BSG ecology

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Our ref: P24-787 Chimmens – Appeal Support

17 December 2024

Pauric McCloskey
Development Project Manager
RES Ltd.

Dear Pauric,

Re: Chimmens Appeal Support – additional ecological information

BSG Ecology was commissioned to make some revisions to an ecological assessment for the proposed Chimmens Solar Farm, near Dartford, Kent (the 'Site'), centred at Ordnance Survey National Grid Reference TQ 56943 66677. The revisions to the ecological assessment are required because there will be some proposed changes to the scheme, largely to address concerns about the landscape and visual impact of the development. The proposed change is the proposed removal of solar arrays from Field 9 in the south-west of the Site (see Figure 2 appended to this letter). Instead, this field is proposed to be positively managed to increase its habitat value, and improve its suitability for nesting skylark. This letter summarises the proposed management, the changes to our impact assessment, and Biodiversity Net Gain (BNG) assessment arising from this change.

Baseline summary

Field 9 (which is 5.31 ha in extent) is currently classified as 'Other Neutral Grassland'. It is moderately species rich (nine species per m^2 on average based on five 1 m^2 quadrats) and contains a range of grasses and herbs, including some more infrequent species such as pyramidal orchid *Anacamptis pyramidalis*. There is variation in the structure of the grassland across the field, with some areas (e.g. in the west of the field) being characterised by a thinner grass sward, with a higher occurrence of ruderal species (potentially indicating a level of disturbance in the past). Despite this spatial variation, the field as a whole is considered to meet the description of Other Neutral Grassland. This field is currently in 'Moderate' condition (see results of the condition assessment in Table 1 below):

Table 1: Condition assessment results for Field 9 (Other Neutral Grassland)

Criterion	**A** Representation of habitat type	**B** Sward height variation	**C** Bare ground coverage	**D** Bracken cover	**E** Physical damage, undesirable species, INNS	**F** Species richness	**Overall condition grade**
Pass/fail	✓	✕	✓	✓	✓	✕	Moderate

Management changes to Field 9

Field 9 is proposed to be positively managed for conservation, with the condition of the grassland proposed to be enhanced from 'Moderate' to 'Good' within the Biodiversity Net Gain (BNG) metric while increasing its value for nesting skylark. The former is proposed to be achieved by increasing the species richness such that there are more than 10 species per m^2 (and therefore Criterion F, which is an essential requirement for good condition, will be passed). This is considered to be achievable as the field currently supports nine species per m^2. The recommended intervention measures to achieve this condition uplift are described below (and included in a Landscape and Ecological Management Plan (LEMP) to be produced by Pegasus Group and submitted as an additional planning document):

- Scarify the existing grassland lightly (the existing sward is quite thin in parts of the field with some ruderal growth, so it would be preferable to avoid excessive ground disturbance which could encourage spread of nettles, thistles etc.). This should be done in September after a summer hay cut.
- Overseed with the field with a wildflower-only seed mixture suitable for the soil type (e.g. Emorsgate EM6F) to recommended quantity/m^2 then to ensure good soil surface contact, either roll the seed into the ground with an agricultural roller, or introduce livestock to tread seed in. It should be noted that the mix chosen has calcareous grassland species as the soils in the area, including Field 9, are calcareous. The proposals are not for the creation of calcareous grassland as no inversion are proposed. However it is considered appropriate to adapt the seed mix to the geology. The final habitat will likely be a neutral grassland, but with some calcareous indicator species.
- Subsequent management will be through conservation grazing (i.e. at low density) to enable a better grassland structure to develop. Grazing will be managed using appropriate stock numbers to ensure the land is not over-grazed. It is recommended that the field is grazed after the nesting season, i.e. between September and January inclusive (i.e. five months - 20 weeks). This will allow skylark to nest without the risk of eggs and nests being trampled by livestock, and may also help seeds to disperse and establish through trampling in late autumn. In line with the Lowland Grassland Management Handbook[1], stocking rates would be around 0.5 livestock units per hectare. As this field measures 5ha, this means 2.5 livestock units. Assuming the field is grazed for 20 weeks, this requires six ewes per hectare, so 30 ewes[1]. However, to avoid the potential for overgrazing in the early stages as sown wildflowers are establishing, it is recommended that a slightly lower stocking density is implemented in the first grazing season (e.g. 20 ewes).
- At the end of the summer, prior to introducing livestock, the grassland will need to be 'topped' so as to shorten the sward sufficiently for sheep to graze. The arisings will be removed to create habitat piles near hedgerows.
- The grassland should be monitored twice a year (once in early spring and once in mid-summer) to check that stocking levels are appropriate and are achieving the objective (i.e. to allow variation in grassland sward structure, with coarse tussocky vegetation being maintained in at least some areas of each field, and with species richness reaching at least 10 species per m^2). If stocking levels are too high or too low, the ecologist will recommend the appropriate remedial action.
- There will be no use of fertilisers or herbicides.
- If conservation grazing is not likely to be feasible, a hay cut in late summer (with arisings removed) would be a reasonable alternative with a rotation system over two years (half the

[1] English Nature (1999). *The Lowland Grassland Management Handbook (2nd edition)*. Chapter 5 grazing – Table 5.7 – Available at http://publications.naturalengland.org.uk/file/114020

field / year) so as to allow a rough sward to develop and large tussocks to the present in at least some of the field on any given year.

Additionally, as an enhancement to improve the suitability of this field for skylark, two areas of 5x5 m of the field (more than 50 m from field boundaries and the PRoW) will be heavily scarified (or scraped to bare ground) to provide an area of shorter vegetation for skylark, to provide some areas of shorter vegetation for foraging, and to enable access to the surrounding area of taller sward; this may enable capacity for one additional skylark territory in the field, for at least one brood (early-mid spring). The same two areas can be scarified every year, and should be done in late February before the start of the breeding bird season.

Revised impact assessment

Habitats

The proposed removal of solar arrays from Field 9 is likely to be beneficial to the grassland sward due to the lack of shading, and also avoids the potential for any damage to the grassland during the construction phase of the development. Additionally, the proposed management described above is expected to give rise to a slightly higher species richness, and will improve variation in sward structure. Overall therefore, the proposed changes to this field are expected to result in a positive impact to habitats and botanical value.

Protected and notable species

The proposed removal of solar arrays from Field 9, and the proposed conservation management in this field, is likely to result in benefits to a range of species groups, including invertebrates, small mammals, raptors such as barn owl, and reptiles, through the development of a more varied vegetation structure, with more tussocks, and a higher species richness.

The proposed enhancements for skylark will increase the proposed mitigation in this area from being limited to Area 1b as previously described to the entirety of Field 9. This will result in the field being capable of supporting one additional nesting pair on top of what has already been considered as part of the impact assessment to date. This reduces the losses of pairs from the Site as a result of the development to six to eight pairs, depending on the rotation of the mitigation areas already proposed.

Revised BNG assessment headline results

The revised headline results from the BNG assessment are shown below:

Pre-development

- Existing score (area-based habitats): 286.06 Biodiversity Units
- Existing score (hedgerows): 75.21 Biodiversity Units

Post-development

- Proposed post-development score from area-based habitat creation, enhancement and retention: 429.71 Biodiversity Units
- Proposed post-development score from hedgerow habitat creation, retention and enhancement: 105.24 Biodiversity Units

Net change

- Biodiversity net change (area-based habitats): + 143.65 Biodiversity Units (i.e. a biodiversity net gain of 50.22%)

- Biodiversity net change (hedgerows): + 30.03 Biodiversity Units (i.e. a biodiversity net gain of 39.93%)

This assessment indicates an overall biodiversity gains of 50.22% (area-based habitats), 39.93% (hedgerows) and confirms that the development is in line with local and national planning policy with regard to Biodiversity Net Gain at the time of the original submission.

We trust that this information is

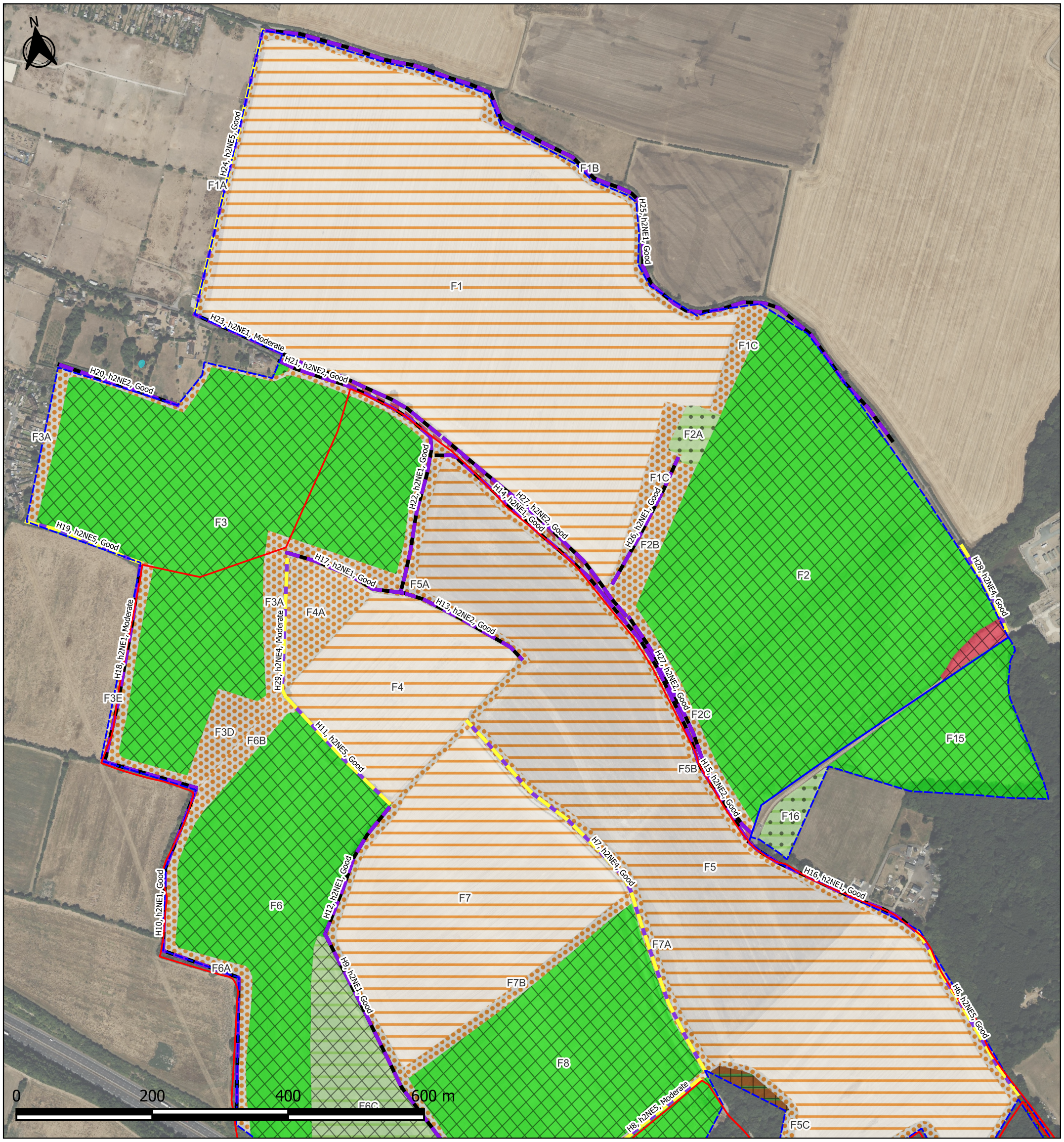
Yours Sincerely,

Joe Bishop
Senior Ecologist
For and on behalf of BSG Ecology

Figures

Figure 2a and 2b: UK Habitat Classification Survey and Condition Assessment

Figure 3a and 3b: Proposed habitats post-development – REVISED December 2024



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JOB REF: P22-603

PROJECT TITLE

CHIMMENS SOLAR FARM

DRAWING TITLE

Figure 2a: UK Habitat Classification Survey and Condition Assessment

DATE: 23/10/2023	CHECKED: KH	SCALE: 1:5,500
DRAWN: SL	APPROVED: KH	VERSION:1.0

Projection: OSGB 1936/British National Grid - EPSG 27700
Sources: BSG Ecology survey data

Legend

- Native Hedgerow (h2NE5)
- Native Hedgerow with trees (h2NE4)
- Native Species Rich Hedgerow (h2NE2)
- Native Species Rich Hedgerow with trees (h2NE1)
- Arable field margins game bird mix
- Arable field margins pollen & nectar
- Arable field margins tussocky
- Cereal crops
- Developed land; sealed surface
- Lowland mixed deciduous woodland
- Mixed scrub
- Modified grassland
- Other neutral grassland
- Ponds (Non- Priority Habitat)
- Bare ground

Habitats Surveyed Condition:

- Good
- Moderate
- Poor
- Survey boundary
- Site boundary

Graphics Ref. No.: 04796

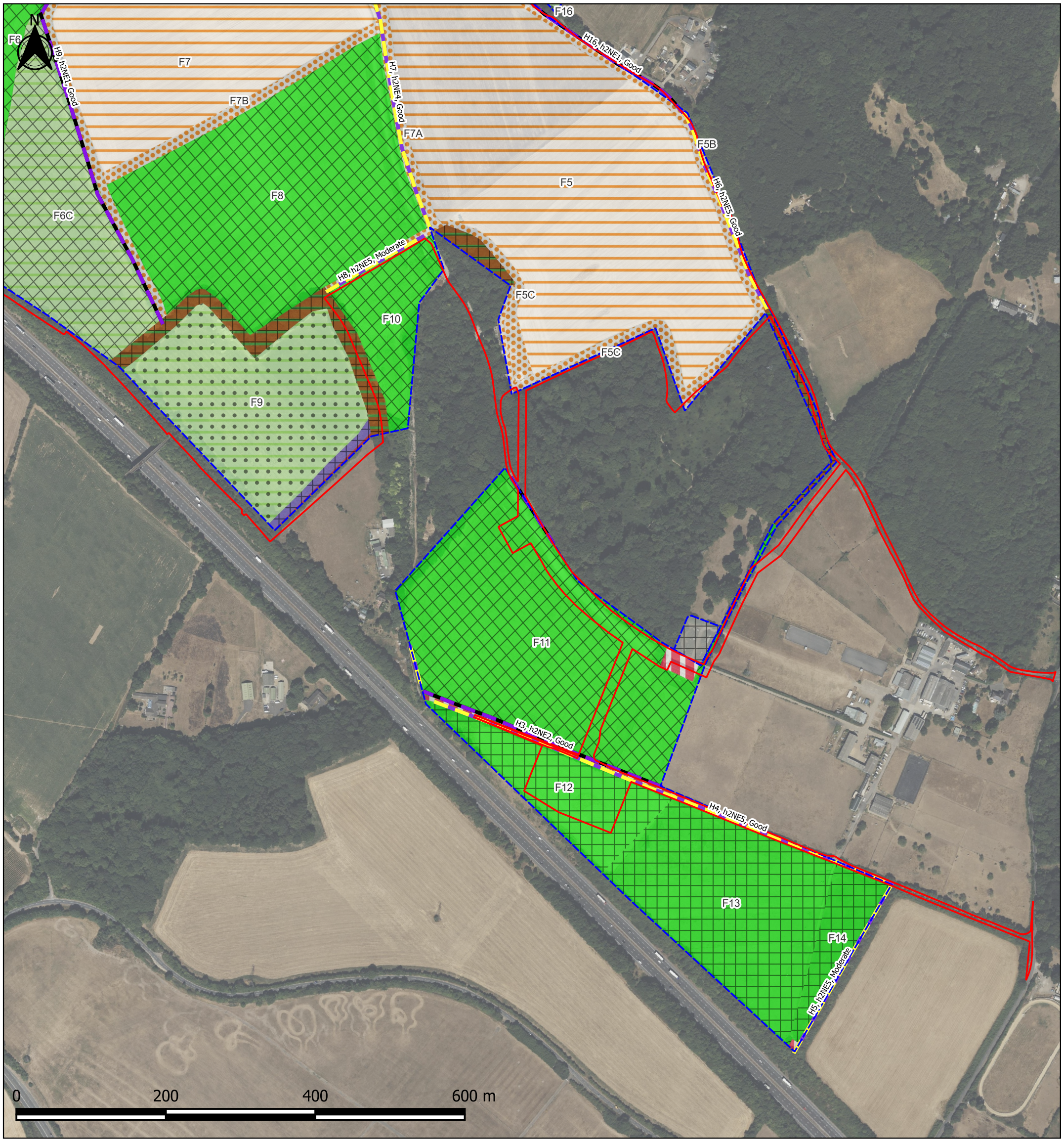

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Figure 2b: UK Habitat Classification Survey and Condition Assessment

DATE: 23/10/2023	CHECKED: KH	SCALE: 1:5,000
DRAWN: SL	APPROVED: KH	VERSION:1.0

Projection: OSGB 1936/British National Grid - EPSG 27700
Sources: BSG Ecology survey data

Legend

- Native Hedgerow (h2NE5)
- Native Hedgerow with trees (h2NE4)
- Native Species Rich Hedgerow (h2NE2)
- Native Species Rich Hedgerow with trees (h2NE1)
- Arable field margins game bird mix
- Arable field margins pollen & nectar
- Cereal crops
- Developed land; sealed surface
- Lowland mixed deciduous woodland
- Mixed scrub
- Modified grassland
- Other neutral grassland
- Ruderal/Ephemeral

Habitats Surveyed Condition:

- Good
- Moderate
- Poor
- Survey boundary
- Site boundary

Graphics Ref. No.: 04795

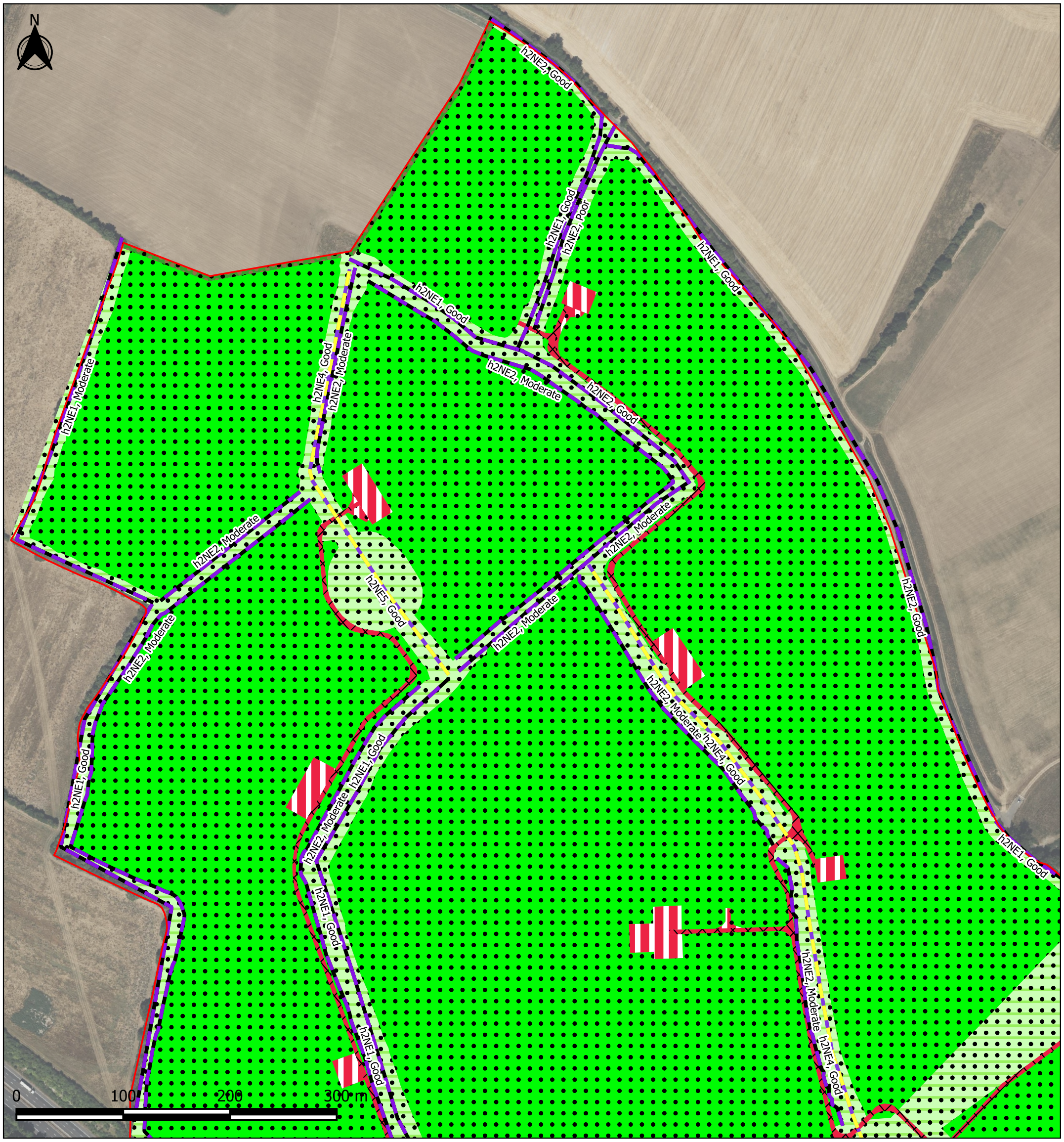

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Figure 3a: Proposed Habitats Post-Development

DATE: 17/12/2024	CHECKED: JB	SCALE: 1:3,500
DRAWN: BH	APPROVED: JB	VERSION:1.1

Projection: OSGB 1936/British National Grid - EPSG 27700
Sources: BSG Ecology survey data

Legend

- Native Hedgerow (h2NE5)
- Native Hedgerow with trees (h2NE4)
- Native Species Rich Hedgerow (h2NE2)
- Native Species Rich Hedgerow with trees (h2NE1)
- Developed land; sealed surface
- Modified grassland
- Other neutral grassland
- Other woodland; broadleaved
- Bare ground

Habitat Plan Condition:

- Moderate
- Poor
- Site boundary

Graphics Ref. No.: 04784

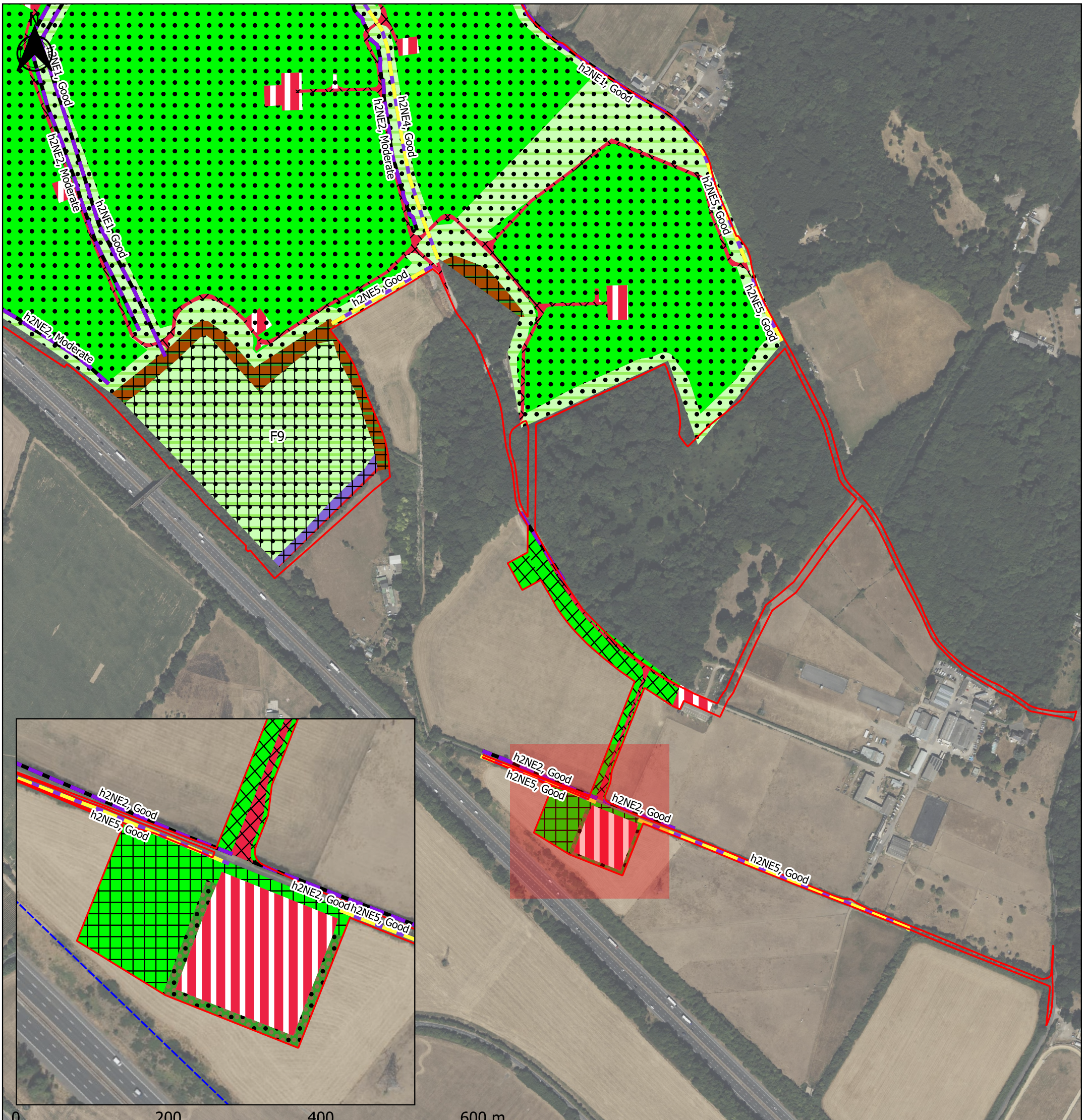

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Figure 3b: Proposed Habitats Post-Development

DATE: 17/12/2024	CHECKED: JB	SCALE: 1:5,000
DRAWN: BH	APPROVED: JB	VERSION:1.1

Projection: OSGB 1936/British National Grid - EPSG 27700
Sources: BSG Ecology survey data

Legend

- Native Hedgerow (h2NE5)
- Native Hedgerow with trees (h2NE4)
- Native Species Rich Hedgerow (h2NE2)
- Native Species Rich Hedgerow with trees (h2NE1)
- Developed land; sealed surface
- Lowland mixed deciduous woodland
- Mixed scrub
- Modified grassland
- Other neutral grassland
- Other woodland; broadleaved
- Bare ground

Habitat Plan Condition:

- Good
- Moderate
- Poor
- Site boundary

Graphics Ref. No.: 04783