

Stonestreet Green Solar

Environmental Statement

Volume 4: Appendices

Chapter 9: Biodiversity

Appendix 9.7: Assessment of Effects

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Appendix 9.7: Assessment of Effects

9.1 Introduction

- 9.1.1 This Appendix (Assessment of Effects) has been prepared on behalf of EPL 001 Limited ('the Applicant') in relation to ecological important features in relation to the Development Consent Order ('DCO') application for Stonestreet Green Solar ('the Project').
- 9.1.2 This Assessment of Effects forms **Appendix 9.7 to ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2)** and presents a detailed assessment of ecological effects for all stages of the Project (construction, operational phase and decommissioning).
- 9.1.3 **Table 1** assesses the effects of the Project on the following designated sites:
- Wye and Crundale Downs SAC, Folkestone to Etchinghill Escarpment SAC and SSSI, Dungeness SAC, Stodmarsh SSSI, SAC, SPA and Ramsar site, Romney Marsh and Rye Bay Ramsar and SPA and Hatch Park SSSI;
 - All local statutory designated sites: Poulton Wood LNR; and
 - All non-statutory designated sites: Backhouse Wood LWS, Aldington Sand Pit LWS, Aldington Woods LWS, and Bilsington Woods and Pasture LWS.
- 9.1.4 **Table 2** assesses the effects of the Project on habitats and species.

Table 1: Assessment of Effects - Designated Sites

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
<p>Wye and Crundale Downs SAC</p> <p>International</p>	<p>Construction: Air quality. Medium term, reversible.</p> <p>The Project is unlikely to result in any significant air quality or hydrological effects through increased nutrient deposition within these SACs. This is due to their distance from the Site, the absence of known hydrological connectivity between these SACs and the Site (as per the conclusions of ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2)), the predicted low number of construction vehicle movements within 200m of Folkestone to Etchinghill Escarpment SAC, and absence of construction vehicle movements within 200m of the Wye and Crundale Downs SAC.</p> <p>In relation to the Folkestone to Etchinghill Escarpment SAC and SSSI, it is assessed that construction phase traffic will pass within 200m of the Site (with imported materials expected to arrive via Folkestone or Dover), when travelling along the A20 / M20 motorway.</p> <p>For potential air quality effects on designated sites, ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4) screens-out all such effects on European sites within the Project’s ecological zone of influence which is incorporated in the Information to Inform Habitats Regulations Assessment (Doc Ref. 7.19).</p> <p>In summary, ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4) states that the predicted Annual Average Daily Traffic (‘AADT’) figures as a result of the Project are well below the relevant screening criteria of 1,000 AADT for all traffic and 200 AADT for Heavy Duty Vehicles (‘HDVs’) recommended within National Highways¹, Natural England² and IAQM guidance³ for determining a potentially significant air quality effect.</p> <p>No further assessment is needed whenever a development generates less traffic than this. Therefore, no significant effects on these designated sites are predicted as a result of the construction of the Project.</p> <p>There are no other construction impact pathways (e.g. water quality, noise, light, dust) which could affect these designated sites at distance.</p>	<p>No</p>
	<p>Operational: Air quality through the operational phase or site maintenance. No effect.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Site maintenance and management operations will comprise basic maintenance and if needed periodic replacement of Site infrastructure, and vegetation and habitat management. There are no other operational impact pathways (e.g., water quality, noise, light, dust) which could affect this designated site at distance.</p>	
	<p>Decommissioning: Air quality. Medium term, reversible.</p> <p>Decommissioning traffic has been assessed as similar to construction. No significant effects on this site are therefore predicted, based upon the screening out of construction effects within ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4). There are no other decommissioning impact pathways (e.g., water quality, noise, light, dust) which could affect this designated site at distance.</p>	No
<p>Folkestone to Etchinghill Escarpment SAC and SSSI</p> <p>International</p>	<p>As per Wye and Crundale Downs SAC above.</p>	No
<p>Dungeness SAC</p> <p>International</p>	<p>Construction: Air quality, water pollution. No effect.</p> <p>There are no known impact pathways between the Site and the SAC; no construction phase traffic to be routed within 200m of this SAC, no known hydrological connectivity between the Site and the SAC (which is within the same designated site complex as the Dungeness Romney Marsh and Rye Bay Ramsar and SPA) has no hydrological connectivity to the Site (confirmed by ES Volume 2, Chapter 10: Water Environment, Paragraph 10.5.60 (Doc Ref. 5.2), and no functionally linked habitat for this SAC present on the Site.</p> <p>There are no other construction impact pathways (e.g. noise, light, dust) which could affect this designated site at distance.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Operational: Air quality, water pollution through the operational phase or site maintenance. No effect.</p> <p>Site maintenance and management operations will comprise basic maintenance and if needed periodic replacement of Site infrastructure, and vegetation and habitat management. There are no other operational impact pathways (noise, water quality, air quality, light) which could affect this designated at distance.</p>	No
	<p>Decommissioning: Air quality, water pollution. No effect.</p> <p>Decommissioning phase traffic is to be routed away from the SAC (beyond 200m), the SAC has no hydrological connectivity to the Site, and no functionally linked habitat for this SAC is present on the Site. There are no other decommissioning impact pathways (noise, water quality, air quality, light, dust) which could affect this designated site at distance.</p>	No
<p>Dungeness Romney Marsh and Rye Bay Ramsar and SPA</p> <p>International</p>	<p>Construction: Functionally linked land, water pollution. Medium term, reversible.</p> <p>Winter and breeding bird survey work undertaken in 2020-2021 and 2021-2022 (and provisional assessment of the 2023 breeding results) has not identified any bird species to indicate that the Site is likely to be functionally linked, for the qualifying bird species or assemblages, for the SPA or Ramsar.</p> <p>Paragraph 10.5.60 of ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2) states '<i>The majority of the Site is not located in the same surface water catchment as Dungeness and Romney Marsh however runoff from the southern half of Field 8 does drain southwards towards the SPA.</i>' Impacts to the Ramsar and SPA are therefore assessed in this Appendix.</p> <p>ES Volume 2, Chapter 10: Water Environment, Paragraph 10.7.45 (Doc Ref. 5.2) states that '<i>ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2)</i> states that this designated site is '<i>located at a significant distance from the Site (6. away). In addition, only runoff from the southern half of Field 8 would drain in this direction. Any pollution incidents derived from this part of the Site could potentially connect to Dungeness Romney Marsh and Rye Bay Ramsar and SPA via surface watercourses at which point small volumes of pollutant would be significantly diluted and thus</i></p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p><i>undetectable at the designated site.</i> The potential effect has therefore been assessed as negligible within both ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2) and this assessment.</p> <p>There are no other construction impact pathways (noise, air quality, light, dust) which could affect this designated site at distance.</p> <p>Operational: Air quality, water pollution through the operational phase or site maintenance. No effect.</p> <p>Site maintenance and management operations will comprise basic maintenance and if needed periodic replacement of Site infrastructure, and vegetation and habitat management. There are no other operational impact pathways (noise, water quality, light) which could affect this designated site at distance.</p> <p>Decommissioning: Functionally linked land, water pollution. Medium term, reversible.</p> <p>There are no known decommissioning impact pathways (functionally linked land, noise, water quality, air quality, light, dust) which could affect this designated at distance.</p>	<p>No</p> <p>No</p>
<p>Stodmarsh SSSI, SAC, SPA and Ramsar site</p> <p>International</p>	<p>Construction: Nutrient effects. Medium term, reversible.</p> <p>Construction of the Project will not pose an elevated risk of nutrient runoff to the East Stour River or the local ditch and stream network that feeds it, when compared with current intensive agricultural activity on Site. Current agricultural activity includes ploughing, direct nutrient application through fertilisers and extended periods of bare earth cover in proximity to these watercourses.</p> <p>The potable water supply for the construction phase of the Project will be delivered to Site via tanker and a cess tank will be installed on Site to collect foul water. The contents of the cess tank will be transferred via tanker to a licenced treatment facility. The demand for potable water supply and foul water disposal during the construction phase is anticipated to be low and easily managed via use of tankers. Ordinarily, the wastewater treatment works would be located as close to the Site as possible and therefore, in this instance, would be within and outflow to the Stour River catchment (likely the East Stour River catchment) that feeds the Stodmarsh Site complex.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>The Applicant has committed to the transport and disposal of foul water generated by all stages of the Project outside of the Stour Catchment (i.e. outside of any watercourse or groundwater body that connects to the Stodmarsh Site) as detailed within the Information to Inform Habitats Regulations Assessment (Doc Ref. 7.19). This is secured within the Outline Construction Environmental Management Plan ('CEMP') (Doc Ref. 7.8).</p> <p>Section 42 consultation responses from Natural England (e-mail 17 August 2023) stated that specific mitigation for nutrient impacts is not required for the Project (<i>'Mitigation for nutrient impacts on the Stodmarsh sites is normally only required for development including new, overnight accommodation'</i>). However, The Applicant has committed to disposal of foul waste outside of the Stour Catchment eliminates any potential pathways for nutrient impacts upon the Stodmarsh designated sites as a precautionary approach.</p> <p>There are no other construction impact pathways (noise, air quality, light, dust) which could affect this designated site at distance.</p>	
	<p>Operational: Nutrient effects. Medium term, reversible.</p> <p>In relation to nutrient effects upon the Stodmarsh Site, the operational phase and maintenance of the Project will not pose an elevated risk of nutrient runoff to the East Stour River or the local ditch and stream network that feeds it, when compared with current intensive agricultural activity on the Site. A net reduction in nutrient runoff is however likely to as the Site will be vegetated (i.e. grassland), will have slower surface water runoff rates and will not be subject to artificial fertiliser application.</p> <p>As for the construction phase, the foul water generated by the operational phase of the Project will be transported by tanker for treatment and final discharge to a wastewater treatment works entirely outside of the Stour Catchment (as secured by the Outline OMP (Doc Ref. 7.11)).</p> <p>There will therefore be no likely adverse nutrient effects on the Stodmarsh designated site complex. Nutrient neutrality calculations have therefore not been undertaken.</p> <p>There are no other operational impact pathways (noise, water quality, air quality, light) which could affect this designated site at distance.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Decommissioning: Nutrient effects. Medium term, reversible.</p> <p>Tankering of foul water outside the Stodmarsh catchment during the decommissioning phase will be incorporated into the Outline Decommissioning Environmental Management Plan ('DEMP') (Doc Ref. 7.12). Therefore, no effect is expected.</p> <p>There are no known other decommissioning impact pathways (functionally linked land, noise, air quality, light, dust) which could affect this designated site at distance.</p>	No
<p>Hatch Park SSSI</p> <p>National</p>	<p>Construction: Air quality, water pollution. Medium term, reversible.</p> <p>Significant effects are not predicted due to the nature, distance and location of the Project in relation to Hatch Park SSSI, its reason for designation and the absence of any potential impact pathways (e.g., water quality).</p> <p>ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4) screens out air quality impacts based upon the relevant screening criteria of 1,000 AADT for all traffic and 200 AADT for HDVs recommended within National Highways, Natural England and IAQM guidance for determining a potentially significant air quality effect.) No significant effects on this site are therefore predicted as a result of the construction of the Project.</p> <p>Paragraph 10.5.60 of ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2) confirms Hatch Park SSSI is only potentially hydrologically connected to the Site via the regional groundwater system and not surface runoff or shallow subsurface flow. Any pollution incidents derived from the Site would be temporary, short term and significantly diluted and undetectable in the event the source pathway reaches the regional groundwater beneath the SSSI. The potential effect has therefore been assessed as negligible within both ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2) and this assessment.</p> <p>There are no other construction impact pathways (noise, light, dust) which could affect this designated site at distance.</p>	No
	<p>Operational: Air quality, water pollution through the operational phase or site maintenance. No effect.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Site maintenance and management operations will comprise basic maintenance and, if needed, periodic replacement of Site infrastructure, and vegetation and habitat management. There are no operational impact pathways (noise, water quality, air quality, light) which could affect this designated at distance.</p> <p>Decommissioning: Air quality, water pollution. Medium term, reversible.</p> <p>As for construction, significant effects are not predicted due to the nature, distance and location of the Project in relation to Hatch Park SSSI, its reason for designation and the absence of any potential impact pathways (e.g., noise, water quality, lighting, or visual).</p>	No
<p>Poulton Wood LNR</p> <p>Local (District)</p>	<p>Construction: Air quality. Medium term, reversible.</p> <p>There is no known direct hydrological connectivity via watercourses between the Site and this LNR within ES Volume 2, Chapter 10: Water Environment (Doc Ref. 5.2), therefore there is no potential for hydrological impacts on Poulton Wood.</p> <p>Due to physical barriers (Frith Road, Bank Road, residential properties and vegetation) and the distance between the Site and the LNR, noise, dust, light and airborne pollution during construction is highly unlikely to occur. No air quality impact is expected as a result of the air quality assessment (ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4)), based on traffic routing.</p> <p>To minimise the potential for indirect impacts, implementation of environmental good construction practice is included as part of the Outline CEMP (Doc Ref. 7.8). Implementation of protection measures within the Outline CEMP (Doc Ref. 7.8) will further reduce potential impacts through minimising risk of pollution incidents, minimising any risk of INNS, encroachment within the protection zones and controlling vehicle and soil movements.</p>	No
	<p>Operational: Air quality, dust through the operational phase or site maintenance. No effect.</p> <p>Site maintenance and management operations will comprise basic maintenance and, if needed, periodic replacement of infrastructure, and vegetation and habitat management. There are no</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>operational impact pathways (noise, water quality, air quality, light) which could affect this designated site at distance.</p> <p>Decommissioning: Air quality. Medium term, reversible.</p> <p>Based on the physical separation of this LWS from the Site, the distance between the Site and LWS and the absence of any known potential hydrological pollution or other decommissioning impact pathways (and in combination with the Outline DEMP (Doc Ref. 7.12) control measures), there is no effect predicted upon this LWS.</p>	No
<p>Backhouse Wood LWS</p> <p>County</p>	<p>Construction: Damage, air quality, noise, dust deposition, water pollution, flooding. Medium term, reversible.</p> <p>No built infrastructure is proposed in proximity to the woodland edge. The adjacent fields will be free of PV panels and will comprise a BIA. The nearest infrastructure to the LWS will be associated with construction of the Grid Connection Route at over 200m north beyond the East Stour River and the Project Substation.</p> <p>Construction phase activities in proximity to Backhouse Wood LWS will be limited to landscape works including planting of a woodland tree and scrub buffer along the edge of the woodland, establishment of a Public Right of Way ('PRoW') and a mix of grassland and wet meadow plantings in the areas further to the north.</p> <p>An ancient woodland buffer zone will be in place as defined in the Design Principles (Doc Ref. 7.5) and as shown on Vegetation Protection and Removal Plan of ES Volume 4, Appendix 9.3: Arboricultural Impact Assessment (Doc Ref. 5.4). This buffer zone is defined as 15m from the ancient woodland canopy edge associated with the LWS. Within this buffer no infrastructure will be constructed and any works within this zone will be conducted under an Arboricultural Method Statement to be submitted to ABC (if required) prior to the commencement of construction works. The requirement for works under Arboricultural Method Statement forms part of the Outline CEMP (Doc Ref. 7.8). A Requirement of the Draft Development Consent Order (Doc Ref. 3.1) secures that a CEMP for each phase of the authorised development must be in accordance with the Outline CEMP.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Note that while some negligible impacts could occur during landscaping (e.g., soil disturbance and potential for minor vehicle movements), these impacts will be much reduced compared to existing agricultural management and controlled under good construction practice as part of the Outline CEMP (Doc Ref. 7.8). Physical damage to the woodland edge, noise, dust deposition and airborne pollution risk during construction is highly unlikely to occur, especially in comparison to previous proposed construction or existing intensive arable agricultural activity.</p> <p>As the existing woodland edge supports some ditch sections that separate it from the arable cropland fields, and because the adjacent fields are currently regularly ploughed as part of the agricultural management of the Site, the risk of physical damage during the construction phase is not likely to be significantly above that already present through agricultural management of the Site. The landscaping works will require minimal application of fertilisers during the planting stage and significantly less nutrient enrichment than already generated by intensive arable agricultural activity on the Site. The LWS is located above the Site (in terms of hydraulic gradient), which minimises the risk of waterborne pollution.</p> <p>Given the works adjacent to the LWS will solely comprise landscape improvements there are no expected construction impact pathways from noise, light, air quality, water quality or dust. However, to minimise the potential for indirect impacts, implementation of environmental good construction practice is included as part of the Outline CEMP (Doc Ref. 7.8).</p>	
	<p>Operational: Buffering and diversification of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site). Medium-term, temporary.</p> <p>A medium-term (based on the modelled operational lifespan of the Project of up to 40 years), beneficial effect of local significance is predicted for Backhouse Wood LWS, as a result of the introduction of a significant new buffer habitat adjacent to this woodland, as shown on Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7), and the removal of intensive arable application of fertiliser and pesticides across the lifespan of the Project. Management of adjacent habitats is prescribed within the Outline Landscape and Ecological Management Plan ('LEMP') (Doc Ref. 7.10).</p>	<p>Yes Local, beneficial</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Operational: Loss, damage through inappropriate habitat management or site maintenance. No effect.</p> <p>Site maintenance and management operations will comprise basic maintenance and, if needed, periodic replacement of Site infrastructure, and vegetation and habitat management. Given the works adjacent to the LWS will solely comprise landscape management, there are no operational impact pathways (noise, water quality, air quality, light) which could affect this designated site. Management of adjacent habitats is prescribed within the Outline LEMP (Doc Ref. 7.10) to avoid damage upon the LWS, with the nearest Project infrastructure is located at over 200m distance.</p> <p>Decommissioning: Damage, air quality, noise, dust deposition, water pollution, flooding. Overall, no effect.</p> <p>Assuming the retention of ancient woodland buffer habitats adjacent to Backhouse Wood LWS, no adverse effects upon this LWS are predicted during the decommissioning phase.</p> <p>No PV Arrays or Project infrastructure is present within 200m that would require removal and so there are no expected decommissioning impact pathways from noise, light, air quality, water quality or dust. However, to minimise the potential for indirect impacts, implementation of environmental good construction practice is included as part of the Outline DEMP (Doc Ref. 7.12).</p>	<p>No</p> <p>No</p>
<p>Aldington Sandpit LWS</p> <p>County</p>	<p>Construction: Air quality, noise, dust, light deposition, water pollution. Medium term, reversible.</p> <p>This LWS is located c.55m from the edge of the Order limits at its closest point. As such there is a negligible risk of physical damage during the construction phase. There are no known potential hydrological pollution pathways between the Site and this LWS. No construction phase traffic is due to pass along the section of Bank Road adjacent to this LWS. The internal haulage road is situated within 200m but construction traffic flows will be minimal (assessed as 108 AADT) and subject to control measures (dust suppression, speed limits) within the Outline CEMP (Doc Ref. 7.8) and Outline Construction Traffic Management Plan ('CTMP') (Doc Ref. 7.9). The assessment within ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4) confirms there is a negligible risk of elevated nutrient deposition during the construction phase, and therefore no adverse effect upon the plant communities of this LWS and their dependent fauna is predicted.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Worst case noise modelling within ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2) assesses operational noise levels as <30db, (night time reasonable worst case) with the nearest modelled noise receptor (the Gables, NSR 009 located adjacent to edge of the Order limits and c.40m closer to the operational Site than the LWS) modelled as 25db LAEQ T (average sound time) with a difference rating (Rating – Background) as a 4db increase on existing noise levels. While the LWS is not modelled in detail, the contour noise modelling figures predict that a very minor increase is likely to occur at the LWS. These noise levels are assessed in ecological terms as being negligible.</p> <p>To minimise the potential for these indirect impacts (noise, dust, light, water pollution), implementation of environmental good construction practice forms part of the Outline CEMP (Doc Ref. 7.8). Measures within the Outline CEMP (Doc Ref. 7.8) will further reduce potential impacts through minimising risk of pollution incidents, minimising any risk of encroachment within the protection zones and controlling vehicle and soil movements.</p>	
	<p>Operational: Loss, damage through inappropriate habitat management or site maintenance. No effect.</p> <p>Site maintenance and management operations will comprise basic maintenance and, if needed, periodic replacement of Site infrastructure, and vegetation and habitat management. There are no operational impact pathways (noise, water quality, air quality, light) which could affect this designated site. Management of habitats is prescribed within the Outline LEMP (Doc Ref. 7.10) to avoid impacts on habitats beyond the Site, noting that this LWS is separated from the Site by a hedgerow and access track from PV panels by additional hedgerow margins boundary habitat.</p>	No
	<p>Decommissioning: Air quality, water pollution. Medium term, reversible.</p> <p>As stated above for the Construction phase, the only potential adverse effect of the decommissioning of the Project upon this LWS is considered to be the risk of airborne pollution and dust deposition. No decommissioning phase traffic is due to pass along the section of Bank Road adjacent to this LWS (ES Volume 4, Appendix 9.6 Biodiversity Air Quality Screening Report (Doc Ref. 5.4)). There is therefore a negligible risk of elevated nutrient deposition during the decommissioning phase, and therefore no adverse effect upon the plant communities of this LWS and their dependent fauna is predicted.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	Decommissioning impacts will be controlled through implementation of environmental good construction practice included as part of the Outline DEMP (Ref. 7.12) . Implementation of protection measures within the Outline DEMP (Ref. 7.12) will further reduce potential impacts through minimising risk of pollution incidents, minimising any risk of encroachment within protection zones.	
Aldington Woods LWS	<p>Construction: Air quality. Medium term, reversible.</p> <p>The potential construction impacts upon this ancient woodland and the predicted level and type of effect are as per Poulton Wood LNR, given the geographic overlap of the two designated sites.</p>	No
County	<p>Operational: Air quality, dust through the operational phase or site maintenance. No effect.</p> <p>Site maintenance and management operations will comprise basic maintenance and, if needed, periodic replacement of Site infrastructure, and vegetation and habitat management. There are no operational impact pathways (noise, water quality, air quality, light) which could affect this designated site given its distance from the Site.</p>	No
	<p>Decommissioning: Air quality. Medium term, reversible.</p> <p>The potential decommissioning impacts upon this ancient woodland and the predicted level and type of effect are as per Poulton Wood LNR, given the geographic overlap of the two designated sites.</p>	No
Bilsington Woods and Pasture LWS	<p>Construction: Air quality, water pollution. No effect.</p> <p>No construction phase traffic is due to pass along the section of Bank Road adjacent to this LWS and therefore there is a negligible risk of elevated nutrient deposition during the construction phase (as assessed in ES Volume 4, Appendix 9.6: Biodiversity Air Quality Screening Report (Doc Ref. 5.4)), and therefore no adverse effect upon the plant communities of this LWS and their dependent fauna is predicted.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Based on the physical separation from the Site, the distance between the Site and LWS, and the absence of any known potential hydrological pollution pathways, there is a negligible risk of any adverse effects upon this LWS.</p> <p>There are no other construction impact pathways (e.g., noise, light, dust) which could affect this designated site at distance.</p> <p>Operational: Air quality, water pollution through the operational phase or site maintenance. No effect.</p> <p>Site maintenance and management operations will comprise basic maintenance and, if needed, periodic replacement of Site infrastructure, and vegetation and habitat management. There are no operational impact pathways (noise, water quality, air quality, light) which could affect this designated site given its distance from the Site.</p> <p>Decommissioning: Air quality, water pollution. No effect.</p> <p>Based on the physical separation of this LWS from the Site, the distance between the Site and LWS, and the absence of any known potential hydrological pollution or other decommissioning impact pathways (and in combination with the Outline DEMP (Doc Ref. 7.12) control measures), there is no predicted effect on this LWS.</p>	<p></p> <p>No</p> <p>No</p>
Backhouse Wood Ancient Woodland	<p>Construction: Damage, air quality, noise, dust deposition, water pollution, flooding. Medium term, reversible.</p> <p>The potential impacts upon this ancient woodland and the predicted level and type of effect are as per the Backhouse Wood LWS.</p>	<p>No</p>
County	<p>Operational: Buffering and diversification of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site). Medium-term, temporary.</p> <p>The potential impacts upon this ancient woodland and the predicted level and type of effect are as per the Backhouse Wood LWS, as a beneficial effect from introduction of a substantial landscape buffer and cessation of agricultural activities.</p>	<p>Yes</p> <p>Local, beneficial</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Operational: Loss, damage through inappropriate habitat management or site maintenance. No effect.</p> <p>The potential impacts upon this ancient woodland and the predicted level and type of effect are as per the Backhouse Wood LWS. Given the works adjacent to the LWS will solely comprise landscape management, there are no operational impact pathways (noise, water quality, air quality, light) which could affect this designated site.</p>	No
	<p>Decommissioning: Damage, air quality, water pollution, flooding. Overall, no effect.</p> <p>The potential impacts upon this ancient woodland and the predicted level and type of effect are as per the Backhouse Wood LWS.</p>	No
Other Ancient Woodlands	<p>Construction: Air quality, water pollution. Medium term, reversible.</p> <p>In relation to the next closest ancient woodland sites (Handen Wood and Poulton Wood) because these ancient woodlands are not located immediately adjacent to the Order limits, there is a negligible risk of physical damage during the construction phase. Based on their distance from the Site and roads that will carry construction traffic, in the absence of secondary and tertiary mitigation, there is a negligible risk of any adverse effects upon Handen Wood and Poulton Wood ancient woodlands as a result of airborne nutrient deposition.</p> <p>In relation to Poulton Wood ancient woodland, the potential hydrological impacts upon this ancient woodland in incorporating Embedded Mitigation are as described for Poulton Wood LNR and the predicted level and type of effect are also as per the LNR.</p> <p>In relation to all other ancient woodlands recorded within 1km of the Site, these are all located further from the Site than Handen Wood, with no known hydrological connectivity.</p>	No
County	<p>Operational: Air quality, dust through the operational phase or site maintenance.. No effect.</p> <p>For the same reasons cited for Handen Wood and Poulton Wood LWS, no significant adverse effects upon other ancient woodlands are predicted during the operational phase of the Project.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Decommissioning: Air quality, water pollution. Medium term, reversible.</p> <p>The potential impacts upon the Poulton Wood Ancient Woodland are as described for Poulton Wood LNR.</p> <p>Handen Wood ancient woodland - because this ancient woodland is not located immediately adjacent to the Order limits, there is a negligible risk of physical damage during the decommissioning phase. In addition, there are no known potential hydrological pollution or other decommissioning impact pathways between the Site and this ancient woodland. Based on its distance from the Site and the proposed routing of decommissioning traffic, no adverse effect is anticipated.</p> <p>Other ancient woodlands – in relation to other ancient woodland recorded within 1km of the Site, these are all located further from the Site than Handen Wood, with no known hydrological connectivity or other decommissioning impact pathways.</p>	<p>No</p>

Table 2: Assessment of Effects - Habitats and Species

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
<p>Veteran Trees</p> <p>County</p>	<p>Construction: Damage, Permanent.</p> <p>All veteran trees within the Site (including all those within hedges, tree lines and individual trees) will be retained with measures embedded within the Outline CEMP (Doc Ref. 7.8) to protect them during construction, including where these occur outside of the Order limits. There will therefore be no direct loss of veteran trees.</p> <p>Risks of harm to veteran trees during construction, such as compaction and accidental damage, will be avoided through minimum buffer zones which are consistent with Natural England and Forestry Commission Standing Advice, i.e. at least 15 times larger than the diameter of the tree. The buffer zone should be 5 metres from the edge of the tree’s canopy if that area is larger than 15 times the tree’s diameter. The extent of the veteran tree buffer zones are shown on Vegetation Protection and Removal Plan within ES Volume 4, Appendix 9.3 Arboricultural Impact Assessment (Doc Ref. 5.4). No construction activity will take place within this buffer zone. Any landscape works required within the buffer zone will be undertaken in accordance with Arboricultural Method Statement to be included within the detailed CEMP(s).</p> <p>Risks to veteran trees from construction risks such as dust and pollutant spills will be managed through standard environmental protection measures as set out in the Outline CEMP (Doc Ref. 7.8).</p>	<p>No</p>
	<p>Operational: Damage through inappropriate habitat management or site maintenance, Permanent.</p> <p>Veteran tree buffer zones, as set out above, will remain in place during the operational phase of the Project. Potential impact pathways (e.g. habitat loss, accidental damage and pollution) will be avoided through measures set out in the Outline OMP (Doc Ref. 7.11). These measures will ensure no direct or indirect impacts occur on veteran trees. The only works required within the veteran tree buffer zones are likely to be limited to grassland and hedgerow management. No direct management of existing veteran trees required by the Outline LEMP (Doc Ref. 7.10).</p>	<p>No</p>
	<p>Decommissioning: Damage, Permanent.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Veteran trees will be protected during construction through use of buffer zones as defined for the Construction stage. This will avoid impacts from physical damage. Indirect impacts from decommissioning could occur from airborne pollution or pollution incidents, but will be controlled through implementation of standard environmental protection measures as secured by the Outline DEMP (Doc Ref. 7.12).</p>	
<p>Habitats of Principal Importance (East Stour River)</p> <p>Regional</p>	<p>Construction: Water quality, dust, light, vibration, damage. Short-term, reversible.</p> <p>The Project will not result in any direct impacts on the East Stour River channel. Riparian habitat along the East Stour River will also be retained and protected by a minimum 10m buffer (as measured from the top of the bank or channel edge under normal flows) secured by the Design Principles (Doc Ref. 7.5) to reduce the risk of indirect damage as far as reasonably practicable. This will also reduce other potential effects (e.g. dust deposition, lighting, noise, vibration) which could impact the HPI and associated species, noting that such impacts would be temporary in duration with only limited areas of works in proximity to the HPI and construction methods generally generating limited disturbance. ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2) assesses trenching, PV installation and cable installation assessed as high impact / 70db at a general 10m distance and reducing beyond to low / 60db at approx. 45m. Given the limited extent and duration of works in proximity to the East Stour River, these levels are assessed as negligible overall.</p> <p>Construction of the Project could however result in indirect impacts upon riparian habitats – i.e., pollution incidents from ground or surface water run-off.</p> <p>Suitable protection zones will also be set up around HPI watercourses during construction. To further minimise indirect impacts as a result of construction, environmental good construction practice will be implemented, as set out in the Outline CEMP (Doc Ref. 7.8). Measures are designed to minimise the risk of pollution incidents, minimise any risk of encroachment within the protection zones and control vehicle and soil movements, with reference to watercourse protection and surface / ground water run-off. Construction phase lighting is not required in proximity to the East Stour River (as a result of the 10m riparian buffer) and lighting of the nearest areas (construction or use of temporary crossing points will be controlled in line with the Outline CEMP (Doc Ref. 7.8), directed away from the East Stour River. Construction nighttime working is not required as defined by construction working hours (07:00 to 19:00, noting in winter this will include</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>some dusk and dawn periods) within ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2), so impacts from lighting have been minimised as far as practically possible.</p>	
	<p>Operational: Buffering and expansion of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site. Medium-term, temporary.</p> <p>The proposed extensive creation of new habitats and enhancement of existing habitats around the East Stour River (i.e. grassland, wetland scrapes and ponds and trees) will result in an expansion of the extent and quality of habitats around these important habitat types. This will increase buffering from on-site activities and reduced edge effects, providing a more robust and better-connected habitat network and enhancing the ecological quality of the retained habitats.</p>	<p>Yes Local, beneficial</p>
	<p>Operational: Damage or disturbance through inappropriate habitat management or site maintenance. Medium-term, temporary.</p> <p>Inappropriate management of the riparian corridor of the East Stour River could result in adverse effects upon this HPI, through degradation, limitation of habitat condition, spread of INNS and/or damage or disturbance of habitats. This risk is addressed through appropriate habitat management specified within the Outline LEMP (Doc Ref. 7.10).</p> <p>Management of riparian habitats will be reviewed and adjusted as necessary through recommendations that arise from the long-term ecological monitoring programme set out in the Outline LEMP (Doc Ref. 7.10). Such monitoring will identify where remedial actions are required to enable successful habitat establishment or to achieve the target habitat condition defined within the Biodiversity Net Gain ('BNG') Assessment (Doc Ref. 7.1).</p> <p>Due to the very low level of site maintenance activity that will be required for notable habitats during the operational phase of the Project and other control measures to protect habitats and the water environment secured through the Outline LEMP (Doc Ref. 7.10) and Outline Operational Surface Water Drainage Strategy ('OSWDS') (Doc Ref. 7.14), no significant risk of pollution of habitats, including upon the East Stour River, is anticipated. No operational phase lighting is proposed adjacent to East Stour River, therefore light spill will not affect riparian invertebrates, fish, bats or other nocturnal wildlife.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Decommissioning: Water quality, light, dust, noise, vibration damage or disturbance. Short-term, reversible.</p> <p>Decommissioning will involve the removal of built and ground infrastructure. Whilst some vegetation removal may be required to facilitate access, this is likely to be very limited. A works exclusion zone (minimum 10m) will be maintained adjacent to the East Stour River to avoid direct impacts, with the exception of temporary watercourse crossings.</p> <p>The risk of damage to habitats and indirect impacts (air quality, water quality, light, dust and noise) will be further controlled through implementation of environmental good practice for site works as part of the Outline DEMP (Doc Ref. 7.12). Exclusion fencing, debris netting (if needed) and wildlife protection signage will be used as required, with works being of limited duration and extent in proximity to priority habitats.</p>	No
<p>Other Habitats of Principal Importance (Pond, Hedgerow, Woodland, Arable Field Margins)</p> <p>Local</p>	<p>Construction: Air quality, water quality, light, dust, noise, vibration damage, destruction, Short-term, reversible.</p> <p>All woodland and ponds will be retained with appropriate set backs from built infrastructure. The Project will result in limited loss of hedgerow and arable field margins thereby avoiding significant adverse effects upon these HPIs. The loss of hedgerow length would be minor; up to 150m in total (approximately 1.3% of the total on-site baseline hedgerow length). This loss will comprise relatively short sections of hedgerow required to facilitate access, some of which will be replanted when construction is complete.</p> <p>Construction activities could potentially result in physical damage to woodland hedgerows, pond margins, arable margins, including the RPAs of hedgerows and trees, and pollution (airborne and waterborne) of these habitats.</p> <p>As part of the Embedded Mitigation for the Project, appropriate buffers free of construction have been incorporated into the layout to retain these habitats (i.e., a minimum 3.2m distance between hedgerow outside the security fences and security fences as per the Design Principles (Doc Ref. 7.5) and these will buffers reduce the risk of direct and indirect damage.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>As the adjacent fields are currently regularly ploughed as part of the agricultural management of the Site, the risk of physical damage to HPis during construction is not likely to be significantly above that associated with agricultural management of the Site. Pollution risk is likely to be limited to mobilised soil and associated nutrients (although the construction activities are unlikely to increase levels significantly above those already generated by intensive arable agricultural activity on the Site) with some risk of spillage / leakage and spread of chemicals or other environmentally hazardous substances during construction activities. These risks will be controlled through measures included in the Outline CEMP (Doc Ref. 7.8). There is also some risk of deposition of airborne nutrients from construction vehicles (although levels of net nutrient deposition are likely to be lower during the construction phase than during current agricultural use of the land and associated periodic application of artificial fertiliser to arable crops and presence of livestock).</p> <p>Noise, dust and vibration impacts will occur during construction, but overall disturbance will be low based upon the construction methods proposed (and modelled noise levels within the ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2)) and limited portion of the construction area within proximity to boundary features.</p> <p>Construction nighttime working is not required as defined by construction working hours (07:00 to 19:00, noting in winter this will include some dusk and dawn periods) within ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2), so impacts from lighting have been minimised as far as practically possible. To be secured by the Outline CEMP (Doc Ref. 7.8).</p> <p>To further minimise indirect impacts as a result of construction, environmental good construction practice will be implemented, as set out in the Outline CEMP (Doc Ref. 7.8). Protection measures are designed to minimise risk of pollution incidents, minimise any risk of encroachment within the protection zones and control vehicle and soil movements.</p>	
	<p>Operational: Buffering, enhancement and expansion of habitat, pollution. Medium-term, temporary.</p> <p>The Project includes proposals for extensive creation of new habitats and enhancement of existing habitats around existing woodland, ponds, hedgerows and arable margins will result in an expansion of the extent and quality of habitats around these important habitat types, increased</p>	<p>Yes</p> <p>Local, beneficial</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>buffering from on-site activities and reduced edge effects, providing a more robust and better-connected habitat network and enhancing the ecological quality of the retained habitats.</p> <p>Enhancement measures for existing hedgerows and grassland margins are specified within the Outline LEMP (Doc Ref. 7.10) and include relaxation of existing management (i.e. reduced hedgerow cutting and grassland mowing) to achieve target habitat conditions set out within the BNG Assessment (Doc Ref. 7.1). Habitat enhancement prescriptions will be reviewed as part of the long-term ecological monitoring specified within the Outline LEMP (Doc Ref. 7.10). Woodlands and ponds will be subject to limited intervention as informed by the Outline LEMP (Doc Ref. 7.10) when ecological monitoring determines remedial measures are required.</p>	
	<p>Operational: Loss, damage through inappropriate habitat management or site maintenance. Medium-term, temporary.</p> <p>Inappropriate management of woodland, hedgerows, ponds and arable margins could result in adverse effects upon these HPIs, through degradation, limitation of habitat condition, spread of invasive flora and/or destruction of habitats. This risk is addressed through appropriate habitat management specified within the Outline LEMP (Doc Ref. 7.10).</p> <p>Management of habitats under the future detailed LEMP(s) will also be reviewed and adjusted as necessary through any recommendations provided as part of the long-term ecological monitoring programme secured through the Outline LEMP (Doc Ref. 7.10). Such monitoring will identify where remedial actions are required to enable successful habitat establishment or to achieve the required habitat condition to meet objectives within the BNG Assessment (Doc Ref. 7.1).</p> <p>Due to the very low level of site maintenance activity that will be required for notable habitats during the operational phase and maintenance of the Project, and control measures in place through the Outline OSWDS (Doc Ref. 7.14) and Outline OMP (Doc Ref. 7.11) no significant risk of pollution of habitats is anticipated.</p>	No
	<p>Decommissioning: Air quality, water quality, light, dust, noise, vibration damage, destruction. Short-term, reversible.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>The decommissioning phase of the Project could result in physical damage to woodlands, hedgerows, pond margins, arable field margins and other priority habitats established on the Site during the operational phase, including the RPAs of hedgerows and trees, and pollution (airborne and waterborne) of these habitats. However, established habitats (e.g. hedgerows, woodlands, ponds) will remain in situ during decommissioning. These established habitats which minimise the risks of physical damage. This risk of direct damage and indirect impacts (air quality, water quality, light, dust and noise) will be further controlled through implementation of environmental good practice for site works as part of the Outline DEMP (Doc Ref. 7.12). Exclusion fencing, debris netting (if needed) and wildlife protection signage will be used as required.</p>	
<p>Notable Plants Local (District)</p>	<p>Construction: Loss, damage. Short-term, reversible.</p> <p>The proposed retention of hedgerows, ponds and riparian habitat along the East Stour River substantially reduces the risk of significant adverse effects upon HPIs and associated notable plants. The enhancement of existing habitats and creation of extensive new habitats (flower rich grassland in particular) will increase the extent and quality of habitats to allow the spread and dispersal of notable plant species.</p> <p>As the adjacent fields are currently regularly ploughed as part of the agricultural management of the Site, the risk of physical damage to notable plants during construction is not likely to be significantly above that already present through agricultural management of the Site. Pollution risk is likely to be limited to mobilised soil and associated nutrients (although the construction activities are unlikely to increase levels significantly above those already generated by intensive arable agricultural activity on the Site) with some risk of spillage / leakage and spread of chemicals or other environmentally hazardous substances during construction activities. There is also some risk of deposition of airborne nutrients from construction vehicles (although levels of net nutrient deposition are likely to be lower during the construction phase than during current agricultural use of the land and associated periodic application of artificial fertiliser to arable crops and presence of livestock).</p> <p>To further minimise these indirect impacts as a result of construction, implementation of environmental good construction practice forms part of the Outline CEMP (Doc Ref. 7.8).</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Operational: Buffering, enhancement and expansion of habitat, reduction of pollution (in comparison to existing agriculture uses at the Site). Medium-term, temporary.</p> <p>Enhancement of existing habitats and creation of extensive new habitats (flower rich grassland in particular) will expand the extent and quality of habitats on Site, which will allow the spread and dispersal of notable plant species.</p>	<p>Yes</p> <p>Local, beneficial</p>
	<p>Operational: Loss, damage through inappropriate habitat management or site maintenance. Medium-term, temporary.</p> <p>The inappropriate management of habitats of the East Stour River could result in adverse effects upon notable plants, through degradation, limitation of habitat condition, spread of invasive flora and/or destruction of habitats. Such impacts are avoided through appropriate habitat and landscape management prescriptions, and the ecological monitoring prescriptions set out within the Outline LEMP (Doc Ref. 7.10).</p>	<p>No</p>
	<p>Decommissioning: Loss, damage. Short-term, reversible.</p> <p>Notable plants will be subject to the same physical damage risks as for HPIs, and use of exclusion zones and good practice during site works, as detailed in the Outline DEMP (Doc Ref. 7.12), will reduce these risks as far as reasonably practicable.</p>	<p>No</p>
<p>Notable Fungi</p> <p>Local (District)</p>	<p>Construction: Loss, damage. Short-term, reversible.</p> <p>Because almost all habitats used by notable fungi (which are limited in distribution and concentrated around field boundaries), are due to be retained, the on-Site notable fungi assemblage is likely to be remain unaffected throughout the construction phase.</p> <p>Pollution risk is likely to be limited to mobilised soil and associated nutrients (although the construction activities are unlikely to increase levels significantly above those already generated by intensive arable agricultural activity on the Site) with some risk of spillage / leakage and spread of chemicals or other environmentally hazardous substances during construction activities. There is also some risk of deposition of airborne nutrients from construction vehicles (although levels of net nutrient deposition are likely to be lower during the construction phase than during current</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>agricultural use of the land and associated periodic application of artificial fertiliser to arable crops and presence of livestock).</p> <p>Based on current levels of agricultural activity on the Site, the construction of the Project is not expected to result in airborne pollution levels above current levels and therefore no adverse effects of airborne pollution are anticipated.</p> <p>With the incorporation of construction exclusion zones and environmental good construction practice measures as part of the Outline CEMP (Doc Ref. 7.8) and use of exclusion fencing, debris netting (if needed) and wildlife protection signage, the risk of damage to existing fungi habitat is reduced as far as reasonably practicable.</p>	
	<p>Operational: Loss, damage through inappropriate habitat management or site maintenance. Medium-term, temporary.</p> <p>With the restricted extent of recorded notable fungi, the locations where such species have been recorded will be retained as part of the Project.</p> <p>The increased extent and quality of habitats, increased buffering from on-Site activities and reduced edge effects will enhance the ecological quality of the retained habitats. The extent of benefit for fungi will however be lower than for notable plants due to the existing limited distribution of fungi on Site and management (potential for mechanical cutting etc) of PV Arrays potentially limiting opportunities for spread.</p> <p>Inappropriate management of habitats could result in adverse effects upon the notable fungi assemblage, through degradation, limitation of habitat condition, spread of invasive flora and/or destruction of habitats, though this is less likely to affect notable fungi (given current limited distribution away from areas to be impacted). Such impacts are avoided through the appropriate habitat and landscape management prescriptions (as Embedded Mitigation), as well as ecological monitoring prescriptions within the Outline LEMP (Doc Ref. 7.10).</p> <p>Due to the very low level of site maintenance activity that will be required during the operational phase and maintenance of the Project, no significant risk of pollution of habitats used by notable fungi is anticipated.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Decommissioning: Loss, damage. Short-term, reversible.</p> <p>The limited distribution of notable fungi within boundary habitats mean the risk from decommissioning activities is likely to be limited to indirect impacts, with fungi assessed as unlikely to extensively colonise the PV Arrays. Pollution risk is likely to be limited to mobilised soil and associated nutrients with some risk of spillage / leakage and spread of chemicals or other environmentally hazardous substances during construction activities and some risk of deposition of airborne nutrients from site vehicles.</p> <p>As per the construction phase, this risk will be further controlled through implementation of environmental good construction practice, secured as part of the Outline DEMP (Doc Ref. 7.12).</p>	No
<p>Invertebrates</p> <p>Local (District)</p>	<p>Construction: Loss or damage of habitat. Medium-term, reversible.</p> <p>Almost all habitats used by notable invertebrates, which are concentrated around field boundaries, are due to be retained, on-Site invertebrate populations are likely to remain viable throughout the construction phase.</p> <p>Given current levels of agricultural activity on the Site, the construction of the Project is not expected to result in airborne pollution levels, dust or artificial lighting (disrupting nocturnal invertebrate activity) above current levels and therefore no significant adverse effects of are anticipated for notable invertebrates.</p> <p>Surveys of riparian habitats along the East Stour River yielded very few river flies (a group which includes swarming species which have been a major concern in association with PV panels (Horvath et al., 2010⁴) during the invertebrate survey (ES Volume 4, Appendix 9.5b: Invertebrate Survey Report (Doc Ref. 5.4)). Therefore, no adverse effects upon this important invertebrate group are anticipated as a result of construction phase or other activities on the Site.</p> <p>The incorporation of construction exclusion zones and environmental good construction practice measures as part of the Outline CEMP (Doc Ref. 7.8) as far as reasonably practicable.</p>	No
	<p>Operational: Habitat enhancement, expansion and diversification. Medium-term, temporary.</p>	Yes

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>The proposed extensive creation and enhancement of habitats (e.g., grasslands and hedgerow) will result in an increase in the extent, diversity and quality of habitats suitable for important invertebrate assemblages.</p> <p>Inappropriate habitat management could result in a damage or loss of habitat areas and the associated notable invertebrate assemblage. Again, as for notable habitats and plants, such impacts are avoided through the appropriate habitat and landscape management and monitoring prescriptions within the Outline LEMP (Doc Ref. 7.10).</p> <p>Decommissioning: Loss or damage of habitat. Short term, reversible.</p> <p>Decommissioning will entail the removal of built and ground infrastructure from the PV Arrays, Project Substation and Inverter Stations with the majority of invertebrate habitat retained at decommissioning.</p>	<p>Local, beneficial</p> <p>No</p>
<p>Great Crested Newt</p> <p>Local (District)</p>	<p>Construction: Damage, destruction of habitat. Medium-term, reversible.</p> <p>All aquatic habitat (ponds) used by great crested newt and almost all terrestrial habitats suitable for great crested newt (which are restricted to field boundaries) are due to be retained. As such, risks to the recorded great crested newt population during the Project construction phase are expected to be limited. With the incorporation of construction exclusion zones (including for a confirmed great crested newt pond adjacent to the Site, adjacent to Field 1 (ES Volume 3, Figure 9.7 Water Body Location Plan (Doc Ref. 9.7)) and environmental good construction practice measures as part of the Outline CEMP (Doc Ref. 7.8), the risk of such damage is reduced as far as reasonably practicable.</p> <p>There are limited areas (where access roads cross field margins or hedgerow impacts are required as per the Works Plans (Doc Ref 2.3) within 250m of a great crested newt waterbody) of terrestrial great crested newt habitat that could be physically damaged during construction activities (i.e., areas of suitable habitat required to be removed to facilitate access, an internal haul road, infrastructure or temporary land uses) where habitat impacts are unavoidable. The limited loss of habitat and management of such impacts under a future granted Natural England European</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Protected Species Mitigation (EPSM) licence (including compensatory habitat) mean that significant impacts can be avoided.</p>	
	<p>Construction: Physical harm, disturbance. Long-term, reversible.</p> <p>The risk of great crested newt mortalities and loss of habitats is addressed through a combination of Embedded Mitigation incorporated into the Outline CEMP (Doc Ref. 7.8) and Outline LEMP (Doc Ref. 7.10). The BIAs will provide compensation for any suitable habitat that will be unavoidably impacted to facilitate the Project. A programme of species translocation and ecological watching briefs is outlined within the Outline LEMP (Doc Ref. 7.10), broadly comprising use of herpetofauna (amphibian and reptile) proof fencing, preparation of receptor areas and translocation of species, followed by ecological watching briefs of ground preparation works.</p> <p>While the full details of translocation and ecological watching briefs are dependent upon the method statement of any future granted Natural England EPSM licence, the provision of BIAs throughout the Site evidences the availability of suitable receptor areas for great crested newt under such a mitigation licence. The BIAs will be subject to appropriate habitat management and provision of enhancements for great crested newt (hibernacula, refugia and suitable habitat mosaics). This, in combination with the size and distribution of the BIAs, located close to areas where great crested newt has been recorded, evidence that the Favourable Conservation Status of great crested newt can be maintained within the Site.</p>	<p>No</p>
	<p>Operational: Habitat enhancement, expansion. Medium-term, temporary.</p> <p>The primary habitats provided for great crested newt will comprise the BIAs, which will be managed specifically for great crested newt and in accordance with the requirements of any granted NE EPSM licence.</p> <p>The PV Arrays will be permeable to great crested newt and comprise a mix of grasslands (low intensity pasture and flower rich grassland), which this species can utilise for foraging and dispersal.</p> <p>The BIAs will also include specific enhancements for great crested newt including habitat ponds, hibernacula, refugia and habitat mosaics. The creation of both terrestrial and aquatic habitats is likely to result in increasing the local great crested newt population in the long term. The boundary</p>	<p>Yes, Local beneficial</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>habitat network will also be significantly enhanced with creation of new hedgerows and establishment of wider boundary margins and tussocky grassland which will connect the BIAs across Site as well as preserving the Site-wide habitat network for foraging, sheltering and dispersal of this species between existing ponds.</p>	
	<p>Operational: Habitat damage, physical harm, disturbance. Medium-term, reversible.</p> <p>In the absence of mitigation, inappropriate management of habitats could result in killing, injury and/or disturbance of great crested newts and destruction of great crested newt habitat, balanced against significant habitat enhancements (extent and quality) for this species. This risk is addressed through appropriate habitat management specified within the Outline LEMP (Doc Ref. 7.10) including appropriate precautions (i.e. appropriate timings and cut heights of grassland).</p> <p>While these habitats will be subject to a greater degree of management than the BIAs, management will primarily be through low intensity conservation density grazing with sheep which will minimise potential for mortalities through machine use and cut heights. While some mowing or machine cutting will be required, this will be subject to appropriate timing and cut height restrictions to minimise the risk of great crested newt mortalities as far as reasonably possible.</p>	No
	<p>Decommissioning: Physical harm, disturbance, habitat damage. Long-term, reversible.</p> <p>Decommissioning will entail the removal of built and ground infrastructure from the PV Arrays, Project Substation and Inverter Stations), with the majority of suitable terrestrial and aquatic habitat for great crested newt unaffected by decommissioning. However, there are additional areas of terrestrial great crested newt habitat that could be physically damaged during decommissioning activities (i.e., areas of suitable habitat required to be removed to facilitate access, infrastructure or temporary land uses) where habitat impacts could be unavoidable.</p> <p>Any such habitat damage and loss could also result in incidental killing, injury and/or disturbance of great crested newts.</p> <p>The risk of great crested newt mortalities and loss of habitats will be addressed through updated baseline surveys to inform the extent of mitigation and requirement for a NE EPSM licence to facilitate decommissioning. Mitigation is broadly expected to comprise a programme of species translocation and ecological watching briefs as for construction, combined with use of herpetofauna</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>(amphibian and reptile) proof fencing, preparation of receptor areas and translocation of species, followed by ecological watching briefs of ground preparation works.</p> <p>The updated baseline surveys may also be able to provide appropriate recommendations to manage the Site ahead of decommissioning to passively displace great crested newts from the decommissioning works areas (i.e., habitat management techniques or increase in grazing density in combination with preparation of set-aside mitigation areas). Such recommendations will need to be informed by the advice of a suitability experienced ecologist.</p> <p>With the use of decommissioning exclusion zones, fencing, good practice site works measures as part of the Outline DEMP (Doc Ref. 7.12), the risk of such damage is reduced as far as reasonably practicable.</p> <p>The full details of translocation and ecological watching briefs are dependent upon the future baseline as well as the method statement of any future granted NE EPSM licence. The broad principles of mitigation will be the same as construction, however is it possible that for instance additional receptor areas will be required in comparison to the construction phase.</p> <p>Overall, it is assessed that Favourable Conservation Status of great crested newt can be maintained within the Site, but that additional mitigation will likely be required (compared to construction), given the expected increase in the local great crested newt population.</p>	
<p>Common Toad</p> <p>Local (District)</p>	<p>Construction: Damage, destruction of habitat. Medium-term, reversible.</p> <p>All aquatic habitat (ponds and lakes) used by and suitable for common toad, and almost all terrestrial habitats suitable for this species (which are restricted to field boundaries), are due to be retained. Risks to the recorded common toad population during the Project's construction phase are therefore expected to be limited. As for great crested newt, the incorporation of construction exclusion zones and environmental good construction practice measures as part of the Outline LEMP (Doc Ref. 7.10) and Outline CEMP (Doc Ref. 7.8) and use of exclusion fencing, debris netting (if needed) and wildlife protection signage reduces the risk of such damage as far as reasonably practicable.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>However, in the absence of tertiary mitigation, there remains a risk that areas of common toad terrestrial habitat (i.e., areas of suitable habitat required to be removed to facilitate access, infrastructure or temporary land uses) could be damaged where habitat impacts are unavoidable.</p> <p>The Embedded Mitigation measures outlined for 'Great Crested Newt' above will also be applicable to common toad. The programme of amphibian translocation and ecological watching briefs in combination with the provision and enhancement of the BIAs will allow the species to maintain a population within the Site during and after the construction phase.</p> <p>Given current levels of agricultural activity on the Site, the construction of the Project is not expected to result in airborne pollution levels, dust or lighting above current levels and therefore no adverse effects from these impact pathways are anticipated for common toad.</p>	
	<p>Construction: Physical harm, disturbance. Long-term, reversible.</p> <p>The Embedded Mitigation measures outlined for 'Great Crested Newt' above will also be applicable to common toad. The programme of amphibian translocation and ecological watching briefs will mitigate for the risk of harm to individual common toad during construction.</p>	No
	<p>Operational: Habitat enhancement, expansion. Medium-term, temporary.</p> <p>The BIAs and associated enhancements will provide a significant increase in suitable habitat for common toad. The PV Array areas will be permeable to this species, allowing foraging and dispersal across these areas, and the management of such habitats (and associated risk of common toad mortalities) will be addressed as for great crested newt.</p>	Yes Local, beneficial
	<p>Operational: Habitat damage, physical harm. Medium-term, reversible.</p> <p>In the absence of mitigation, inappropriate management of habitats could result in killing, injury and/or disturbance of toads and destruction of toad habitat, balanced against significant habitat enhancements (extent and quality) for this species.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>This risk is addressed through appropriate habitat management specified (as Embedded Mitigation) within the Outline LEMP (Doc Ref. 7.10), which will secure the management of habitats during the operational phase as Embedded Mitigation.</p> <p>Decommissioning: Physical harm, disturbance, habitat damage. Long-term, reversible.</p> <p>Decommissioning will entail the removal of built and ground infrastructure from the PV Arrays, Project Substation and Inverter Stations with the majority of habitats (existing and new habitats in the Order limits, ponds and drainage features and PV grassland), the majority of suitable terrestrial and aquatic habitat for common toad will be retained during the decommissioning phase. However, there are additional areas of common toad terrestrial habitat that could be physically damaged during decommissioning activities (i.e., areas of suitable habitat required to be removed to facilitate access, infrastructure or temporary land uses) where habitat impacts could be unavoidable. Any such habitat damage and loss could also result in incidental killing, injury and/or disturbance of common toad, similar to great crested newt.</p> <p>The risk of common toad mortalities and loss of habitats is addressed in combination with great crested newt through a combination of Embedded Mitigation, which will require updated baseline surveys (detailed in the Outline LEMP (Doc Ref 7.10)) to inform the extent of mitigation. The use of receptor sites, translocation and watching briefs for great crested newt will additionally act as Embedded Mitigation for common toad. With the use of decommissioning exclusion zones, fencing and good practice measures for site works as part of the Outline LEMP (Doc Ref. 7.12), the risk of such damage, disturbance and injury is reduced as far as reasonably practicable.</p>	No
Reptiles	<p>Construction: Damage, destruction of habitat. Medium-term, reversible.</p> <p>Almost all habitats suitable for and used by reptiles (which are restricted to field boundaries) are due to be retained. Risks to the recorded reptile assemblage during the Project's construction phase are therefore expected to be low. However, in the absence of tertiary mitigation, there remains a risk that areas of reptile habitat could be physically damaged during construction activities (i.e., areas of suitable habitat required to be removed to facilitate access, infrastructure or temporary land uses).</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>The incorporation of construction exclusion zones for boundary habitats and environmental good construction practice measures as part of the Outline CEMP (Doc Ref. 7.8) and use of exclusion fencing, debris netting (if needed) and wildlife protection signage, the risk of such damage is reduced as far as reasonably practicable</p>	
	<p>Construction: Physical harm. Long-term, reversible.</p> <p>The risk of reptile mortalities and loss of habitats is addressed through a combination of mitigation incorporated into the Outline CEMP (Doc Ref. 7.8) and Outline LEMP (Doc Ref. 7.10), similar the mitigation for great crested newt. BIAs provide compensation for any suitable habitat that will be unavoidably impacted to facilitate the Project.</p> <p>A programme of species translocation and ecological watching briefs is outlined within the Outline LEMP (Doc Ref. 7.10). While the full details of these are dependent upon approval of detailed LEMP(s) and detailed construction programme (as secured by the Draft Development Consent Order (Doc Ref. 3.1)), the provision of BIAs throughout the Site evidences the availability of suitable receptor areas for such an approach. The BIAs will be subject to appropriate habitat management and provision of enhancements for reptiles (hibernacula, refugia and suitable habitat mosaics). The distribution and extent of the BIAs evidence that suitable habitat to maintain reptile populations within the Site will be provided.</p>	No
	<p>Operational: Habitat enhancement, expansion. Medium-term, temporary.</p> <p>The BIAs and associated enhancements will provide a significant increase in suitable habitat for reptiles. The PV Array areas will be permeable to this species allowing foraging and dispersal across these areas.</p> <p>The boundary habitat network enhancements connecting the BIAs across Site will provide a connected habitat network for foraging, sheltering, breeding and dispersal of reptiles.</p>	Yes Local, beneficial
	<p>Operational: Habitat damage, physical harm. Medium-term, reversible.</p> <p>Inappropriate management of habitats could result in killing / injury of reptiles and/or destruction of reptile habitat, which is balanced against the significant enhancements (in extent and quality of</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>habitats) that habitat management will help to deliver for reptiles. This risk is addressed through appropriate habitat management specified within the Outline LEMP (Doc Ref. 7.10) to secure the management of habitats during the operational phase as Embedded Mitigation. Some mowing and machine cutting will be required. This will be subject to appropriate timing and cut height restrictions to minimise the risk of reptile mortalities as far as reasonably practicable.</p> <p>Decommissioning: Physical harm, habitat damage, disturbance. Long-term, reversible.</p> <p>Decommissioning will entail the removal of built and ground infrastructure from the PV Arrays, Project Substation and Inverter Stations, with the majority of suitable reptile habitat to be retained during the decommissioning phase. However, there are additional areas of reptile habitat that could be physically damaged during decommissioning activities (i.e., areas of suitable habitat required to be removed to facilitate access, infrastructure or temporary land uses) where habitat impacts could be unavoidable. Any such habitat damage could also result in incidental killing and/or injury of reptiles.</p> <p>The risk of reptile mortalities and loss of habitats is addressed through Embedded Mitigation which will require updated baseline surveys to inform the extent of mitigation to facilitate decommissioning as described in the Outline LEMP (Doc Ref. 7.10). Mitigation is broadly expected to comprise a programme of species translocation and ecological watching briefs as for construction, combined with use of herpetofauna proof fencing, preparation of receptor areas and translocation of species, followed by ecological watching briefs of ground preparation works. It is possible that additional receptor areas will be required in comparison to the construction phase.</p> <p>With the additional use of decommissioning exclusion zones and environmental good practice measures for Site works as part of the Outline DEMP (Doc Ref. 7.12), the risk of mortalities and habitat damage is reduced as far as reasonably practicable.</p> <p>The updated baseline surveys may also be able to provide appropriate recommendations to manage the Site ahead of decommissioning (i.e., habitat management techniques or increase in grazing density in combination with preparation of set-aside mitigation areas to ‘naturally’ disperse reptiles from the decommissioning works footprint); such recommendations will need to be informed by the advice of a suitability experienced ecologist to ensure these are appropriate.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Overall, it is assessed that the reptile population can be maintained within the Site but that additional mitigation will likely be required (compared to construction), given the expected increase in the reptile population during the operational lifespan of the Project.</p>	
<p>Wintering Bird assemblage Local (District) (including Schedule 1 species and excluding yellowhammer and skylark)</p>	<p>Construction: Loss of habitat, disturbance (noise, human disturbance, lighting). Medium-term, reversible.</p> <p>The construction of the Project will not result in any significant net losses of winter foraging or roosting opportunities for the wider wintering bird assemblage recorded on the Site, which are concentrated within field boundary habitats (hedgerows and margins) that are due to be retained.</p> <p>However, in the absence of mitigation, construction activities could result in disturbance and the loss of sections of suitable winter foraging and roosting habitat. It is unlikely that extensive loss of boundary habitats used by wintering birds would occur through incidental damage, but some habitat losses could occur.</p> <p>Limited lighting will be required during construction (based on proposed working hours) and where lighting is used it will be directed away from boundary habitats in accordance with Outline CEMP (Doc Ref. 7.8).</p> <p>Construction activities will generate some noise and vibration in proximity to retained wintering bird habitats but will generally be localised and of temporary duration in any one location - in accordance with the proposed construction programme. The construction programme also will only impact one winter season, in accordance with the 12-month construction period (ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2)).</p> <p>ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2) assesses trenching, PV installation and cable installation as high impact / 70db at a general 10m distance and reducing beyond to medium / 65db at approx. 40m). A much-simplified threshold of 65db for elicitation of a response by a general wintering bird assemblage (low level disturbance) is used as a comparison based on available evidence including Cutts, N et al. (2013)⁵, Fernandez-Juricic, E et al (2001)⁶ and McClure, C (2013)⁷.</p> <p>Given the relatively low noise levels generated by construction, visual disturbance by workers and machinery is likely to be the greater impact but will be temporary and limited in duration and extent.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Displacement and reduced foraging are expected to occur (i.e. in proximity to the Project substation construction, but acknowledging existing high ambient noise levels from the adjacent M20 in that location) but will be limited in extent and duration with suitable alternative habitat available in proximity.</p> <p>The use of construction exclusion zones and environmental good construction practice measures as part of the Outline CEMP (Doc Ref. 7.8) will reduce disturbance (noise, lighting and vibration) during the construction period but will not be able to completely avoid this impact. Disturbance during construction and potential impacts of displacement or a temporary reduction in the availability of foraging habitat could therefore occur. The effect of any such impacts incorporating the mitigation above would however be of no greater than negligible significance.</p>	
	<p>Operational. Habitat enhancement, expansion. Medium-term, temporary.</p> <p>The BIAs will be subject to low levels of management (occasional grassland management) compatible with their maintenance as suitable foraging habitats for wintering birds. The relaxing and rotational management of the Site hedgerow network will similarly maintain and increase the availability of wintering berry food sources. Woodlands, hedgerows and open grassland will be maintained within the Site providing roosting opportunities for a range of species.</p> <p>While the PV Arrays will be subject to a greater degree of management than the BIAs, management will include low intensity conservation density grazing with sheep on rotation and / or meadow mixes with reduced mowing regimes, which will maintain areas of variable grass sward and the associated seed and invertebrate food sources over winter.</p> <p>The management of the winter bird crop strips is detailed in the Outline LEMP (Doc Ref. 7.10), to ensure these features are maintained in the long term to continue to provide winter food sources for seed eaters.</p> <p>Extensive habitat creation and enhancement will take place across the Site noting the following key principles for wintering birds outlined in the Outline LEMP (Doc Ref. 7.10):</p> <ul style="list-style-type: none"> ▪ A network of BIAs and wide field margins throughout the Project providing open winter foraging habitat. 	<p>Yes</p> <p>Local, beneficial</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<ul style="list-style-type: none"> ▪ Hedgerow, scrub and tree planting and enhancement for yellowhammer and other field boundary species. ▪ Planting of boundary bird crop along field margins to provide partial compensation for the loss of mid-winter arable seed food sources for yellowhammer and other seed eaters. ▪ Planting of diverse grass sward and flower rich mixes within the PV Array areas to maximise invertebrate diversity and populations, in turn acting as a food source for a variety of birds. ▪ Creation of ponds, scrapes and wet meadows provide suitable habitat for wildfowl and waders to utilise the Site, particularly the expansive habitats proposed within the Field 26-29 BIA. While extensive recreational disturbance is not anticipated within this BIA from newly created permissive access routes, large meadow areas have been excluded from public access to ensure undisturbed habitat is available for wintering birds. 	
	<p>Operational: Lighting, noise, habitat damage. Medium-term, reversible.</p> <p>In the absence of mitigation, inappropriate management of habitats could result in degradation of winter bird foraging and roosting habitat. This risk is addressed through appropriate habitat management specified within the Outline LEMP (Doc Ref. 7.10).</p> <p>Lighting and noise impacts from the operational Project will be minimal. ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2) assesses operational phase noise generation from the Project Station, Inverter Stations and Intermediate Substations to be limited, based on a night-time reasonable worst case . Modelling shows noise levels in the region of 40-45db directly adjacent to invertor infrastructure (invertors are generally located in middle of PV Array, which reduces noise due to distance on boundary habitats) and 35db or less adjacent to the Project Substation (due to use of acoustic fencing here and noting high existing background noise levels from the adjacent M20). While increases in ambient noise levels do occur on modelled receptors (i.e. Beckett’s Farm (NSR 007) and Handen Farm, (NSR 041) are assessed in the region of 25-32db LAEQ T (average sound time) with a difference rating (Rating – Background) as a 7-11db increase on existing noise levels),</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>no cumulative background and operational noise approaches the 65db (threshold for bird disturbance described in construction) on Site even at worst case.</p> <p>Operational and maintenance phase lighting will be limited to emergency and overnight maintenance purposes only at Inverter Stations, Intermediate Substations and the Project Substation in accordance with the Design Principles (Doc Ref. 7.5).</p> <hr/> <p>Decommissioning: Loss or damage of habitat, disturbance. Medium-term, reversible.</p> <p>Decommissioning will entail the removal of built and ground infrastructure from the PV Arrays, Project Substation and Inverter Stations, with the majority of suitable wintering bird habitat retained during decommissioning. However, there are additional areas of habitat that could be physically damaged during decommissioning activities (i.e., areas of suitable habitat required to be removed to facilitate access, infrastructure or temporary land uses) where habitat impacts could be unavoidable.</p> <p>With the incorporation of construction exclusion zones and environmental good practice measures for site works as part of the Outline DEMP (Doc Ref. 7.12), the risk of damage to existing habitat is reduced as far as reasonably practicable.</p>	<p>No</p>
<p>Breeding Bird Assemblage (including Schedule 1 species and excluding yellowhammer and skylark)</p> <p>Local (District)</p>	<p>Construction: Destruction, damage and disturbance (noise, human disturbance, lighting) of nests. Medium-term, reversible.</p> <p>In the absence of tertiary mitigation, there is a risk that active bird nests (including those of ground nesting species) could be damaged or destroyed during construction activities. While it is highly unlikely that a WCA 1981 Schedule 1 bird nest would be damaged or destroyed during construction activities (based on baseline survey evidence, habitats present and proposed works), in the absence of mitigation, there is a risk such species using riparian or other suitable nesting habitats within Site or adjacent to Site (Cetti’s warbler, kingfisher and barn owl) could be disturbed whilst nesting.</p> <p>Use of construction exclusion zones and environmental good practice construction measures as part of the Outline CEMP (Doc Ref. 7.8) and Outline LEMP (Doc Ref. 7.10) will reduce disturbance (noise, lighting and vibration) during the construction period but will not be able to</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>completely avoid this impact. Therefore, localised disturbance will occur near to suitable breeding habitat, though noting birds will be habituated to existing agricultural disturbance (use of machinery, presence of farm workers), that disturbance will occur only for a limited duration in each location and alternative, undisturbed habitat is available in proximity to all areas of Site. Disturbance during construction and potential impacts of displacement or reduced breeding success could still however occur. Given the relatively low noise levels generated by construction (as assessed within ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2) and described within assessment of wintering birds), visual disturbance by workers and machinery is likely to be the greater impact but will be temporary and limited in duration and extent. Displacement and reduced foraging (i.e. in proximity to the Project substation construction) but will be limited in extent and duration with suitable alternative habitat available in proximity.</p> <p>Use of ecological watching briefs when clearing sensitive habitats during the main breeding season (March to mid-September), will however reduce the risk of damaging or destroying birds' nests as far as reasonably possible.</p>	
	<p>Construction: Disturbance (noise, human disturbance, lighting) of Schedule 1 nesting species. Medium-term, reversible.</p> <p>In addition to mitigation measures for nesting birds above, pre-commencement surveys for Schedule 1 birds are included within the Outline LEMP (Doc Ref. 7.10) to update the ecological baseline prior to construction and inform the need for additional tertiary mitigation for any species recorded as nesting.</p> <p>Should a Schedule 1 species be found to nest within or adjacent to the Site, an appropriate mitigation strategy will be required. While the content of such a strategy will vary by species and location, it is likely to include the requirement for extended exclusion zones, species monitoring, timing recommendations and additional measures to limit construction disturbance, as detailed in the Outline LEMP (Doc Ref. 7.10).</p>	No
	<p>Construction: Loss / damage of habitat. Short-term, reversible.</p> <p>The construction phase of the Project will not result in any significant net losses of breeding opportunities for the wider breeding bird assemblage recorded on the Site, which are concentrated</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>within field boundary habitats and will be retained. Loss of arable seed resources is compensated through provision of bird crop strips within the Outline LEMP (Doc Ref. 7.10). Loss of breeding habitat is addressed separately for skylark.</p> <p>In the absence of mitigation, construction activities could also result in the loss of sections of suitable bird breeding habitat (hedgerows and margins). It is unlikely that extensive loss of boundary habitats used by breeding birds would occur through incidental damage, but some habitat losses could occur. The mitigation measures outlined above for avoidance of damage or destruction of bird nests are also applicable to breeding bird habitats.</p>	
	<p>Operational: Habitat enhancement, expansion. Medium-term, temporary.</p> <p>Extensive habitat creation and enhancement will take place across the Site noting the following key principles for breeding birds outlined in the Outline LEMP (Doc Ref. 7.10) and implemented as part of the Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7), are as follows and that species significantly impacted by the removal of arable habitats (primarily skylark and yellowhammer) are assessed separately:</p> <ul style="list-style-type: none"> ▪ Set aside open meadow and grassland areas throughout the Project (as BIAs and wide margins), providing open breeding habitat for ground nesting bird species. ▪ Hedgerow, scrub and tree planting and enhancement for yellowhammer and other species that extensively utilise field boundary habitats. ▪ Planting of diverse grass sward and flower rich mixes within the PV Array areas to maximise invertebrate diversity and populations, in turn acting as a food source for a variety of birds. ▪ Skylark plots (minimum of 16m square in area and minimum of 3m wide (e.g., 4x4m, or 3x6m⁸ with a total proposed area of 0.06ha) and other open areas within the PV Array areas to provide variation in habitat structure and topography to provide additional foraging and nesting opportunities for farmland birds other than skylark. ▪ Provision of targeted nest boxes for species such as owls (minimum two, away from existing owl boxes already present on Site) and cavity boxes for medium sized bird 	<p>Yes</p> <p>Local, beneficial</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>species (minimum thirty across BIAs and boundary features).</p> <ul style="list-style-type: none"> Creation of ponds, scrapes and wet meadows provide suitable habitat for wildfowl and waders to utilise the Site, particularly the expansive habitats of the Field 26 to 29 BIA. 	
	<p>Operational: Habitat damage, physical harm, disturbance. Medium-term, reversible.</p> <p>The BIAs will be subject to low levels of management (occasional grassland management) and so is compatible with use of timing and cut height restrictions to minimise risk of nesting bird mortalities. The relaxing and rotational management of the Site hedgerow network will similarly enable hedgerow management to be carried out outside the breeding bird season to minimise the risk of nesting bird mortalities.</p> <p>While the PV Array areas will be subject to a greater degree of management than the BIAs, management will be through a mix of low intensity conservation density grazing with sheep on rotation and / or limited mowing regime. This will minimise conflict with ground nesting birds, though some need for grassland management within the PV Array areas during the breeding season will be unavoidable. With rotational management, timing restrictions, use of grazing and specification of minimum cut heights conflict with the breeding season can be minimised.</p> <p>The skylark plots will be excluded from the management of grassland (rotational grazing or mowing) during the main bird breeding season of March to August inclusive to minimise risk of impacts upon nest and to preserve a variable sward height within the plots. Given the requirement for skylarks to nest in short and variable swards, management can be reviewed should sward height approach or exceed 60cm (as skylark will then less likely to be nesting⁹), the sward height can then be reduced during the breeding season if required.</p> <p>Lighting and noise impacts from the operational Project will be minimal. ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2) assesses as described for wintering birds that while increases in ambient noise levels do occur on modelled receptors no cumulative background and operational noise approaches the 65db (threshold for bird disturbance described in construction) on Site even at worst case <i>Additionally Embedded Mitigation seeks to minimise noise impacts associated with the Project</i>. Overall, operational noise is highly unlikely to impact any important ecological features, including breeding birds.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Operational and maintenance phase lighting will be limited for emergency and overnight maintenance purposes only at Inverter Stations, Intermediate Substations and the Project Substation in accordance with the Design Principles (Doc Ref. 7.5).</p> <p>In the absence of mitigation, inappropriate management of habitats could result in damage or destruction of active bird nests and/or destruction of bird breeding and foraging habitat. This risk is addressed through appropriate habitat management specified within the Outline LEMP (Doc Ref. 7.10).</p>	
	<p>Decommissioning: Loss or damage of habitat. Medium-term, reversible.</p> <p>As for wintering birds, the decommissioning phase removal of Project infrastructure in accordance with ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2), has potential to result in habitat damage.</p> <p>The majority of boundary habitats are assumed to be retained with the risk of incidental damage controlled under environmental good construction practice measures as part of the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10), inclusive of habitat re-instatement / remediation where required.</p>	No
	<p>Decommissioning: Destruction and disturbance of nests. Disturbance of Schedule 1 nesting species. Medium-term, reversible.</p> <p>In the absence of mitigation, there is a risk that active bird nests could be damaged or destroyed during decommissioning activities.</p> <p>Use of exclusion zones and environmental good construction practice measures as part of the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10) will reduce disturbance during the decommissioning phase but will not be able to completely avoid this impact.</p> <p>It is unlikely that a WCA 1981 Schedule 1 bird nest would be damaged or destroyed during decommissioning activities (based on baseline survey evidence, habitats present and proposed works), but in the absence of mitigation, there is a risk such species could be disturbed whilst nesting.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>As per the construction phase, there will be an Outline LEMP (Doc Ref. 7.10) requirement for update pre-decommissioning surveys to identify the presence of territories and potential nest sites of such species, which will also be supported by the results of the operational phase ecological monitoring. Such a survey will be conducted within the breeding season prior to commencement of decommissioning.</p> <p>Use of decommissioning exclusion zones and environmental good construction practice measures as part of the detailed DEMP(s) will reduce disturbance during the construction period but will not be able to completely avoid this impact.</p> <p>Should a Schedule 1 species be found to nest within or adjacent to the Site, an appropriate mitigation strategy will be required. While the content of such a strategy will vary by species and location, it is likely to include the requirement for extended exclusion zones, species monitoring, timing recommendations and additional measures to limit decommissioning phase disturbance.</p> <p>Disturbance during decommissioning and the potential impacts of displacement or reduced breeding success could occur in localised areas for a short time period. Use of timing restrictions and ecological watching briefs when clearing sensitive habitats during the breeding season, will however reduce the risk of damaging or destroying birds' nests as far as reasonably possible.</p>	
<p>Yellowhammer</p> <p>County</p>	<p>Construction: Loss of habitat. Short-term, reversible.</p> <p>The presence of weedy margins and spilt cereal grain are important winter foraging resources for yellowhammer within the Site. Whilst field margins will be retained and are unlikely to significantly reduce in suitability for yellowhammer (through e.g., succession of habitat types) during the construction phase, the winter cereal forage resource will be mostly or entirely lost, which will temporarily reduce the overall suitability and forage value of the Site for this species until winter bird crop strips and BIAs are established.</p> <p>The retention of c.98.7% of boundary habitats will continue to provide other parts of the overall winter and summer foraging habitat mix and breeding habitat favoured by yellowhammer, and the availability of alternative arable cropland habitat in nearby off-Site areas will provide alternative foraging opportunities.</p>	<p>Yes</p> <p>Local, adverse</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>The inclusion of ‘set aside’ BIAs has been specifically targeted to provide a range of habitats (including large flower rich and rough grassland areas but also scrub and wetland areas) suitable for species including breeding and wintering yellowhammer. While such habitats will not be fully established during the construction phase, large areas not subject to construction activities will be available for this species.</p> <p>Management of hedgerow and PV Array buffer zones will also include areas of tussocky grassland, bird crop strips and enhancement of hedgerow margins, however again these will not be fully established during the construction phase.</p> <p>The extent of loss of important winter foraging resource during construction will reduce food availability for the yellowhammer population, which will affect both individual birds and the recorded yellowhammer population.</p>	
	<p>Operational: Sustained depletion of local food and habitat resource. Long-term, reversible.</p> <p>The Embedded Mitigation for wintering and breeding birds will create and enhance significant areas of habitat for yellowhammer. For yellowhammer, the key embedded mitigation and enhancement measures are as follows:</p> <ul style="list-style-type: none"> ▪ BIAs across the Site free of PV panels, with large open areas and to be managed as a mix of habitats; ▪ Extensive seed crop strip planting; ▪ Enhanced hedgerow margins; ▪ Grassland enhancement and creation (to increase foraging resources during the operational phase and maintenance); and ▪ Hedgerow enhancement and creation (to increase nesting resources during the operational phase and maintenance). <p>The loss of existing arable foraging habitat (in particular mid-winter cereal seed availability) will be partially compensated for through the use of targeted bird crop strips with a particular focus on yellowhammer through the planting of millet and cereal (as part of a wider seed mix) adjacent to</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>hedgerows (RSPB & Game Conservatory Trust, undated)¹⁰. Note also that the establishment of hedgerow rough grass margins, open space area grasslands and grassland areas within the Site will also improve the available foraging habitat in respect of invertebrate prey availability.</p> <p>Breeding habitat will be enhanced (through improved management and hedgerow infilling) to provide hedgerows that are sufficiently structurally dense and with suitable understorey as preferred nesting habitat for yellowhammer (RSPB, undated)¹¹. Given the wide extent of the local hedgerow network this will be a significant enhancement.</p> <p>The extent of loss of arable field (and associated winter cereal availability) represents a large quantum but note that modern farming techniques are generally acknowledged to provide poor mid-winter seed availability for farmland birds such as yellowhammer.</p> <p>The creation of extensive suitable habitat for yellowhammer (both for wintering and breeding) is coupled with reasonable avoidance measures as part of habitat management, but balanced against the loss of extensive arable field areas and a reduction (in some areas of the Site) of open space free of PV panels. The creation and enhancement of hedgerows will create extensive new nesting habitat for yellowhammer in excess of the existing baseline. The open area BIAs and bird crop strips will greatly enhance available foraging habitat (also noting yellowhammer will be able to forage in the PV Arrays).</p>	
	<p>Decommissioning: Loss of habitat. Medium term, reversible.</p> <p>Removal of built and ground infrastructure from the PV Arrays, Project Substation and Inverter Stations has the potential to result in habitat damage and disturbance as for wintering and breeding birds.</p> <p>The majority of habitats suitable for yellowhammer (hedgerow, grassland and bird crop strips) will be retained during the decommissioning phase with the risk of incidental damage or disturbance controlled under environmental good practice measures for Site works as part of the Outline DEMP (Doc Ref. 7.12).</p>	No
Skylark	Construction. Loss of habitat. Short-term, reversible.	Yes

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
Local (district)	<p>Creation of 'set aside' BIAs is targeted to provide a range of habitats (including large flower rich and rough grassland areas but also scrub and wetland areas) suitable for bird species including breeding and wintering skylark. While such habitats will not be fully established during the construction phase, it is reasonable to assume that large areas not subject to construction activities will be available for this species throughout the construction phase.</p> <p>Management of hedgerow and PV Array buffer zones (secured through the Outline LEMP (Doc Ref 7.10)) will include areas of tussocky grassland, bird crop strips and enhancement of hedgerow margins, however again these will not be fully established during the construction phase.</p> <p>Loss of suitable skylark breeding and winter foraging habitat will occur for one breeding season in accordance with the 12-month construction programme.</p>	Local, adverse
	<p>Operational: Reduction in open habitat suitable for nesting. Medium-term, reversible.</p> <p>The proposed new grassland cover on the Site will provide potential new nesting opportunities for skylark, however the presence and density of PV Arrays presents a reduction of large open field space and early growth arable crop of suitable short height.</p> <p>This could discourage skylark from nesting within the PV Arrays as this species generally prefers open areas with long, unbroken sightlines (Wilson et al. 1997¹²) and generally vegetation height of between 20 and 60 cm (Toepfer and Stubbe 2001¹³). Foraging habitat would be greatly enhanced through provision of extensive areas of flower rich grassland; however, availability of suitable nesting sites would be limited by the reduced available open areas within PV Arrays. Section 7 of the Outline LEMP (Doc Ref. 7.10) details specific mitigation measures incorporated into the Project to provide nesting opportunities for skylark.</p> <p>BIAs will be free of built infrastructure and a large proportion are to be managed as relatively short and open grassland areas distributed throughout the Site, providing habitat of high quality for nesting skylark. Compared to baseline arable fields these will allow rearing of multiple broods (as these areas will not become unsuitable for nesting with tall crop growth) and will overall benefit a much greater diversity of species in excess of skylark.</p> <p>The most extensive BIA is that provided within Fields 26-29, which include extensive open grassland and meadow areas suitable for use by nesting skylark. While a degree of disturbance is</p>	<p>Yes</p> <p>Local, adverse</p>

Ecological Feature
and Valuation

Potential Impacts

Potential for
Significant Effects

expected from the permissive public access proposed for this area, this area is over 12 hectares in size and includes large areas excluded from public access and so breeding within this area is unlikely to be greatly affected by the potentially limited numbers of pedestrians using this area. In addition to this BIA, other open grassland BIAs are distributed throughout the Site, providing suitable nesting areas in proximity to PV Arrays. Wide field margins and buffer zones in place for other constraints (e.g., watercourses, woodlands or badger setts) also provide an additional network of suitable but less optimal open spaces for nesting skylark.

Skylark plots and other open areas within the PV Arrays, shown in the **Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7)** and as specified within the Breeding Bird Assemblage section above, have also been included to provide opportunities for skylark and other ground nesting birds to nest within the PV Array areas by providing open spaces.

While the use of ‘skylark plots’ specifically for nesting and the practice of supplying two plots per territory is debated (Morris and Gilroy 2008¹⁴), studies have identified pesticide application as an issue that can reduce the success of these measures; which will not be applicable to the Project and skylarks are known to nest within arable field tramlines (Morris and Gilroy, 2008^{Error! Bookmark not defined.}) and barley field plots (Odderskær, 1997¹⁵), as a habitat context with similar constraints. The application of skylark plots as a mitigation tool in combination with the other measures above is therefore justified. Their effectiveness is to be monitored during the operational phase and maintenance of the Project as part of the **Outline LEMP (Doc Ref. 7.10)**.

It should be also noted that the adjacent habitats to the Project will remain in agricultural use. Such habitats are generally limited in their carrying capacity for numbers of nesting skylark by the availability of adjacent optimal foraging habitat (i.e. meadow grassland), Donald et al 2001¹⁶. In the case of the Project, it is likely that these adjacent arable fields will be able to support greater numbers of nesting skylarks by utilising the PV Array areas for foraging, though a reliable estimate would be difficult to quantify. This may include some dispersion of nesting birds from the Site to adjacent habitats (foraging in the PV Array areas but nesting in adjacent arable habitats)

Bird crop strips and grassland enhancement and creation (both within BIAs and the PV Arrays) will increase winter and breeding foraging resources for skylark.

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Decommissioning: Loss of habitat. Short term, reversible.</p> <p>Removal of built and ground infrastructure from the PV Arrays, Project Substation and Inverter Stations has the potential to result in habitat damage and disturbance as for wintering and breeding birds. The risk of incidental damage or disturbance will be controlled under environmental good construction practice measures as part of the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10).</p> <p>With the removal of PV infrastructure, it is likely that fields will become more suitable for skylark by becoming more open and suitable as nesting habitat for this species.</p>	No
Bat Assemblage Local (District)	<p>Construction: Physical harm. Long-term, reversible</p> <p>In the few instances where tree removal is unavoidable, these trees have been subject to a presence / likely absence survey for roosting bats and will be subject to additional update surveys and ecological watching briefs as required by the Outline LEMP (Doc Ref. 7.10) and Outline CEMP (Doc Ref. 7.8). Replacement bat boxes are also proposed to provide compensatory opportunities for roosting within the Outline LEMP (Doc Ref. 7.10) and Outline CEMP (Doc Ref. 7.8). Note that these are being delivered as compensation for loss of roosting opportunities, rather than loss of any recorded bat roosts.</p> <p>In the event of an unexpected discovery of roosting bats, works will cease and only resume with the granting of a NE EPSM licence. Adherence to the requirements of such a mitigation licence and provision of any required mitigation (expected to be limited to alternative roost provision and further ecological watching briefs) will maintain the Favourable Conservation Status of the local bat populations. Such mitigation can be accommodated readily within the Project (e.g., retention of adjacent trees and field boundary habitats and delivery of new foraging and roosting opportunities).</p>	No
	<p>Construction: Habitat damage, disturbance (lighting, noise, vibration). Medium term, reversible.</p> <p>All the important bat foraging and commuting habitat (field boundary habitats, riparian corridor and woodland edge) is scheduled for retention and any trees suitable for roosting bats within these boundary habitats will also be retained; with the exception of a small-scale removals that will be required to facilitate infrastructure or works of overriding arboriculturally importance. The areas of</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>habitat requiring unavoidable removal are either of negligible suitability for roosting, foraging and commuting bats (in the case of arable crops) or are so limited in extent as to not impact bats at a population level (i.e., the required hedgerow removals to facilitate infrastructure and access routes).</p> <p>No significant construction lighting is proposed on the Site. Limited lighting may be required during the winter months, but this will be during a period of the year when bat activity levels are low and therefore winter lighting is unlikely to result in any significant effects upon bats. Any use of construction phase lighting will be in accordance with environmental good practice outlined within the Outline CEMP (Doc Ref. 7.8) and will avoid lighting of ecologically sensitive areas.</p> <p>Noise and vibration generated from construction will be limited as assessed within ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2), being localised and temporary. Noise and vibration will have a negligible effect in respect of retained boundary features and adjacent habitats (areas with potential to support roosting bats), with such impacts further minimised through application of noise and vibration mitigation within the Outline CEMP (Doc Ref. 7.8) and highly unlikely to constitute disturbance.</p>	
	<p>Operational: Habitat enhancement, expansion. Medium-term, temporary.</p> <p>Extensive suitable habitat for foraging and commuting bats (woodland, woodland buffer planting trees, hedgerows, grassland, habitat ponds and wetland features) will be created across the BIAs, boundary features and PV Array areas as part of the Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7). The creation of extensive habitat in the Field 26 to 29 BIA provides enhancement of an area of over 12ha of meadow, woodland edge and wetland habitats for foraging and commuting bats. This represents a major enhancement on the existing baseline.</p> <p>Recent studies (Tinsley <i>et al</i> 2023)¹⁷ have highlighted bats potentially avoiding PV Arrays for foraging and commuting. In the context of the Project, the PV Arrays are situated almost exclusively on land currently used as intensive arable crop (which receives pesticide applications), a habitat type of negligible value for foraging bats. With a reasonable worst-case assessment of commuting and foraging bats avoiding the PV Arrays, the boundary habitat network is completely retained and enhanced with a significant BIA network created across the Site within the Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7) as Embedded Mitigation. Operational</p>	<p>Yes</p> <p>Local, beneficial</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>activities will be minimal (e.g. maintenance, replacement of equipment) and are unlikely to generate significant noise or vibration in levels above existing agricultural activity (as modelled in ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2) as broadly 45db immediately adjacent to the Project Substation, Inverter Stations and Intermediate Substations). The effects of PV Arrays upon bat activity (Tinsley <i>et al</i> 2023) have been addressed through retention of the boundary habitat network and creation of BIAs.</p> <p>Overall, the Project contains extensive habitat enhancements and retains the existing foraging and commuting habitats to provide an overall net benefit even in the unlikely event bats avoid the PV Arrays entirely.</p>	
	<p>Operational: Habitat damage, physical harm, disturbance. Long-term, reversible.</p> <p>Inappropriate management of habitats could result in damage or destruction of active bat roosts in trees and killing, injury or disturbance of bats, although limited arboricultural work is expected to be required as part of the operational phase. The risk of damage or destruction of bat foraging habitat through inappropriate management is addressed through appropriate habitat management specified within the Outline LEMP (Doc Ref. 7.10).</p>	No
	<p>Operational: Light-driven disturbance. Medium-term, reversible.</p> <p>Operational and maintenance phase lighting will be limited for emergency and overnight maintenance purposes only at Inverter Stations, Intermediate Substations and the Project Substation in accordance with the Design Principles (Doc Ref. 7.5).</p> <p>Lighting is addressed as part of Embedded Mitigation in accordance with BCT and Institute of Lighting Professionals guidance¹⁸ on use of artificial lighting, as specified within the Outline OMP (Doc Ref. 7.10).</p>	No
	<p>Decommissioning: Habitat loss or damage, disturbance. Medium-term, reversible.</p> <p>Removal of built and ground infrastructure from the PV Arrays, Project Substation and Inverter Stations has the potential to result in habitat damage and disturbance. Important bat foraging and commuting habitat (field boundary habitats, riparian corridor and woodland edge) will be retained</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>and protected during the decommissioning phase and any trees suitable for roosting bats within these boundary habitats will also be retained.</p> <p>Use of exclusion zones and environmental good practice site works measures as part of the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10) will reduce disturbance (noise, lighting) during the decommissioning phase and minimise the risk of incidental damage on retained habitats.</p> <p>Decommissioning: Light-driven disturbance. Short-term, reversible.</p> <p>Some lighting may be required during the winter months, but this will be during a period of the year when bat activity levels are low and therefore winter lighting is unlikely to result in any significant effects upon bats, based upon working hours detailed within ES Volume 2, Chapter 3: Project Description (Doc Ref. 5.2).</p> <p>Any use of decommissioning phase lighting will be in accordance with environmental good practice outlined within the Outline DEMP (Doc Ref. 7.12) and will avoid lighting of ecologically sensitive areas.</p>	No
Assumed Hedgehog Population	<p>Construction: Habitat loss / damage. Short-term, reversible.</p> <p>The construction phase of the Project will not result in any significant net losses of suitable nesting, foraging, hibernation or dispersal opportunities for the assumed hedgehog population, which (if present) are likely to primarily make use of the field boundary habitats, which are to be retained.</p>	No
Local (District)	<p>In addition to the creation of the ‘set aside’ BIAs, the management of hedgerow and PV Array buffer zones on the wider Site will also include areas of tussocky grassland, and enhancement of hedgerow margins. While such habitats will not be fully established during the construction phase, they will provide additional refuge and foraging areas in comparison to the existing baseline (agricultural) conditions.</p> <p>Construction: Physical harm. Medium-term, reversible.</p> <p>Construction activities could result in the damage and/or destruction of limited sections of suitable habitat and would result in loss of breeding, foraging, connectivity and potentially hibernation</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>opportunities, potentially across multiple seasons). There is also a risk that hedgehogs could be killed or injured during construction activities.</p> <p>These potential impacts are addressed through implementation of ecological watching briefs during clearance of any suitable habitat for hedgehog, which is incorporated into the Outline CEMP (Doc Ref. 7.8) and Outline LEMP (Doc Ref. 7.10). With the incorporation of construction exclusion zones and environmental good construction practice measures as part of the CEMP, the risk of such mortalities is reduced as far as reasonably practicable.</p>	
	<p>Operational: Habitat enhancement, expansion. Medium-term, temporary.</p> <p>The extensive creation and enhancement of the habitat network across Site (including hedgerow network and BIAs) provides suitable foraging, breeding and hibernation habitat for hedgehog across the Site and a significant enhancement over the existing baseline.</p>	<p>Yes</p> <p>Local, beneficial</p>
	<p>Operational: Habitat damage, physical harm. Medium-term, reversible.</p> <p>Inappropriate management of habitats could result in killing or injury of hedgehogs and/or destruction of hedgehog habitat. Note however, this risk is addressed through appropriate habitat management specified within the Outline LEMP (Doc Ref. 7.10). Hedgehogs are most likely to be present within the ground level of hedgerow, woodland and scrub which are habitats subject to minimal (if any) habitat maintenance at ground level.</p>	<p>No</p>
	<p>Decommissioning: Habitat loss, damage, physical harm. Medium-term, reversible.</p> <p>In the absence of mitigation, decommissioning activities could result in the damage and/or destruction of sections of suitable habitat required to facilitate removal of PV infrastructure.</p> <p>Updated baseline surveys may be able to provide appropriate recommendations to manage the Site ahead of decommissioning (i.e., habitat management techniques or increase in grazing density in combination with preparation of set-aside mitigation areas) to passively displace hedgehogs. Such measures will need to be informed by the advice of a suitability experienced ecologist to ensure they are appropriate.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>In the absence of mitigation, there is also a risk that hedgehogs could be killed or injured during decommissioning activities.</p> <p>Such impacts will be addressed (similar to construction) through the implementation of ecological watching briefs during clearance of any suitable habitat for hedgehog, in line with measures to be secured through the Outline DEMP (Doc Ref. 7.12). With the incorporation of exclusion zones and environmental good practice measures and use of exclusion fencing, debris netting (if needed) and wildlife protection signage, the risk of such mortalities (and incidental habitat damage) is reduced as far as reasonably practicable.</p>	
<p>Harvest Mouse Local (District)</p>	<p>Construction: Habitat loss / damage. Short-term, reversible.</p> <p>The construction phase of the Project will not result in any significant net losses of suitable nesting, foraging, hibernation or dispersal opportunities for the harvest mouse population, which primarily make use of the field boundary habitats, which are to be retained.</p> <p>Construction activities could result in the damage and/or destruction of limited sections of suitable habitat and would result in loss of breeding, foraging, connectivity and potentially hibernation opportunities, potentially across multiple seasons). There is also a risk that harvest mouse could be killed or injured during construction activities.</p> <p>These potential impacts are addressed through implementation of ecological watching briefs during clearance of any suitable habitat for harvest mouse, which are secured through the Outline CEMP (Doc Ref. 7.8) and Outline LEMP (Doc Ref. 7.10). With the incorporation of construction exclusion zones and environmental good construction practice measures as part of the CEMP and use of exclusion fencing, debris netting (if needed) and wildlife protection signage, retained habitat will be protected as far as reasonably practicable.</p> <p>In addition to the creation of the ‘set aside’ BIAs, the management of hedgerow and boundary habitats across Site will also include areas of tussocky grassland, and enhancement of hedgerow margins. While such habitats will not be fully established during the construction phase, they will provide additional refuge and foraging areas in comparison to the existing baseline (agricultural) conditions.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Construction: Physical harm. Medium-term, reversible.</p> <p>The use of ecological watching briefs during clearance of any suitable habitat, which is incorporated into the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10) will reduce the risk of mortalities is reduced as far as reasonably practicable.</p>	No
	<p>Operational: Habitat enhancement, expansion. Medium-term, temporary.</p> <p>The provision of additional breeding and foraging habitats (tussocky grassland, grassy hedgerows and bird crop strips) will be of net benefit to the harvest mouse population, even if habitat management does unavoidably periodically reduce breeding success in discrete locations as detailed below.</p>	Yes Local, beneficial
	<p>Operational: Habitat damage, physical harm. Medium-term, reversible.</p> <p>Inappropriate management of habitats could result in killing or injury of harvest mouse and/or destruction of harvest mouse habitat. Note however, this risk is addressed through appropriate habitat management specified within the Outline LEMP (Doc Ref. 7.10).</p> <p>The most suitable harvest mouse breeding habitats within the operational phase Project include tussocky grassland, grassy hedgerows and bird crop strips. Given the long duration of the harvest mouse breeding season (between late May and October but can extend beyond), it is not practical to avoid the requirement for habitat management outside this breeding season, but these habitats will be subject to limited intervention (as specified within the Outline LEMP (Doc Ref. 7.10)) on a rotational basis and not occur every year in each location. Additionally, many of the habitat management timings will avoid the harvest mouse breeding season (i.e. bird crop replacement in the spring).</p>	No
	<p>Decommissioning: Habitat loss, Medium-term, reversible.</p> <p>Decommissioning activities (the removal of built and ground infrastructure from the PV Arrays, Project Substation and Inverter Station) could result in the damage and/or destruction of sections of suitable habitat required to facilitate removal of PV infrastructure.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Updated baseline surveys may be able to provide appropriate recommendations to manage the Site ahead of decommissioning (i.e. habitat management techniques or increase in grazing density in combination with preparation of set-aside mitigation areas), such recommendations will need to be reviewed by a suitability experienced ecologist to ensure these are appropriate.</p> <p>In the absence of mitigation, there is also a risk that harvest mice could be killed or injured during decommissioning activities.</p> <p>Such impacts are addressed (similar to construction) through the implementation of ecological watching briefs during clearance of any suitable habitat, which is incorporated into the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10). With the incorporation of exclusion zones and environmental good practice measures as part of the DEMP and use of exclusion fencing, debris netting (if needed) and wildlife protection signage, retained habitat will be protected.</p> <p>Decommissioning: Physical harm. Medium-term, reversible.</p> <p>The use of ecological watching briefs during clearance of any suitable habitat, which is incorporated into the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10) will reduce the risk of mortalities is reduced as far as reasonably practicable.</p>	No
Hazel Dormouse Local (District)	<p>Construction: Loss / damage of habitat. Short-term, reversible.</p> <p>The construction phase of the Project will not result in any significant net losses of suitable nesting, foraging, hibernation or dispersal opportunities for the hazel dormouse population recorded on the Site, which utilise the hedgerow (c.98.7% to be retained), scrub and woodland edge habitats around field margins, which are to be retained.</p> <p>However, BIAs provide compensation for any suitable habitat that will be unavoidably impacted to facilitate the Project. The proposed hedgerow creation, restoration and enhancement will deliver significant habitat provision. The wider connectivity for suitable dormouse habitat within the Site and beyond will be greatly enhanced, though habitat enhancement will not be complete during the construction phase.</p>	No
	<p>Construction: Physical harm, disturbance (noise, lighting, vibration). Medium-term, reversible.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>In the absence of mitigation, construction activities could result in the damage and/or destruction of sections of suitable habitat and a risk that active hazel dormouse nests could be damaged or destroyed, dormice could be killed or injured and/or the species could be disturbed during construction activities. Mitigation through seasonal timings of phased multi-stage habitat clearance supervised by ecological watching briefs is outlined within the Outline LEMP (Doc Ref. 7.10).</p> <p>The risk of dormouse mortalities and loss of habitats is addressed through a combination of mitigation measures incorporated into the Outline CEMP (Doc Ref. 7.8) and Outline LEMP (Doc Ref. 7.10).</p> <p>Limited lighting will be required during construction and where lighting is used it will be directed away from boundary habitats in accordance with the Outline CEMP (Doc Ref. 7.8). Noise and vibration generated from construction will be limited as assessed within ES Volume 2, Chapter 14: Noise (Doc Ref. 5.2), being localised and temporary. Noise and vibration will have a negligible effect in respect of retained boundary features and adjacent habitats (areas with potential to support dormouse), with such impacts further minimised through application of noise and vibration mitigation within the Outline CEMP (Doc Ref. 7.8) and highly unlikely to constitute disturbance.</p> <p>While the full details of the habitat clearance ecological watching briefs are dependent upon the method statement of any future granted NE EPSM licence, these working methods will apply only to small sections of suitable habitat to be removed and will be accompanied by extensive habitat enhancement across the Site. Overall, the maintenance of habitat connectivity, provision to accommodate compensatory planting and working methods to avoid mortalities. evidence that the Favourable Conservation Status of dormouse can be maintained within the Site.</p>	
	<p>Operational: Habitat enhancement, expansion. Medium-term, temporary.</p> <p>The provision of an extensive increase in suitable dormouse habitat (primarily the on-Site hedgerow network) extent, quality and connectivity. Planting of c. 5km of species rich hedgerow is proposed along with reinforcement of over 10km of existing hedgerow, as detailed in the Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7).</p>	<p>Yes</p> <p>Local, beneficial</p>
	<p>Operational: Habitat damage, physical harm, disturbance. Medium-term, reversible.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Inappropriate management of habitats could result in damage or destruction of active dormouse nests, killing, injury or disturbance of dormice and/or destruction of dormouse habitat.</p> <p>This risk is addressed through appropriate (and limited) management of habitats suitable for dormouse (hedgerow, woodland and scrub), as specified within the Outline LEMP (Doc Ref. 7.10). In the case of hedgerows, the reduced potential to impact dormouse (e.g. through cutting and flailing) is comparable to the risks posed by the current agricultural management regime.</p>	
	<p>Decommissioning: Habitat loss, damage (e.g. minor scrub loss). Permanent.</p> <p>The decommissioning works should not result in any loss of dormouse habitat since the majority of boundary habitats will be unaffected. As such, decommissioning will not result in any significant net losses of suitable nesting, foraging, hibernation or dispersal opportunities for the hazel dormouse population on the Site.</p> <p>In the absence of mitigation, decommissioning activities could result in the damage and/or destruction of small areas of suitable habitat, should scrub removal be required (e.g. for access routes). It is unlikely that extensive loss of these woody boundary habitats would occur through incidental damage, but some minor habitat losses could occur with associated minor risk of mortalities.</p> <p>The wider connectivity for suitable dormouse habitat within the Site and beyond is to be retained during the decommissioning phase. Overall, however the maintenance of habitat connectivity, provision to accommodate compensatory planting (with the decommissioning requirement likely to be minimal) and working methods to avoid mortalities evidences that the Favourable Conservation Status of dormouse can be maintained within the Site.</p>	No
	<p>Decommissioning: Physical harm, disturbance. Medium-term, reversible.</p> <p>The risk of dormouse mortalities and loss of habitats will be addressed through a combination of mitigation measures in the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10), should any scrub removal be required. Mitigation will likely be similar to construction, using seasonal timings of phased multi-stage habitat clearance subject to ecological watching briefs, combined with habitat compensation under a future NE EPSM licence. While the full details of the</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	habitat clearance ecological watching briefs are dependent upon the method statement of any future granted NE EPSM licence, these working methods will apply only to small sections of suitable habitat to be removed.	
Brown Hare Local (District)	<p>Construction: Habitat loss and disturbance (noise, human activity, lighting), displacement of species. Short-term, reversible.</p> <p>The construction phase of the Project will result in the loss of winter resting and foraging opportunities, and breeding opportunities for brown hare, and will also likely deter the species from using the Site due to disturbance as a result of construction activities, for 12 months (expected one breeding and one wintering season) whilst these are underway.</p> <p>Use of construction exclusion zones and environmental good construction practice measures as part of the Outline CEMP (Doc Ref. 7.8) will reduce disturbance during the construction period but will not be able to completely avoid this impact. The provision of BIAs and retention of boundary habitats does provide retained and alternative habitats for brown hare during construction, but these are reduced in extent compared to the existing baseline and will not be fully established during the construction period.</p> <p>Localised disturbance will therefore occur within and near to suitable brown hare habitat, although noting that hare will be habituated to existing agricultural disturbance (e.g. use of machinery, presence of farm workers). Disturbance is likely to occur only for a limited duration in each location (although as a worst case it is assumed this is the case). Alternative, undisturbed habitat is available in proximity to all areas of Site. However, disturbance during construction and potential impacts of displacement and/or reduced breeding success could still occur.</p>	<p>Yes</p> <p>Local, adverse</p>
	<p>Operational: Reduced habitat connectivity and availability. Medium-term, reversible.</p> <p>BIAs and enhancement of the boundary habitat network will benefit brown hare. The PV Arrays will be kept permeable to (through provision of fence gaps and access gates) and will be suitable for foraging and breeding brown hare.</p>	<p>Yes</p> <p>Local, beneficial</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>To mitigate for the loss of arable habitats for brown hare and other notable mammals, the following measures have been incorporated into the Project layout and landscape design (as secured by the Outline LEMP (Doc Ref. 7.10)):</p> <ul style="list-style-type: none"> ▪ BIA and field margin open meadow and grassland areas throughout the Project, primarily to provide open areas of differing structure for brown hare to utilise for display and open foraging; ▪ Hedgerow, scrub and tree planting enhancement to provide a network of extensive shelter and cover; ▪ Planting of boundary bird crop along field margins which to provide partial compensation for the loss of mid-winter arable seed food sources for mammals as well as birds; ▪ Planting of diverse grass sward and flower rich mixes which will provide tussocky, meadow areas for foraging and breeding brown hare; ▪ Skylark plots and other open areas within the PV Array areas to provide variation in habitat structure and topography to provide additional open areas for brown hare; and ▪ Provision of suitable access points as part of the PV Array security fencing to maintain permeability for small animals. This will allow brown hare and other notable mammals access to the extensive PV Array areas for foraging, breeding and commuting which could otherwise be made inaccessible by fencing. <p>The above measures provide an extensive increase in brown hare foraging and breeding habitat quality and connectivity when compared with the pre-construction habitat baseline.</p>	
	<p>Operational: Habitat damage, physical harm, disturbance. Medium-term, reversible.</p> <p>Inappropriate management of habitats could result in killing or injury of brown hare (esp. young). As for other mammals, this risk is addressed through appropriate habitat management specified within the Outline LEMP (Doc Ref. 7.10). Habitat management cannot avoid the brown hare breeding season in all cases, due to extent of suitable habitat to be created (e.g., grassland, bird crop strips,</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	hedgerow margins). Many of these habitats are therefore proposed to be managed by less intrusive methods such as low intensity grazing or rotational management to minimise impacts.	
	<p>Decommissioning: Habitat loss, damage. Medium-term, reversible.</p> <p>Decommissioning activities (the removal of built and ground infrastructure from the PV Arrays, Project Substation and Inverter Station) could result in the damage and/or destruction of sections of suitable brown hare habitat (open grassland areas, hedgerows and boundary habitats) required to facilitate removal of PV infrastructure although boundary habitats are unlikely to be impacted.</p> <p>The risk of incidental damage during decommissioning will be controlled under environmental good practice measures during Site works as part of the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10) including exclusion zones and habitat re-instatement.</p>	No
	<p>Decommissioning: Physical harm, disturbance. Medium-term, reversible.</p> <p>The risk of incidental damage or disturbance during decommissioning will be controlled under environmental good practice measures during site works as part of the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10) including works timings, exclusion zones and ecological watching briefs.</p> <p>The use of decommissioning exclusion zones and environmental good practice measures as part of the detailed DEMP(s) will reduce disturbance during the decommissioning period (similar to the construction phase) but will not be able to completely avoid this impact. Disturbance during construction and potential impacts of displacement or a temporary reduction in the availability of foraging habitat could therefore occur.</p>	No
Badger Negligible	<p>Construction. Physical harm of badgers / setts, disturbance (noise, vibration, lighting). Medium-term, reversible.</p> <p>The retention of habitats in the Order limits and buffering of important badger setts (30m buffer from main setts secured by Design Principles (Doc Ref. 7.5)) will ensure the retention of valuable badger foraging resources and important setts across the construction phase. However, the</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>extensive loss of arable crops will result in a significant decrease in foraging opportunity during the construction phase.</p> <p>Construction activities may also require the damage or destruction of less important badger setts and/or could result in killing, injury or disturbance of badgers utilising these setts. Site works could also result in entrapment of badgers within on-Site excavations, resulting in injury or death, and could result in obstruction of access to badger sett entrances.</p> <p>The risk of badger mortalities, disturbance and loss of habitats is addressed through a combination of mitigation measures incorporated into the Outline CEMP (Doc Ref. 7.8) and Outline LEMP (Doc Ref. 7.10). BIAs provide compensation for any suitable habitat that will be unavoidably impacted to facilitate the Project, in the case of badger the extensive programme of grassland creation will provide extensive foraging habitat for this species.</p> <p>A requirement for pre-commencement surveys to update the badger baseline prior to construction is included within the LEMP due to the potential for new badger setts to be created (and the status of existing setts to change) within short time periods. Such pre-commencement surveys will also inform the requirement for any Natural England (NE) mitigation licence.</p> <p>Good environmental construction practice applicable to badger included within the Outline CEMP (Doc Ref. 7.8) includes:</p> <ul style="list-style-type: none"> ▪ Construction personnel working at the Site will receive an ecological toolbox talk that includes a briefing on the presence of badgers at the Site, and the procedure to follow if any potential new sett excavations are discovered during the proposed works. ▪ During the earthworks and cable installation, no steep-sided trenches or pits should be left open overnight unless they are fitted with a means of escape for mammals (e.g. a scaffold plank positioned to form a ramp) and checked in the morning. ▪ Use of best practice construction controls in order to limit disturbance from noise and vibration near active setts (e.g. switching off machinery when not in use, avoiding use of heavy or vibration generating machinery where practical). 	
	<p>Operational: Habitat enhancement, expansion. Medium-term, temporary.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Habitat creation across the Site as detailed for other species will provide a varied network of different habitat types. Mammal gates are also proposed for the PV Array perimeter fences (in proximity to setts and recommended at least every 50m along fence lengths where the 20cm to 30cm ground level gaps cannot be incorporated, as specified in the Outline LEMP (Doc Ref. 7.10) to maintain access to these areas as a foraging resource for badger.</p>	
	<p>Operational: Habitat damage, physical harm, disturbance. Medium-term, reversible.</p> <p>Due to the limited nature of proposed habitat management operations on the Site, there is only a very low-level risk of damage, destruction or obstruction of badger setts or disturbance of badgers utilising these setts during habitat management operations. Operational management will be informed by the results of ecological monitoring surveys and sett exclusion zones or need for a NE mitigation licence as required.</p>	No
	<p>Decommissioning: Habitat loss, damage. Medium-term, reversible.</p> <p>Decommissioning activities (the removal of built and ground infrastructure from the PV Arrays, Project Substation and Inverter Station) could result in the damage and/or destruction of sections of suitable badger habitat (open grassland areas, hedgerows and boundary habitats) required to facilitate removal of PV infrastructure although boundary habitats are unlikely to be impacted.</p> <p>The risk of incidental damage during decommissioning will be controlled under environmental good practice measures during site works as part of the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10) including exclusion zones and habitat re-instatement.</p>	No
	<p>Decommissioning: Physical harm of badgers / setts, disturbance. Medium-term, reversible.</p> <p>Decommissioning activities may also require the damage or destruction of less important badger setts and/or could result in killing, injury or disturbance of badgers utilising these setts. Site works could also result in entrapment of badgers within on-site excavations, resulting in injury or death, and could result in obstruction of access to badger sett entrances.</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>The risk of badger mortalities, disturbance and loss of habitats is addressed through a combination of mitigation measures incorporated into the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10).</p> <p>A requirement for pre-commencement surveys to update the badger baseline prior to construction is included within the Outline LEMP (Doc Ref. 7.10) due to the potential for new badger setts to be created and the status of existing setts to change within short time periods. Such pre-commencement surveys will also inform the requirement for any NE mitigation licence.</p> <p>Where less important badger setts unavoidably require removal to facilitate decommissioning, this will be carried out under a granted Natural England Mitigation licence. Such a licence will detail the required mitigation measures to avoid badger mortalities, which generally comprise seasonal timing restrictions to avoid the breeding season (conducted between the period 1 July and 30 November (inclusive) (Natural England, 2011¹⁹)). Main setts are likely to be retained as part of decommissioning works (likely restricted to boundary habitats and unlikely to become established within PV Arrays).</p> <p>Good environmental practice site works measures for badger will be employed during the DEMP, similar to the construction phase, including toolbox talks for contractors, precautions for open trenches and pits and controls on noise and vibration near badger setts</p>	
<p>Otter Local (District)</p>	<p>Construction: Disturbance (noise, human activity, lighting, vibration). Short-term, reversible.</p> <p>Suitable otter habitats (i.e. riparian corridors and ditches) are to be retained. In the absence of mitigation, there is a risk that construction activities (the installation of crossing points over the East Stour River) could result in disturbance or mortalities of otters utilising (for holting or resting purposes) the riparian corridor along the East Stour River. While Horizontal Directional Drilling (HDD) will be used to install cables beneath watercourses wherever possible (avoiding direct watercourse impacts), temporary bank-to-bank vehicle access bridges will be required as well as crossing points as part of the permanent vehicle access across the East Stour River, with some risk of disturbance to otters from noise and vibration from installation of both crossing types.</p> <p>A requirement for pre-commencement surveys to update the otter baseline prior to construction is included within the Outline LEMP (Doc Ref. 7.10) due to the potential for new otter holts to be</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>created within the Site prior to construction and will inform any requirement for any NE ESPM licence from review of vehicle access bridges or indirect impacts (noise, vibration or human disturbance) from HDD.</p> <p>To further minimise indirect impacts as a result of construction, implementation of environmental good construction practice as part of the Outline CEMP (Doc Ref. 7.8) will further minimise the risk of pollution incidents upon the East Stour River, reducing potential sources of construction disturbance and minimise any risk of encroachment within the East Stour River habitat protection zone (10m minimum, in accordance with the Design Principles (Doc Ref. 7.5)).</p>	
	<p>Construction: Physical harm. Medium-term, likely reversible.</p> <p>The risk of otter mortalities, disturbance and loss of habitats is addressed through a combination of Embedded Mitigation incorporated into the Outline CEMP (Doc Ref. 7.8) and Outline LEMP (Doc Ref. 7.10), including East Stour River habitat protection zone (10m minimum, in accordance with the Design Principles (Doc Ref. 7.5)) and requirement for pre-commencement surveys outlined above within the Outline LEMP (Doc Ref. 7.10).</p> <p>While no otter holts have been recorded on Site to date, otter holts could become established in future years.</p>	No
	<p>Operational: Habitat enhancement, expansion. Medium-term, temporary.</p> <p>The proposed extensive creation of new habitats and enhancement of existing habitats around the East Stour River (grassland, wetland scrapes and ponds and trees) will result in an expansion of the extent and quality of habitats for otter.</p>	Yes Local, beneficial
	<p>Operational: Habitat damage, physical harm, disturbance. Long-term, reversible.</p> <p>Due to the limited nature of proposed habitat management operations on Site, there is only a low-level risk of damage, destruction or obstruction of otter holts or resting places or disturbance of otters utilising these resting places / breeding sites during habitat management operations but could at worst case result in a mortality. If maintenance of such habitats or infrastructure in proximity to watercourses is required, this will be informed by the results of a pre-commencement</p>	No

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>survey to inform the need for an ecological watching brief or Natural England, as specified by the Outline LEMP (Doc Ref. 7.10).</p>	
	<p>Decommissioning: Disturbance. Short-term, reversible.</p> <p>Suitable otter habitat (riparian corridors and ditches) will be retained during the decommissioning phase.</p> <p>In the absence of mitigation, there is a risk that decommissioning activities could result in disturbance of otters utilising (for holting or resting purposes) the riparian corridor along the East Stour River.</p> <p>The risk of otter mortalities, disturbance and loss of habitats is addressed through a combination of Embedded Mitigation incorporated into the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10), similar to those specified for the construction phase. This includes a requirement for pre-commencement surveys to update the otter baseline due to the potential for new otter holts to be created within the Site prior to decommissioning.</p> <p>Such pre-commencement surveys will also inform the requirement for any Natural England European Protected Species Mitigation (NE ESPM) licence and in the unlikely event that removal of an otter resting place or holt is unavoidably required this will be carried out under the terms of such a licence, as for the construction phase.</p> <p>To further minimise indirect impacts as a result of construction, implementation of environmental good construction practice as part of the Outline DEMP (Doc Ref. 7.12). Implementation of protection measures within the Outline DEMP will further reduce potential impacts through minimising risk of pollution incidents upon the East Stour River, reducing potential sources of decommissioning disturbance and minimising any risk of encroachment within the East Stour River protection zones.</p>	<p>No</p>
	<p>Decommissioning: Physical harm. Medium-term, likely reversible.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>There is also a risk that the removal of crossing points over the East Stour River could result in damage or destruction of an otter holt and/or killing, injury or disturbance of otters using any such holts.</p> <p>The risk of otter mortalities, disturbance and loss of habitats is addressed through a combination of Embedded Mitigation incorporated into the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10), similar to those specified for the construction phase including pre-commencement surveys and implementation of mitigation under a NE EPS mitigation licence if required.</p>	
<p>Invasive non-native species</p> <p>Negligible</p>	<p>Construction: Spread, reducing diversity of on-Site habitats. Short-term, reversible.</p> <p>No invasive flora have been recorded within the Site, and as a result no control or removal of invasive flora is required during the construction phase.</p> <p>There is however a risk that invasive flora (i.e., those listed on Schedule 9 of the WCA) could be brought onto the Site as a result of construction activities (viable plant material being brought into the Site within soil or on machinery) or that invasive flora could become established on Site prior to construction. To minimise this risk implementation of environmental good construction as part of the Outline CEMP (Doc Ref. 7.8) and Outline LEMP (Doc Ref. 7.10) as embedded mitigation which includes use of topsoil confirmed as free of contamination and avoidance of invasive species within landscaping proposals.</p> <p>Prior to clearance and ground works commencing within the Project, the Site will be surveyed for non-native invasive plants in any key habitats where invasive species possibly could have become established by a suitably qualified ecologist. Ideally, this should be within the core growing season from May to August inclusive.</p> <p>Should any invasive species be recorded within the Site, it is proposed that a risk assessment and, where necessary, control, removal and disposal measures are specified within a bespoke invasive non-native species management plan to detail the specific requirements for each species. Any non-native species encountered within the Project will be clearly demarcated and where necessary an exclusion zone established to prevent inadvertent spread. This is to make any site users aware of the presence of invasive species and restrict the access of persons to such areas.</p>	<p>No</p>

Ecological Feature and Valuation	Potential Impacts	Potential for Significant Effects
	<p>Operational: Spread, reducing diversity of on-Site habitats. Medium-term, reversible.</p> <p>Due to the limited nature of proposed habitat management operations on the Site, there are limited pathways for invasive species to become established. Potential pathways include replacement plantings, vehicle movements or importation of topsoil, all of which will be limited in extent during operational habitat management.</p> <p>Ecological monitoring including habitat condition assessments specified within the Outline LEMP (Doc Ref. 7.10) will record any presence of invasive species. Such presence will inform recommendations for control and removal of invasive species as required.</p>	No
	<p>Decommissioning: Spread, reducing diversity of on-Site habitats. Short-term, reversible.</p> <p>There is a risk that invasive flora could be bought onto the Site as a result of decommissioning activities or that invasive flora could become established on Site prior to decommissioning.</p> <p>To minimise this risk implementation of environmental good construction practice as part of the Outline DEMP (Doc Ref. 7.12) and Outline LEMP (Doc Ref. 7.10), as Embedded Mitigation which includes control of soil sourcing and movements.</p> <p>Operational and maintenance phase monitoring and pre-decommissioning surveys will provide an updated baseline on the presence of any invasive species applicable to decommissioning activities. As per the construction phase, should any invasive species be recorded within the Site, it is proposed that a risk assessment and, where necessary, control, removal and disposal measures are specified within a bespoke invasive non-native species management plan to detail the specific requirements for each species. Any non-native species encountered within the Project will be clearly demarcated and where necessary an exclusion zone established to prevent inadvertent spread. This is to make any site users aware of the presence of invasive species and restrict the access of persons to such areas.</p>	No

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