RWE

Tween Bridge Solar Farm

5.3 Report to Inform Habitat Regulations Assessment

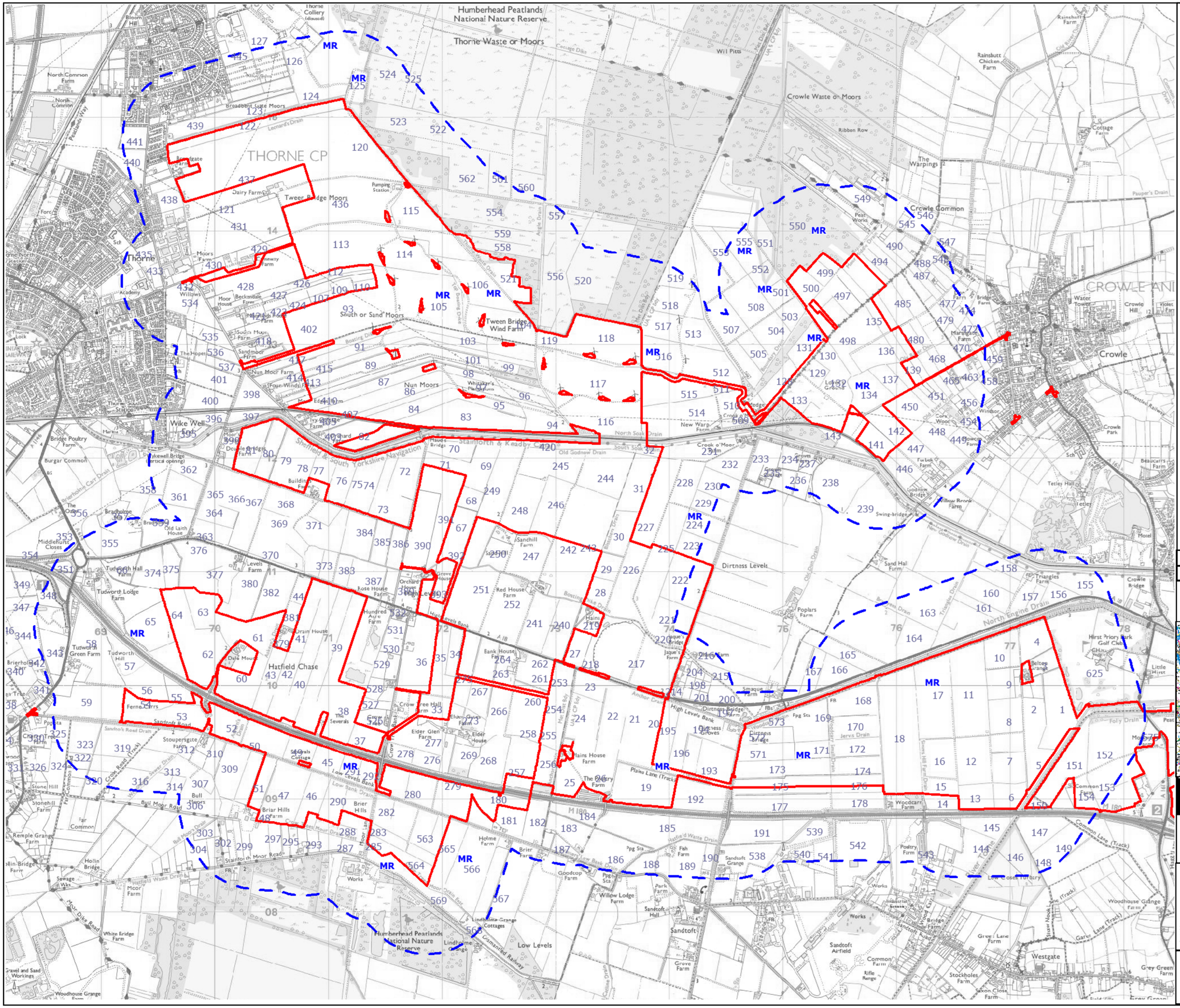
Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

APFP Regulation 5(2)(g)

Document Reference: 5.3

September 2026

Revision 8



Legend

- Site
- Survey Area

Target Species

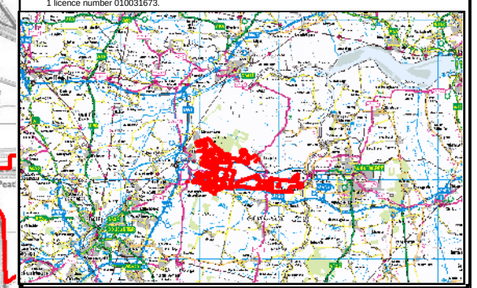
Marsh harrier (MR)

Rev	Date	Description	De	App
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TWEEN BRIDGES NSIP

WINTERING BIRD SURVEY RESULTS - 2023 TO 2024 (MARSH HARRIER)

avian ecology

Avian Ecology, Suite 3c Walnut Tree Farm, Northwich Road, Lower Stretton WA4 4PG
Tel: 0843 506 5116
www.avianecology.co.uk

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kilometres

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Legend

Site

Survey Area

Target Species

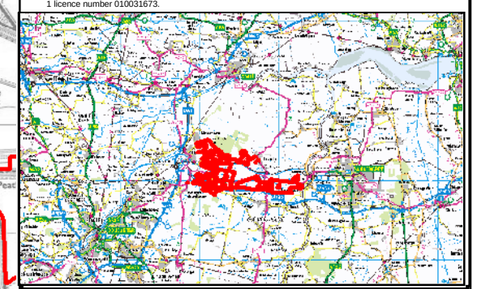
Oystercatcher (OC)

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TWEEN BRIDGES NSIP

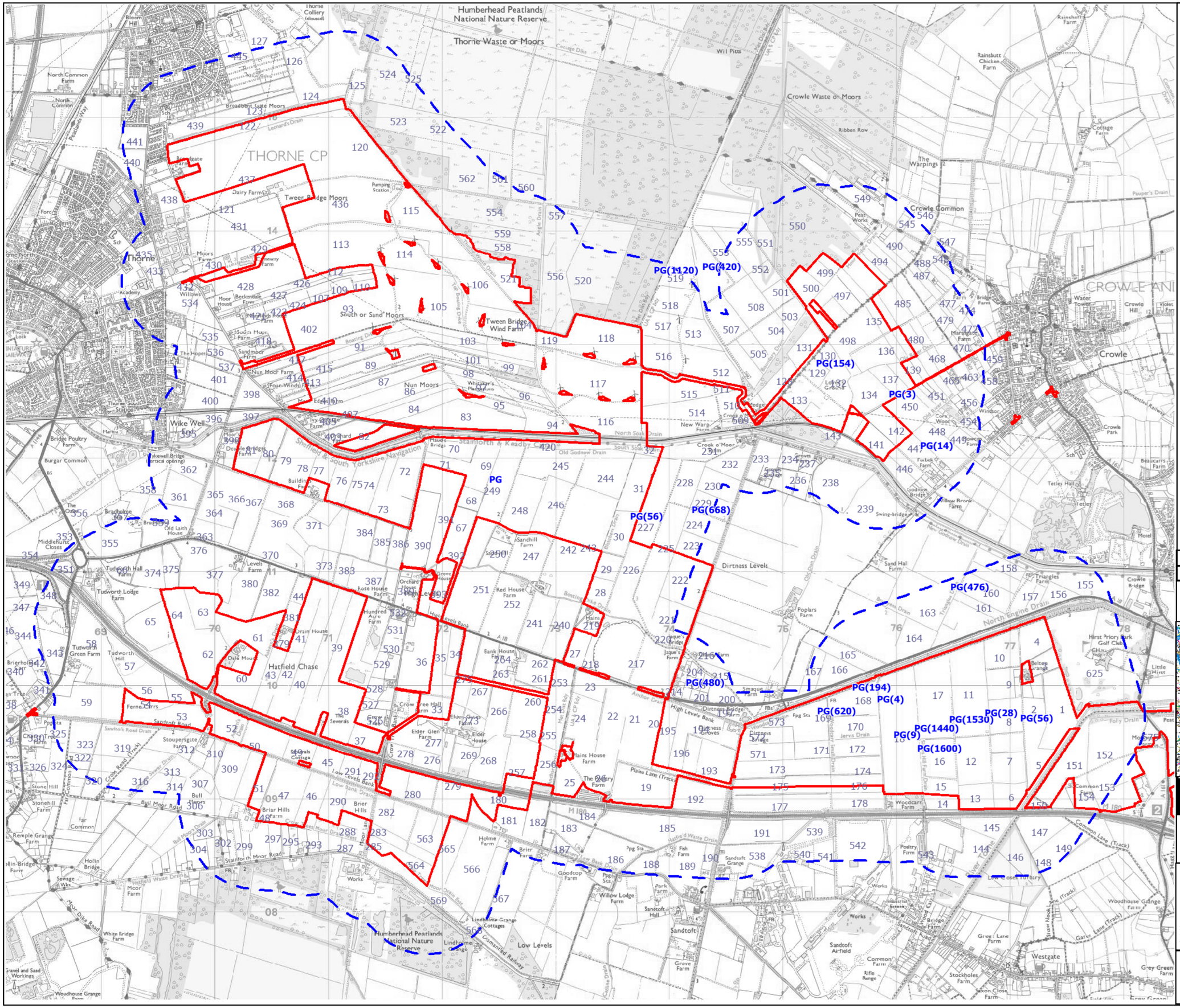
WINTERING BIRD SURVEY RESULTS - 2023 TO 2024 (OYSTERCATCHER)

avian ecology

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Tel: 0843 506 5116
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kilometres

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Legend

Site

Survey Area

Target Species

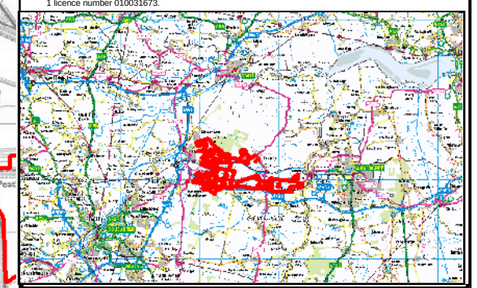
Pink-footed goose (PG)

Rev	Date	Description	De	App
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TWEEN BRIDGES NSIP

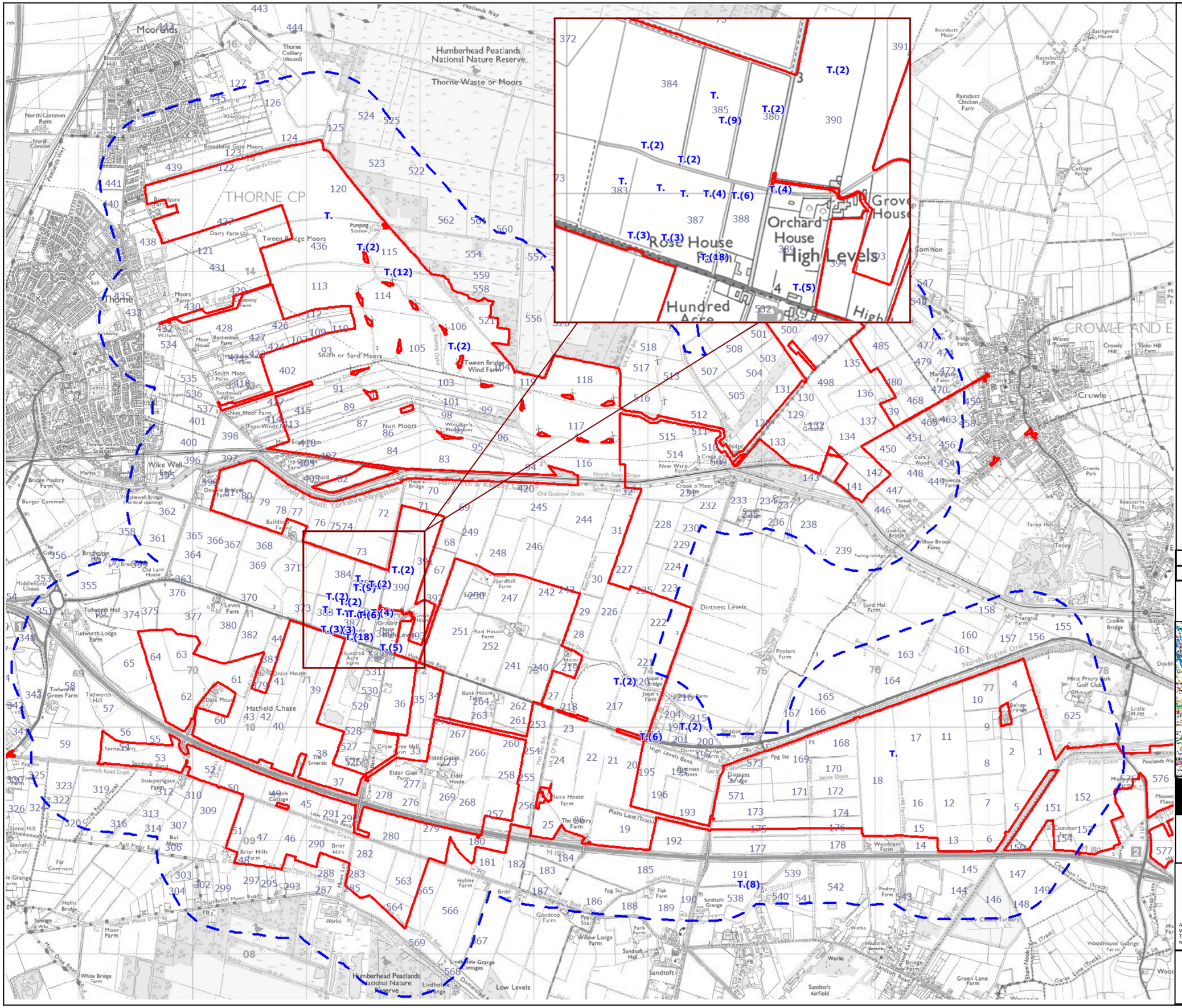
WINTERING BIRD SURVEY RESULTS - 2023 TO 2024 (PINK-FOOTED GOOSE)

avian ecology

Avian Ecology, Suite 3c Walnut Tree Farm, Northwich Road, Lower Stretton WA4 4PG
Tel: 0843 506 5116
www.avianecology.co.uk

0 1 kilometres

N W E S



Legend

Site

Survey Area

Target Species

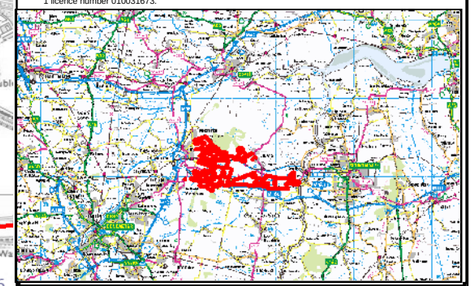
Teal (T.)

Rev	Date	Description	De	App
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Projection: Traverse Mercator
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Units: Metres



TWEEN BRIDGES NSIP

WINTERING BIRD SURVEY RESULTS - 2023 TO 2024 (TEAL)

avian ecology

Avian Ecology, Suite 3c Walnut Tree Farm, Northwich Road, Lower Stretton WA4 4PG
Tel: 0843 506 5116
www.avianecology.co.uk

0 0.3556 kilometres

N W E S

Legend

Site

Survey Area

Target Species

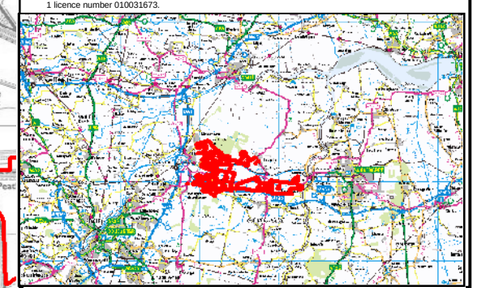
Wigeon (WN)

Rev	Date	Description	De	App
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TWEEN BRIDGES NSIP

WINTERING BIRD SURVEY RESULTS - 2023 TO 2024 (WIGEON)

avian ecology

Avian Ecology, Suite 3c Walnut Tree Farm, Northwich Road, Lower Stretton
WA4 4PG
Tel: 0843 506 5116
www.avianecology.co.uk

0 1
kilometres

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W E
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Appendix 2: Non-Breeding Bird Mitigation Strategy

RWE

Tween Bridge Solar Farm

Environmental Statement
Appendix 7.10: Outline Non-Breeding Bird Mitigation Strategy

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

APFP Regulation 5(2)(a)

Document Reference: 6.3.7.10

July 2026

Revision 4

Non-Breeding Bird Mitigation



Tween Bridge
July 2026

TG Report No. 16413_R03f_JD

Tyler Grange

Project No:	Report No.	Date	Revision
16413	R03	July 2026	g

Admin QA	Author	Checked	Approved
-	[redacted]	[redacted]	[redacted]

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Figure 1: Non Breeding Bird Mitigation Plan
Figure 2: Non Breeding Bird Mitigation Plan – No Annotation

Section 1: Introduction

1.1. This report has been produced by Tyler Grange Group Ltd (TG) on behalf of RWE Renewables in relation to 'Tween Bridge' solar farm. It has been produced to summarise the proposed mitigation strategy for the project in relation to non-breeding birds. This is informed by the data obtained from the 'Year 1' of the non-breeding bird surveys, completed between 2022 – 2023 and Year 2' non-breeding bird surveys, completed between 2023-2024, presented within Technical Appendix 7.3 of the **Environmental Statement, Volume 2, Chapter 7: Ecology and Nature Conservation [Document Reference 6.2.7 Revision 4].**

1.2. Natural England (NE) was consulted on an earlier iteration of this strategy (DAS A010619 / 441464 and UDS-A017176) via their Discretionary Advice Service (DAS); the strategy has responded to NE's comments.

1.3. The non-breeding bird survey data is provided in Environmental Statement Volume 3 Appendix 7.3: Non-Breeding Bird Surveys (Year 1 and Year 2) [APP-074]. This data comprise the locations of birds recorded within the survey area (Order Limits [OL] + 600m buffer around) which are listed as a qualifying feature under the Humber Estuary Special Protection Area (SPA). Table 1 and 2 below also summarise peak counts of each qualifying species recorded within the Order Limits and are a direct extract from Technical Appendix 7.3 of the **Environmental Statement, Volume 2, Chapter 7: Ecology and Nature Conservation [Document Reference 6.2.7 Revision 4].**

Table 1: SPA qualifying species recorded within and outside of the Draft Order Limits during 2022/23. Note that nocturnal and diurnal surveys were combined and peak count of the two is provided, alongside the percentage of the moving (2022/23) WeBS 5-year moving mean totals.

Species	2022				2023		
	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Within the Draft Order Limits							
Curlew Humber Estuary 5 year mean 2022/23 **2,473**	0	0	0	0	0	0	2 (0.08%)
Golden plover	53 (0.25%)	0	0	37 (0.17%)	21 (0.10%)	0	0

Humber Estuary 5 year mean 2022/23 **21,160**							
Green sandpiper Humber Estuary 5 year mean 2022/23 **14**	**1 (7.14%)**	**1 (7.14%)**	**1 (7.14%)**	0	**1 (7.14%)**	0	0
Greylag goose Humber Estuary 5 year mean 2022/23 **2,569**	375 (14.60%)	0	19 (0.74%)	0	0	0	8 (0.31%)
Lapwing Humber Estuary 5 year mean 2022/23 **15,951**	390 (2.44%)	25 (0.16%)	31 (0.19%)	127 (0.8%)	260 (1.63%)	32 (0.20%)	32 (0.20%)
Little egret Humber Estuary 5 year mean 2022/23 **215**	0	1 (0.47%)	1 (0.47%)	0	0	0	1 (0.47%)
Mallard Humber Estuary 5 year mean 2022/23 **1,459**	**92 (6.31%)**	**24 (1.64%)**	0	12 (0.82%)	**27 (1.85%)**	**64 (4.39%)**	6 (0.41%)
Pink-footed goose Humber Estuary 5 year mean 2022/23 **23,330**	**330 (1.41%)**	**360 (1.54%)**	0	0	0	0	0
Shoveler Humber Estuary 5 year mean 2022/23 **317**	0	0	0	0	2 (0.63%)	0	0
Teal Humber Estuary 5 year mean 2022/23 **9,994**	0	2 (0.02%)	0	3 (0.03%)	6 (0.06%)	0	4 (0.04%)
Outside of the Draft Order Limits							

Golden plover	76	480	21	20	1	0	38
Green sandpiper	0	0	0	1	0	0	0
Greylag goose	150	0	0	0	0	155	34
Lapwing	260	136	1	71	14	6	13
Little egret	1	2	1	1	1	0	0
Mallard	60	2	5	42	21	17	10
Pink-footed goose	700	42	0	0	0	21	0
Shoveler	1	0	0	0	0	0	0
Teal	0	0	0	0	23	3	9
Common crane	3	0	0	0	0	0	2

Table 2. SPA qualifying species and species part of the wider waterbird assemblage recorded within and outside of the Draft Order Limits during the Winter Walkover and Nocturnal Bird Surveys combined during 2023/24.

Note that nocturnal and diurnal surveys were combined and the maximum peak count of the two is provided alongside the percentage of the most up to date (2023/24) WeBS 5-year mean totals.[1]

Species	**2023**				**2024**			
	Sep	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**
Within the Draft Order Limits								
Curlew WeBS 5-year mean for the Humber Estuary **2,473**	0	0	0	0	0	0	2 (0.16%)	2 (0.16%)
Dunlin WeBS 5-year mean for the Humber Estuary **22,346**	0	6 (0.027%)	27 (0.121%)	0	0	0	0	0
Little egret WeBS 5-year mean for the Humber Estuary **226**	0	1 (0.442%)	0	0	0	0	1 (0.442%)	0
Green sandpiper	0	0	0	**1 (5.26%)**	0	0	0	0

[1] Calbrade, N.A., Birtles, G.A., Woodward, I.D., Feather, A., Hiza, B., Caulfield, E., Balmer, D.E., Peck, K., Wotton, S.R., Shaw, J.M., and Frost, T.M. 2025.
Waterbirds in the UK 2023/24: The Wetland Bird Survey and Goose & Swan Monitoring Programme. BTO/RSPB/JNCC/NatureScot. Thetford.

WeBS 5-year mean for the Humber Estuary **19**								
Greylag goose WeBS 5-year average for the Humber Estuary **2285** [2] [3]	0	**210 (9.19%)**	**157 (6.87%)**	12 (0.52%)	0	**27 (1.18%)**	**76 (3.33%)**	9 (0.39%)
Golden plover (WeBS 5-year mean for the Humber Estuary **21,623)**	0	0	82 (0.38%)	2 (0.009%)	84 (0.389%)	0	6 (0.028%)	0
Lapwing WeBS 5-year mean for the Humber Estuary **11,859**	5 (0.042%)	**220 (1.855%)**	**371 (3.129%)**	53 (0.447%)	79 (0.666%)	**147 (1.24%)**	11 (0.093%)	4 (0.034%)
Mallard WeBS 5-year mean for the Humber Estuary 1,459	2 (0.14%)	**33 (2.26%)**	**78 (5.35%)**	**125 (8.567%)**	**49 (3.357%)**	**92 (6.305%)**	**16 (1.096%)**	10 (0.685%)
Oystercatcher WeBS 5-year mean for the Humber Estuary 7,218	0	0	0	0	0	0	2 (0.028%)	0
Pink-footed goose WeBS 5-year mean for the Humber Estuary **27,329**	0	**1600* (5.85%)**	**620 (2.27%)**	194 (0.71%)	0	**1530 (5.63%)**	0	0
Teal WeBS 5-year mean for the Humber Estuary **9,994**	0	0	0	2 (0.020%)	12 (0.120%)	2 (0.020%)	2 (0.020%)	1 (0.010%)
Wigeon WeBS 5-year average for the Humber Estuary	0	6 (0.093%)	0	0	0	42 (0.651%)	0	0

[2] Contains Wetland Bird Survey (WeBS) data from Waterbirds in the UK 2023/24 © copyright and database right 2025. WeBS is a partnership jointly funded by the BTO, RSPB and JNCC, with fieldwork conducted by volunteers.

[3] Contains Goose and Swan Monitoring Programme (GSMP) data from Waterbirds in the UK 2023/24 © copyright and database right 2025. GSMP is a partnership, run by and jointly funded by BTO, JNCC and NS, with fieldwork conducted by both volunteer and professional surveyors.

6,452								
Outside of the Draft Order Limits								
Little egret	2	2	6	4	0	0	0	0
Greenshank	1	0	1	0	0	0	0	0
Greylag goose	0	184	36	64	0	0	22	1
Golden plover	0	3	20	0	1	0	0	0
Lapwing	54	48	28	12	27	66	29	2
Mallard	49	57	28	30	8	63	47	2
Pink-footed goose	0	1120	0	668	14	0	0	0
Teal	3	4	5	18	8	9	6	2

1.4. Based on the Year 1 and Year 2 survey results, the non-breeding bird assemblage recorded within the Order Limits is typically representative of farmland habitats.

1.5. The Order Limits surround Tween Bridge Wind Farm, which is an operational wind farm with 22 turbines. It is therefore considered that this northern section of the Order Limits is already impacted for non-breeding birds due to displacement caused by the presence of the turbines.

1.6. An assessment of significance has been undertaken to determine if the Order Limits are considered to be 'functionally linked' to the Humber Estuary SPA/Ramsar, which is situated approximately 7.7km northeast. Functional linkage is not defined in case law, but is generally considered to be relevant when over 1% of a given SPAs population of qualifying features are regularly present and the site is considered 'important' in the life cycle of the qualifying species.

1.7. Greylag goose, lapwing, mallard, and pink-footed goose exceeded the 1% threshold of their WeBS 5-year mean[4] from the Humber Estuary SPA within the Order Limits, indicating potential use of Functionally Linked Land (FLL).

1.8. Potential impacts on non-breeding birds associated with the Humber Estuary SPA/Ramsar therefore include loss of functionally linked land for lapwing, pink-footed goose, greylag goose and mallard and disturbance to these species. Consideration for golden plover in adjacent land has also been had

[4] Contains Wetland Bird Survey (WeBS) data from Waterbirds in the UK 2023/24 © copyright and database right 2025. WeBS is a partnership jointly funded by the BTO, RSPB and JNCC, with fieldwork conducted by volunteers.

due to the numbers recorded, with measures to be implemented during construction to minimise disturbance. The potential for adverse effects during the construction phase have been 'designed out' where practicable, and these will be controlled through standard good construction and environmental working practices as an integral part of the Scheme, detailed within the **Outline Ecological Construction Management Plan [Document Reference 7.5 Revision 4].**

1.9. Mallard, lapwing, pink-footed goose and greylag goose have been noted as present in areas which would currently be subject to solar panel installations during the lifetime of the development. To this end, a mitigation response has been proposed tailored to these species. As detailed in **Environmental Statement Volume 3 Appendix 7.3: Non-Breeding Bird Surveys (Year 1 and Year 2) [APP-074]**, these species were recorded in the following habitats:

- Cereal;
- Oilseed rape;
- Stubble;
- Tilled;
- Rough grassland (only lapwing).

Section 2: Mitigation Strategy

2.1. Prior to any construction commencing at the Order Limits the measures detailed within the **Outline Ecological Construction Management Plan [Document Reference 7.5 Revision 4]** will be implemented to ensure no impacts occur to bird species and the habitats that they utilise.

2.2. The general approach to the mitigation response has been to target areas which are currently used by the qualifying species of note. The overall objective is to 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, pink-footed goose and greylag goose. These measures will also benefit golden plover, although the Order Limits is not functionally linked for this species.

2.3. Each species detailed above forage on the following resources:

- Lapwing - Worms and insects[5].
- Pink-footed geese - Grain, winter cereals, potatoes and grass[6].
- Greylag geese- Grass, roots, cereal leaves and spilled grain.[7]
- Mallard - Seeds, acorns and berries, plants, insects and shellfish[8].

2.4. There is research, as detailed within REP7-011 of the Cleve Hill Solar Park Habitat Regulations Assessment, that there is no competition between these species as *'golden plover and lapwing feed on surface invertebrates, whereas brent goose feeds on vegetation, meaning there is no competition for foraging resources between these species'* (Paragraph 4.28 of the HRA). Whilst brent goose is not relevant here, pink-footed geese and greylag goose have similar requirements to brent geese, and therefore differing foraging/habitat requirements to lapwing and mallard, so the same principles are considered valid.

2.5. This was confirmed within Natural England's consultation response dated April 2024, in which they stated that acknowledge that 'both waders and

[5] [redacted]

geese can be accommodated as they do not compete with each other for food', although NE continued by stating that *'management to maximise the food for one group might impact the other.'* This has been factored into the design and approach on the non-breeding birds detailed below.

2.6. At present, the land is intensively farmed for crops, which will result in a high nutrient content and inhibit the biodiversity of the soil in terms of invertebrate populations for lapwing in particular. The approach of the mitigation response is, therefore, to turn existing areas of sub-optimal cropland into permanent pasture sensitively managed for lapwing, mallard, pink-footed goose and greylag goose in particular, but which will undoubtedly have benefits for other non-breeding bird species, such as golden plover, and biodiversity in general. **Table 1** below summarises the principles of the mitigation strategy proposed.

2.7. Scrapes are also proposed to provide additional optimal habitat for all species, including mallard and lapwing, as part of the mitigation design.

2.8. In addition, it is proposed to maintain and secure areas in arable production in order to provide the optimal habitat requirements for pink footed geese and greylag geese.

Table 2 – Summary of mitigation measures and management strategy

Habitat Intervention and Rationale	Management and Rationale
Reversion of existing agricultural land into a tussocky meadow grassland. 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 pink-footed geese, graylag geese and lapwing). 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 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 arounds of bare ground which will ultimately allow new grass growth to develop. These interventions would introduce more botanically diverse grassland and provide the wetland mosaics in strategic locations, particularly along the central canal corridor.	The management of the grassland can be achieved in a number of ways, set out below. <u>Traditional Hay Management</u> 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 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 intensity grazing (see below), or infrequent cuts/topping, and arisings removed. 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 long.
Providing arable land on rotation for the duration of the proposals, to ensure that foraging opportunities for pink footed geese is secured and provided, in addition to grassland areas.	The main principles to be implemented as part of the rotational arable management for the benefit of pink footed geese will include: o Use sugar beet where possible. o 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[9]. o 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. o Avoidance of deep ploughing. o Incorporation of a ley crop within the management rotation. o Inclusion of permanent grass margins to the fields measuring a minimum 2 metres.

2.9. In Natural England's recent comments, they state that '*The addition of manure subject to a reasonable agricultural cycle*' would be beneficial. However, it is understood that this is not normal farming practice for this area, due to the area mainly comprising arable with no livestock that create manure. Therefore this is not currently proposed.

2.10. The Scheme layout also ensures that all ditches and pond are retained and enhanced, through improved management removing excessive scrub and vegetation as well as invasive species.

2.11. The cessation of agricultural farming in adjacent habitats will also improve water quality and reduce disturbance, ensuring that foraging opportunities within these features for mallards, and other species, will be improved.

2.12. 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. (**Appendix 1**). **Drawing 16413/P07a** attached to this report shows and numbers the parcels detailed for the mitigation responses outlined above.

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

2.13. Further detail on the design and management of the mitigation areas identified within the Order Limits is provided below and also included within the updated **Outline Landscape Ecological Management Plan [Document Reference 7.6 Revision 5]** submitted at Deadline 1. 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.

2.14. 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 nesting birds, principally skylark.

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

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

2.17. The management of each parcel will be informed by ongoing monitoring and adapted as necessary with the relevant local authorities and Natural England, secured by the **Outline Landscape Ecological Management Plan [Document Reference 7.6 Revision 5]**.

Delivery and Phasing of Mitigation Parcels

2.18. 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.

2.19. 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 and M5, 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.

2.20. 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.

2.21. 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.

2.22. 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.

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

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

Table 3 – Summary of baseline use of mitigation parcels by qualifying bird species, and hectarage

Mitigation Parcel	Total Area (ha)	Total Area (ha) with 150m buffer to PV panels, buildings, hedgerows and woodland	Current baseline	Parcel Suitability	Adjacent Habitats
M1	10.44	0	Rough grassland set on edge of adjacent SPA, noted to be used by lapwing (peak counts of 45 and 8 birds) and graylag geese (2 birds). Lapwing also recorded in adjacent fields in larger numbers (112 and 32 birds).	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. 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. 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. 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.	Existing woodland forming part of the Thorne and Hatfield Moors SPA and Thorne Moor SAC is present to the north, east and south and forms a vertical feature along these boundaries. Proposed solar panels to the west will form a further vertical feature. The land immediately to the north comprises common land that will be managed as species-rich neutral grassland. Given the surrounding vertical features and wind turbines within 600m, M1 is not relied upon as part of the core non-breeding bird mitigation provision.

M2	13.42	0	Arable land located in proximity to the canal	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. 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. Management will maintain a mosaic of sward heights across the parcel to support both breeding and non-breeding bird functions. 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. 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. 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.	Proposed woodland planting along the northern boundary will form a vertical feature. The canal corridor to the south-east is an open linear habitat that does not obstruct views across the surrounding landscape. Mitigation Parcel M3 lies to the west and provides a continuation of the open mitigation habitat.
M3	6.73	1.90	Not noted to be used by target species during surveys, but adjacent fields used by lapwing	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. 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.	Ditches and the canal corridor are present to the north and west. These comprise open linear habitats rather than vertical features. Open arable fields extend to the south, while the canal corridor and Mitigation Parcel M2 are located to the east. These open boundaries place the parcel within a wider area of open agricultural and mitigation land.

				Management will maintain a mosaic of sward heights across the parcel to support both breeding and non-breeding functions. 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. 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.	
M4	19.94	2.97	Directly adjacent to plots used by lapwing	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. 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. Management will maintain a mosaic of sward heights across the parcel to support both breeding and non-breeding functions. 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. 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.	The canal corridor to the north and east comprises an open boundary, with further open arable land extending beyond the canal. Existing hedgerows to the west and south form vertical features, while proposed solar panels immediately to the east will form a further vertical feature. Mitigation Parcel M3, with Mitigation Parcel M2 further beyond, is also located to the east.
M5	19.24	3.20	Peak count of 360 pink-footed geese recorded within plot, and directly adjacent	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.	Proposed woodland planting to the south and proposed solar panels to the west will form vertical features. The canal corridor to the

			to other fields where pink-footed geese and lapwing were recorded.	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. 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. 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.	north comprises an open boundary. The eastern boundary lies at the edge of the Order Limits and connects directly with an extensive area comprising multiple open arable fields, extending the open landscape beyond the mitigation parcel.
M7	4.76	0.64	Forms one continuous parcel with parcel 8, albeit separated by a hedge and ditch. Pink-footed geese recorded using this land.	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. 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. 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. 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.	A hedgerow to the north forms a vertical boundary feature. Ditches to the south and east comprise open linear features, although proposed solar panels beyond these boundaries will form vertical features. The proposed BESS to the north will form an additional vertical feature but is separated from the parcel by a wide grassland buffer. Open arable fields extend beyond the Order Limits to the west.
M8	10.71	1.17	Forms a continuous parcel with parcel 7, albeit separated by a hedge and ditch. Pink-footed geese	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.	The two parts of the parcel are separated by a residential property, which forms a vertical feature between them. The northern parcel is bounded by ditches to the north, east and south, which comprise open linear features. Proposed solar panels immediately to the east

			recorded using adjacent fields.	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. 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. 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.	will form a vertical feature, while open arable land extends beyond the Order Limits to the west. The southern parcel also adjoins open arable land to the west. Proposed solar panels to the east and beyond the road to the south will form vertical features, although separated by grassland buffer and the road.
M11	20.84	5.14	Arable land located in proximity to parcels M12 and M13, providing a large connected area over 77ha that would not be 'encompassed' by solar development, so would retain attractiveness to overwintering birds in particular. The field compartments are relatively open, further increasing attractiveness as a mitigation area. The fact that they are prone to flooding is also attractive as it would naturally lend itself to the creation of scrapes suitable for	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. 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. 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 ES 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. 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.	A road to the north and ditch to the east comprise open boundary features. A hedgerow to the west forms a vertical feature, while proposed solar panels to the south will form a further vertical feature. Open arable land extends beyond the Order Limits to the north and west, although the western arable land is separated from the parcel by the hedgerow. Mitigation Parcel M13 lies immediately to the east and provides a continuation of the connected mitigation habitat.

			the wading birds of target. Pink-footed geese recorded using this parcel and adjacent habitats..	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.	
M12	34.83	12.83	Arable land located in proximity to parcels 11 and 13, providing a large connected area over 77ha that would not be 'encompassed' by solar development and are relatively open. These compartments are located in one connected area and would allow the birds to move around between seasons and within seasons, depending on the specific ground conditions. Pink-footed geese recorded using fields in close proximity that comprise similar habitats.	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. 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. 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 the ES 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. 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. 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.	The parcel boundaries principally comprise fences and ditches, which are low or open features and do not create substantial vertical obstructions. Proposed solar panels immediately to the south will form an adjoining vertical feature. The parcel lies at the edge of the Order Limits, with open arable fields extending to the north, west and east. It also forms part of the connected group of mitigation parcels comprising M11, M12 and M13.
M13	29.55	14.03	Arable land located in proximity to parcels 12 and 11, providing a large connected area over	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.	Mitigation Parcel M11 to the west, ditches and arable land to the east and open areas to the north comprise open boundaries. The open arable landscape extends further east and includes large ponds. The M180 lies to the south

			77ha that would not be 'encompassed' by solar development and are relatively open. These compartments are located in one connected area and would allow the birds to move around between seasons and within seasons, depending on the specific ground conditions. Pink-footed geese recorded using this parcel and adjacent habitats.	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. 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 the ES 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. 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. 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.	and forms transport infrastructure but does not represent a substantial vertical feature. The parcel forms part of the connected group of mitigation parcels comprising M11, M12 and M13.
M15	16.85	3.01	Arable land located to the east of the Order Limits and located away from any solar arrays.	Mitigation Parcel M15 is located at grid reference SE 77825 09502 and extends to approximately 16.85 hectares. 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. 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.	Woodland to the north and hedgerows with trees to the east and west form vertical boundary features. A farm track to the south comprises an open boundary, beyond which the open arable landscape continues. Further arable fields are present beyond the eastern and western boundary features, with the motorway located further to the south.

				• 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 . • 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. Detail on monitoring of all the mitigation parcels is included within the updated Outline Landscape Ecological Management Plan [Document Reference 7.6 Revision 5] submitted at Deadline 1.	
Total	c. 187.32ha	c. 44.88ha			

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2.25. Table 3 provides the total area of each potential mitigation parcel, as well as the area of land within the parcel that will be located beyond 150m from any solar arrays, in line with Natural England's comments. It can be seen from looking at the table that over 44.88ha of potential mitigation land can be provided that is located over 150m from any solar arrays.

2.26. In addition to the total mitigation area and area with a 150m open vista, an assessment has also been undertaken to identify the area of each mitigation parcel located beyond 600m of the existing operational turbines. This is relevant because the northern part of the Order Limits is already influenced by the existing Tween Bridge Wind Farm, and areas located further from existing turbines are likely to provide more suitable open conditions for non-breeding bird mitigation.

Table 4 below summarises the total mitigation area, the area with a 150m open vista, the area located beyond 600m of existing turbines, and the area which meets both criteria.

Mitigation Field Number	Total Area (ha)	Total Area with 150m open vista (ha)	Total Area beyond 600m of existing turbine (ha)	Total Area beyond 600m of existing turbine and with 150m open vista (ha)
M1	10.44	0.00	0.00	0.00
M2	13.42	0.00	0.00	0.00
M3	6.73	1.90	6.17	1.90
M4	19.94	2.97	19.94	2.97
M5	19.24	3.20	8.86	1.98
M7	4.76	0.64	4.76	0.64
M8	10.71	1.17	10.71	1.17
M11	20.84	5.14	20.84	5.14
M12	34.83	12.83	34.83	12.83
M13	29.55	14.03	29.55	14.03
M15	16.85	3.01	16.85	3.01
Total	**187.31**	**44.89**	**152.51**	**43.67**

2.27. However, it must be noted that during the non-breeding bird surveys, some bird species, including pink-footed geese, were recorded utilising habitats that are located in close proximity to barriers, such as tree lines and hedgerows, which would affect open vistas, indicating that birds will utilise habitat to forage within 150m of existing barriers. This took place in a number of locations including in the southeast of the Order Limits within fields that have hedgerows and tree lines as boundaries creating vistas less than 150m in places (see Technical Appendix 7.3 of the **Environmental Statement Volume 2 Chapter 7: Ecology and Nature Conservation (APP-044)**.

2.28. In addition, research has demonstrated that pink-footed geese forage within habitat that is located within 50m of built structures[10].

2.29. Therefore, although over 44.88ha of core mitigation land can be provided beyond 150m of any barriers, there is an additional 142.44ha of land that will be available and managed for the benefit of non-breeding birds within 150m of solar arrays and which contributes to the overall mitigation strategy.

2.30. Bird Days calculations have been completed to inform the extent of mitigation land required and can be seen in Appendix 1. From these calculations, that the maximum extent of non-breeding bird mitigation land required for pink-footed geese and lapwing is:

- Pink-footed geese – 22.98
- Greylag geese – 12.28
- Lapwing – 24.99
- **Total: 60.25 ha**

2.31. Based on the above figures and considering that geese forage on different resources to lapwing, as confirmed within Natural England's consultation response dated April 2024, and so will utilise the same habitats without competing for the same resource, it can be seen that there is more than sufficient land within the Order Limits to provide the required non-breeding bird mitigation.

2.32. No sufficiently up to date and relevant data has been available to inform bird days calculations for mallard, but it is considered that the extent of mitigation

[10] Jesper Kyed Larsen∗ and Jesper Madsen. Effects of wind turbines and other physical elements on field utilization by pink-footed geese (*Anser brachyrhynchus):* A landscape perspective. Landscape Ecology 15: 755–764, 2000.

land and the retention and enhancement of all the pond and ditches, ensure that sufficient habitat for this species.

2.33. In total an overall area of approximately 2.14ha of ponds will be available and enhanced and approximately 105.29km of ditches available and enhanced increasing foraging opportunities for mallard and other species.

2.34. This mitigation land will also be utilised as part of the breeding bird mitigation for species such as skylark and provide foraging habitat for nightjar.

2.35. Further to the above, in line with Natural England's recent comments (December 2024), additional management is proposed within Parcel 1 due to its proximity to Humber Estuary SPA/Ramsar/SSSI and Thorne & Hatfield Moors SPA/Thorne Moor SAC/SSSI **(see Figure 1).** A wet grassland scheme will be implemented with ditch raising and water level management in this location. Suitable removal of tree cover at the edge of the moors will be undertaken to improve suitability of this area for wading birds.

2.36. No management of habitats is proposed within the SPA or SAC, only within the land parcel located outside of designated site boundaries.

2.37. Appropriate management of the northern and southern margins of parcel 1 will also be undertaken to benefit the adjacent SAC, with management to be agreed with Natural England.

2.38. A Summary of lapwing, pink-footed geese and greylag geese mitigation measures – are included n Table 5 below.

Table 5 – Summary of lapwing, pink-footed geese and greylag geese mitigation measures – refer to the Outline Landscape Ecological Management Plan [Document Reference 7.6 Revision 5] for further detail on management and monitoring.

Species	Habitat quality within the mitigation areas	Records of usage of existing fields of similar size within the bird survey results	Boundary features / adjacent development	Presence of suitable adjacent habitat	Monitoring and management of food resources
Lapwing	The mitigation parcels will provide extensive areas of permanent grassland managed to maintain a short sward during the non-breeding period. The principal grassland areas will be maintained at approximately 5 cm through grazing, mowing or topping, with the timing and intensity of management adjusted in response to ground conditions and monitoring results. Mitigation parcels exceeding 10 ha are M2 (13.42 ha), M4 (19.94 ha), M5 (19.24 ha), M8 (10.71 ha), M11 (20.84 ha), M12 (34.83 ha), M13 (29.55 ha) and M15 (16.85 ha). These provide a range of substantial habitat parcels across the Order	The non-breeding bird surveys recorded lapwing using fields across the Survey Area that were comparable with, and smaller than the individual mitigation parcels. Lapwing was recorded using fields ranging from approximately 2 ha to 34 ha. Substantial numbers were recorded in relatively small fields, including peak counts of 260 birds in Field 65 (11 ha), 127 birds in Field 173 (7 ha), 96 birds in Field 169 (9 ha), 78 birds in Field 497 (6 ha) and 63 birds in Field 54 (3 ha). The distribution and abundance of lapwing also varied between the two survey years, demonstrating the use of suitable habitat	Hedgerows, woodland, buildings, solar infrastructure and other vertical features have been considered because they can influence the suitability of land for lapwing. The core mitigation areas have therefore been identified by applying a 150 m buffer from potential barriers. Canals, ditches and open or low field boundaries do not form substantial visual barriers.	The mitigation parcels are located within an extensive agricultural landscape and are generally adjacent to retained farmland, ditches and grassland rather than being wholly enclosed by solar development. Where there are no substantial intervening boundary features, adjoining open farmland will increase the functional area available to lapwing and allow movement between feeding and roosting locations. However, this adjacent land is supplementary and is not relied upon to meet the calculated mitigation requirement.	Monitoring will assess lapwing abundance and distribution, sward height, vegetation structure, the extent of exposed ground, scrape condition and the availability of suitable feeding habitat. Scrapes will be inspected following periods of heavy precipitation to confirm that appropriate water levels and damp marginal habitats are being maintained. Should monitoring demonstrates that the proposed habitat conditions are not being met, management will be adjusted such as changes to grazing or mowing and, where appropriate, measures such as manure application to

	Limits rather than relying upon a single area. A total of 44.89 ha of mitigation land is available beyond the 150 m buffer from potential vertical features, of which 43.67 ha is also beyond the 600 m wind-turbine buffer. This is compared with the indicative Bird Days requirement of 24.99 ha. A further 142.44 ha of mitigation land within 150 m of potential barriers will provide supplementary habitat. Shallow scrapes within M11, M12 and M13 will provide additional feeding opportunities through the creation of wet grassland, damp marginal vegetation, exposed soils and accessible soil-invertebrate prey. Scrape margins will be managed by light grazing, mowing or topping to	across the wider landscape rather than reliance upon one fixed location.			increase soil organic matter and invertebrate availability.

	prevent the development of tall or dense vegetation. Managed arable land within M15, will provide further foraging and roosting opportunities where winter stubbles, recently cultivated ground and bare or sparsely vegetated soil are available. The cessation of intensive agricultural inputs across the mitigation areas will also increase the availability of soil and surface invertebrates compared with intensively managed arable land.				
Pink-footed goose and greylag goose	After accounting for the land allocated to meet the lapwing requirement, approximately 108.84 ha of managed mitigation habitat remains available for pink-footed goose and greylag goose. This is compared with the indicative Bird Days requirement of 22.98 ha for pink-footed geese and 12.28 ha for	Pink-footed goose and greylag goose were recorded using fields of a range of sizes across the Survey Area, including fields comparable with and smaller than the proposed mitigation parcels. Their distribution was influenced by crop type, harvesting and local ground conditions rather than field area and locations.	The survey results demonstrate that pink-footed goose and greylag goose use land close to hedgerows, treelines and other field-edge features. Records also demonstrate the use of fields within 600 m of existing wind turbines. The distributed arrangement of the mitigation parcels will pro-	Extensive adjoining arable farmland will provide continuity with the managed mitigation parcels. Where there are no substantial intervening boundaries, birds will be able to move between the mitigation parcels and suitable surrounding farmland in response to the availability of crops and post-harvest food.	Monitoring will record goose abundance and distribution alongside crop type, crop condition, sward height, post-harvest food availability and the condition and management of grassland areas. Where the required habitat condition, bird use or food availability is not achieved, remedial management will

	greylag geese: 35.26 ha in total for both geese species. Arable land within M15 will provide suitable feeding habitat and will be managed to increase the availability of high-energy winter food. Management will include appropriate crop rotation incorporating crops such as sugar beet, where practicable, winter cereals, oilseed rape and post-harvest stubbles. Post-harvest material will be retained into the winter where appropriate, and deep ploughing immediately following harvest will be avoided. Managed grassland will provide open grazing, roosting and loafing habitat. Extensive areas will be maintained at approximately 5 cm, with 10 m-wide margins maintained at approximately 15 cm throughout the year. This will	Greylag goose was recorded using fields ranging from approximately 3 ha to 34 ha. This included peak counts of 135 birds in Field 16 (10 ha), 64 birds in Field 160 (8 ha), 38 birds in Field 168 (10 ha), 19 birds in Field 169 (9 ha) and eight birds in Field 54 (3 ha). Pink-footed goose was also recorded using fields ranging from approximately 3 ha to 34 ha. Large flocks were recorded in fields including Field 16 (10 ha; 1,600 birds), Field 168 (10 ha; 620 birds), Field 196 (4 ha; 480 birds), Field 160 (8 ha; 476 birds), Field 42 (7.6 ha; 330 birds) and Field 130 (3 ha; 154 birds).	vide a choice of feeding and roosting locations and ensure that suitable grassland habitat remains available where crop type, harvesting, disturbance or ground conditions vary between years.		include adjustments to the crop rotation; longer retention of post-harvest material; changes to grazing or mowing; and, where appropriate, manure application within the mitigation parcels.

	complement the rotational arable resource and provide alternative habitat in response to annual changes in cropping and ground conditions. Waders and geese can use the same habitats and do not compete directly for food. Lapwing principally feed on surface invertebrates, whereas pink-footed goose and greylag goose feed on vegetation and crops. The combination of short grassland, longer grass margins, wet features and rotational arable land has therefore been designed to maintain suitable resources for both groups.				

2.39. Based on the assessment, extent, distribution, openness and proposed management of the mitigation land, the mitigation strategy ensures that extensive areas of suitable habitat for lapwing, pink-footed geese and greylag geese would be provided across the Order Limits.

2.40. The management of the mitigation land can be secured through the implementation of the **Outline Landscape Ecological Management Plan [Document Reference 7.6 Revision 5].**

Figures

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.

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.

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.

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

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.

- Mitigation Land within 50m of a Vertical Feature
- 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

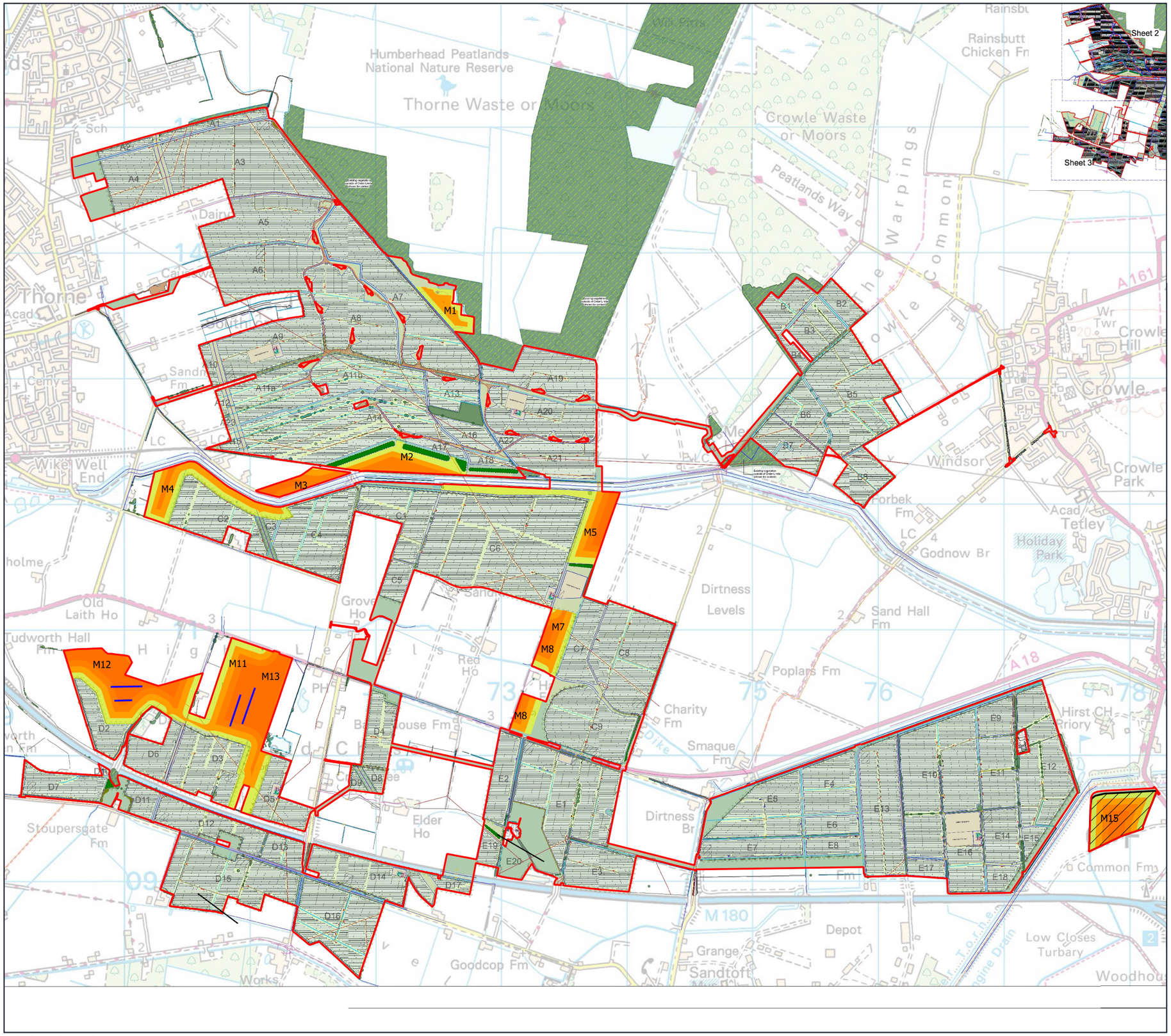
Project	Tween Bridge
Drawing Title	Non Breeding Bird Mitigation Plan
Scale	As Shown (Approximate)
Drawing No.	16413/P14g
Date	July 2026
Checked	TLR/RR

Tyler Grange

Town House, 3rd Floor, 11-15 Dix's Field, Exeter, EX1 1QA
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Figure 2: Non Breeding Bird Mitigation Plan – No Annotation



- Mitigation Land within 50m of a Vertical Feature
- 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	Non-Breeding Bird Mitigation Plan - No Annotation
Scale	As Shown (Approximate)
Drawing No.	16413/P22a
Date	July 2026
Checked	TLR/RR

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Appendix 1: Bird Days Calculations

Pink footed goose

Year 1 (2022/23)	
Sep 2022 Peak Count	330
Oct 2022 Peak Count	360
Nov 2022 Peak Count	0
Dec 2022 Peak Count	0
Jan 2023 Peak Count	0
Feb 2023 Peak Count	0
Mar 2023 Peak Count	0
Months surveyed (Sep 2022 to March 2023)	7
Winter Peak Mean=Sum of Monthly Peaks/Number of months	98.57143
Number of Days in Survey Period	195
Bird Days per Winter=Winter Peak Mean×Number of Days in Survey Period	19221.43
Bird Days per Hectare for Pink footed goose	4290
Required Area (hectares)= Bird Days Supported per Hectare / Bird Days per Winter	
Potential Mitigation Area	4.480519

Pink footed goose

Year 2 (2023/24)	
Sep 2023 Peak Count	0
Oct 2023 Peak Count	1600
Nov 2024 Peak Count	620
Dec 2023 Peak Count	194
Jan 2023 Peak Count	0
Feb 2024 Peak Count	1530
Mar 2024 Peak Count	0
Apr 2024 Peak Count	0
Months surveyed (Sep 2022 to March 2023)	8
Winter Peak Mean=Sum of Monthly Peaks/Number of months	493
Number of Days in Survey Period	200
Bird Days per Winter=Winter Peak Mean×Number of Days in Survey Period	98600
Bird Days per Hectare for Pink footed goose	4290
Required Area (hectares)= Bird Days Supported per Hectare / Bird Days per Winter	
Potential Mitigation Area	22.98368

Lapwing

Year 1 (2022/23)	
Sep 2022 Peak Count	390
Oct 2022 Peak Count	25
Nov 2022 Peak Count	31
Dec 2022 Peak Count	127
Jan 2023 Peak Count	260
Feb 2023 Peak Count	32
Mar 2023 Peak Count	32
Months surveyed (Sep 2022 to March 2023)	7
Winter Peak Mean=Sum of Monthly Peaks/Number of months	128.1429
Number of Days in Survey Period	195
Bird Days per Winter=Winter Peak Mean×Number of Days in Survey Period	24987.86
Bird Days per Hectare for Lapwing	1000
Required Area (hectares)= Bird Days Supported per Hectare / Bird Days per Winter	
Potential Mitigation Area	24.98786

Lapwing

Year 2 (2023/24)	
Sep 2023 Peak Count	5
Oct 2023 Peak Count	220
Nov 2024 Peak Count	371
Dec 2023 Peak Count	53
Jan 2023 Peak Count	79
Feb 2024 Peak Count	147
Mar 2024 Peak Count	11
Apr 2024 Peak Count	4
Months surveyed (Sep 2022 to March 2023)	8
Winter Peak Mean=Sum of Monthly Peaks/Number of months	111.25
Number of Days in Survey Period	200
Bird Days per Winter=Winter Peak Mean×Number of Days in Survey Period	22250
Bird Days per Hectare for Lapwing	1000
Required Area (hectares)= Bird Days Supported per Hectare / Bird Days per Winter	
Required Mitigation Area	22.25

Greylag Goose

Year 1 (2022/23)	
Sep 2022 Peak Count	375
Oct 2022 Peak Count	0
Nov 2022 Peak Count	19
Dec 2022 Peak Count	0
Jan 2023 Peak Count	0
Feb 2023 Peak Count	0
Mar 2023 Peak Count	8
Months surveyed (Sep 2022 to March 2023)	7
Winter Peak Mean=Sum of Monthly Peaks/Number of months	57.42857
Number of Days in Survey Period	195
Bird Days per Winter=Winter Peak Mean×Number of Days in Survey Period	11198.57
Bird Days per Hectare for Greylag goose	1000
Required Area (hectares)= Bird Days Supported per Hectare / Bird Days per Winter	
Required Mitigation Area	11.19857

Greylag Goose

Year 2 (2023/24)	
Sep 2023 Peak Count	0
Oct 2023 Peak Count	210
Nov 2024 Peak Count	157
Dec 2023 Peak Count	12
Jan 2023 Peak Count	0
Feb 2024 Peak Count	27
Mar 2024 Peak Count	76
Apr 2024 Peak Count	9
Months surveyed (Sep 2022 to March 2023)	8
Winter Peak Mean=Sum of Monthly Peaks/Number of months	61.375
Number of Days in Survey Period	200
Bird Days per Winter=Winter Peak Mean×Number of Days in Survey Period	12275
Bird Days per Hectare for Greylag goose	1000
Required Area (hectares)= Bird Days Supported per Hectare / Bird Days per Winter	
Potential Mitigation Area	12.275

Total Required Mitigation Area = largest potential mitigation area for each species

Pink footed goose	22.98
Lapwing	24.99
Greylag Goose	12.28
Total Required Mitigation Area For Functionally Linked	60.25



Tyler Grange

Landscape | Ecology | Arboriculture

Appendix 3: Non-Breeding Bird Mitigation Plan

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

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.

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.

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

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.

- Mitigation Land within 50m of a Vertical Feature
- 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	Non Breeding Bird Mitigation Plan
Scale	As Shown (Approximate)
Drawing No.	16413/P14g
Date	July 2026
Checked	TLR/RR

Tyler Grange

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Appendix 4: Meeting Minutes - Tyler Grange and Natural England 17.03.25

Tween Bridge

Meeting 17th March 2025 15:00 - -Natural England and Tyler Grange

Attendees:

[redacted] – Natural England

[redacted] - Natural England

[redacted] – Tyler Grange

[redacted] – Tyler Grange

[redacted] - Tyler Grange

DRAFT

No.	Topic
1	**Introductions** JA and RR: Note that it is beneficial to engage with NE throughout the process and look forward to advice and further consultation. JA/RR: Would like to set up a meeting with TG, NE and the relevant LPAs to discuss the scheme further. AM: Potential for hosting a meeting nearby and site meeting. AM: Costs have been agreed at £1150 per person per hour.
2	**Pier Chapter** AM: NE have not yet received the latest version of the PEIR chapter and will review and provide feedback. Also confirmed that they have not yet time to review the updated non-breeding bird mitigation strategy (dated 04.03.25) that has been provided, but will do so and provide any comments as necessary. RR: Highlighted some of the updates within the PEIR chapter, this includes further detail on the non-breeding bird mitigation following NE's previous response, such as the provision and management of arable land for the benefit of non-breeding birds. Sugar beet was discussed to be of importance and would need to be implemented on rotation with other crops for the benefit to non-breeding birds. RR explained that the use of bird days calculations has been used to help inform the extent of mitigation land and asked NE for their opinion on the use of these calculations. RR described how the update non-breeding bird mitigation included extra detail on providing combined mitigation land for more than one species, specifically pink-footed geese, lapwing and golden plover, and asked if there was a specific ratio of land required for each different

	species when considering that there is some overlap on the type of habitat each species requires. AM: NE welcomed the provision of arable land as part of the mitigation and explained that, while arable already exists, the proposed control of cropping and avoiding deep ploughing (which encourages more invertebrates) improves this habitat when compared to existing management. Continued by stating that the provision of arable and grassland will have different benefits at different times of year, for instance if the ground is frozen, geese would use grassland more than arable. AM agreed that although arable is already present, that securing arable land and the specific management for the benefit of non-breeding birds is acceptable as part of the mitigation strategy. AM stated that she was not aware of a ratio for land required for different species when there is an overlap in habitat types utilised, but would ask colleagues. AM will review the non-breeding bird mitigation and the bird days calculations and will provide any comments. Advised that the calculations have been used before on other solar scheme, but common sense should be used for the implementation of the mitigation land. For example if the mitigation land is too narrow or adjacent to tall vertical features, this would affect sight lines and it is less likely to be used by non breeding birds. Also agreed that some species will utilise the same habitat and therefore the full extent of mitigation land for each species will not be required, but that it will be important to demonstrate that the carrying capacity of the mitigation land is sufficient for all relevant species. RR raised that following NE's previous comments, 150m buffers to solar panels have been considered in the design of the mitigation, but detailed that birds are still likely to use some land within 150m of the solar arrays and vertical features such as hedgerows, as has been confirmed during surveys at the site. AM: Noted that impacts from panels are likely to be less than buildings as they will likely be hedgerow height and acknowledged that some birds will use land within 150m of the solar arrays and other vertical features, although stated that numbers will decrease within this buffer and that sufficient habitat that is beyond 150m from the arrays will be needed. AM will check if there is an accepted ratio of land to determine non-breeding bird use within 150m of vertical features. NE will review the bird days calculations, the extent of mitigation land to be provided and the non-breeding bird mitigation strategy as a whole and then will comment further.

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3	**Skylark** RR/JA detailed that skylark mitigation will be included within in the non-breeding bird mitigation land. AM stated that commenting on the provision of skylark mitigation land is outside their current remit (this is a matter for the LPAs), although agreed that it can be possible to combine the mitigation land for non-breeding birds and skylark. Stated that further advice from NE on this matter can be secured through the DAS process.
4	Nightjar JA/RR detailed that potential impacts to nightjar have been raised and discussed how the habitats within the DOL are not optimal for nightjar, with their most optimal habitat comprising woodland and heathland. Explained how the provision of grassland, tree planting and other habitat creation that supports large moth prey as part of the non-breeding bird mitigation provision, will provide some enhanced foraging opportunities for nightjar. AM/JS: Advised that nightjar have been recorded in the area, including data from a tracking study. NE to confirm if tracking data can be provided. AM provided confirmation via email on 10/03/25 that licensing for the outputs of the nightjar tagging study on Thorne and Hatfield Moors, and the IP rights sit with the researcher. The email includes the researcher's contact details. Noted that there is a lack of previous solar schemes which have encountered this as a potential issue, so this will be a good opportunity to identify potential impacts and enhancements. Local policy requires enhancements within 3km of known populations/breeding sites. JS: agreed that the habitats within the DOL are not optimal for nightjar and that grassland and new tree planting provision could enhance foraging opportunities for nightjar and would expect to see detail on nightjar enhancements provided within the ES. Confirmed no breeding opportunities for nightjar within the DOL. Explained how nightjar numbers have been increasing in the Thorne and Hatfield Moors SPA.
5	Cumulative Impacts

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	RR/JA explained that potential for cumulative impacts was limited assuming that mitigation for effects from this site are adequately addressed. Asked if based on their local knowledge AM and JS consider any other sites in the area that would need consideration as part of cumulative impacts. JS explained that it is just a 3-4km buffer for cumulative impacts with regards to nightjar. Detailed that the Humber Carbon Capture pipeline is a large scheme so effects should be assessed in-combination but that impacts from this will only be temporary ~~so not likely to have a cumulative impacts. .~~ AM detailed that the Fenwick solar scheme should be included in the in-combination assessment. It is located at a relatively large distance away from this site and significant effects have been ruled out, but residual effects should be assessed.~~so there would be no cumulative impacts.~~ Explained that there are no other large solar schemes we're aware of in close proximity ~~that would have a cumulative impacts~~ but other large scale schemes and the wider area should be looked at~~.~~ AM explained that residual effects from this proposed development are key in the in-combination assessment.~~and that there must be no in-combination effects or likely significant effects from the proposed development.~~
6	Deer Management JS: Population of deer has the potential to have impacts on adjacent designated sites and that this will need to be considered.
7	Drainage, Peat Cuttings and Carbon Capture JS explained how changes to drainage and reprofiling of land adjacent to statutory designated sites could cause an impact. Advised that there is evidence of buried/old peat cuttings within and around mitigation area 1. Explained that there is potential for enhancement with appropriate management through increasing flow of water into ditches and ensuring ditches can hold onto water that would prevent peat from drying out and help reduce carbon impacts. Continued by stating that this would be a potential benefit of the scheme and a good news story, especially when considering the reduction in carbon impacts as a consequence of a solar development. .
8	Other All agreed that a site meeting would be useful and that it would be beneficial to include the relevant LPAs as part of this. Continued by stating that it would be beneficial to not include other non-statutory consultees at this stage.

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	AM and JS detailed that the habitat changes could be a positive for bat species and that surveys should enable future monitoring and comparison of data. AM stated that the ecology strategy was progressing in a positive direction. Water voles were briefly discussed and AM stated that any questions can be sent through and that further engagement may be required through the DAS process. AM stated that it will take around 3 weeks for NE to review any issued documents

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Appendix 5: Natural England DAS 04.04.2025

Date: 04/04/2025
Our ref: 495970

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

BY EMAIL ONLY

Dear [redacted]
Cc [redacted]

Discretionary Advice Service (Charged Advice) UDS-A017176
Development proposal and location: EN010148 Tween Bridge Solar Farm, land to the east of Thorne & west of Ealand, South Yorkshire.

Thank you for your consultation on the above dated 13th March 2025.

This advice is being provided as part of Natural England's Discretionary Advice Service (DAS), in accordance with the DAS Quotation and Agreement dated 19th December 2024.

The following advice is based upon the information within:

- Non-Breeding Bird Mitigation Tween Bridge (R03, Tyler Grange, 4th March 2025)

Please note that the advice provided by Natural England in this letter should be read alongside the advice given in our previous responses both via Natural England's DAS and the Section 42 response.

Our comments are limited to the information provided and may be subject to changes when the required additional information and assessment is provided. We have not reviewed the updated Preliminary Environmental Impact Assessment (PEIR) documents at this stage. Our comments on those documents will be included in our statutory S42 response.

Non-Breeding Bird Mitigation Tween Bridge (4th March 2025)

Natural England welcomes the updates made to the report and progress made in ongoing discussions regarding the non-breeding bird mitigation. We have highlighted some key comments below and welcome further discussions as the scheme design progresses.

Habitat types and carrying capacity of the proposed mitigation areas

Natural England welcomes the further information provided on the capacity of the proposed mitigation areas to support the required number of birds. It would be helpful for us to review the 'Bird Days' calculations as these are currently not included in Appendix 2. Please also provide the full bird survey data referred to in Appendix 3.

We welcome the detail provided on habitat availability both within the 'core habitat' areas and 'additional areas' beyond the 150m buffer. We acknowledge that some usage of the 'additional areas' by birds, in particular geese, is likely. Natural England does not have a position on the predicted proportion of habitat usage within these areas, as it is an understudied topic. These areas may be considered to contribute to the overall mitigation provision for non-breeding birds, although reduced usage in close proximity to the panels should be factored into assessments. We advise that this should be incorporated into further assessment of the habitat suitability and capacity of each parcel to deliver for the intended species, including application of ecological knowledge/evidence, in addition to the 'bird days' calculation results. For example, golden plover and lapwing rely on open vistas to forage, and the relevant mitigation areas should seek to deliver this site characteristic to ensure suitability for these species. Golden plover tend not to use fields less than 10ha, and fields 15-30ha or larger are used more often especially when in flocks of over 100 birds[1].

In line with the current calculations presented, we advise the figures calculated for lapwing and golden plover should be considered separately, with each figure added together to produce a combined total. Natural England acknowledges that golden plover and lapwing may occur in mixed flocks; however, the mitigation area should be sufficiently large enough to deliver for the combined number of both species recorded to ensure adequate food and habitat availability.

As previously stated, Natural England advises that the mitigation area for geese and waders should be larger than would be required for either one group (but not adding the two area requirements together as the two groups are not in competition and are being accommodated on the same land) so that suitable habitat types for each species can be provided. To clarify, there is not a set proportion of land that Natural England advise could support both groups as this will depend on the proposed design and management of the mitigation areas. Instead, we would encourage consideration of habitat suitability, food availability and capacity of different parcels to support waders and/or geese in the assessment. For example, a large parcel may include a habitat mosaic of dense grassland for geese, bare ground and scrapes with high invertebrate numbers for waders, and areas of suitably managed grassland for both groups, and therefore the parcel could deliver for both waders and geese. Whereas another parcel may be a smaller area of sugar beet crop closer to a feature that reduces perceived openness and therefore be less suitable for waders but deliver for geese.

Natural England welcomes the proposed inclusion of grassland provision and rotational arable management within the mitigation design. We advise that water level management of the proposed grassland areas should be considered in the scheme design, and we recommend assessing the existing drainage regime to determine the ability of the fields to hold sufficient water. Consideration should be given to ensuring suitable invertebrate numbers for waders. We would welcome further discussions on the proposed design and management of the mitigation areas when more information is available.

Greylag geese

Greylag geese are included in the 'main component species' list for the Humber Estuary SPA, as they occur at site levels of more than 1% of the national population according to the most recent Humber Estuary Wetland Bird Survey (WeBS) 5-year average count. We acknowledge the comment that the populations located in England are *'widely recognised as non-native feral species.'* However, due to range expansion by both the northwest Scotland (or native remnant) population and the re-established population of birds released in the 1930s-1960s, range overlap

[1] Mason, C. F. and Macdonald, S. M. (1999), Habitat Use by Lapwings and Golden Plovers in a largely arable landscape. *Bird Study*, 46, 88-99

has made separate reporting untenable[2]. Therefore, since winter 2009/10, the two populations have been considered as merged, and this is reflected in WeBS reporting guidelines[3]. These British/Irish birds are also joined by migratory greylags from Iceland, which winter across Scotland and Ireland, and small numbers of individuals from mainland Europe[4].

In line with the current approach for the BTO WeBS recording, greylag geese have therefore been included in Natural England's list of 'main component species' for the Humber Estuary SPA. Therefore, impacts to loss of functionally linked land for this species should be assessed. Habitat requirements are likely to be similar to pink-footed geese and, as above, there may be usage of mitigation areas closer to the solar panels by geese. Therefore, it may be possible to incorporate habitat provision for greylags into the existing scheme design, but further assessment should be provided.

Management and monitoring

As detailed in our previous DAS advice dated 20th December 2024, our advice on management and monitoring of the mitigation areas remains as below.

All mitigation areas should be adequately managed, monitored and secured in-perpetuity, at least for the lifetime of the development. This should be clearly demonstrated in the relevant assessments.

Natural England advises an ecological mitigation plan should be secured and include the following:

- Clear objectives.
- Target/s for each objective, including SPA bird use targets and habitat targets.
- Details of required management and monitoring (including who is responsible and when it will take place).
- Details of limits of acceptable change.
- Details of remedial actions, where appropriate.

Other advice

Parcel 1

Natural England welcomes the proposed approach to implement a wet grassland scheme in Parcel 1 with ditch raising and water level management, in line with our previous advice. Proposals to incorporate appropriate management of northern and southern margins of Parcel 1 are also welcomed. The clarification regarding habitats within the SPA and SAC is noted.

We would encourage continued engagement on the proposed design and management of Parcel 1 and surrounding areas to provide suitable mitigation for Humber Estuary SPA/Ramsar/SSSI wading birds, alongside water management improvements for Thorne & Hatfield Moors SPA/Thorne Moor SAC/SSSI. This is considered to be an important opportunity for Nature Recovery in the area.

[2] Mitchell, C., Hearn, R. & Stroud, D. 2012. The merging of populations of Greylag Geese breeding in Britain. British Birds 105: 498-505.
[3] British Trust for Ornithology (BTO), 2023a. Greylag Goose populations (website). Available at: https://www.bto.org/our-science/projects/wetland-bird-survey/publications/webs-annual-report/numbers-trends/methods/analysis-and-presentation/spatial-allocation/53
[4] BTO, 2023b. Greylag Goose (website). Available at: https://www.bto.org/understanding-birds/birdfacts/greylag-goose

Please refer to our note dated 19th March 2025 for an outline of potential considerations and enhancements relating to hydrological issues associated with Thorne Moors SAC and potential buried peat on adjacent farmland.

Nightjar

Natural England would welcome continued discussion on the assessment of potential impacts to nightjar associated with Thorne and Hatfield Moors SPA.

As stated via email, the Intellectual Property rights for the 'LIFE+ - 'That's Life' Monitoring of European Nightjar 2015 – 2017' GPS tagging project sit with the university researchers. Therefore, we would encourage you to contact the researcher (whose contact detail we have provided via email) to discuss obtaining the data for your assessment.

Natural England would welcome the inclusion of white grids on the solar panels to reduce potential collision risk for bird species, including nightjar. Lighting impacts on nightjar should also be assessed, including consideration of potential impacts to invertebrate prey in key foraging areas.

Protected species

As discussed in the most recent call, please let us know via email if you have any questions relating to protected species and licensing. We will then review these within team and request involvement from Natural England's Wildlife Licensing Service (NEWLS) Chargeable Advice and Strategic Casework (CASC) Team if required.

[X] The advice provided in this letter has been through Natural England's Quality Assurance process

The advice provided within the Discretionary Advice Service is the professional advice of the Natural England adviser named below. It is the best advice that can be given based on the information provided so far. Its quality and detail is dependent upon the quality and depth of the information which has been provided. It does not constitute a statutory response or decision, which will be made by Natural England acting corporately in its role as statutory consultee to the competent authority after an application has been submitted. The advice given is therefore not binding in any way and is provided without prejudice to the consideration of any statutory consultation response or decision which may be made by Natural England in due course. The final judgement on any proposals by Natural England is reserved until an application is made and will be made on the information then available, including any modifications to the proposal made after receipt of discretionary advice. All pre-application advice is subject to review and revision in the light of changes in relevant considerations, including changes in relation to the facts, scientific knowledge/evidence, policy, guidance or law. Natural England will not accept any liability for the accuracy, adequacy or completeness of, nor will any express or implied warranty be given for, the advice. This exclusion does not extend to any fraudulent misrepresentation made by or on behalf of Natural England.

Yours sincerely

[redacted]
Yorkshire and Northern Lincolnshire Area Team
Natural England

[redacted]@naturalengland.org.uk

Cc commercialservices@naturalengland.org.uk

Appendix 6: In-Combination Assessment

District	Address	Application Reference	Decision	Development	Distance from nearest part of Order Limits	Mitigation in place	SAC/SPA details	Conclusion
North Lincolnshire	land West of Scotter Road South, The Lakes, Scunthorpe	PA/SCR/2024/10	Opinion given	EIA screening request for circa 1,200 dwellings, a local centre and school, green infrastructure, drainage infrastructure, open space and associated highway infrastructure	8.4km to the east	HRA - appropriate assessment. Significant effects to protected and notable species. Sensitive flora and flora to be impacted by increased construction and operation traffic and associated fumes. No ES available yet.	None available	Only at screening stage
North Lincolnshire	Land off Burringham Road, Ashby Parklands, Scunthorpe	PA/2024/780	Pending Decision	Application for approval of reserved matters (appearance, landscaping, layout and scale reserved) purs	8.5km to the east	No negative impacts on any of the designated sites in the area at a local level..	No negative impacts on any of the designated sites in the area at a local level	No impact

				uant to outline planning permission PA/2020/1333 dated 29/06/2021 for 128 dwellings				
North Lincolnshire	land off Burringham Road	PA/2023/1124	Pending Decision	Planning permission for the development of 593 dwellings, 200sqm commercial unit (Use Class E) and lake, along with associated infrastructure, including landscaping, public open space and play area, pedestrian and	7.7km to the east	Stage 1 HRA screened out LSE. No ES.	Eurasian marsh harrier, ruff, common redshank returned in desk study. The qualifying species are highly unlikely to be associated with the habitats on the Site and this is also reflected in the data received from LERC.	No impact

				cycle links, pumping station and sub-station				
East Riding of Yorkshire Council	Middleton Quarry Heck And Pollington Lane Pollington East Riding Of Yorkshire	24/03257/STPLFE	Pending Decision	Hybrid Application consisting of a) Full Planning Permission for the removal and remediation of contaminated material, extraction of sand and gravel and the reinstatement of the void with imported restoration materials and b) Outline Permission for residential development (	9km to the north west	Provided the recommended mitigation measures are correctly implemented, there will be no residual impact from the proposals and no significant effects are anticipated. There is likely to be a direct, long-term residual effect on biodiversity of Minor Beneficial (not significant) effect following the operation phase of the Proposed Development.' Standard nesting bird mitigation.	LRC returned records for barn owl, kestrel, stock dove and tawny owl. Survey results inc. green list sp. Only (robin, wren, blackbird, woodpigeon, blue tit, great tit, goldfinch)	No residual impacts

				of up to 74 dwellings) with associated public open space and habitat enhancement				
Doncaster	Land At Former Blaxton Quarry Moshams Road Auckley Doncaster	23/01971/REMM	Granted December 2024	Details of appearance, landscaping, layout and scale for B2, B8 and Class E:(g) Employment uses of 31,846 square metres for up to 52 units and parking. (from appeal 22/00040/NONDET allowed 17/04/2023.)	10km to the south	No ES or PEA available. Bird boxes inc. in LEMP	None available.	No impact

Doncaster	Land To The South Of Alexandra Street Thorne	24/02105/FULM	Reserved matters Approved	Erection of 192 dwellings with associated infrastructure (amended description).	1.15km to the west	No HRA. No ES. PEA and EcIA available. The impacts upon Statutory Designated Sites during the construction and operational phases were considered to be negligible. EcIA link provided. Bird boxes inc, in EcIA. No nightjars recorded so no sHRA required.	Bird survey report is available - Negative permanent impacts on breeding birds. 7 BBS (5 dawn, 1 dusk, 1 nocturnal) for nightjar. The site was identified as being present within a **nightjar foraging zone** on the Doncaster Local Plan Policies Map. The tussocky grassland, combined with the scattered scrub, may provide good habitat for ground nesting birds, such a meadow pipit. BBS recorded redwing as fly overs only. No WCA Sch1 sp. at risk of impacts from development. The BoCC5 Red list species identified to be at risk of impact from the development	Negligible impacts

							works at the site comprise; linnet (probable breeder), house sparrow and greenfinch (possible breeders). The BoCC5 Amber list species identified to be at risk of impact from the proposed development compris e; wood pigeon (confirmed breeder), dunnock, song thrush, wren (probable breeders), bullfinch an d whitethroat (possible breeders). The **negative permanent impacts** to the above breeding bird species as a result of the proposed development will likely be at the **local**	

							level for the majority of species, except for dunnock, wren and bullfinch, which will be impacted at the **county level**.	
North Lincolnshire	Land north of Burringham Road, Burringham Road, Scunthorpe	PA/2023/1750	Pending Decision	Planning application to erect 158 dwellings with associated car parking, garages, landscaping, open space, pedestrian circulation and links, pumping station, infrastructure	8.3km to the east	sHRA available. Standard mitigation inc. damping down dust, noise barriers, increased frequency of site inspections around high disturbance activities. The Lincolnshire Lakes site allocation of the emerging Local Plan inc. details around blue and green infrastructure requirements of new developments.	The farmland immediately west of the Project Site is suitable for multiple non-breeding bird species. Loss of land FLL with the Humber Estuary RAMSAR. **Potential LSEs** for the project alone during operation for Thorne & Hatfield Moors SPA (nightjar). With standard CEMP mitigation - the	Potential LSE identified at screening stage; concluded no adverse effect on integrity with mitigation.

				works and access from Burringham Road			proposal will pass the integrity test as it will not have an adverse effect on the integrity of the Humber Estuary SAC, SPA or Ramsar site, Thorne & Hatfield Moors SPA, Thorne Moor SAC or Hatfield Moor SAC. **Potential LSE for Humber Estuary SPA (NBBs)** during construction from increased noise/vibration/dust/light which has potential to disturb birds using FLL within 250m. **Potential LSE** during construction from release of suspended soil and other pollution into waterways during construction (potential	

							to impact aquatic species upon which birds feed). **Potential LSE** from increased recreational pressure during operation.	

North Lincolnshire	land south of Silica Lodge Garden Centre, Scotter Road South, Scunthorpe	PA/2023/1585	Pending Decision	Planning permission for 81 dwellings	9.0 km to the east	Mitigation for recreational pressure = financial contribution towards a Strategic Access Management and Mitigation Strategy (SAMMS)	**A minor adverse effect is predicted on birds of Local value therefore a neutral or slight effect, which is not significant in the context of the proposed development.** **LSE due to recreational pressure/disturbance to Humber Estuary SAC, SPA and Ramsar interest features.** Site not suitable for species listed under the Humber Estuary SPA or RAMSAR site. Site not considered to be functionally-linked land supporting birds associated with the Humber Estuary. However, it is not possible to rule	No adverse effect

							out likely significant effects from potential recreational pressure / disturbance impacts to the Humber Estuary SAC / SPA / Ramsar at the screening stage of the HRA. An appropriate assessment was undertaken. LSE to the Humber Estuary SAC habitats. Application site and adjacent land is not suitable for waterbird species or passage or wintering birds. However, due to the application site falling within the Zone of Influence for recreational disturbance impacts on the Humber Estuary SPA, it is not possible to	

							rule out likely significant effects from potential recreational pressure / disturbance impacts. Appropriate Assessment = the proposal will not have an adverse effect on the integrity of the Humber Estuary SPA and Ramsar site alone or in combination with other plans or projects.	
Doncaster	Hungerhill Business Park Herald Road Edenthorpe Doncaster	24/00700/REMM	Pending Decision	Details of appearance, landscaping, layout and scale for the erection of 167 dwellings (Phase 2	8.5km to the west	No detail available	Only report available is an update walkover note.	Ecology information insufficient to confirm effects, but due to scale and distance of site from

				development) (amended description).				Order Limits, as well as type of development - residential as opposed to solar , no in-combination effects likely
Doncaster	Hungerhill Business Park Herald Road Edenthorpe Doncaster	21/03631/REMM	Granted March 2024	Details of appearance, landscaping, layout and scale for the erection of 241 dwellings (Phase 1 development) (being matters reserved in outline application previously granted permission under ref:	8.5km to the west	No detail available. Other species reports are included, but no PEA/EcIA/bird survey report	No PEA, EcIA or bird survey report available on planning portal at time of review.	Ecology information insufficient to confirm effects, but due to scale and distance of site from Order Limits, as well as type of development - residential as opposed to solar , no in-combination effects likely

				18/02592/3OUTM on 29.05.2019 (as subsequently varied under ref: 23/01709/OUTM).				
Doncaster	Hungerhill Business Park Herald Road Edenthorpe Doncaster	23/01709/OUTM	Granted February 2024	Outline application for residential development of up to 542 dwellings on approx. 20.9ha of land with associated public open space, parking, landscaping and infrastructure (approval being sought for access) without	8.5km to the west	No ecology documents available on planning portal at time of review.	No ecology documents available on planning portal at time of review.	Ecology information insufficient to confirm effects, but due to scale and distance of site from Order Limits, as well as type of development - residential as opposed to solar , no in-combination effects likely

				compliance with condition 18 of planning application reference 23/00138/OUTM granted on 26/04/2023.				
North Lincolnshire	Garden Centre, Belton Road, Epworth	PA/SCR/2023/2	Not Applicable	EIA screening request for a mixed use scheme to include residential, retail, commercial, charity, health, leisure, open space and landscaping - AMENDED DOCUMENT - Initial Feasibility	4.53km to the south	PEA and consultation response only. No N/BBS info	A negative effect on bird breeding success and foraging is expected in the short term.	Ecology information insufficient to confirm effects as only at screening stage, but given scale and distance of site from Order Limits, as well as type of development - residential as opposed to solar , no in-

								combination effects likely.
Doncaster	Land To The East Of Mere Lane Edenthorpe Doncaster	22/00255/REMM	Granted October 2023	Details of Access, Appearance, Landscaping, Layout and Scale of design for 248 units with 25 affordable units and 223 open market units (being matters reserved in outline application previously granted permission under ref 15/01278/OUT	7.1km to the west	No ecology documents available on planning portal at time of review. Consultation response requesting CEMP is uploaded.	No ecology documents available on planning portal at time of review.	Ecology information insufficient to confirm effects, but given scale and distance of site from Order Limits, as well as type of development - residential as opposed to solar , no in-combination effects likely.

				M on 05/02/2019). (Amended Plans and Description)				
Doncaster	Former Hatfield Colliery Waggons Way Stainforth Doncaster	22/01934/OUTM	Granted October 2023	Outline application (all matters reserved) for the erection of up to 36,378 sq m (GIA) of industrial estate development (Use Classes B2, B8 and E(g)); up to 2,787sq m (GIA) of community, leisure and commercial uses (Use Classes E, F1	4.3 km to the west	Eco assessment only.	Proposals would not have significant impacts on these sites and therefore the likely effects of development will be negligible. Moorhen, barn owl, kestrel all breeding on site. Probable breeder include stock dove and whitethroat. Barn owl recorded emerging from B1a. Breeding bird assemblage of local importance on site.	Negligible effect

				and F2) and associated works				
North Lincolnshire	Land South Of, Moorwell Road, Yaddlethorpe, Bottesford	PA/2022/1628	Granted August 2023	Application for approval of reserved matters (appearance, landscaping, layout and scale) pursuant to outline planning permission PA/2019/1782 dated 03/04/2020 for a residential development of up to 200 dwellings	9.9km to the east	No ecology documents available on planning portal at time of review.	No ecology documents available on planning portal at time of review.	Ecology information insufficient to confirm effects, but given scale and distance of site from Order Limits, as well as type of development - residential as opposed to solar , no in-combination effects likely.

Doncaster	Land At Former Blaxton Quarry Mosham Road Auckley Doncaster	22/00250/OUTM	Appeal Granted April 2023	Outline Planning Permission (including means of access only) for B2, B8 and Class E:(g) - Employment uses of 31,846 square metres for up to 52 units and parking	10km to the south	No ecology documents available on planning portal at time of review; documents associated with appeal are under a different reference and could not be accessed during review.	No ecology documents available on planning portal at time of review.	Ecology information insufficient to confirm effects, but given scale and distance of site from Order Limits, as well as type of development - employment as opposed to solar , no in-combination effects likely.
Doncaster	Land On The North East Side Of Selby Road Thorne.	22/00590/REMM	Granted August 2022	Details of appearance, landscaping, layout and scale for the construction of employment units,	1.4km to the west	No ecology documents available on planning portal at time of review. Reserved matters application.	No ecology documents available on planning portal at time of review.	Ecology information insufficient to confirm effects, but given scale, as well as type of development -

				internal estate roads, associated landscaping and infrastructure (being reserved matters for outline application 16/02136/OUTA, granted on 20.01.2022)				employment as opposed to solar , no in-combination effects likely.
North Lincolnshire	Land north of Chapel Lane, Keadby	PA/SCR/2021/8	Not Applicable	EIA screening request relating to a proposed 49.9MW solar farm - NEW DOCUMENTS - Preliminary Ecological Appraisal and Wintering Bird Report	4.3km to the north	PEA & wintering bird survey available. Standard mit.	Site supports a wintering bird assemblage of local value. Site is not considered to be functionally linked to the SPA. Two species which contribute to the over-wintering assemblage of the Humber Estuary SPA /Ramsar were	No residual impacts

							recorded within the Site: mallard and golden plover. Marsh harrier are included in the SPA citation for their breeding population. This species was recorded foraging offsite on one occasion. None of the wintering species associated with the Thorne and Hatfield Moor SPA/ SSSI were recorded on site.	
North Lincolnshire	land at Brigg Road, Access located between 57 and 71 Brigg Road, Messingham	PA/2020/554; APP/Y2003/W/21/3278257	Appeal Granted July 2022	Hybrid application comprising full planning permission to erect five dwellings and outline planning permission for	12.8km to the south east	No ecology documents available on planning portal at time of review. BNG assessment is available, but Biodiversity Management Plan is not.	No ecology documents available on planning portal at time of review.	Ecology information insufficient to confirm effects, but given scale and distance of site from Order Limits, as well as type

				94 dwellings with appearance, landscaping, layout and scale reserved for subsequent consideration				of development - employment as opposed to solar , no in-combination effects likely.
North Lincolnshire	Land East of M181/A1077(M), Burringham, Scunthorpe	PA/2025/254	Pending decision	Hybrid planning permission comprising of outline, with all matters reserved for up to 550 dwellings, a local centre (use Class E), associated landscaping, drainage and other infrastructure works. Full	7.8km to the east	No ecology documents available on planning portal at time of review. BNG assessment is available.	No ecology documents available on planning portal at time of review.	Ecology information insufficient to confirm effects, but given scale and distance of site from Order Limits, as well as type of development - employment as opposed to solar , no in-combination effects likely.

				Planning permission for the construction of a new vehicular access off the M181/A1077 (M) roundabout, a pedestrian and cycle link to Scotter road, a pumping station, earthworks and off plot drainage, ecological and associated landscaping and infrastructure works				
Doncaster	Land At Waggons	25/00583/FULM	Pending decision	Erection of 229 residential dwellings with	3.6km to the west	Habitat creation and enhancement. Standard nesting	The bird assemblage is considered to be important at a	No impacts

	Way Stainforth			parking, landscaping, open space and infrastructure and two access points from Waggons Way, Stainforth		bird mitigation. All included in CEMP	Local scale. Thorne and Hatfield Moors (5.18km Southeast) - nightjar. The site is suitable for ground nesting species such as lapwing or oystercatcher. Not Significant Effect to bird assemblage at a Local Level.	
Doncaster	Land At Hurst Lane Auckley Doncaster	25/00287/OUTM	Pending decision	Hybrid planning application comprising: Outline application for residential development of up to 350 houses with associated access, landscaping and public open space; and Full	9.9km to the south	Avoid habitats of greater value. CEMP & LEMP to be completed.	Hatfield Moor SPA 4.9km away. None of the BBS species were recorded as breeding on site. 4 species probable breeders inc. grey partridge & dunnock & 2 green listed species. The remaining 13 species were recorded as possible breeders or non-breeders.	No likely significant effects

				application for the creation of access from Hurst Lane and enabling earthworks to create a development platform				
DCO Application	Between the Creyke Beck substation in Cottingham and High Marnham substation in Nottinghamshire.	EN020034	Preapplication stage	North Humber to High Marnham - National Grid proposed 400kV electricity transmission connection between Birkhill Wood and High Marnham.	Adjacent to the Order Limits	Pre-app stage so limited info available. Preliminary Environmental Information Report. Embedded mitigation inc. sensitive sighting of new pylons and routes	Potential LSE from habitat loss, temporary disturbance, incidental mortality, disturbance, pollution impacts on designated sites, reduction in habitat quality, habitat fragmentation, increased predation effects. LSE are focused where the proposed overhead line crosses the Humber estuary	Potential LSE identified at screening stage; no adverse effect on integrity concluded with mitigation. In addition, mitigation Area M15 is approximately 1,300m from new powerlines, no potential

								for collision and/or displacement would take place as this is significantly further than the 600m buffer required for wind turbines as detailed in NE3 of Natural England's relevant reps.
DCO Application	Land off Lawn Lane to the South of the River Went, Fenwick, Doncaster	EN010152	Development consent granted February 2026	Fenwick Solar Project - installation of solar photovoltaic (PV) generating panels, associated	8km to the west	NSIP. Planning approved. HRA and ES completed and available. No significant effects report also helpful. Mitigation includes LEMP, OEMP, habitat enhancements.	HRA completed. Potential loss of farmland used by SPA birds was screened. No SPA relies on the site as essential functionally linked habitat. The affected land represents a very	No significant adverse residual or cumulative effects

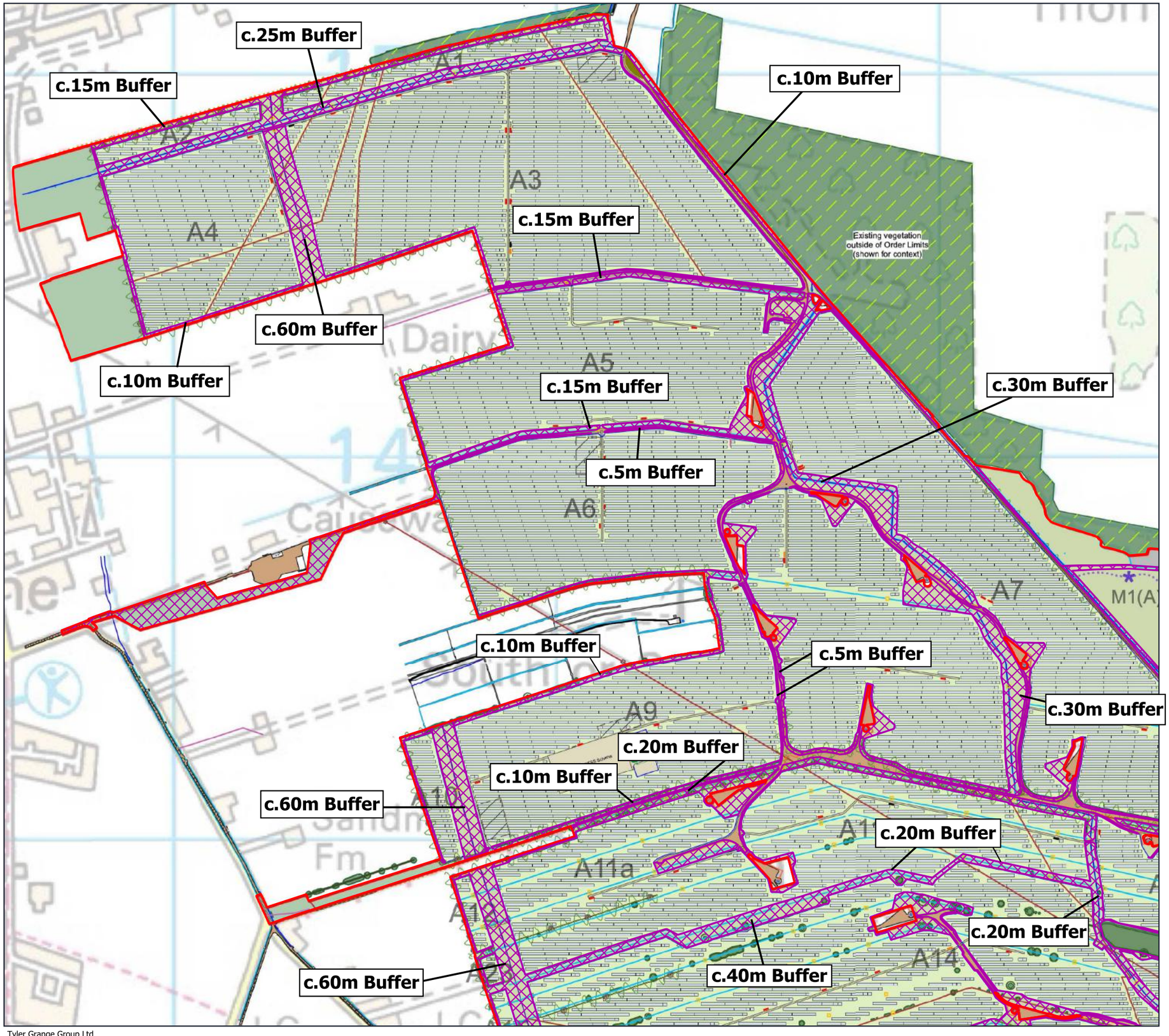
				electrical equipment, cabling and energy storage facilities together with grid connection infrastructure. The generating capacity of the Scheme will exceed 50 MW and its maximum capacity is anticipated to be 237.5MW.			small fraction of available habitat in the wider landscape. Loss of land would not affect population viability or SPA conservation objectives No BBS species are present within the Order limits in numbers of national significance, i.e. 1% or more of the UK breeding population. A non-breeding waterbird assemblage of district importance & non-breeding farmland bird assemblage of district importance	

DCO Application	Flixborough Wharf, Flixborough Industrial Estate, North Lincolnshire	EN010116	Granted March 2025	North Lincolnshire Green Energy Park - The Project consists of an Energy Recovery Facility (ERF) converting up to 650,000 tonnes per annum of Refuse Derived Fuel (RDF) to generate a maximum of 95 Mega Watts of electrical output (MWe) and/or 380 Mega Watts of thermal output (MWt) to provide power, heat and	8.5km to the east	NSIP. Planning approved. HRA Appropriate assessment completed. Acoustic barriers, reducing noise exposure areas and lowering noise by up to 10 dB in some locations. Avoidance of particularly noisy works between September and April, where possible. An Ecological Clerk of Works (ECoW) would be present during construction to: Monitor for signs of disturbance Recommend additional mitigation such as acoustic shrouds or use of a non-metallic dolly (up to ~10 dB noise reduction). If necessary, the ECoW can implement further measures from the Construction Ornithological Management Plan (COMP), including a soft-start piling approach to	SACs screened out at stage 1 HRA - no LSE. Sensitive bog habitat and bird species assessed to stage 2. The qualifying feature assessed for potential adverse effects on integrity (AEoI) from disturbance was mallard, as part of the Humber Estuary SPA waterbird assemblage. Mallard were recorded in high numbers along the River Trent to the west/south-west of the project. Natural England (NE) considered the numbers significant, noting that: A "significant number" is defined as 1% of a qualifying SPA population.	No adverse effect on integrity

				steam on the site of the operating Flixborough Wharf on the River Trent. The Project will incorporate battery storage, hydrogen production from the electrolysis of water, hydrogen storage, heat and steam storage. It will also include heat-treatment of bottom and fly ash, concrete block manufacturing, carbon dioxide		allow early detection of disturbance effects.	Approximately 4% of the Humber Estuary SPA wintering mallard population was using the land. NE also considered mallard to be susceptible to disturbance from construction noise. The Applicant disagreed, stating that mallard in the estuary are generally habituated to disturbance.	

				capture and utilisation and an extended district heat network of 5km, power and gas network to service the nearby proposed housing development.				

Figure 7-2. Order Limits Grassland Buffer Plan.



Order Limits

Grassland Buffers

Existing Vegetation with RPAs

Existing Vegetation outside Order Limits

Existing Vegetation to be Removed

Existing Public Right of Way Footpath

Existing Drain

Existing River/ IDB Drain

Existing Water Main

Existing Fuel Pipe

Existing High Voltage Cable

Existing Low Voltage Cable

Existing Wind Farm High Voltage Cable

Existing Telecom Cable

Existing Wind Farm Access Track

Proposed:

Security Fence

Access Gate

Solar Arrays

Access Road

Hard Standing to BESS/Substation

Inverter Container

Switchgear

Spare Container

Construction Compound

Indivative Cable/ Drain Crossing

Existing Ground Conditions to be retained and made good following construction

Species-Rich Neutral Grassland Seed Mix

Species-Rich Neutral Grassland Seed Mix to Solar Compartment

Proposed Native Scrub Planting

Proposed Hedgerow Planting

Proposed Woodland Planting

Proposed Tree Planting

Indicative permissive footpath route with high level viewing huts - all routes to be fenced and secure. Fencing to be 1.2m high, wooden pole and wire fence

Proposed scrapes - shown indicatively, refer to ecology reports for further details

Special catagory - Common Land not subject to compulsory aquisition, temporary possession or works powers

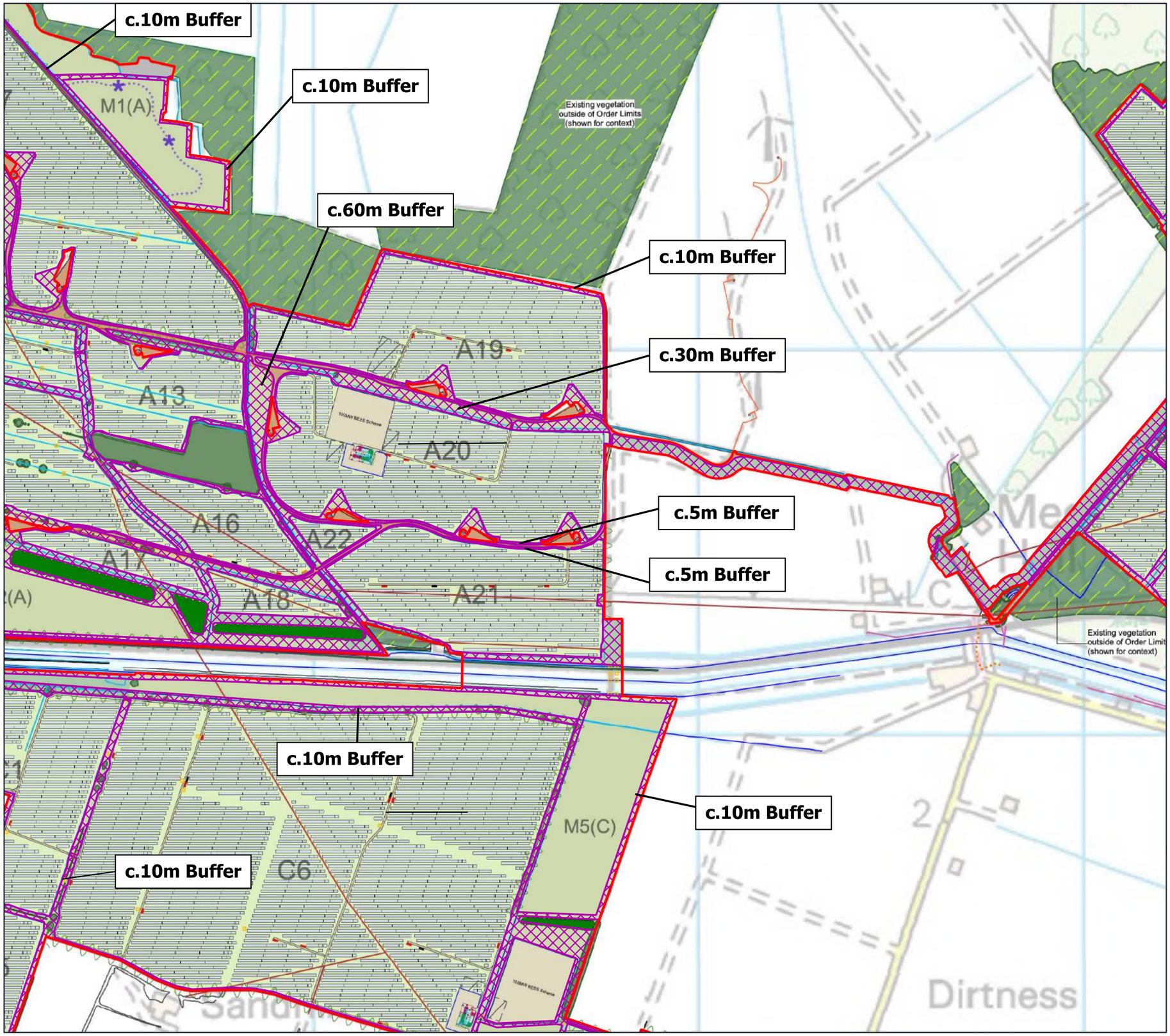
Note: proposed planting by property 44

Project	Tween Bridge
Drawing Title	Order Limits Grassland Buffer Plan
Scale	As Shown (Approximate)
Drawing No.	16413/P20 Sheet 1
Date	July 2026
Checked	TLR/RR

Tyler Grange

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Order Limits

Grassland Buffers

Existing Vegetation with RPAs
Existing Vegetation outside Order Limits
Existing Vegetation to be Removed
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Existing Drain
Existing River/ IDB Drain
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Existing High Voltage Cable
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Existing Wind Farm High Voltage Cable
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Security Fence
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Access Road
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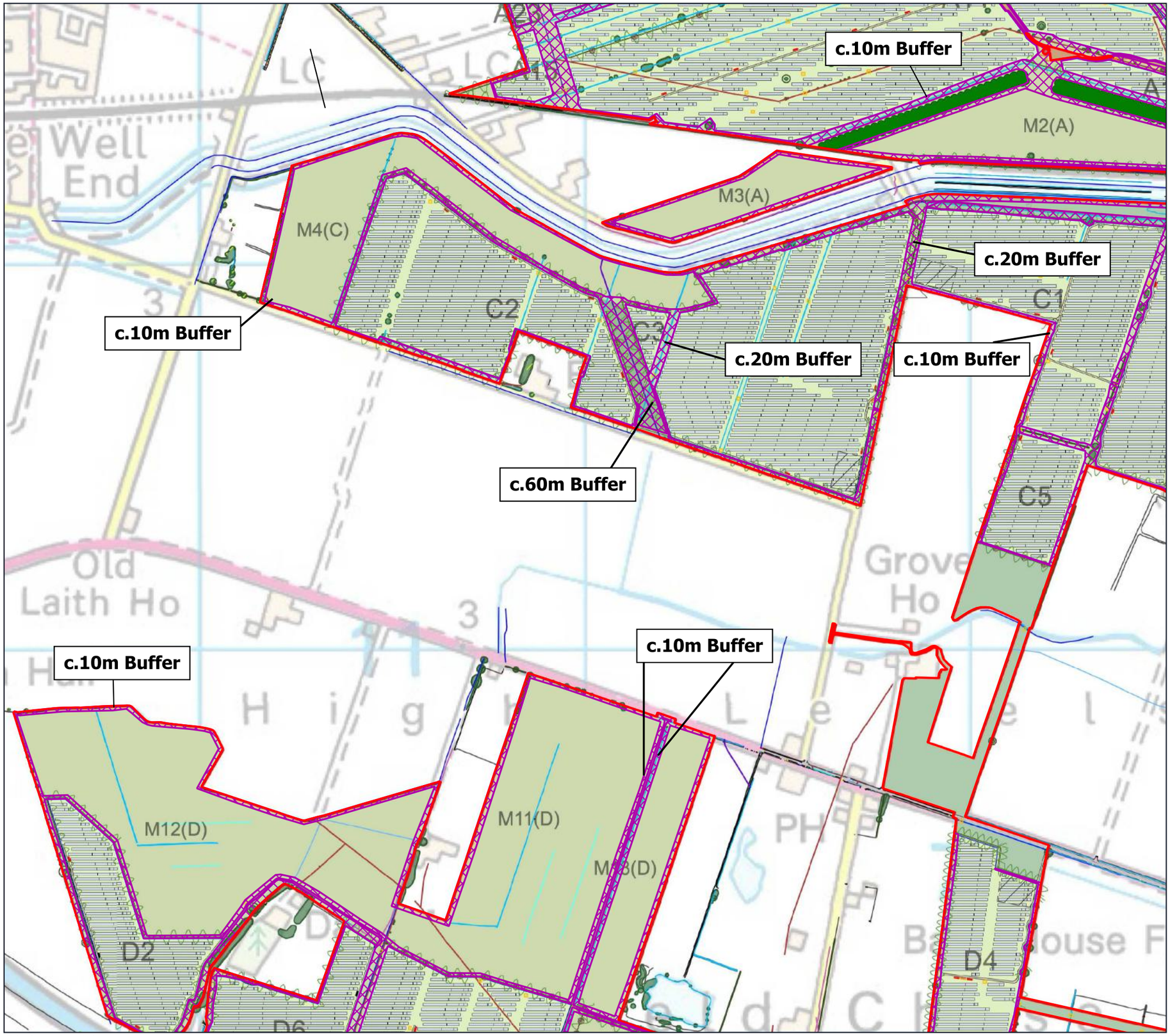
Note: proposed planting by property 44

Project	Tween Bridge
Drawing Title	Order Limits Grassland Buffer Plan
Scale	As Shown (Approximate)
Drawing No.	16413/P20 Sheet 2
Date	July 2026
Checked	TLR/RR

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Order Limits

Grassland Buffers

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Existing Vegetation outside Order Limits

Existing Vegetation to be Removed

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Special catagory - Common Land not subject to compulsory aquisition, temporary possession or works powers

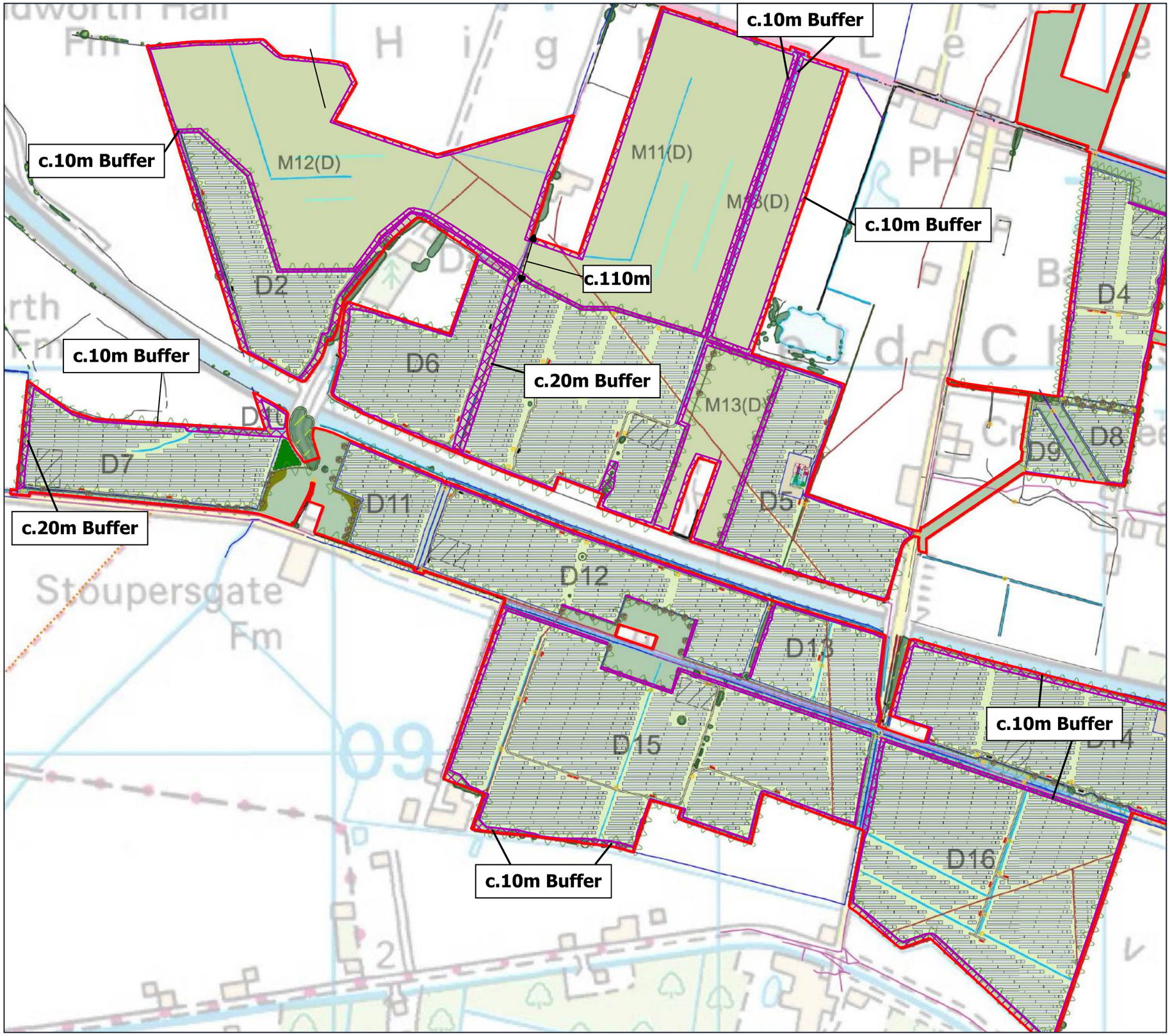
Note: proposed planting by property 44

Project	Tween Bridge
Drawing Title	Order Limits Grassland Buffer Plan
Scale	As Shown (Approximate)
Drawing No.	16413/P20 Sheet 3
Date	July 2026
Checked	TLR/RR

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Grassland Buffers

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- Existing Vegetation outside Order Limits
- Existing Vegetation to be Removed
- Existing Public Right of Way Footpath
- Existing Drain
- Existing River/ IDB Drain
- Existing Water Main
- Existing Fuel Pipe
- Existing High Voltage Cable
- Existing Low Voltage Cable
- Existing Wind Farm High Voltage Cable
- Existing Telecom Cable
- Existing Wind Farm Access Track

Proposed:

- Security Fence
- Access Gate
- Solar Arrays
- Access Road
- Hard Standing to BESS/Substation
- Inverter Container
- Switchgear
- Spare Container
- Construction Compound
- Indivative Cable/ Drain Crossing
- Existing Ground Conditions to be retained and made good following construction
- Species-Rich Neutral Grassland Seed Mix
- Species-Rich Neutral Grassland Seed Mix to Solar Compartment
- Proposed Native Scrub Planting
- Proposed Hedgerow Planting
- Proposed Woodland Planting
- Proposed Tree Planting
- Indicative permissive footpath route with high level viewing huts - all routes to be fenced and secure. Fencing to be 1.2m high, wooden pole and wire fence
- Proposed scrapes - shown indicatively, refer to ecology reports for further details
- Special catagory - Common Land not subject to compulsory aquisition, temporary possession or works powers

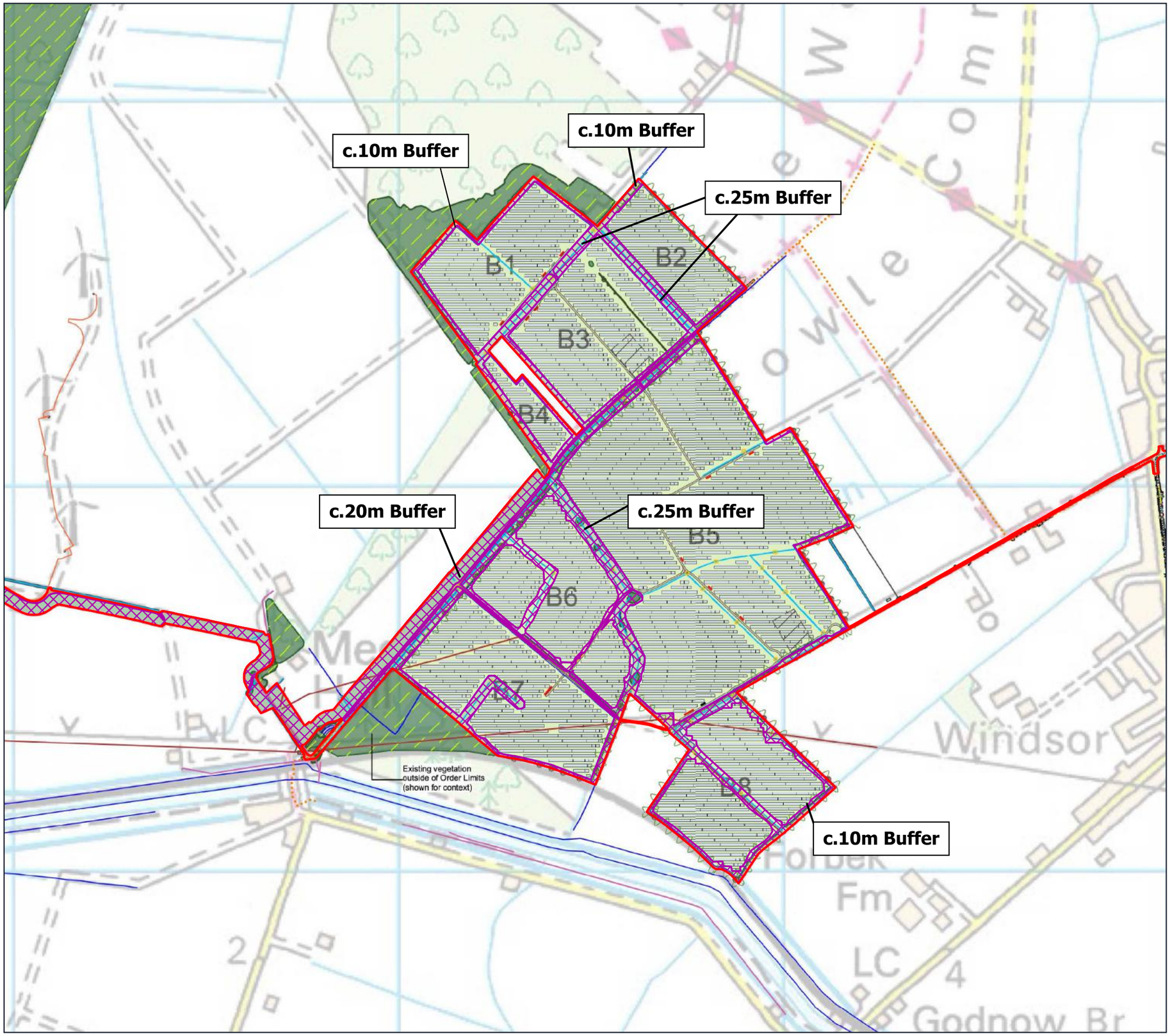
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Order Limits

Grassland Buffers

Existing Vegetation with RPAs

Existing Vegetation outside Order Limits

Existing Vegetation to be Removed

Existing Public Right of Way Footpath

Existing Drain

Existing River/ IDB Drain

Existing Water Main

Existing Fuel Pipe

Existing High Voltage Cable

Existing Low Voltage Cable

Existing Wind Farm High Voltage Cable

Existing Telecom Cable

Existing Wind Farm Access Track

Proposed:

Security Fence

Access Gate

Solar Arrays

Access Road

Hard Standing to BESS/Substation

Inverter Container

Switchgear

Spare Container

Construction Compound

Indivative Cable/ Drain Crossing

Existing Ground Conditions to be retained and made good following construction

Species-Rich Neutral Grassland Seed Mix

Species-Rich Neutral Grassland Seed Mix to Solar Compartment

Proposed Native Scrub Planting

Proposed Hedgerow Planting

Proposed Woodland Planting

Proposed Tree Planting

Indicative permissive footpath route with high level viewing huts - all routes to be fenced and secure. Fencing to be 1.2m high, wooden pole and wire fence

Proposed scrapes - shown indicatively, refer to ecology reports for further details

Special catagory - Common Land not subject to compulsory aquisition, temporary possession or works powers

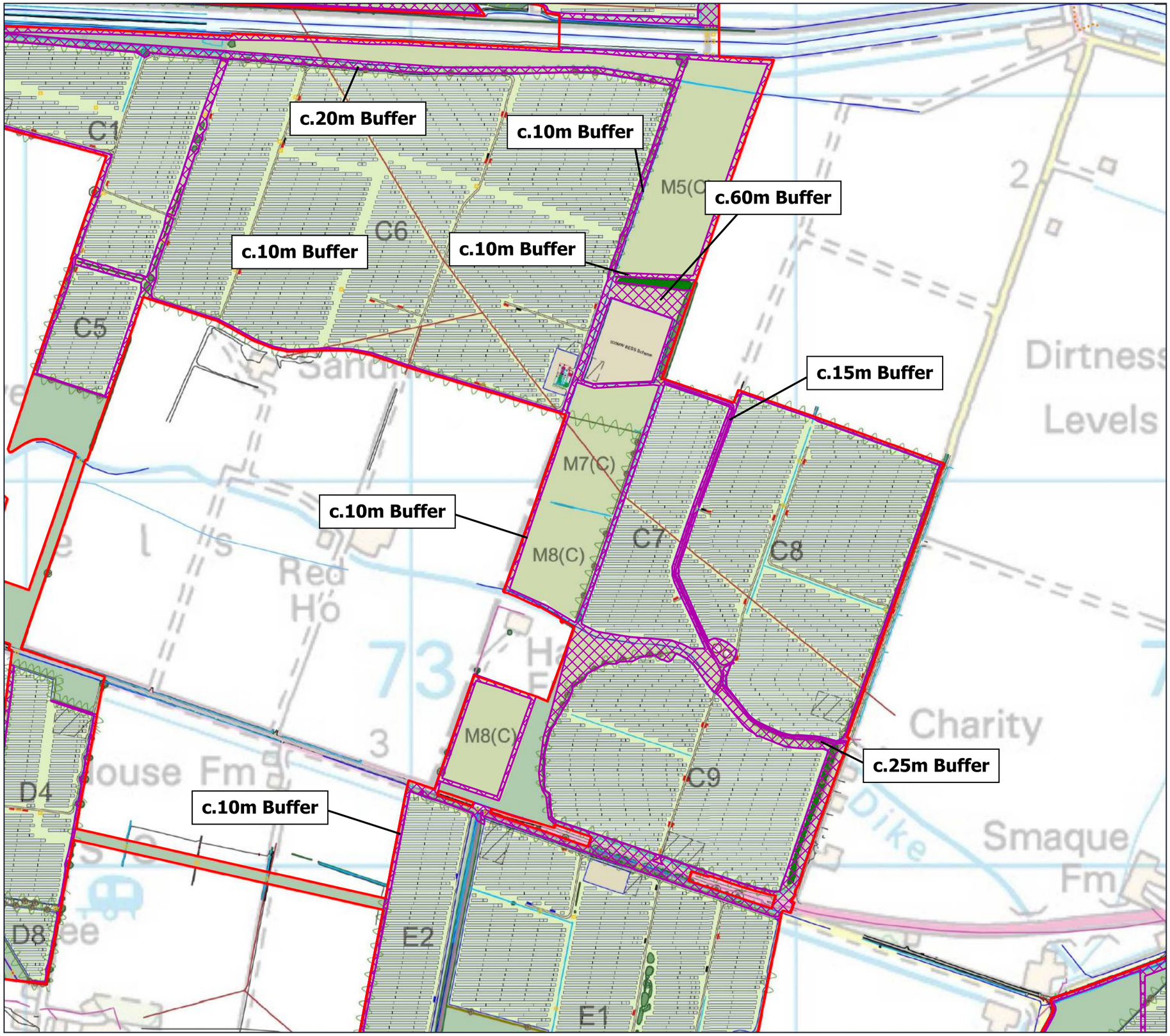
Note: proposed planting by property 44

Project	Tween Bridge
Drawing Title	Order Limits Grassland Buffer Plan
Scale	As Shown (Approximate)
Drawing No.	16413/P20 Sheet 5
Date	July 2026
Checked	TLR/RR

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Order Limits

Grassland Buffers

Existing Vegetation with RPAs

Existing Vegetation outside Order Limits

Existing Vegetation to be Removed

Existing Public Right of Way Footpath

Existing Drain

Existing River/ IDB Drain

Existing Water Main

Existing Fuel Pipe

Existing High Voltage Cable

Existing Low Voltage Cable

Existing Wind Farm High Voltage Cable

Existing Telecom Cable

Existing Wind Farm Access Track

Proposed:

Security Fence

Access Gate

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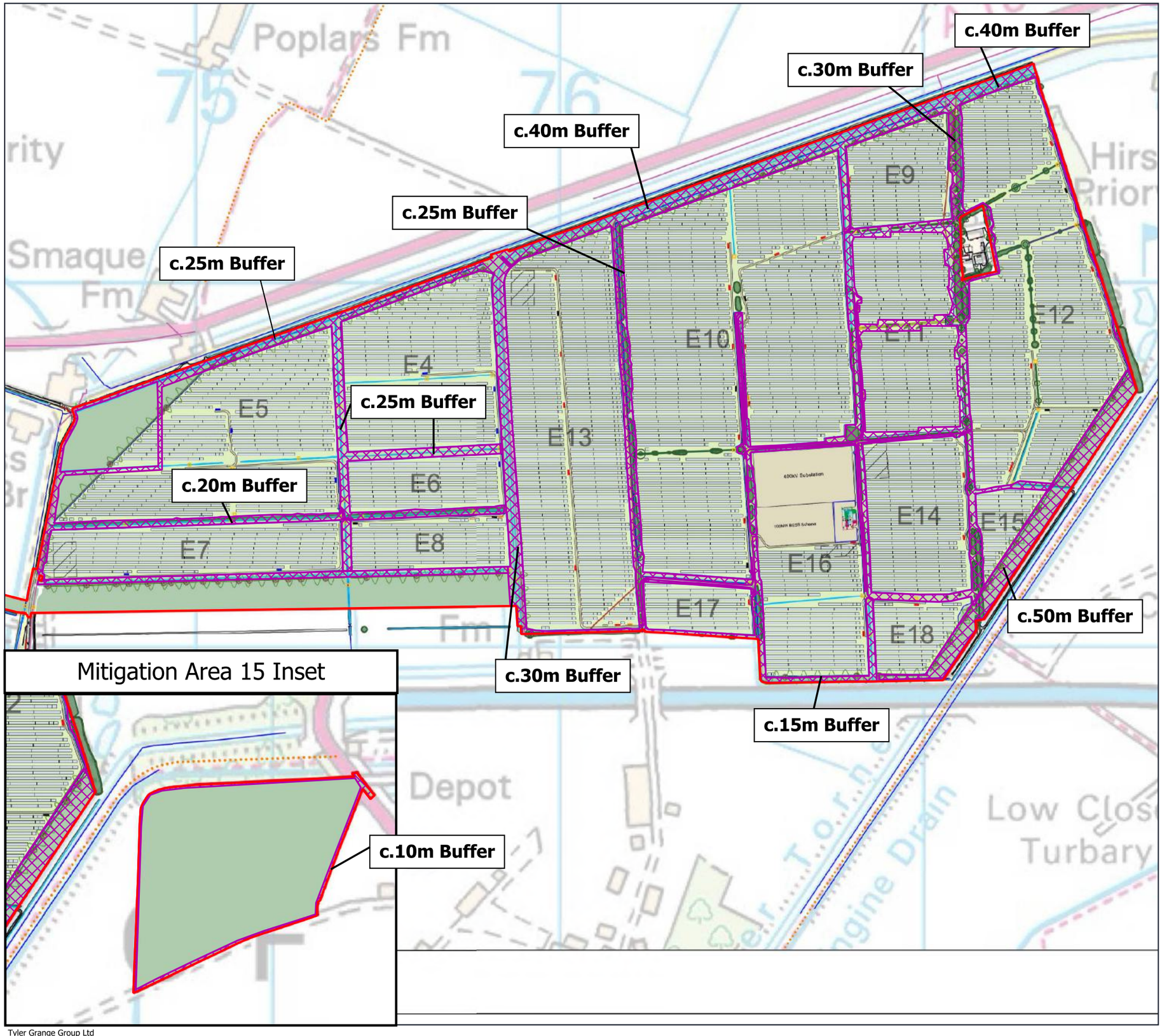
Note: proposed planting by property 44

Project	Tween Bridge
Drawing Title	Order Limits Grassland Buffer Plan
Scale	As Shown (Approximate)
Drawing No.	16413/P20 Sheet 6
Date	July 2026
Checked	TLR/RR

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Order Limits

Grassland Buffers

- Existing Vegetation with RPAs
- Existing Vegetation outside Order Limits
- Existing Vegetation to be Removed
- Existing Public Right of Way Footpath
- Existing Drain
- Existing River/ IDB Drain
- Existing Water Main
- Existing Fuel Pipe
- Existing High Voltage Cable
- Existing Low Voltage Cable
- Existing Wind Farm High Voltage Cable
- Existing Telecom Cable
- Existing Wind Farm Access Track

Proposed:

- Security Fence
- Access Gate
- Solar Arrays
- Access Road
- Hard Standing to BESS/Substation
- Inverter Container
- Switchgear
- Spare Container
- Construction Compound
- Indivative Cable/ Drain Crossing
- Existing Ground Conditions to be retained and made good following construction
- Species-Rich Neutral Grassland Seed Mix
- Species-Rich Neutral Grassland Seed Mix to Solar Compartment
- Proposed Native Scrub Planting
- Proposed Hedgerow Planting
- Proposed Woodland Planting
- Proposed Tree Planting
- Indicative permissive footpath route with high level viewing huts - all routes to be fenced and secure. Fencing to be 1.2m high, wooden pole and wire fence
- Proposed scrapes - shown indicatively, refer to ecology reports for further details
- Special catagory - Common Land not subject to compulsory aquisition, temporary possession or works powers

Note: proposed planting by property 44

Project	Tween Bridge
Drawing Title	Order Limits Grassland Buffer Plan
Scale	As Shown (Approximate)
Drawing No.	16413/P20 Sheet 7
Date	July 2026
Checked	TLR/RR

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Figure 7-3 . Buffer Plan for Thorne & Hatfield Moors



LEGEND

- Order Limits
- Existing Vegetation with RPAs
- Existing Vegetation outside Order Limits
- Existing Vegetation to be Removed
- Existing Public Right of Way Footpath
- Existing Drain
- Existing River/ IDB Drain
- Existing Water Main
- Existing Fuel Pipe
- Existing High Voltage Cable
- Existing Low Voltage Cable
- Existing Wind Farm High Voltage Cable
- Existing Telecom Cable
- Existing Wind Farm Access Track

Proposed:

- Security Fence
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- Proposed scrapes - shown indicatively, refer to ecology reports for further details
- Special catagory - Common Land: not subject to compulsory aquisition, temporary possession or works powers
- Thorne & Hatfield Moor

N

0 — 50 m

Project	Tween Bridge
Drawing Title	Buffer Plan for Thorne & Hatfield Moor
Scale	As Shown (Approximate)
Drawing No.	16413/P18a Sheet 1
Date	June 2026
Checked	TLR/RR

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LEGEND

- Order Limits
- Existing Vegetation with RPAs
- Existing Vegetation outside Order Limits
- Existing Vegetation to be Removed
- Existing Public Right of Way Footpath
- Existing Drain
- Existing River/ IDB Drain
- Existing Water Main
- Existing Fuel Pipe
- Existing High Voltage Cable
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- Existing Telecom Cable
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Proposed:

- Security Fence
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- Access Road
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- Thorne & Hatfield Moor

N

0 — 50 m

Project	Tween Bridge
Drawing Title	Buffer Plan for Thorne & Hatfield Moor
Scale	As Shown (Approximate)
Drawing No.	16413/P18a Sheet 2
Date	June 2026
Checked	TLR/RR

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LEGEND

- Order Limits
- Existing Vegetation with RPAs
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- Existing Vegetation to be Removed
- Existing Public Right of Way Footpath
- Existing Drain
- Existing River/ IDB Drain
- Existing Water Main
- Existing Fuel Pipe
- Existing High Voltage Cable
- Existing Low Voltage Cable
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- Existing Telecom Cable
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Proposed:

- Security Fence
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- Thorne & Hatfield Moor

N

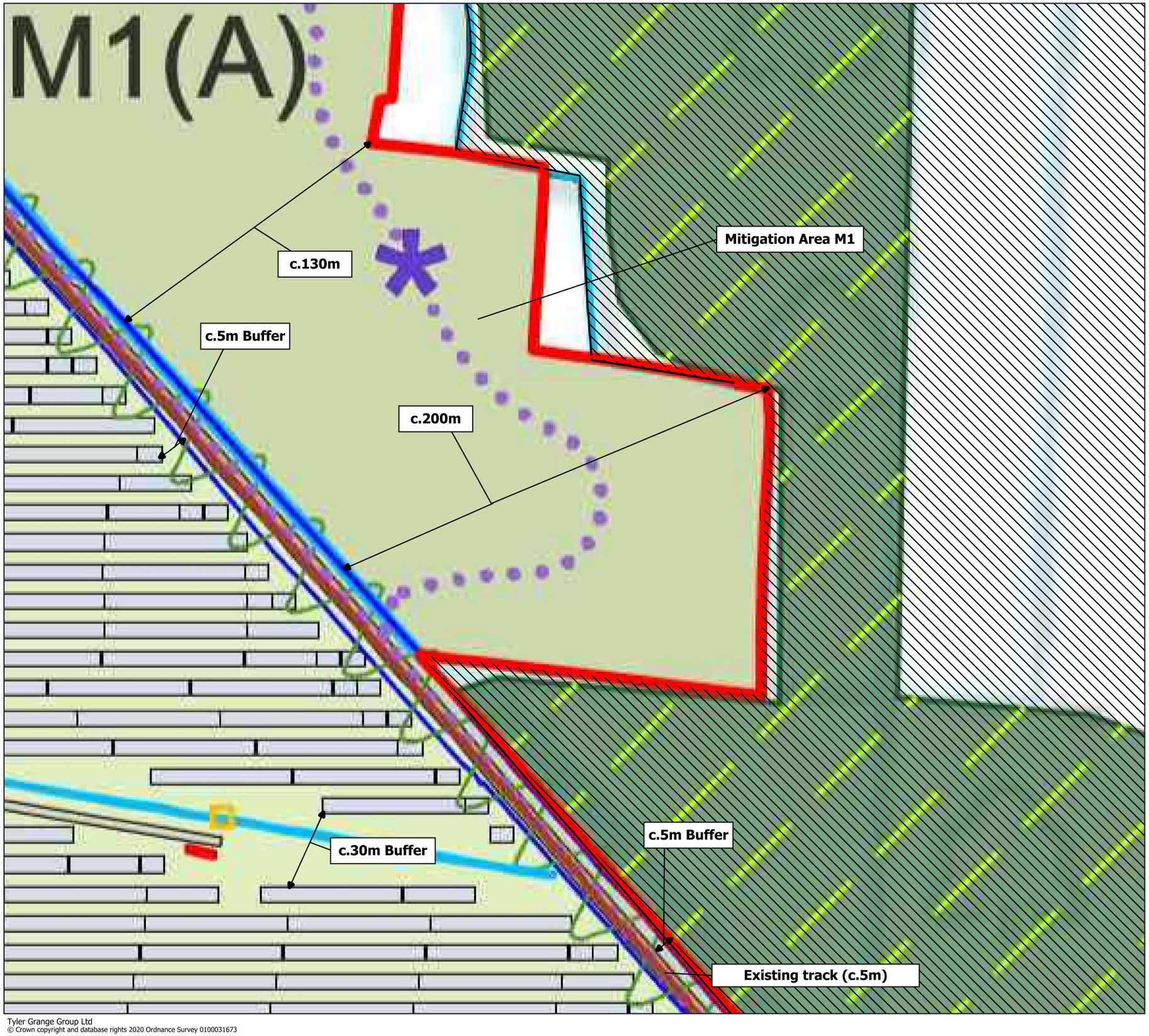
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Project	Tween Bridge
Drawing Title	Buffer Plan for Thorne & Hatfield Moor
Scale	As Shown (Approximate)
Drawing No.	16413/P18a Sheet 3
Date	June 2026
Checked	TLR/RR

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LEGEND

- Order Limits
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Proposed:

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- Thorne & Hatfield Moor

N

0 — 50 m

Project	Tween Bridge
Drawing Title	Buffer Plan for Thorne & Hatfield Moor
Scale	As Shown (Approximate)
Drawing No.	16413/P18a Sheet 4
Date	June 2026
Checked	TLR/RR

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LEGEND

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Proposed:

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- Thorne & Hatfield Moor

N

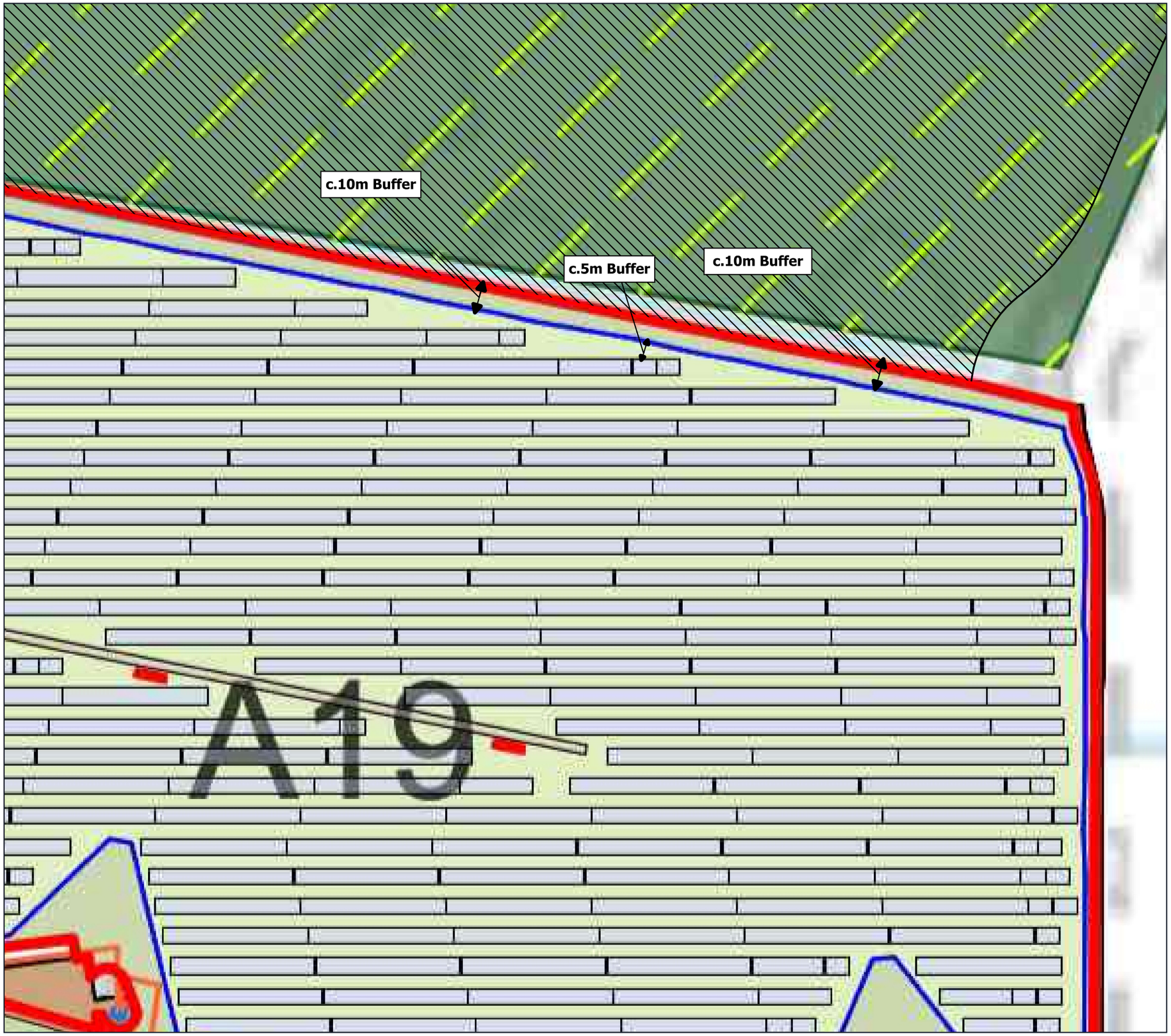
0 — 50 m

Project	Tween Bridge
Drawing Title	Buffer Plan for Thorne & Hatfield Moor
Scale	As Shown (Approximate)
Drawing No.	16413/P18a Sheet 5
Date	June 2026
Checked	TLR/RR

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LEGEND

- Order Limits
- Existing Vegetation with RPAs
- Existing Vegetation outside Order Limits
- Existing Vegetation to be Removed
- Existing Public Right of Way Footpath
- Existing Drain
- Existing River/ IDB Drain
- Existing Water Main
- Existing Fuel Pipe
- Existing High Voltage Cable
- Existing Low Voltage Cable
- Existing Wind Farm High Voltage Cable
- Existing Telecom Cable
- Existing Wind Farm Access Track

Proposed:

- Security Fence
- Access Gate
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- Access Road
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- Special catagory - Common Land: not subject to compulsory aquisition, temporary possession or works powers
- Thorne & Hatfield Moor

N

0 — 50 m

Project	Tween Bridge
Drawing Title	Buffer Plan for Thorne & Hatfield Moor
Scale	As Shown (Approximate)
Drawing No.	16413/P18a Sheet 6
Date	June 2026
Checked	TLR/RR

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