

Manor Farm, Crickheath, Oswestry, SY10 8BN

Mr D. Ward

Habitat & Landscape Creation, Management & Maintenance Plan for 2nd Phase Solar Farm

9th January 2024



| Report Type | Site |
|---|---|
| Habitat and Landscape Creation, Management and Maintenance Plan | Manor Farm, Crickheath, Oswestry, Shropshire, SY10 8BN |
| Client | Commission Date |
| David Ward | 26 th October 2023 |
| Author | Qualifications |
| Jane Atkinson | C.Env MIEEM Natural England Licence Numbers: 2020-44324 CLS |

This report has been designed to comply with standard reporting guidelines provided within both the British Standard Biodiversity – Code of practice for planning and development – BS 42020:2013 (BSI, 2013) and the Chartered Institute of Ecology and Environmental Management Guidelines for Ecological Report Writing (CIEEM, 2015).

Summary

This Habitat and Landscape Management and Maintenance Plan has been prepared by Jane Atkinson; ELM Associates Ltd on behalf of Mr David Ward to meet conditions 3, 5 and 6 for the second phase solar farm.

- Condition 3: No development shall take place until a habitat management plan has been submitted to and approved in writing by the Local Planning Authority.
- Condition 5: No development shall take place until a detailed soft landscape scheme for the whole site has been submitted to and approved in writing by the local planning authority.
- Condition 6: A landscape management and maintenance plan for the landscape mitigation proposals.

This plan is based on the Habitat Enhancement Plan (Map 3 in the Phase 1 Preliminary Ecological Assessment (ELM Associates, January 2023, Updated July 2023)).

This report is structured to provide a description of the new features to be created, managed, and maintained. It gives management options and prescriptions including preparation required and what monitoring will be required. It is meeting conditions 3, 6 and 6 of the planning permission.

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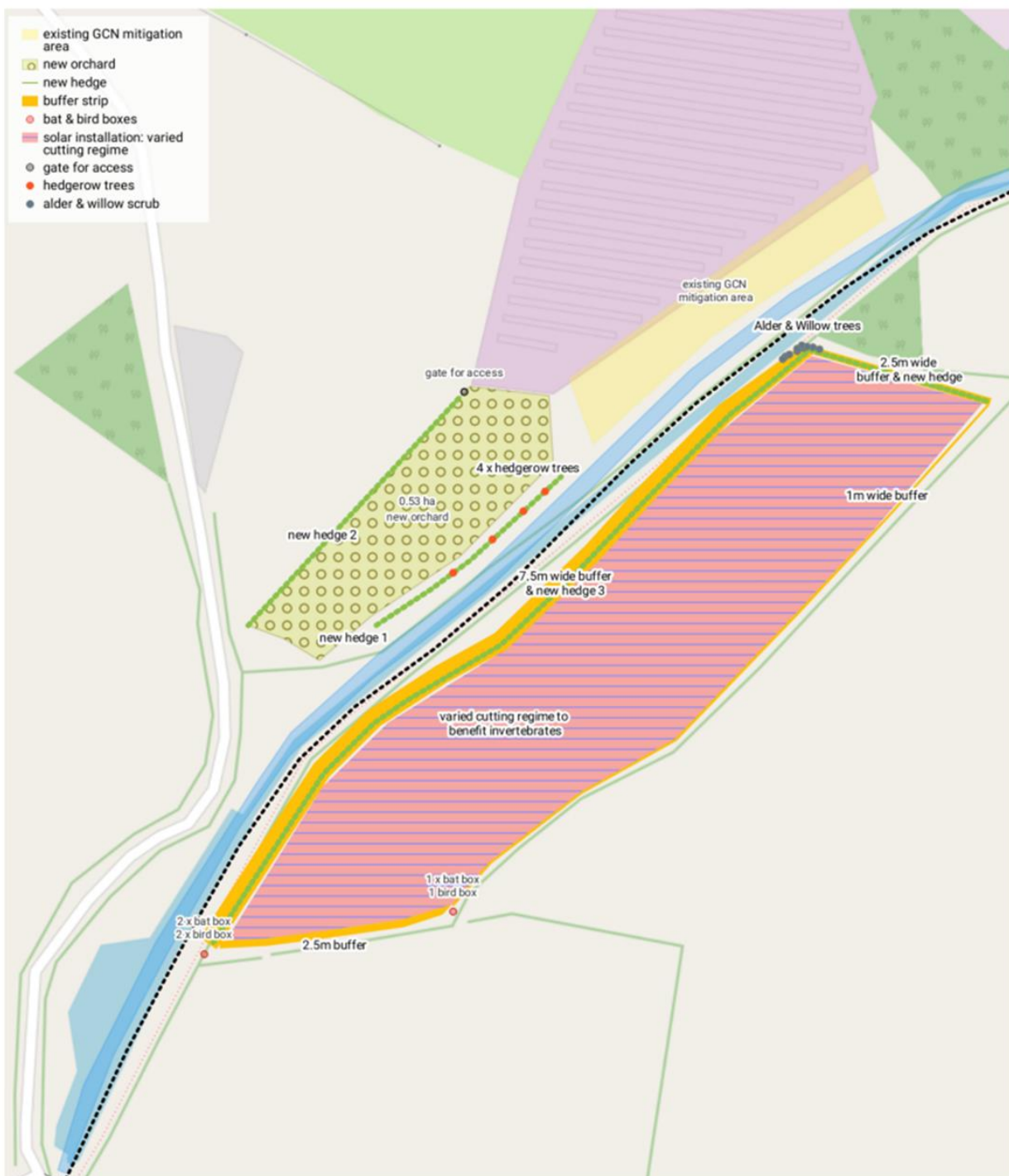
1 Introduction and Site Context

1.1 Purpose

This report aims to ensure the successful establishment and management of the new grassland, orchard and hedgerow habitats proposed in the Habitat Enhancement Plan.

1.2 Coverage

This report relates to the proposed area of habitat creation and management as detailed in the Habitat Enhancement Plan as shown below.



2 Description and Evaluation of Features

The solar panel field and new orchard area are both species poor modified grassland which is used for grazing. They are dominated by a few palatable grasses owing to its agricultural use, dominated by perennial rye grass *Lolium perenne*, and white clover *Trifolium repens* with occasional broadleaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, and Yorkshire fog *Holcus lanatus*, dandelion *Taraxacum officinale* and creeping buttercup *Ranunculus repens*. The sward height is homogenous due to its regular cutting and grazing regime with few flower or seed heads.

The habitat enhancement will aim to create a more varied grassland structure with a variety of sward heights. Flowers and grasses will set seed and there will be an increase in the availability of pollen and seed sources for insects and birds. The cessation of the application of nutrients will favour other grasses than perennial rye grass and it is expected the sward will diversify over time as it has done on the first solar field.

The creation of new hedgerows, orchard and scrub will increase the variety and complexity of habitats on the site while also delivering landscape benefits. The new hedgerows will link to existing hedgerows and expand current habitat and wildlife corridors.

New hedgerows 1 and 2 will provide landscape benefits from the west especially for Five Oaks and the road. Hedge 3 will provide landscape benefits by assisting with screening from the canal towpath. The new orchard and hedgerow trees will break up the view towards the site and assist with screening the site.

3 Management Objectives

The plan aims to maximise biodiversity on site by creating a variety of habitats including different types of grassland, hedgerows and the traditional orchard.

3.1 Grassland:

The grassland within the solar field will be managed to have a varied structure and sward height with increased diversity of species anticipated with sympathetic management.

3.2 Grass Margins:

These are to be tussocky grassland to benefit small mammals and extend the adjacent hedgerow, woodland and canal habitat. Reducing cutting will favour species such as Cocksfoot *Dactylus glomerata* which is excellent overwintering habitat for invertebrates and small mammals.

3.3 Hedgerow:

The new hedgerows are to be species rich and planted with a wide range of species to provide an extended season of pollen and nectar sources in addition to different types of berries in winter. The hedgerows are a key part of the soft landscaping and screening. Using the specification provided will ensure good establishment and landscape benefits at the earliest opportunity.

3.4 Orchard:

A minimum of 55 Fruit trees to be planted of traditional local varieties chosen to provide a range of blossom times and fruit. The orchard is a key part of landscape enhancement especially when viewed from the west. The use of traditional varieties will enhance local landscape character and distinctiveness.

4 Establishment of New Hedgerows and Orchard

4.1 New Hedgerows

631m of new native hedge to be planted:

- Hedge 1: 95m along the existing fence bordering the canal which will form the south-east boundary of the new orchard. This hedge will include 4 standard (2m high) trees to assist with the visual impact. Species to be 2 bird cherry (*Prunus padus*) and 2 field maple (*Acer campestre*).
- Hedge 2: 124m along the north-west boundary of the new orchard which will divide the orchard from the remainder of the field.
- Hedge 3: 412m along the west and north boundary of the solar installation creating a green lane effect.

Hedge Specification

Plants to be bare rooted 40-60cm 1 + 0 whips.

Hedges 1 and 2 are to be planted in a triple staggered row, with 9 plants per metre to maximise overall shelter and wildlife value of the new orchard. Hedge 3 will be a double staggered row with 6 plants per metre. Species composition is the 'dynamic hedge' mix developed by the RSPB to maximise early and late blossom, fruit and berry availability to benefit a wide range of wildlife. See table below for species.

| Hedge Plant | Latin | Percentage of Total |
|--------------|---------------------------|---------------------|
| Hawthorn | <i>Crataegus monogyna</i> | 49 |
| Blackthorn | <i>Prunus spinosa</i> | 8 |
| Hazel | <i>Corylus avellana</i> | 5 |
| Holly | <i>Ilex aquifolium</i> | 4 |
| English Oak | <i>Quercus robur</i> | 1 |
| Common Gorse | <i>Ulex europaeus</i>) | 3 |
| Cherry Plum | <i>Prunus cerasifera</i> | 1.5 |
| Alder | <i>Alnus glutinosa</i> | 1 |
| Goat Willow | <i>Salix caprea</i> | 2 |
| Field Maple | <i>Acer campestre</i>) | 2 |
| Wild Cherry | <i>Prunus avium</i> | 1 |
| Wild Pear | <i>Pyrus communis</i> | 3.5 |
| Bay Willow | <i>Salix pentandra</i> | 5 |
| Bird Cherry | <i>Prunus padus</i> | 1 |
| Crab Apple | <i>Malus sylvestris</i> | 3 |
| Dog Rose | <i>Rosa canina</i> | 2 |
| Rowan | <i>Sorbus aucuparia</i> | 2 |
| Elder | <i>Sambucus nigra</i> | 2 |

| | | |
|--------------------|-----------------------|---|
| Guelder Rose | Viburnum opulus | 2 |
| Native honeysuckle | Lonicera periclymenum | 1 |
| Birch | Betula pendula | 1 |

Planting Method

Notch planting.

Protection

Hedgerow plants to be protected by spiral guards.

4.2 Orchard

The orchard is to consist of traditional Shropshire/Welsh border varieties of apple, pear, plum, cherry and damson. The proposed area is 0.53 ha and at 10m spacing will allow for a minimum of 55 standard fruit trees.

Tree Specification:

Maiden fruit trees must be 1-year-old grafted trees with a single stem.

Varieties

| Apples | Pears | Plums | Damsons |
|-------------------|-------------------|---------------------|-----------------|
| Bramley seedling | Concord | Dennison's Superb | Merryweather |
| Ellison's Orange | Conference | Old Greengage | |
| Cox Orange Pippin | Beth | Victoria | Cherries |
| James Grieve | Williams BC | Kirk's Blue | Stella |
| Peasgood Nonsuch | Doyenne Du Comice | Oullins Golden Gage | Sunburst |
| Discovery | | | |
| Sunset | | | Quince |
| Red Pippin | | | Vranja |
| Spartan | | | |

Planting Method

Hole method. The hole is to be dug with a spade, not with a digger as the bucket of the digger can 'glaze' the hole, preventing possible root penetration.

Trees to be protected with a stake knocked into the ground at least 40cm and placed on the windward side of the tree to ensure the prevailing winds will blow the tree away from the stake preventing any rubbing.

Tree to be tied to the stake using a soft flexible tree tie that can be adjusted over time as the trunk girth expands.

Protection: Spiral guards. They must be checked regularly to remove any growth from inside the guard, and also to remove any debris that may build up inside, potentially causing the trunk to rot.

5 Future Management

5.1 Grassland

Beneath Solar Panels

To be cut annually between 15 August – 30 September over a staggered time to allow continuity of habitat and a varied sward height of between 10-30cm with some seedheads and flowers allowed to remain in awkward to cut areas e.g. around the bases of the panels.

Field Margins

To be cut every second year on rotation. These can be maintained as longer tussocky grass and cutting is primarily to control the spread of bramble and blackthorn scrub so access is maintained.

5.2 New Hedgerows

To be checked for annually for 3 years and losses replaced. Suppression of weeds around the base of the plants is essential for good establishment, this should be done with either annual spraying in April or a woodchip mulch (preferred).

5.3 Orchard Trees

To be checked annually, ties adjusted to ensure they are not constraining growth. Weed free area to be maintained around each tree by annual spraying or mulch mat/woodchip mulch (preferred)

Maintenance Pruning

To be undertaken annually from year 2.

Maintenance pruning is to ensure the trees are kept to their desired shape as well as to keep the canopy open to allow plenty of light and air to pass through, ensuring good ripening of the fruit and to help prevent a build-up of diseases.

6 Monitoring

Monitoring will be required in Years 1, 2, 3, 5 and 10 to ensure good establishment and ongoing management of the habitats.

Monitoring Mechanisms

| Year | Methodology and Timing | Remedial Action |
|------|--|---|
| 1 | <p>New Hedges Assess for successful establishment September – November</p> <p>Orchard Trees Assess for successful establishment</p> | <p>Replacement of losses – December-January</p> <p>Replacement of losses – December-January</p> |
| 2 | <p>New Hedges Assess areas around base of trees/shrubs are weed free – April Assess for successful establishment September – November.</p> <p>Orchard Trees Assess for successful establishment.</p> <p>Grassland Assessment of structure and variation in heights before cutting.</p> | <p>April – maintain weed free area by spraying or top up of woodchip mulch.</p> <p>Replacement of losses – December-January.</p> <p>Replacement of losses – December-January.</p> <p>Undertake formative pruning.</p> <p>Margins and area around the panels should be developing more structure and varied vegetation height, if not stagger cutting times and heights to a greater degree.</p> |
| 3 | <p>New Hedges Assess areas around base of trees/shrubs are weed free – April Assess for successful establishment September – November.</p> <p>Orchard Trees Assess for successful establishment.</p> <p>Grassland Assessment of structure and variation in heights before cutting.</p> | <p>April – maintain weed free area by spraying or top up of woodchip mulch.</p> <p>Replacement of losses – December-January.</p> <p>Replacement of losses – December-January.</p> <p>Undertake maintenance pruning annually.</p> <p>Margins and area around the panels should be developing more structure and varied vegetation height, if not stagger</p> |

| | | |
|----|---|---|
| | <p>Assess botanical diversity using UK Habitat Classification Survey and Condition Assessment. To be completed by a Suitably Qualified Ecologist (SQE) competent in such methodology. Undertaken between April – September prior to cutting.</p> | <p>cutting times and heights to a greater degree.</p> <p>It should be evident if the sward is diversifying. If not take advice on a variation to the management to encourage a wider range of species.</p> |
| 5 | <p>New Hedges These should be successfully established and providing a good source of fruit and berries throughout the season.</p> <p>Orchard Trees These should be successfully established and starting to fruit.</p> <p>Grassland Assessment of structure and variation in heights before cutting.</p> <p>Assess botanical diversity using UK Habitat Classification Survey and Condition Assessment. To be completed by a Suitably Qualified Ecologist (SQE) competent in such methodology. Undertaken between April – September prior to cutting.</p> | <p>Margins should have a tussocky structure and area around the panels a varied vegetation height, if not stagger cutting times and heights to a greater degree.</p> <p>It should be evident if the sward is diversifying. If not take advice on a variation to the management to encourage a wider range of species.</p> |
| 10 | <p>New Hedges These should be successfully established and providing a good source of fruit and berries throughout the season.</p> <p>Orchard Trees These should be successfully established and starting to fruit.</p> <p>Grassland</p> | |

| | | |
|--|--|---|
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6.1 Personnel Responsible

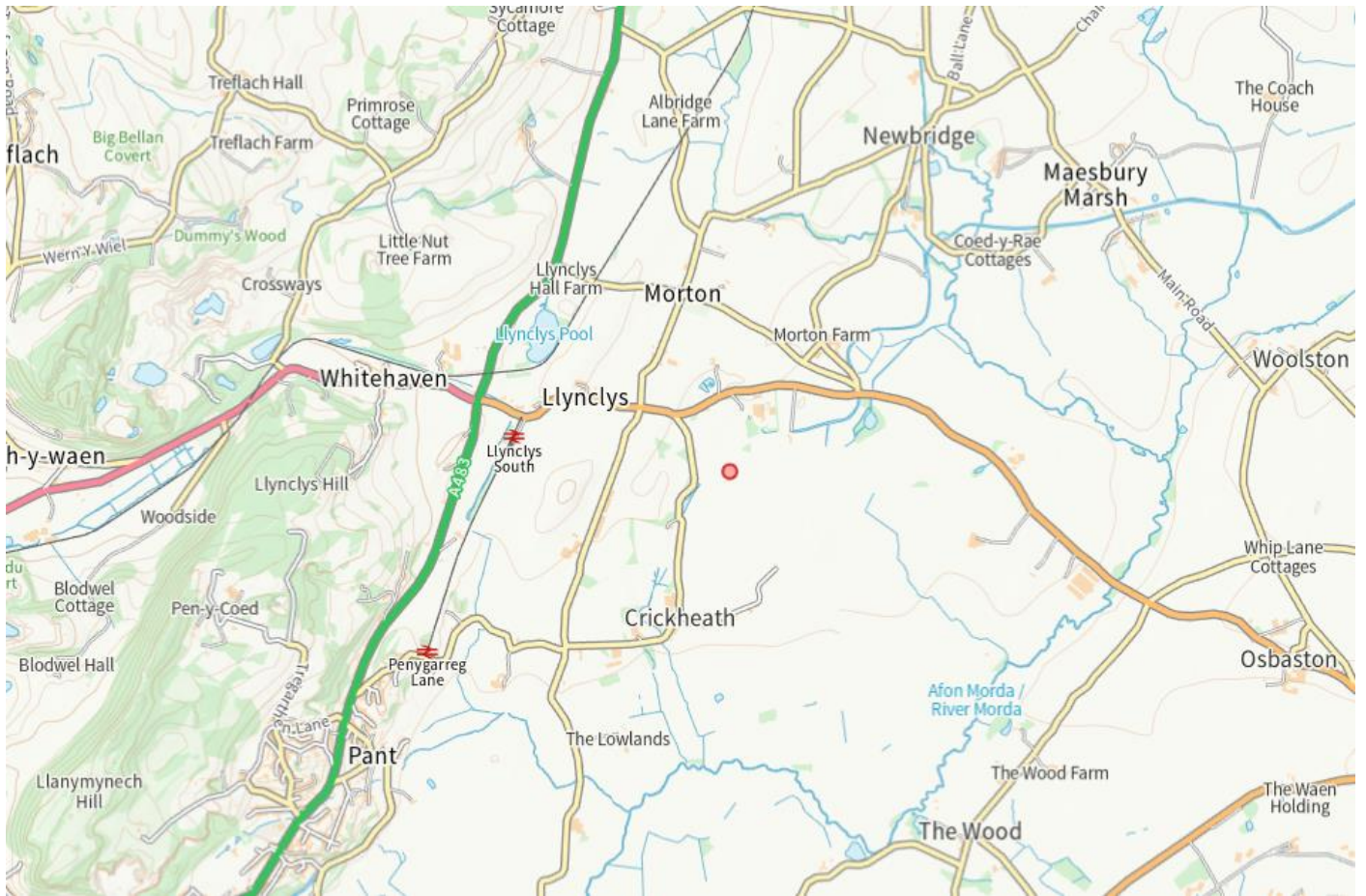
David Ward

6.2 Financial and Legal Means Plan to be Implemented.

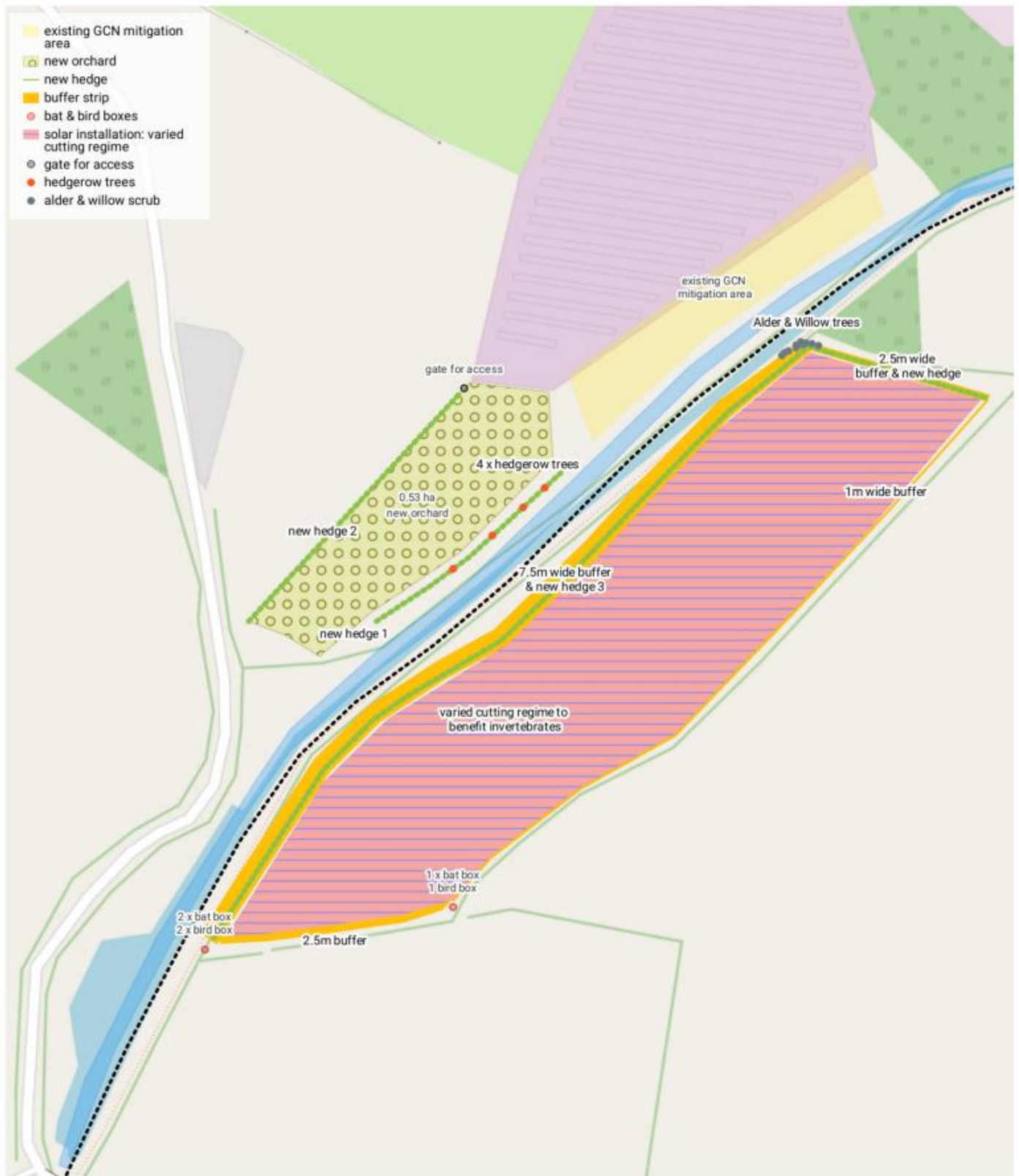
Directly by the farm & solar business

8. Appendices

Map 1: Location Plan



Map 2: Habitat Enhancement. Please also see larger PDF Habitat Enhancement Plan



Map 3: Landscape Enhancement.

