Tween Bridge Solar Farm

7.6 Outline Landscape Ecological Management Plan

Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

APFP Regulation 5(2)(q)

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1 Introduction and Site Context

1.1. Introduction

1.1.1. This Outline Landscape and Ecological Management Plan (LEMP) has been prepared by Tyler Grange Group Ltd on behalf of RWE Renewables UK Solar and Storage Ltd (the Applicant) in respect of 'Tween Bridge Solar Farm' (the Scheme) and is provided as a standalone document as part of the application for a Development Consent Order (DCO Application). It must be read alongside the **ES Ecology and Nature Conservation Chapter [AS-012]** for full context. For the purposes of this report, the extent of the Scheme is referred to as the 'Order Limits', which includes all areas proposed for solar panels, ecological mitigation areas and associated infrastructure.

1.1.2. This 'Outline' LEMP will be secured via a requirement of the DCO and a final version is to be submitted to and approved by the relevant local planning authority.

1.1.3. The intention of this document is to provide the principles of habitat management and monitoring measures for retained and created habitats associated with the Scheme, which are separated into:

- Retained woodland;
- Retained hedgerows;
- Retained ditches/ponds/watercourses;
- Created grassland beneath and around solar arrays;
- Created landscape screening;
- Created grassland within bird mitigation areas, along ditches, river, hedgerows and woodland buffers; and
- Retained arable land within bird mitigation areas.

1.1.4. Enhancement measures are also proposed regarding herptiles, invertebrates, roosting bats and nesting birds.

1.1.5. This Outline LEMP is informed by a suite of ecological survey work, which has identified the presence of protected/notable sites, habitats and species both within and adjacent to the Order Limits, all of which will need a degree of protection and mitigation during the site's construction. The following section of this Plan

summarises the baseline context regarding ecological receptors within the Zone of Influence of the Order Limits.

1.1.6. This Outline LEMP should be read alongside the **Landscape and Visual Mitigation Strategy [Document Reference 6.4.6.4].**

1.2. Coverage

1.2.1. This Outline LEMP sets out details of initial habitat interventions and subsequent long-term management of habitats for the operational lifetime of the Scheme (40 years), and is set out as follows:

- **Section 2** describes the Order Limits including baseline ecological/ground conditions;
- **Section 3** sets out management objectives for the Outline LEMP and describes ecological/ground constraints to be factored into the proposed management prescriptions;
- **Section 4** describes the management prescriptions to achieve objectives set out in **Section 3** as well as setting out monitoring and remedial actions where necessary;
- **Section 5** describes the monitoring programme over the lifetime of the development, along with indications of mechanisms for remedial measures; and
- **Section 6** describes who will be responsible for implementing the plan and how arrangements for funding will be organised.

1.2.2. For the purposes of this report, Year 0 is defined as the year of the initial habitat interventions and Year 1 refers to the following year/planting season. Given the large size of the Order Limits, it is expected that the Scheme would be delivered in phases i.e. not all habitats would be created within the same year. It is therefore proposed that management of habitats would commence in the year of completion of habitat creation in that area.

1.2.3. Implementation of the plan will be iterative in the management prescriptions and will be refined as necessary based on the condition of the site and outcomes following the first cycle of the implemented management and ongoing monitoring.

1.2.4. The implementation of the LEMP will be secured through a requirement to the DCO.

2 Site and Habitat Summary

2.1. Site Context

2.1.1. The Order Limits consist of c. 1831ha of agricultural land, the majority of which consists of arable farmland with cereal and non-cereal crops. Fields are bounded by watercourses as well as fences, hedgerows and tree lines. Modified grassland used for pastoral gland is also present within the Order Limits as well as a woodland copse and a number of ponds.

2.1.2. Part of the Tween Bridge Wind Farm is located within the Order Limits and consists of twenty-two operational wind turbines. The Stainforth and Keadby Canal crosses the Order Limit from west to east.

2.1.3. In the wider context, the Order Limits is surrounded by extensive areas of farmland and areas of woodland, with areas of lowland peat bog (Thorne & Hatfield Moors) located to the north and south of the Order Limits.

2.2. Site Baseline

2.2.1. The Order Limits are dominated by arable land in use as cereal crops, with some areas of modified grassland and tall ruderal vegetation. All of these habitats are of intrinsic negligible ecological importance in their own right and do not require any specific considerations regarding protection during the construction phase. They are known, however, to support protected/notable species, which are discussed in the relevant sections of this report.

2.2.2. Other habitats of local importance, some of which are also identified as Habitats of Principal Importance (HoPI) under the Natural Environment and Rural Communities Act (NERC) Act 2006, are also present within the Order Limits, comprising scrub, hedgerows (HoPI), lines of trees, ponds (HoPI), ditches and woodland (HoPI).

2.2.3. **Table 2-1** below summarises the baseline ecological and ground conditions of the site, all of which have been factored into the feasibility and scope of the management objectives and principles proposed.

Table 2-1: Site Baseline Summary

Statutory / Non-Statutory Sites	A small area of Thorne & Hatfield Moors Special Protection Area (SPA), Thorne Moor Special Area of Conservation (SAC), Thorne, Crowle and Goole Moors Site of Special Scientific Interest (SSSI) and Hatfield Chase Ditches SSSI lie within the

	Order Limits. The Humber Estuary SPA/SAC/Ramsar sites approximately 6km to the northeast of the Order Limits. Of particular relevance to these sites is the designation of Thorne and Hatfield Moors SPA for its breeding population of nightjar, which has been identified as a principle objective of this management plan (**Objective 2**). A number of non-statutory Local Wildlife Sites (LWS) are also present within the Order Limits, associated with the ditch network and woodland copses.
Protected and Notable Species	Survey work has confirmed the presence of the following protected/notable species within the Order Limits: • Ground-nesting bird species (most notably skylark); • Farmland bird species associated with agricultural landscapes; • Non-breeding bird species associated with Humber Estuary SPA (most notably lapwing, pink-footed goose, greylag goose and mallard – golden plover also considered); • Non-breeding farmland bird species; • Water vole; • Otter; • Badger; • Small mammals (brown hare, hedgehog); • Some notable invertebrates; Although not confirmed, the Order Limits may also support amphibians and reptiles (collectively referred to as herptiles for the remainder of this report).
Invasive Species	Water fern and rhododendron have been recorded within the Order Limits associated with ditches and pockets of woodland.
Baseline Habitats	The Order Limits is dominated by arable land separated by an extensive ditch network. Hedgerows and woodland copses are also present throughout the Order Limits.
Public Access	Public access is limited around the Order Limits, and is mainly restricted to the towpath of the Stainforth & Keadby Canal.
Topography	The Order Limits is generally flat so there are no management restrictions or considerations to this regard.
Current Use	The land across the Order Limits is in use for arable crop production.

Landscape Character	The Order Limits is located entirely within NCA 39 – Humberhead Levels, one of the key features of which is floodplains, washlands and traditionally grazed alluvial flood meadows, which give rise to important wetland habitats.
Strategic Location	The Order Limits is not identified within any strategically beneficial location (i.e. one identified within any Local Plan for biodiversity), although it is situated between two Special Protection Areas designated for bog habitat.
Irreplaceable Habitats	There are no irreplaceable habitats within the Order Limits, although the adjacent lowland raised bog associated with the moors is considered irreplaceable. There would be no impacts on such habitat.

3 Management Objectives and Biodiversity Net Gain

3.1. Management Considerations

3.1.1. There are no specific ground conditions or designations which would mandate a particular type of management, other than the acknowledgement of the likely presence of protected/notable species. Of particular note is the requirement for habitat creation with the specific purpose of providing suitable habitat for both ground-nesting breeding birds and non-breeding bird species over winter and on passage.

3.2. Management Objectives

3.2.1. Considering the habitats and key fauna present within the Order Limits, the following objectives for nature conservation management have been set:

- Objective 1: To provide open areas of permanent pasture specifically managed for the benefit of ground-nesting bird species and non-breeding bird species over winter and on passage;
- Objective 2: To provide permanent areas or arable land managed for the benefit of ground-nesting bird species such as nesting and foraging skylark, and non-breeding bird species over winter and on passage, specifically pink-footed geese;
- Objective 3: To provide strengthened green corridors along field boundary features, specifically for the benefit of nightjar;
- Objective 4: To enhance quality of existing woodland habitat;
- Objective 5: To enhance quality of ditch network and ponds;
- Objective 6: To monitor the efficiency of nature conservation management through regular assessment of habitat establishment; and
- Objective 7: To enhance the value of the land within the Order Limits for roosting bats and nesting birds through the installation and continued care of bat and bird boxes on retained trees.

3.2.2. With the implementation of the measures proposed, that will create and maintain native habitats of ecological importance resulting in improved connectivity for wildlife, ecological enhancements and gains in biodiversity, it is considered that

the Scheme will contribute to the aspirations of the City of Doncaster Council to create a biosphere reserve.

3.2.3. The cessation of intensive agricultural farming within the Order Limits, which includes the application of agrichemical inputs, will create enhancements to existing, retained habitats, through improved water quality within the ditch network, adjacent River Torne, ponds and associated habitats, including those within statutory designated sites.

3.3. Biodiversity Net Gain

3.3.1. It is not yet a mandatory requirement for applications for Nationally Significant Infrastructure Projects (NSIPs) to demonstrate a quantifiable biodiversity net gain (BNG) of at least 10% under the Environment Act 2021. However, the Applicant intends to provide evidence of the deliverability of measurable BNG, in accordance with NERC obligations and the Overarching National Policy Statement for Energy (EN-1) and National Policy Statement for Renewable Energy Infrastructure (EN-3). This material is contained in **Appendix 7.12 Biodiversity Net Gain assessment [APP—82]** forming part of the submitted Environmental Statement.

3.3.2. Given the limited land take associated with solar developments and low distinctiveness of the arable habitat across much of the Order Limits, it is expected that the Scheme will be able to deliver well in excess of +10% biodiversity net gain in habitat and hedgerow within the Order Limits and without the need to procure any off-site habitat creation.

4 Management Prescriptions

4.1. An outline of the broad habitat types proposed for creation and management prescriptions for the Scheme are set out in Table 4-1 within the subsequent pages of this section of the report. The management will be implemented in stages, as indicated in the timings column in accordance with the management task, as will the appropriate timing of required habitat maintenance once established.

4.2. The prescriptions seek to cover a period equating to a 40-year period which is the lifetime of the Scheme and exceeds the 30 years required for BNG on conventional planning applications under the Town and Country Planning Act 1990, and includes both the start-up works and continued management post intervention. This is inclusive of primary establishment of habitats and subsequent management regimes. These actions are set out under the individual objective headings set out in Section 3.

4.3. The landscape strategy is described in further detail within the This Outline LEMP should be read alongside the **Landscape and Visual Mitigation Strategy [Document Reference 6.4.6.4 Revision 2].** An overview of habitats to be created is also provided on Figures 1 and 2 attached to this Outline LEMP.

4.4. Prior to habitat creation, soil testing will be completed to confirm the PH and nutrient levels and determining the appropriate seed mix to ensure the maximum beneficial mix for the soils and nutrients status.

Table 4-1: Habitat Management by Type

Habitat	Rationale for Feature Creation / Management	Species Mix	Management Tasks
Grassland mixture beneath and around solar arrays	To create a relatively species-diverse neutral grassland, including tussocky grassland on field margins to benefit ground nesting and foraging birds, including skylark and nightjar. Will also benefit other wildlife and increase biodiversity.	Emorsgate EM1 General Purpose Meadow Mixture (or equivalent) **Forbs (10%):** yarrow, knapweed, oxeye daisy, musk mallow, ribwort plantain, salad burnet, meadow buttercup, wild carrot **Grasses (90%):** common bent (9%), crested dogstail (31.50%), red fescue (27%), smaller cat's-tail (4.50%), smooth-stalked meadow-grass (18%)	<u>Preparation</u> Prior to sowing the seed mix, the ground will need to be prepared by cultivation whereby weeds will be removed by hand or spot treated with herbicide. Following this the soil will then be harrowed or raked to provide a medium tilth then rolled. <u>Sowing</u> The seed mix will be sown in Autumn or Spring in accordance with the manufacturer's specifications at a density of 4g/m^2 / 40kg/ha. Care will be taken to ensure the seeds are not covered but are 'firmed' in and have good contact with the soil. <u>Ongoing management</u> Once established, the grassland will be managed via sheep grazing at appropriate densities, or an appropriate mowing regime. Where possible, rotation of grazing / mowing will be employed whereby not all of the Order Limits is subject to grazing / mowing at the same time, thus allowing some areas to remain unmanaged at sensitive times of year (i.e. bird nesting season,

			flowering season) so such areas can realise their full biodiversity potential.
Grassland mixture in proposed bird mitigation areas along ditches, River Torne corridor, hedgerow and woodland buffers	To create strengthened green corridors and a diverse, tussocky grassland specifically managed for ground-nesting birds and foraging birds such as nightjar, and non-breeding birds over winter and on passage	An example grass mixture is Emorsgate EM1 or EM2. This will provide suitable breeding habitat for ground-nesting farmland birds and foraging/roosting/loafing habitat for non-breeding birds (primarily geese, lapwing and golden plover). Subject to topography, consideration will also be given to the creation of shallow scrapes (in consultation with engineering/attenuation requirements) in these areas which can be designed to function as either a permanently marshy grassland (Emorsgate EM8), or ephemeral pools. Both of these habitats will be suitable as mitigation	Preparation Prior to sowing the seed mix, the ground will need to be prepared by cultivation whereby weeds will be removed by hand or spot treated with herbicide. Following this the soil will then be harrowed or raked to provide a medium tilth then rolled. Sowing The seed mix will be sown in Autumn or Spring in accordance with the manufacturer's specifications at a density of 4g/m2 / 40kg/ha. Care will be taken to ensure the seeds are not covered but are 'firmed' in and have good contact with the soil. It is proposed that the initial ground preparation and sowing of seed mix will take place in the season before the main construction activity commences, to ensure that favourable bird habitat is available for birds to relocate to once construction activity commences. Traditional Hay Management This would comprise bi-annual cuts, with the first cut to 15cm undertaken in late summer after the core breeding season for ground-nesting farmland birds. The arisings would need to be removed from the area following the cut to allow new growth. A second cut should then be taken to 5cm in Autumn (no later than

		for both breeding and non-breeding birds. It would also be preferable to work with the topography of the land and create ground which is not completely flat. This will introduce a natural variation in the cutting height of the grass, leaving some areas longer and some areas possibly scalped, creating areas of bare ground which will ultimately allow new grass growth to develop. Grassland will include White Clover, and Borage for the benefit of pollinators such as bees. These interventions would introduce more botanically diverse grassland and provide the wetland mosaics in strategic locations,	September), at the time when non-breeding birds will be arriving on passage and kept like this until the beginning of March. This can be achieved with low density sheep or other livestock or infrequent cuts/topping, and arisings removed. It is important to ensure the grass is kept at this height going into breeding season, to ensure that the grass is short enough for wading birds such as golden plover and lapwing to access the soil for foraging. From March and during the breeding season, approximately 50% of the grassland should be less than 5cm in height to benefit early-season nesters such as skylark and lapwing, and approximately 25% of the grassland should be cut between 5cm and 15cm, and the remainder left between 20-50cm to benefit skylark. It is also of benefit that the parcels of proposed bird mitigation are separate, to allow a rotational management practice to be adopted, so not 'all' parcels are managed/disturbed at the same time, allowing birds the ability to retain access to suitable habitat at all times. Mitigation area margins, ditch corridors, river corridor, hedgerow bases and woodland buffers will be allowed to develop a tussocky structure, with mowing or light grazing restricted to late summer or early autumn.

		particularly along the central canal corridor.	
Arable management	To maintain arable habitat managed for ground-nesting birds such as nesting and foraging skylark, and non-breeding birds over winter and on passage, including pink-footed geese.	Rotational arable management	• Use sugar beet where possible. • Use other appropriate crops on rotation when sugar beet is not being grown, such as winter cereal crops, oil seed rape, post-harvest cereal stubbles, potatoes[1]. • Post-harvest, the fields should be left until the spring before ploughing to maximise the foraging resource, with the geese foraging on roots chopped into fragments by the harvester, as well as unharvested roots. • Avoidance of deep ploughing. • Incorporation of a ley crop within the management rotation. • Inclusion of permanent grass margins to the fields measuring a minimum 2 metres.
Landscape screening	To provide native species-diverse screening where necessary	To comprise a mixture of native woodland, scrub/tree species and hedgerows, including berry-producing species	<u>Planting</u> Trees/scrub whips planted over winter when they have better drought tolerance.

[1] https://www.rspb.org.uk/birds-and-wildlife/pink-footed-goose

		to benefit over-wintering birds.	Ongoing management Once mature and failed stock removed where necessary, management should comprise occasional pruning in late January/early February as necessary, to avoid the bird nesting season and to also allow berry-producing species to fruit and allow over-wintering birds (most notably thrushes) access to foraging resources. For the benefit of species such as the scarce vapourer moth which is vulnerable to intensive vegetation cutting, vegetation will be cut rotationally on minimum 3 year cycle.
Retained hedgerows	To maintain and, where possible, improve quality of hedgerows around Order Limits and strengthen green corridors	N/A	Management of existing hedgerows will comprise rotational cutting in late January/February to allow berry producing plants the chance to fruit and offer over-wintering resources for farmland birds, particularly redwing and fieldfare. For the benefit of species such as the scarce vapourer moth which is vulnerable to intensive vegetation cutting, vegetation will be cut rotationally on minimum 3 year cycle. Margin will be provided alongside hedgerows measuring at least 3 metres and will comprise tussocky grassland to maximise foraging opportunities for nightjar, as well as bats and other faunal groups as detailed for objective 3.
Retained and new woodland	To maintain and, where possible, improve quality of woodland and	N/A	Rhododendron will be removed in Year 1, and thereafter monitored and controlled for the duration of the site's management.

	adjacent habitats around Order Limits, including removal/control of invasive non-native species (rhododendron), strengthening green corridors and opportunities for wildlife.		Ongoing management will comprise regular woodland health checks to ensure that any failed (or failing) stock is removed, along with ongoing control of woodland flora to maintain ground vegetation within limits i.e. control of bramble. For the benefit of species such as the scarce vapourer moth which is vulnerable to intensive vegetation cutting, vegetation will be cut rotationally on minimum 3 year cycle. Whittaker's Plantation Candidate Local Wildlife Site will be buffered by 15m and this will comprise tussocky grassland to create enhanced foraging opportunities for nightjar, bats and other wildlife, as per objective 3.
Retained ditches and ponds	To strengthen green corridors, to maintain and, where possible, improve quality of ditches and ponds around Order Limits.	N/A	Many of the ditches within the site are under the control and management of the Internal Drainage Board (IDB), who have standard internal management procedures to ensure that each ditch is functioning as intended. The following measures therefore apply to all non-IDB ditches and ponds or, where agreed with the IDB as a stakeholder, IDB ditches too. Prior to any ditch or pond enhancement works commencing, they will be assessed for their quality in terms of macrophyte cover, shading, undesirable species etc. and other criteria, as directed/identified by the Statutory Biodiversity Metric (SBM) River MoRPH condition criteria, as ditches vary in their quality, structure and scope for enhancement across the site. Pond condition assessments will also take place Where scrub encroachment is identified as a limiting factor, the initial management measures will comprise selective scrub

			removal to allow greater light into the ditch and encourage a more diverse aquatic fauna. Macrophyte cover can also be supplemented through the enhancement of ditch banks by plug-planting with specialist wetland plants (i.e. common reed), where this is relevant. Ongoing management will then comprise continued scrub control, sensitive dredging works and rotational management to ensure that entire lengths of ditch are affected at the same time. Grassland management of the margins to be completed as per objective 3.

5 Faunal Enhancements

5.1. In addition to the habitat interventions set out above, the following enhancement measures are proposed across the Order Limits to provide enhancements for certain faunal groups:

- 5 barn owl nest boxes installed on suitable mature trees, micro-sited by a suitably experienced ecologist;
- 5 kestrel nest boxes installed on woodland edge/mature hedgerow trees;
- 90 small nest boxes comprising a mixture of open-fronted and hole-fronted nest boxes, with the latter targeted at 40mm in diameter to target starling;
- 100 bat boxes on retained mature trees;
- 100 hedgehog boxes;
- 100 insect hotels, comprising underground bee shelters and general-purpose insect hotels made from natural materials (i.e. brash);
- Inclusion of 100 beetle banks;
- Inclusion of 50 bee hives; and
- 50 amphibian/reptile refugia, designed in line with English Nature's (now Natural England) mitigation guidelines, whereby refugia are made from brash/rubble/grass cuttings.

5.2. The beetle banks will be provided in areas proposed as bird mitigation to enhance foraging opportunities for skylark and other bird species. The majority of bee hives will be located over 800m of Thorne, Crowle & Goole Moors SSSI, which is beyond the most common distance honey bees forage[2], to reduce any potential impacts from competing with foraging invertebrates from the SSSI. In addition, the new native habitat creation, including neutral grassland and hedgerows, will significantly increase the foraging opportunities for bees within

[2] Beekman, M., & Ratnieks, F. L. W. (2000). *Long-range foraging by the honey-bee, Apis mellifera L.* Functional Ecology, 14(4), 490–496.

the Order Limits compared to the existing situation, further reducing the potential for and new bees outcompeting with SSSI species.

5.3. The locations of the enhancement features will be presented as part of a 'final' LEMP.

6 Mitigation Parcel Management Plan

6.1. This section provides further detail on the design, management and monitoring of the mitigation areas identified within the Order Limits. This information is provided to support the delivery of suitable habitat for target species and to ensure that the mitigation areas function as intended over the lifetime of the Scheme.

6.2. The mitigation areas have been selected based on baseline survey data and are designed to provide a mosaic of habitats, including grassland, wet features and managed arable land, to support non-breeding bird species associated with the Humber Estuary SPA, nightjar associated with Thorne & Hatfield Moors SPA, and ground ensuring birds, principally skylark. The location of these mitigation areas are included on **Figures 1 and 2** attached to this Outline LEMP.

6.3. In addition, the majority of mitigation areas are located beyond 600m of existing wind turbines in order to provide optimal conditions for birds, as shown on **Figure 3** attached to this Outline LEMP. A small number of parcels are located within 600m of turbines to deliver suitable habitat within areas of existing bird activity, as evidenced by the supporting survey data. These parcels within 600m of turbines are provided as a supplementary benefit and are not relied upon as a component of the mitigation strategy.

6.4. The grassland areas detailed below are to be managed primarily for the benefit of the functionally linked species lapwing, mallard and plink-footed geese over winter, and foraging nightjar, foraging and nesting skylark and other ground nesting birds over spring and summer.

6.5. The steady decline of the skylark population since the 1970s is mainly due to agricultural intensification and habitat loss[3]. In addition to this, intensive farmland, which is the predominant habitat within the Order Limits, often provides a suitable nesting window only briefly, making only one or two skylark broods possible, and sometimes none[4]. Therefore, the bespoke measures for skylark mitigation will include specific measures to ensure optimal habitat is provided for skylark that will assist with increasing the carrying capacity of the habitats

[3] Fox, H. (2022). *Blithe Spirit: Are Skylarks Being Overlooked in Impact Assessment?* **In Practice**, Issue 117, CIEEM

[4] Fox, H. (2022). *Blithe Spirit: Are Skylarks Being Overlooked in Impact Assessment?* **In Practice**, Issue 117, CIEEM

available. In optimal habitat, skylarks can have up to four broods per year[5]. Therefore, although the overall habitat extent in area may decrease post-construction, the carrying capacity and habitat conditions will increase within the mitigation areas to be provided, potentially enabling an increase in successful breeding and broods.

6.6. The bespoke mitigation measures include: sward height managed optimally for nesting skylark, at approximately 20-50cm; the provision of skylark foraging plots to increase foraging opportunities; the provision of beetle banks to increase foraging opportunities; the use of species-rich neutral grassland to increase foraging opportunities within mitigation areas and around solar arrays; wide uncultivated margins to increase foraging, retention of winter stubbles to provide a longer nesting season and better winter foraging too.

6.7. The mitigation parcel (M15) provided as arable is primarily to be managed for pink-footed geese over winter, and nesting and foraging skylark and other ground nesting birds over spring and summer, although the parcel will also provide benefits for wading birds.

6.8. The management of each parcel will be informed by ongoing monitoring and adapted as necessary in consultation with the relevant local authorities and Natural England.

Delivery and Phasing of Mitigation Parcels

6.9. The Scheme will be constructed in phases across discrete parcels within the Order Limits. As such, while mitigation parcels will be created prior to the commencement of each relevant construction phase, the impacts associated with the Scheme will arise progressively as individual phases are brought forward. In addition, habitats within the Order Limits that are not affected by construction will continue to provide suitable opportunities for the target bird species until such time as they are required for construction.

6.10. The creation of mitigation parcels will be phased, ensuring that mitigation areas are created prior to the onset of each relevant construction phase. The grassland mitigation areas located beyond 600m of wind turbines will be created prior to those within 600m of turbines, therefore mitigation areas M4, M7 M8, M11, M12 and, M13 will be created in a phased manner before mitigation areas M1, M2 M3

[5] Donald, P.F. (2004). The Skylark. Poyser, London.

and M5, therefore ensuring the most optimal mitigation areas are created first. In addition, mitigation area M15 already comprises arable farmland and is to remain in arable management, although will be subject to improved management as detailed, and therefore will provide mitigation land prior to construction commencing.

6.11. Considering that the location of bird activity across the Order Limits has been demonstrated to change, with no one particular area of importance, and that areas in the Order Limits not under construction will continue to provide opportunities for non-breeding birds until they become subject to construction, this approach will ensure continuity of suitable habitat for non-breeding bird species across the Order Limits throughout the construction period.

6.12. The timing of mitigation establishment will take account of seasonal constraints associated with habitat creation (such as appropriate seeding periods), to ensure successful establishment prior to construction commencing.

6.13. The enhanced management to the grassland along retained ditch and river corridors, hedgerow and woodland buffers will also be implemented at the same time as the creation of the mitigation areas, to ensure functioning green corridors and enhanced habitats are established prior to impacts, for the benefit of nightjar, bats, invertebrates and other wildlife.

6.14. The grassland within the solar array areas, will be established once construction in those areas is complete.

6.15. The following subsections provide parcel-specific detail on the proposed design, management and function of each mitigation area.

Mitigation Parcel M1

6.16. Mitigation Parcel M1 is located in the north-east of the Order Limits at grid reference SE 72534 13629, directly adjacent to the Thorne and Hatfield Moors SPA and SAC. The parcel extends to approximately 10.44 hectares.

6.17. The parcel will be managed to provide **a variable structured grassland habitat through the enhancement of existing grassland. This will comprise the establishment and maintenance of a diverse sward with varied structure to support both breeding and non-breeding bird species.**

6.18. Management will maintain a mosaic of sward heights across the parcel, providing suitable conditions for species including skylark, lapwing and wintering waterfowl.

Shorter sward areas approximately 5cm in height will provide accessible foraging habitat for wading species across the majority of the area over winter and nesting opportunities in early spring for skylark. Over summer the grassland will be allowed to develop to approximately 20-50 cm to benefit skylark and other ground nesting birds.

6.19. Two skylark plots per hectare to be provided and the provision of beetle banks to enhance foraging opportunities for skylark.

6.20. Taller areas of grassland will be allowed to develop on the margins of this parcel, measuring 10m width, to provide foraging habitat for geese and other species.

Mitigation Parcel M2

6.21. Mitigation Parcel M2 is located at grid reference SE 72230 12378 and extends to approximately 13.42 hectares. The parcel is situated within the centre of the Order Limits, adjacent to the canal corridor.

6.22. The parcel will be managed through the reversion of arable land to species-rich grassland, creating a diverse sward structure. This will provide nesting and foraging habitat for ground-nesting birds such as skylark, alongside foraging and roosting opportunities for non-breeding species.

6.23. Management will maintain a mosaic of sward heights across the parcel to support both breeding and non-breeding bird **functions.**

6.24. Woodland planting will be established along the northern boundary of the parcel to provide shelter and structural diversity, while retaining open grassland to the south suitable for target bird species, as detailed within 6.4.6.4 Environmental Statement Figure 6.4 Landscape and Visual Mitigation **[APP – 148].**

6.25. Shorter sward areas approximately 5cm in height will provide accessible foraging habitat for wading species across the majority of the area over winter and nesting opportunities in early spring for skylark. Over summer the grassland will be allowed to develop to approximately 20 -50 cm to benefit skylark and other ground nesting birds.

6.26. Two skylark plots per hectare to be provided and the provision of beetle banks to enhance foraging opportunities for skylark.

6.27. Taller areas of grassland will be allowed to develop on the margins of this parcel, measuring 10m width, to provide foraging habitat for geese and other species.

Mitigation Parcel M3

6.28. Mitigation Parcel M3 is located at grid reference SE 71522 12248 and extends to approximately 6.73 hectares. The parcel is situated just north of the canal corridor and to the west of Mitigation Parcel M2.

6.29. The parcel will be managed to provide species-rich grassland, maintaining and enhancing the existing habitat to create a diverse sward structure suitable for a range of target species. This will provide nesting and foraging habitat for ground-nesting birds such as skylark, alongside foraging and roosting opportunities for non-breeding species.

6.30. Management will maintain a mosaic of sward heights across the parcel to support both breeding and non-breeding functions.

6.31. Shorter sward areas approximately 5cm in height will provide accessible foraging habitat for wading species across the majority of the area over winter and nesting opportunities in early spring for skylark. Over summer the grassland will be allowed to develop to approximately 20 -50 cm to benefit skylark and other ground nesting birds.

6.32. Two skylark plots per hectare to be provided and the provision of beetle banks to enhance foraging opportunities for skylark.

6.33. Taller areas of grassland will be allowed to develop on the margins of this parcel, measuring 10m width, to provide foraging habitat for geese and other species.

Mitigation Parcel M4

6.34. Mitigation Parcel M4 is located at grid reference SE 70389 12214 and extends to approximately 19.94 hectares. The parcel is situated to the south of the canal corridor within the Order Limits.

6.35. The parcel will be managed through the reversion of arable land to species-rich grassland, creating a diverse sward structure suitable for a range of target species. This will provide nesting and foraging habitat for ground-nesting birds such as skylark, alongside foraging and roosting opportunities for non-breeding species.

6.36. Management will maintain a mosaic of sward heights across the parcel to support both breeding and non-breeding functions.

6.37. Shorter sward areas approximately 5cm in height will provide accessible foraging habitat for wading species across the majority of the area over winter and nesting opportunities in early spring for skylark. Over summer the grassland will be allowed to develop to approximately 20 - 50cm to benefit skylark and other ground nesting birds.

6.38. Two skylark plots per hectare to be provided and the provision of beetle banks to enhance foraging opportunities for skylark.

6.39. Taller areas of grassland will be allowed to develop on the margins of this parcel, measuring 10m width, to provide foraging habitat for geese and other species.

Mitigation Parcel M5

~~5.2.~~6.40. Mitigation Parcel M5 is located to the south of the canal corridor, adjacent to the eastern boundary of the Order Limits, and extends to approximately 19.24 hectares.

6.41. The parcel will be managed through the reversion of arable land to species-rich grassland. This will comprise the establishment of a varied sward structure to provide suitable habitat for ground-nesting and non-breeding bird species, in line with the wider mitigation strategy for the Scheme.

6.42. Shorter sward areas approximately 5cm in height will provide accessible foraging habitat for wading species across the majority of the area over winter and nesting opportunities in early spring for skylark. Over summer the grassland will be allowed to develop to approximately 20-50 cm to benefit skylark and other ground nesting birds.

6.43. Two skylark plots per hectare to be provided and the provision of beetle banks to enhance foraging opportunities for skylark.

6.44. Taller areas of grassland will be allowed to develop on the margins of this parcel, measuring 10m width, to provide foraging habitat for geese and other species.

Mitigation Parcel M7

6.45. Mitigation Parcel M7 is located in the eastern part of the Order Limits at grid reference SE 73475 11045 and extends to approximately 4.76 hectares.

6.46. The parcel will be managed through the reversion of arable land to species-rich grassland, establishing a varied sward structure to provide suitable habitat for target species in line with the wider mitigation strategy for the Scheme.

6.47. Shorter sward areas approximately 5cm in height will provide accessible foraging habitat for wading species across the majority of the area over winter and nesting opportunities in early spring for skylark. Over summer the grassland will be allowed to develop to approximately 20-50cm to benefit skylark and other ground nesting birds.

6.48. Two skylark plots per hectare to be provided and the provision of beetle banks to enhance foraging opportunities for skylark.

6.49. Taller areas of grassland will be allowed to develop on the margins of this parcel, measuring 10m width, to provide foraging habitat for geese and other species.

Mitigation Parcel M8

6.50. Mitigation Parcel M8 comprises two parcels located at grid references SE 73388 10803 and SE 73213 10347, with a combined area of approximately 10.71 hectares.

6.51. The parcels will be managed through the reversion of arable land to species-rich grassland, establishing a varied sward structure to provide suitable habitat for target species in line with the wider mitigation strategy for the Scheme.

6.52. Shorter sward areas approximately 5cm in height will provide accessible foraging habitat for wading species across the majority of the area over winter and nesting opportunities in early spring for skylark. Over summer the grassland will be allowed to develop to approximately 20 - 50cm to benefit skylark and other ground nesting birds.

6.53. Two skylark plots per hectare to be provided and the provision of beetle banks to enhance foraging opportunities for skylark.

6.54. Taller areas of grassland will be allowed to develop on the margins of this parcel, measuring 10m width, to provide foraging habitat for geese and other species.

Mitigation Parcel M11

6.55. Mitigation Parcel M11 is located at grid reference SE 70848 10725 and extends to approximately 20.84 hectares. The parcel is situated to the south of the A18.

6.56. The parcel will be managed through the reversion of arable land to species-rich grassland. In addition, the parcel will incorporate scrapes, to increase habitat diversity and suitability for target species.

6.57. The soil conditions in this area comprise clay, which will hold water within the scrapes during and post periods of heavy precipitation, as confirmed within **Environmental Statement Appendix 15.1 Agriculture Land Classification [APP-120].** The scrapes will provide a wet grassland and damp area, attracting a range of invertebrates and benefitting foraging waders. These scrapes will be created where there are open visitas therefore maximising the opportunities for waders, with the exact location and design provided at the detailed design stage post consent.

6.58. Scrapes will be shallow and without a uniform depth in line with RSPB guidance[6]. Deeper areas will be located towards the middle of the scrapes and will be no more than approximately 45cm. Edges will be kept gently sloping and very shallow to maximise foraging opportunities. The scrapes will have irregular outlines to maximise the edge effect and foraging opportunities.

6.59. The management of the scrapes will ensure short sward height, especially on the edges to maintain open foraging areas.

6.60. Shorter sward areas approximately 5cm in height will provide accessible foraging habitat for wading species across the majority of the area over winter and nesting opportunities in early spring for skylark. Over summer the grassland will be allowed to develop to approximately 20 – 50 cm to benefit skylark and other ground nesting birds.

6.61. Two skylark plots per hectare to be provided and the provision of beetle banks to enhance foraging opportunities for skylark.

6.62. Taller areas of grassland will be allowed to develop on the margins of this parcel, measuring 20m width, to provide foraging habitat for geese and other species.

Mitigation Parcel M12

6.63. Mitigation Parcel M12 is located at grid reference SE 69810 10630 and extends to approximately 34.83 hectares. The parcel is situated to the west of Mitigation Parcel M11.

[6] Scrape creation for waders. RSPB

6.64. The parcel will be managed through the reversion of arable land to species-rich grassland. The design will include the incorporation of scrapes to provide additional habitat diversity and suitability for target species.

6.65. The soil conditions in this area comprise clay, which will hold water within the scrapes during and post periods of heavy precipitation, as confirmed within **Environmental Statement Appendix 15.1 Agriculture Land Classification [APP-120].** The scrapes will provide a wet grassland and damp area, attracting a range of invertebrates and benefitting foraging waders. These scrapes will be created in line with the detail for parcel M11, and will be positioned where there are open visitas therefore maximising the opportunities for waders, with the exact location and design provided at the detailed design stage post consent.

6.66. Shorter sward areas approximately 5cm in height will provide accessible foraging habitat for wading species across the majority of the area over winter and nesting opportunities in early spring for skylark. Over summer the grassland will be allowed to develop to approximately 20 - 50cm to benefit skylark and other ground nesting birds.

6.67. Two skylark plots per hectare to be provided and the provision of beetle banks to enhance foraging opportunities for skylark.

6.68. Taller areas of grassland will be allowed to develop on the margins of this parcel, measuring 20m width, to provide foraging habitat for geese and other species.

Mitigation Parcel M13

6.69. Mitigation Parcel M13 is located at grid reference SE 70953 10610 and extends to approximately 29.55 hectares. The parcel is situated to the east of Mitigation Parcel M11.

6.70. The parcel will be managed through the reversion of arable land to species-rich grassland. The design will include the incorporation of scrapes to provide additional habitat diversity and suitability for target species.

6.71. The soil conditions in this area comprise clay, which will hold water within the scrapes during and post periods of heavy precipitation, as confirmed within **Environmental Statement Appendix 15.1 Agriculture Land Classification [APP-120].** The scrapes will provide a wet grassland and damp area, attracting a range of invertebrates and benefitting foraging waders. These scrapes will be created in line with the detail for parcel M11, and will be positioned where there are open

vistas therefore maximising the opportunities for waders, with the exact location and design provided at the detailed design stage post consent.

6.72. Shorter sward areas approximately 5cm in height will provide accessible foraging habitat for wading species across the majority of the area over winter and nesting opportunities in early spring for skylark. Over summer the grassland will be allowed to develop to approximately 20-50 cm to benefit skylark and other ground nesting birds.

6.72.1. Two skylark plots per hectare to be provided and the provision of beetle banks to enhance foraging opportunities for skylark.

6.73. Taller areas of grassland will be allowed to develop on the margins of this parcel, measuring 20m width, to provide foraging habitat for geese and other species.

Mitigation Parcel M15

6.74. Mitigation Parcel M15 is located at grid reference SE 77825 09502 and extends to approximately 16.85 hectares.

6.75. The parcel will be managed as arable land under a low intensity agricultural regime to provide suitable foraging habitat for non-breeding bird species. This will include the use of appropriate crop types, such as root crops and cereals, alongside the retention of post-harvest stubbles to maximise the availability of food resources during the winter period.

6.76. The main principles that will need to be implemented as part of the rotational arable management for the benefit of pink footed geese in particular are provided below:

- Use sugar beet where possible.
- Use other appropriate crops on rotation when sugar beet is not being grown, such as winter cereal crops, oil seed rape, post-harvest cereal stubbles, potatoes[7].
- Post-harvest, the fields should be left until the spring before ploughing to maximise the foraging resource, with the geese foraging on roots chopped into fragments by the harvester, as well as unharvested roots.

[7] https://www.rspb.org.uk/birds-and-wildlife/pink-footed-goose

- Avoidance of deep ploughing.
- Incorporation of a ley crop within the management rotation.
- Inclusion of permanent grass margins to the fields measuring a minimum 2 metres.

~~6~~7 Monitoring

7.1. Along with the requirement for ongoing management of the operational site by specialist contractors, it will also be necessary for the site to be periodically monitored by a Suitably Qualified Ecologist (SQE) to ensure the habitats are in the appropriate condition and are either showing signs of success in the management objectives put forward (i.e. between Years 1 and 5) and later with evidence that the habitats have achieved their target condition under the SBM.

~~6.1.~~7.2. The project Landscape Architect will monitor the initial establishment period of the planting proposals (Years 1-5) following the supervision (by the Landscape Architect) of the implementation of the planting proposals to the landscape specification.

7.3. Pre-construction monitoring of the mitigation parcels will be required to ensure that the habitats are created prior to relevant construction works commencing. This monitoring will take place during the optimal growing season where possible.—typically late spring to early summer—when grassland flora and associated fauna are most active and visible. Surveys will assess all the habitats proposed within the relevant mitigation areas detailed below, including sward composition, structure, coverage, and the presence of target species to confirm that the habitat is developing as intended.

7.4. The proposed scrapes will be assessed following creation to ensure that they are present and hold water after periods of heavy precipitation and that edge habitats are maintained short.

7.5. The grassland along the ditch network, River Torne corridor and the hedgerow and woodland buffers will also be monitored to ensure that the required habitat and conditions are present, and to identify any amendments to management or remedial measures.

~~6.2.~~7.6. The results of these monitoring surveys will inform any necessary adjustments before construction begins, ensuring the best possible baseline for subsequent habitat interventions.

~~6.3.~~7.7. Except for the pre-construction monitoring, which is a standalone requirement, regular monitoring of the Order Limits, including all the mitigation parcels and habitats within the Order Limits, will commence in Year 1 following the completion of all habitat interventions. Given the likely phased development approach

spanning several planting and growing seasons, post-construction monitoring will only begin once all proposed interventions are in place.

7.8. All new planting will be regularly monitored and maintained to ensure the planting establishes by the management company following habitat creation for 5 years. Should the need for replacement planting be identified, this will be undertaken in line with the landscape proposals approved under Requirement 8 of the Draft Development Consent Order [Document Reference 3.1 Revision 3].

7.9. In addition, the appointed SQE will undertake Habitat Condition Assessments to evaluate progress against the management objectives and BNG condition criteria for the lifetime of the development, which is 40 years. If habitats are observed to be failing or not recorded to be achieving the required condition assessment as detailed in the BNG metric, the SQE is responsible for reporting this to the Applicant. The Applicant must then implement appropriate remedial measures (see below for further detail).

7.10. This condition assessment monitoring will take place in years 2, 5, 10, 15, 20, 25, 30 and 35, and will take place in the summer months between July and August, which is an optimal period for habitat surveys

7.11. During the monitoring surveys, note will be made of any plants that have died or become seriously damaged or diseased, and where remedial action is required if a given habitat is not likely to achieve its proposed condition under the current management regime.

7.12. Should the functionality of any habitat identified in the approved LEMP become affected by the management prescriptions, alternative measures will be implemented as appropriate, with all such changes to be agreed in writing with the relevant Local Planning Authority prior to implementation.

7.13. The proposed mammal gates to be adopted will be monitored at the same time as the habitat monitoring to ensure no damage and that they are functioning and are in the correct location coinciding with established terrestrial mammal movements.

7.14. In addition to habitat monitoring, pollinating invertebrate surveys will be undertaken in years 5 and 10 to help inform the quality of grassland for pollinating invertebrates and whether any changes in management are required to maximise the opportunities available for this group.

7.15. Monitoring reports will be submitted to the relevant local authorities in years 2, 5, 10, 15, 20, 25, 30 and 35 from the commencement of development. These reports

will assess whether habitats are progressing towards their intended objectives and will include evidence of ongoing management arrangements, along with any rectifying measures required. Each report will detail the condition and current state of all created and enhanced habitats, identify any areas that are failing or have sustained damage, and recommend any necessary remedial actions or updates to management prescriptions.

Non-Breeding Birds

7.16. Non-breeding bird surveys will be undertaken to confirm that the mitigation areas are functioning as intended for SPA-associated species. Monitoring will be undertaken in line with Natural England's recommendations detailed in their Relevant Representations [RR-023] and therefore will comprise surveys carried out monthly between November and March for the first three years following establishment.

7.17. Following this initial establishment period, monitoring will continue at reduced frequency, with surveys undertaken every two years up to Year 10 and at five-year intervals thereafter for the operational lifetime of the Scheme.

7.18. Monitoring results will be compared with the original baseline survey data, although no specific target numbers of birds are proposed to be identified as part of this monitoring. The Order Limits are located approximately 7.7km from the Humber Estuary SPA, therefore factors located beyond the Order Limits and outside the control of the Applicant could affect bird numbers present. As such, the main focus of monitoring will be to ensure that the habitat requirements of the target species are being met, with the data from the monitoring bird surveys to inform any changes required in management prescriptions and any remedial measures needed, such as whether birds are avoiding certain areas due to sight lines or sward heights.

7.19. Monitoring results will be reported to the relevant local planning authority, with the need for any remedial measures agreed and implemented accordingly.

Breeding Birds

7.20. Ground nesting bird monitoring surveys will take place to confirm that the mitigation areas are functioning as intended for skylarks and other ground nesting birds. Monitoring will be undertaken during the breeding season, which typically extends from mid-April to late July, with peak survey activity between April and June.

7.21. Three survey visits will be completed during the breeding season, spaced at least two weeks apart, to adequately capture breeding activity and account for temporal variation in singing behaviour.

7.22. Monitoring will be undertaken for the first three years following establishment. Following this initial establishment period, monitoring will continue at reduced frequency, with surveys undertaken every two years up to Year 10 and at five-year intervals thereafter for the operational lifetime of the Scheme.

7.22.1. During the ground nesting bird monitoring surveys monitoring of bird carcasses around solar arrays will also take place in order to monitor any increase in incidences of collision.

7.23. Monitoring results will be reported to the relevant local planning authority, with the need for any remedial measures agreed and implemented accordingly.

8 Remedial Measures

8.1. Where monitoring identifies that habitats are failing to establish, are in sub-standard condition, or are not functioning as intended in relation to the management objectives, appropriate remedial measures will be agreed with the relevant local authorities and then implemented.

8.2. Remedial measures will be informed by the findings of monitoring undertaken and may include, but are not limited to, replacement planting, changes to grazing or cutting regimes, modification of sward structure, refinement of arable management practices, or adjustments to the design and management of wet features such as scrapes and ditches.

8.3. Should the functionality of any habitat become affected by the management prescriptions, alternative management approaches will be implemented as appropriate to ensure that habitats continue to establish and function effectively. Such measures could include a change in the timing of management, or the type of management that is completed.

8.4. Should the scrapes be recorded as holding no water after heavy precipitation, the design including the depth and location of the scrapes will be reviewed and discussed with the relevant local authorities, with changes implemented as agreed.

8.5. Should any mammal gates be damaged, they will be replaced. Should any mammal desire paths be located in areas where no mammal paths exist, amendments to the mammal gate locations will be made.

8.6. The management and maintenance prescriptions will be subject to regular review in light of monitoring findings. Where necessary, prescriptions will be updated and refined to ensure the continued delivery of the management objectives over the operational lifetime of the Scheme.

8.7. All remedial measures will be implemented in a timely manner and will be recorded as part of the ongoing monitoring and reporting process, with monitoring reports submitted to the relevant local planning authority.

Plant material

8.8. All plant material will be assessed during September of each year 1-5 (following implementation). Any dead or dying material will be replaced with material to match the original specification during the next planting season (November to

March). Any areas which fail to provide a vigorous initial grass sward or are damaged shall be prepared and re-sown with the specified seed mix in March/April or September/October.

~~7~~9 Delivery of the LEMP

~~7.1.~~9.1. The site operator will be the body responsible for the delivery of this LEMP. It will be the responsibility of the site operator and their appointed contractors and management company to deliver the practical measures detailed in the final plan i.e. ground preparation, sowing and ongoing management. It will be the site operator's overall responsibility to ensure the prescriptions detailed in any future management plan are delivered, and any remedial actions arranged and delivered. The delivery/ implementation of the landscape proposals will be overseen by and to the approval of the project Landscape Architect, this will include an initial maintenance period of 5 years as the planting establishes.

~~7.2.~~9.2. The creation of mitigation areas will be undertaken on a phased basis, as detailed in section 6.9 of this document.

~~7.3.~~9.3. Requirement 8 the Draft DCO **[Document Reference 3.1 Revision 3] provides that the LEMP for any stage of the Scheme must be implemented as** approved.

~~7.4.~~9.4. An SQE will need to be appointed to undertake the required monitoring measures. The SQE will then be responsible for ongoing monitoring and reporting of discrepancies to the site operator along with compiling the results of the monitoring for submission to the relevant local planning authority.

Figure 1 – Non-Breeding Bird Mitigation Plan

The mitigation land has been carefully designed and calculated to ensure clear sightlines for the intended bird species.

Measures will be implemented during construction to prevent impacts such as from accidental damage, run-off including mud and silt, airborne pollutants including dust and noise

The Scheme will turn what is currently agricultural land, with no specific objectives of benefitting non-breeding birds, into land which is secured long-term for the lifetime of the development specifically for the benefit of lapwing, golden plover, pink-footed goose and greylag goose.

The cessation of intensive agricultural management and agrichemical inputs will improve water quality in ditches and off-site waterbodies improving thier suitability for birds.

Higher value boundary habitats that are likely to support invertebrate species will be retained and protected during works. Species-rich grasslands will be introduced around field boundaries to enhance habitat for invertebrates and to strengthen dispersal corridors across the landscape.

Arable land will be provided on rotation for the duration of the proposals to ensure continued foraging opportunities for pink-footed geese, alongside grassland areas. The rotational arable management will include using sugar beet where possible, with other appropriate crops such as winter cereals, oilseed rape, post-harvest cereal stubbles, and potatoes included in rotation when sugar beet is not grown. Following harvest, fields will be left until spring before ploughing to maximise the foraging resource, allowing geese to feed on fragmented and unharvested roots.

Deep ploughing will be avoided, a ley crop will be incorporated within the rotation, and permanent grass margins measuring a minimum of 2 metres will be included around the fields to support foraging and shelter opportunities for the geese.

In addition to habitat reversion and scrape creation, management will include traditional hay cuts to provide a mosaic of sward heights suitable for lapwing and skylark, as well as geese. The inclusion of permanent grass margins, shallow scrapes will further diversify habitat, supporting a wider range of non-breeding birds.

Scrapes are proposed to provide additional optimal habitat for waders as part of the mitigation design.

Substantial areas of agricultural land offsite will remain unaffected by the proposals which will provide oppotunities for non-breeding birds.

The locations proposed for the mitigation response have, where possible, been chosen to broadly align with recorded locations of the relevant species and to also provide opportunities spread across the Order Limits.

Buffers of of 9m from all IDB watercourses, and a 5-8m from all other non-IDB ditches will comprise neutral grassland, providing further foraging and potentially nesting opportunities.

The Scheme will provide an increase in native habitats through the site in place of intesively managed arable.This will improve connectivity across the Order Limits for a range of bird species.

Timing of works in proximity to potential habitat for Schedule 1 species will be managed to avoid impacts. This will include the implementation of targeted non-breeding bird mitigation plans, including buffer zones where Schedule 1 species are found to be nesting in the vicinity of construction works.

Reversion of existing agricultural land into a tussocky meadow grassland will provide suitable breeding habitat for ground-nesting farmland birds and foraging/roosting/loafing habitat for non-breeding birds (primarily pink-footed geese, lapwing and golden plover). These habitats will be suitable as mitigation for both breeding and non-breeding birds.

- Order Limits
- Mitigation Land
- Mitigation Land with a 50m Buffer from Vertical Features
- Mitigation Land with a 100m Buffer from Vertical Features
- Mitigation Land with a 150m Buffer from Vertical Features
- Mitigation Land (Managed As Arable)
- Special Protection Area (SPA)
- Indicative Scrapes Location

N

0 0.75 km

Project	Tween Bridge
Drawing Title	Figure 1: Non Breeding Bird Mitigation Plan
Scale	As Shown (Approximate)
Drawing No.	16413/P14c
Date	April 2026
Checked	TLR/RR

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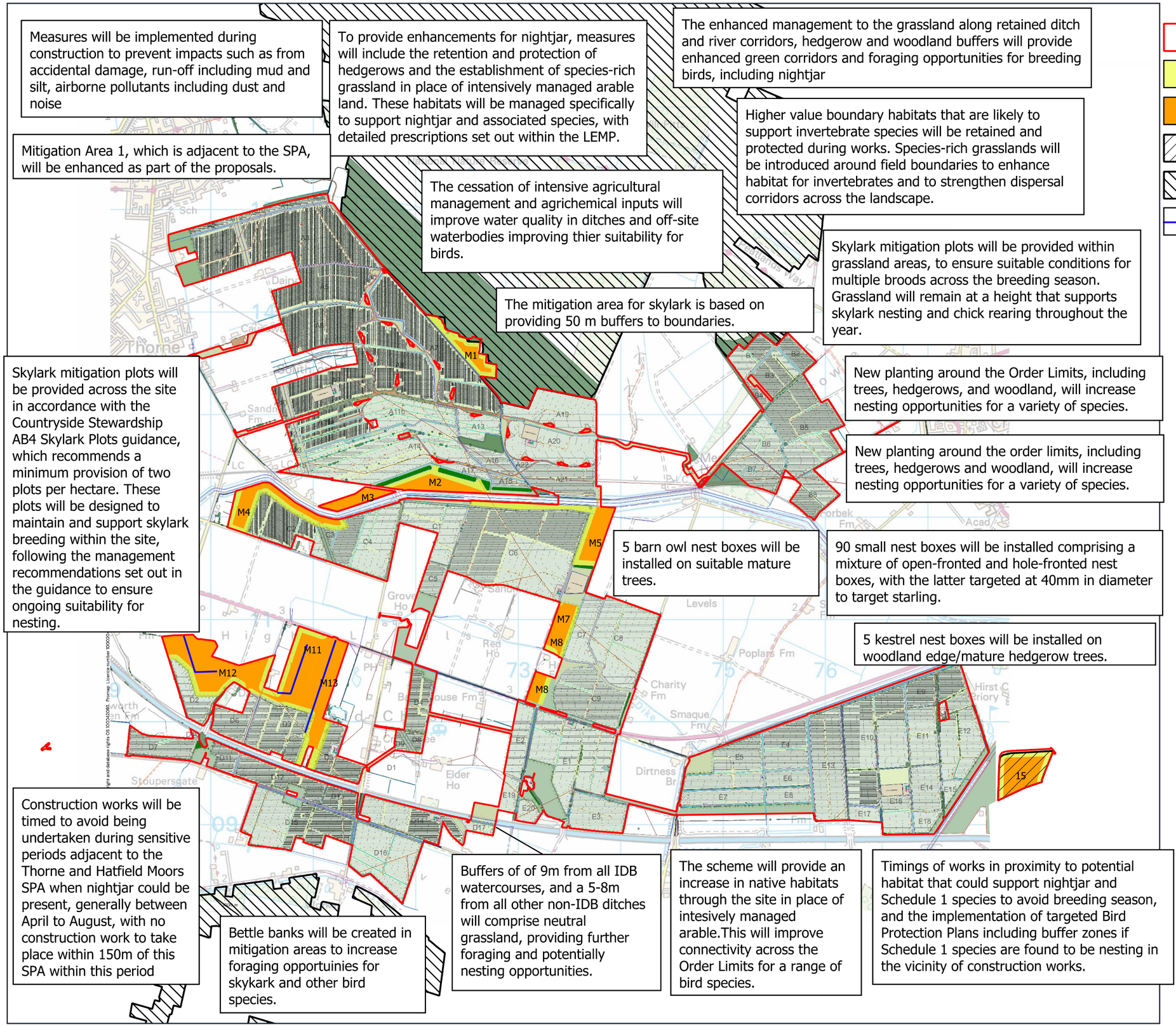
Figure 2 – Breeding Bird Mitigation Plan



N

0 0.75 km

Project	Tween Bridge
Drawing Title	Figure 2: Breeding Bird Mitigation Plan
Scale	As Shown (Approximate)
Drawing No.	16413/P12d
Date	April 2026
Checked	TLR/RR

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Figure 3 – 600m buffer to wind turbines and mitigation area locations

Order Limits

600m Buffer

Mitigation Land

N

0 0.75 km

Project	Tween Bridge
Drawing Title	Figure 3: Mitigation Land and 600m Buffer to Existing Wind Turbines
Scale	As Shown (Approximate)
Drawing No.	16413/P16e
Date	April 2026
Checked	TLR/RR

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