMM movements - construction and decommissioning phases	Negligible (not significant)	Any development occurring at the same time as the Proposed Development will be required to undertake its own dust risk assessment and implement mitigation to ensure that there are no off-site impacts.	**Negligible** **(not significant)**
Land Use and Agriculture				
ID 1 - EN010133 ID 2 - EN010131	Loss of BMV Land from cumulative solar farms – operational phase	Minor or negligible adverse (not significant)	No additional mitigation required. The other developments are generally	**Minor or negligible adverse** **(not significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
ID 3 - EN010142 ID 5 - EN010132 ID 6 – EN010123 ID 7 - 22/00358/FUL ID 8 - 20/00117/FUL 1D 15 – EN010162 1D 16 - EN010159			reversible and therefore the temporary loss of BMV agricultural land is more limited. Each scheme should have embedded construction codes of practice to adopt best practice measures including for soil protection.	
Glint and Glare				
ID 8 - 20/00117/FUL	Cumulative glint and glare effects – operational phase	Minor adverse (not significant)	Mitigation measures for the Proposed Development (e.g., the retention of and appropriate management of existing vegetation (where feasible) and the provision of new planting) ensure receptors are predicted to	**Negligible** **(not significant)**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
			receive no significant glint and glare effects and so any potential for cumulative effects involving the Proposed Development would cease to be.	
Miscellaneous Issues - Electric, Magnetic and Electromagnetic Fields				
Entire shortlist	Sensitive receptors of EMFs – operational phase	N/A	There are no developments on the shortlist with the potential to increase the risk of electromagnetic fields.	**None**
Miscellaneous Issues - Telecommunications, Television Reception and Utilities				
Entire shortlist	Effects on telecommunications signals, television reception and utilities -operational phase	N/A	The Proposed Development has been assessed to have no effect on telecommunication, television or utilities. It is expected that the other	**None**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
			developments included within the cumulative schemes shortlist would also have no effect on telecommunications and television reception and would adhere to the same mitigation as set out above to reduce the risk of damaging utilities. All developments will need to be managed through a CEMP and would include mitigation measures to reduce the risk of damaging utilities during construction. Therefore, no cumulative effects are expected on	

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
			telecommunications, television reception, or utilities.	
Miscellaneous Issues: Waste				
Entire shortlist	Pressure on the local recycling plants or landfill sites – construction and decommissioning phases	N/A	If the construction or decommissioning phases of the Proposed Development happen at the same time as the construction phase of another significant scheme within the local area, there may be some cumulative effects associated with waste. Cumulative volumes of waste may put pressure on the capacity of local recycling plants or landfill sites. This would be managed through	**None.**

Relevant Cumulative Other Developments (ID listed in Appendix 2.3 of the ES)	Potential for Cumulative Effect	Significance of Effect	Mitigation Measure	Residual Cumulative Effect
			the final CEMP and DP, and consultation with waste providers. Therefore, effects from cumulative volumes are not expected to be significant.	
Miscellaneous Issues: Major Accidents and Disasters				
Entire shortlist	Risk of relevant major accidents and disasters effects (health and safety at work and fire risk) cumulatively with identified other developments	N/A	Implementation of the mitigation measures within the **Outline Fire Risk Management Plan (FRMP) (Appendix 4.4, [EN010163/APP/6.3.4])**	None

18.5 Cumulative Effects Conclusions

18.5.1 The assessment of cumulative effects has considered the potential for effects from other developments in the area to combine with and intensify effects caused by the Proposed Development. Significant cumulative residual effects are identified for ecology and biodiversity, socio-economics and climate change.

18.5.2 In regard to ecology and biodiversity, a local to district level significant adverse cumulative effects anticipated for breeding skylark birds.

18.5.3 There would be significant beneficial effects on employment and economic contribution as a result of the combined effect of the Proposed Development with other developments during the construction, operation and decommissioning phases. During the construction phase a significant adverse cumulative effect is identified for accommodation demand. This presents a worst case scenario should the other developments' construction timeframes overlap, however, in reality this is unlikely and the significance level identified would be reduced.

18.5.4 When considering cumulative effects with other renewable generation projects with the Proposed Development during the operational phase, there would be a beneficial cumulative effect on climate change through the contribution to the UK's legally binding emission reduction targets.

18.6 In-Combination Effects

18.6.1 This section of the chapter reports the results of the in-combination effects assessment associated with the construction, operation and decommissioning of the Proposed Development. In-combination effects result from the different types of effects generated by the Proposed Development having a combined effect on the same receptors.

18.6.2 In-combination effects occur when receptors are subject to residual effects under more than one environmental topic. As such, the residual effects presented in **(Chapters 6 – 17 [EN010163/APP/6.2.6 - EN010163/APP/6.2.17])** (regardless of whether they are classed as significant or not significant) have been reviewed to identify receptors subject to one or more types of effect to ensure that the interrelationship between each of the aspects of the environment likely to be affected by the Proposed Development has been properly evaluated and considered.

18.6.3 In-combination effects have been considered during the construction, operation, and decommissioning phases of the Proposed Development. In light of the comprehensive range of embedded design measures, effect interactions have only been presented in Table 18.5 where residual adverse or beneficial effects of at least minor in at least one receptor group have been identified.

18.6.4 Further details of the intra-project, or in-combination cumulative effects assessment approach is identified in **Chapter 2: EIA Methodology and Public Consultation [EN010163/APP/6.2.2].**

18.6.5 The following receptor groups that have the potential to be subject to in-combination effect interactions have been identified:

- Employment;
- Local Area;
- Residential Receptors
- PRoW Receptors; and
- Road Receptors

18.6.6 Table 18.5 and Table 18.6 provide a qualitative assessment of the in-combination effect interactions on these receptor groups. Construction and decommissioning have been presented together because the types of effect interactions would be

broadly the same with decommissioning effects likely to be less significant than the construction phase.

18.6.7 No significant adverse in-combination effects have been identified.

Table 18.5- Assessment of In-Combination Effect Interactions During Construction and Decommissioning

Receptor Group	Description of potential effect interactions	Residual significance of effect determined through EIA		Effect interactions
Noise and Vibration, Transport and Access				
		Noise and Vibration	**Transport and Access**	
Residential Receptors	Increase of vehicles on the highway network and noise and vibration effects due to traffic noise and onsite activities on residential receptors during the construction/ decommissioning phase of the Proposed Development.	Moderate to Minor Adverse (not significant)	Minor to Negligible Adverse (not significant)	Effects from noise and vibration are controlled via the **Outline Construction and Environmental Management Plan [EN010163/APP/6.3.4]** and **Outline Decommissioning Plan [EN010163/APP/6.3.4]**. Effects from transport and access will be controlled via the **Outline Construction Traffic Management Plan [EN010163/APP/6.3.13].** The individual effects have been assessed as not significant, and therefore it is unlikely that in-

Receptor Group	Description of potential effect interactions	Residual significance of effect determined through EIA		Effect interactions
				combination they will generate a significant effect.
PRoW Receptors	Increase of vehicles on the highway network and noise and vibration effects due to the Proposed Development on PRoW receptors during the construction/ decommissioning phase of the Proposed Development.	Minor Adverse (not significant)	Minor to Negligible Adverse (not significant)	Effects from noise and vibration are controlled via the **Outline Construction and Environmental Management Plan [EN010163/APP/6.3.4]** and **Outline Decommissioning Plan [EN010163/APP/6.3.4]**. Effects from transport and access will be controlled via the **Outline Construction Traffic Management Plan [EN010163/APP/6.3.13].** The individual effects have been assessed as not significant, and therefore it is unlikely that in-combination they will generate a significant effect.

Receptor Group	Description of potential effect interactions	Residual significance of effect determined through EIA		Effect interactions
Ecology and Biodiversity, Air Quality				
		Ecology and Biodiversity	**Air Quality**	
Ecological Receptors	Displacement and potential mortality of ecological receptors and potential increase in air pollutants effecting ecological receptors during the construction/ decommissioning phase of the Proposed Development.	Adverse, Site – County Level (significant)	Negligible (not significant)	The Proposed Development's construction has the potential to adversely affect ecological receptors through displacement and morality. Mortality is not expected to increase due to the effect of air pollution on ecological receptors as it is considered negligible (not significant), and therefore it is unlikely that the resultant in-combination effect will generate a significant effect.
Landscape and Visual, Cultural Heritage				
		Landscape and Visual and Residential Amenity	**Cultural Heritage**	

Receptor Group	Description of potential effect interactions	Residual significance of effect determined through EIA		Effect interactions
Residential Receptors	Visual and amenity impacts from the Proposed Development during the construction/decommissioning phase on residential receptors and overlapping Listed Buildings and their settings as heritage assets.	None- Moderate Adverse (not significant)	Minor- Moderate Beneficial (not significant)	Some residential receptors assessed in **Appendix 6.4 - Residential Amenity Assessment [EN010163/APP/6.3.6]** overlap as Listed Buildings and have the potential to experience combine effects on setting of the asset and visual amenity. Minor-Moderate Beneficial effects are identified only during the decommissioning phase for relevant Listed Buildings assessed in the **Cultural Heritage Chapter [EN010163/APP/6.3.9]** with the removal of the Proposed Development's infrastructure. Individual effects have been assessed as not significant, and therefore it is unlikely that in-combination they will generate a significant effect.

Receptor Group	Description of potential effect interactions	Residual significance of effect determined through EIA		Effect interactions
Landscape and Visual, Noise and Vibration				
		Landscape and Visual and Residential Amenity	**Noise and Vibration**	
Residential Receptors	Noise and vibration effects due to traffic noise and onsite activities and landscape and visual impact amenity on residential receptors during the construction/ decommissioning phase of the Proposed Development.	None- Moderate Adverse (not significant)	Moderate to Minor Adverse (not significant)	Effects from noise and vibration are controlled via the **Outline Construction and Environmental Management Plan [EN010163/APP/6.3.4]** and **Outline Decommissioning Plan [EN010163/APP/6.3.4]**. Effects from transport and access will be controlled via the **Outline Construction Traffic Management Plan [EN010163/APP/6.3.13].** Effects for landscape and visual are controlled via the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7].** The

Receptor Group	Description of potential effect interactions	Residual significance of effect determined through EIA		Effect interactions
				individual effects have been assessed as not significant, and therefore it is unlikely that in-combination they will generate a significant effect.
PRoW Users	Noise and vibration effects due to traffic noise and onsite activities and landscape and visual impact amenity on PRoW receptors during the construction/ decommissioning phase of the Proposed Development.	Major Adverse (significant)	Minor Adverse (not significant)	Effects from noise and vibration are controlled via the **Outline Construction and Environmental Management Plan [EN010163/APP/6.3.4]** and **Outline Decommissioning Plan [EN010163/APP/6.3.4]**. Mitigation measures in **the Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]** will control landscape and visual effects. Individual effects have been assessed as not significant, and therefore it is unlikely that in-

Receptor Group	Description of potential effect interactions	Residual significance of effect determined through EIA		Effect interactions
				combination they will generate a significant effect.
Landscape and Visual, Transport and Access				
		Landscape and Visual and Residential Amenity	**Transport and Access**	
PRoW Users	Increase of vehicles on the highway network and landscape and visual impact amenity on PRoW receptors during the construction/ decommissioning phase of the Proposed Development.	None to Major Adverse (significant)	Minor to Negligible Adverse (not significant)	Effects from transport and access will be controlled via the **Outline Construction Traffic Management Plan [EN010163/APP/6.3.13].** Mitigation measures in the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]** will control landscape and visual effects. Individual effects have been assessed as not significant, and therefore it is unlikely that in-

Receptor Group	Description of potential effect interactions	Residual significance of effect determined through EIA		Effect interactions
				combination they will generate a significant effect.
Road Users	Increase of vehicles on the highway network and landscape and visual impact amenity on road receptors during the construction/ decommissioning phase of the Proposed Development.	None to Major to Moderate Adverse (significant)	Minor to Negligible Adverse (not significant)	Effects from transport and access will be controlled via the **Outline Construction Traffic Management Plan [EN010163/APP/6.3.13].** Mitigation measures in the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]** will control landscape and visual effects. Individual effects have been assessed as not significant, and therefore it is unlikely that in-combination they will generate a significant effect.

Table 18.6- Assessment of In-Combination Effect Interactions During Operation

Receptor Group	Description of potential effect interactions	Residual significance of effect determined through EIA		Effect interactions
Socio-Economics, Land Use and Agriculture				
		Socio- Economics	**Land Use and Agriculture**	
Employment	Increase in local employment and disruption to farm businesses (directly on site) in the operational phase of the Proposed Development.	Negligible (not significant)	Minor to Negligible Adverse (not significant)	During operation there will be no permanent jobs onsite and the original farm businesses will be adversely impacted. However, the individual effects have been assessed as not significant, and therefore it is unlikely that in-combination they will generate a significant effect.
Noise and Vibration, Air Quality				
		Noise and Vibration	**Air Quality**	
Residential Receptors	Noise and vibration effects due to the activities onsite and potential increase in air pollutants effecting human	Moderate/ Minor Adverse (not significant)	Negligible (not significant)	Effects from noise and vibration are controlled via the **Outline Operational Management Plan [EN010163/APP/6.3.4**]. Air quality

	health of residential receptors during the operational phase of the Proposed Development			effects on human health are considered negligible (not significant). The individual effects have been assessed as not significant, and therefore it is unlikely that in-combination they will generate a significant effect.
Ecology and Biodiversity, Air Quality				
		Ecology and Biodiversity	**Air Quality**	
Ecological Receptors	Displacement and potential mortality of ecological receptors and potential increase in air pollutants effecting ecological receptors during the operational phase of the Proposed Development.	Adverse, Site Level significant)	Negligible (not significant)	The Proposed Development's operation has the potential to adversely affect ecological receptors through displacement and morality. Mortality is not expected to increase due to the effect of air pollution on ecological receptors as it is considered negligible (not significant), and therefore it is unlikely that the resultant in-combination effect will generate a significant effect.

Noise and Vibration, Glint and Glare				
		Noise and Vibration	**Glint and Glare**	
Residential Receptors	Noise and vibration effects due to the activities onsite and visual amenity in relation to reflection from glint and glare on residential receptors during the operational phase of the Proposed Development.	Moderate/ Minor Adverse (not significant)	Negligible (not significant)	Effects from noise and vibration are controlled via the **Outline Operational Management Plan [EN010163/APP/6.3.4**]. Mitigation and monitoring measures for landscape and visual, such as management of the additional planting screening glint and glare effects are controlled via the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]**. The individual effects have been assessed as not significant, and therefore it is unlikely that in-combination they will generate a significant effect.
PRoW Receptors	Noise and vibration effects due to the activities onsite and visual amenity in	Minor Adverse (not significant)	Negligible (not significant)	Effects from noise and vibration are controlled via the **Outline Operational Management Plan**

	relation to reflection from glint and glare on PRoW receptors during the operational phase of the Proposed Development.			**[EN010163/APP/6.3.4**]. Mitigation and monitoring measures for landscape and visual, such as management of the additional planting screening glint and glare effects are controlled via the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]**. The individual effects have been assessed as not significant, and therefore it is unlikely that in-combination they will generate a significant effect.
Landscape and Visual, Noise and Vibration				
		Landscape and Visual and Residential Amenity	**Noise and Vibration**	
Residential Receptors	Noise and vibration effects due to activities onsite and landscape and visual impact amenity on residential receptors during the	None- Moderate/ Minor Adverse (not significant)	Moderate/ Minor Adverse (not significant)	Effects from noise and vibration are controlled via the **Outline Operational Management Plan [EN010163/APP/6.3.4**]. Mitigation and monitoring measures for

	operational phase of the Proposed Development.			landscape and visual are controlled via the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]**. The individual effects have been assessed as not significant, and therefore it is unlikely that in-combination they will generate a significant effect.
PRoW Receptors	Noise and vibration effects due activities onsite and landscape and visual impact amenity on PRoW receptors during the operational phase of the Proposed Development.	None- Moderate/ Minor Adverse (not significant)	Minor Adverse (not significant)	Effects from noise and vibration are controlled via the **Outline Operational Management Plan [EN010163/APP/6.3.4**]. Mitigation and monitoring measures for landscape and visual are controlled via the **Outline Landscape and Ecological Management Plan [EN010163/APP/6.3.7]**. The individual effects have been assessed as not significant, and therefore it is unlikely that in-

				combination they will generate a significant effect.