Landscape and Visual Impact Assessment – Addendum

Varley Solar Farm

On behalf of RES.

Date: May 2023 | Pegasus Ref: P22-0915EN

Contents.

Appendices contents.

1. Introduction

1.1. This document forms an Addendum to the Landscape and Visual Impact Assessment (LVIA) which was prepared in relation to the planning application for the proposed Varley Solar Farm, located on land at Varley Farm, Talbots End, Cromhall, South Gloucestershire, GL12 8AJ.

1.2. The Addendum has been prepared by Pegasus Group, who were the authors of the original LVIA. It serves to address comments made by the South Gloucestershire Council Landscape Officer in relation to the submitted LVIA.

1.3. In particular it serves to address the following matters which are addressed in turn in the subsequent sections of this Addendum:

- Updated consideration of sensitivity in relation to the SGC RERAS Landscape Sensitivity Assessment: Solar PV and Wind Energy Development, Final report (September 2021)
- Assessment of LCA 7: Falfield Vale.
- Further written clarification regarding the effects that would be applicable to the following locations:
    - *the effect of the new access route in views from both Talbot Ends and Farleigh Lane*
    - *effect on residential receptors along Talbots End, as this does not seem to have been verified by site analysis with reference to Paras. 5.22-5.23.*
    - *effect on residential receptors along B4058, The Green (including the seat and picnic area), and Cowslip Lane (to complement the Glint and Glare assessment – see Section 3.7 below), and where there are gaps between properties also on the National Cycle Route, for example there is an open view towards Viewpoint 10 location and into the site from the B4058 to the immediate north of The Dutch Barn*
    - *Viewpoint 4 is not ideal as the view is obstructed by objects in the foreground.*
- Further written clarification regarding the effects that would be applicable to the nearby residential properties.

1.4. The Landscape Officer requested that additional tree planting be included as part of the landscape proposals, including to serve to help reduce visibility of the proposals from properties to the north and west of the site. RES were happy to accommodate that request (albeit noting that generally speaking solar developments seek to avoid planting new trees where they might lead to overshadowing that could compromise the efficiency of the development). An updated Landscape Masterplan is included at **Appendix 1** to this Addendum. This now includes additional proposed woodland at the northernmost extent of the site, as well as the addition of 58no. trees along the northern and western boundaries and along the public rights of way. It is considered that the addition of this planting will aid in further mitigating any views of the site, particularly to the residential receptors on Talbot's End.

1.5. The Landscape Officer also requested a Detailed Landscape Proposals plan is provided. RES were also happy to accommodate that request and this plan is included at **Appendix 2** to this Addendum.

1.6. The submitted LVIA included wireline and photomontage visualisations from 3no. of the assessment viewpoints (VPs 2, 3 and 9). The Landscape Officer requested additional wireline overlays from 'VPs 3, 10 and 11 together with any other new views from B4058 corridor as discussed above'. RES were happy to accommodate the request for wireline overlays to be produced and have done so for VPs 2, 3, 9, 10 and 11, which are included at **Appendix 3** to this Addendum. It is not considered that any further locations for wireline overlay are necessary, nor would any further photomontages be required. It is also considered that none of the assessment judgements set out in the LVIA require amendment in light of the production of the wirelines which serve to confirm the findings previously set out.

1.7. The Landscape Officer also requested minor additions/revisions to the Landscape and Ecological Management Plan (LEMP) which had been prepared as part of the application submission and RES were also happy to accommodate that request. The Updated LEMP is now included at **Appendix 4** to this Addendum

2. Updated Consideration of Sensitivity

2.1. The submitted LVIA considered the Council's *Landscape Sensitivity Assessment – Solar PV and Wind Energy Development*[1] at paragraphs 4.10 – 4.13, noting that the assessment considers the host LCA 8 Yate Vale to be of varying sensitivity to solar development depending on the scale of the proposed solar development, with the landscape being identified as having a 'moderate to high sensitivity' to developments of over 16ha.

2.2. The LVIA did however go on to undertake its own analysis of the sensitivity of this particular site within LCA 8 at paragraphs 4.14 to 4.21 and accompanying Table 4.1. Here it was concluded that the site was of medium value and medium susceptibility to development of the type proposed, such that the site and the surrounding area has a 'medium' sensitivity to development of the type proposed.

2.3. The Landscape Officer recommended that the assessment of the sensitivity of the site which was set out in Table 4.1 of the LVIA be expanded to reflect the criteria and definitions cited in Table 2.4 of the Landscape Sensitivity Assessment. Table 2.4 provides 'Criteria and guidance for assessing landscape sensitivity to solar PV development' and considers matters including 'Landform and scale (including sense of openness/ enclosure)', 'Landcover (including field and settlement patterns)', 'Historic landscape character', 'Visual character (including skylines)' and 'Perceptual and scenic qualities'. In each case the guidance distinguishes between five grades: 'Low', 'Low-Moderate', 'Moderate', 'Moderate-High' and 'High'.

2.4. It should be noted however that Table 4.1 of the LVIA addressed the matter of landscape Value, which is only one component of sensitivity, not sensitivity as a whole, which is also a function of susceptibility. LVIA paragraph 4.21 specifically acknowledged the difference between the findings of the Council's Landscape Sensitivity Assessment and its own analysis of sensitivity, noting *'the published report is a high level assessment. It is not considered to accurately reflect the sensitivity of the site and immediate landscape due to the very strong boundary vegetation which would limit visibility of the proposed solar modules and ancillary infrastructure within this level and compartmentalised landscape'*.

2.5. This finding is borne out with regard to the gradings set out at Table 2.4, where in each case it is considered that the description of the 'medium' grading is that which would apply to the landscape of the site itself. These are set out below:

> 'Landform and scale (including sense of openness/ enclosure)'
>
> *'Moderate – An undulating landscape, perhaps also incised by valleys, likely to be a medium scale landform, with hidden areas as well as some visible slopes. Some areas lacking screening by field boundaries or tree cover, whilst others might have a greater sense of enclosure owing to a denser occurrence of these features'*.

[1] Landscape Sensitivity Assessment – Solar PV and Wind Energy Development, SGlos-Landscape-Sensitivity-Assessment-Renewables-Final-Report.pdf (southglos.gov.uk)

'Landcover (including field and settlement patterns)'

'Moderate – A landscape with a mixture of large-scale, modern fields and some smaller, more historic enclosure. A rural landscape, perhaps with some brownfield sites or urban influences'.

'Historic landscape character'

'Moderate – A landscape with some visible historic features of importance to character, and a variety of time depths'.

'Visual character (including skylines)'

'Moderate – A landscape which has some intervisibility with neighbouring areas. A landscape with some prominent skylines, but these are not particularly distinctive – there may be some landmark features on the skyline'.

'Perceptual and scenic qualities'

'Moderate – A landscape of intermittently attractive character, with occasional pleasing combinations of features, visual contrasts and/or dramatic elements. Some may be within AONB. A rural landscape with some modern development and human activity, such as intensive farmland.'

2.6. It is also important to reiterate that whether or not the sensitivity is considered to be medium/moderate or indeed moderate to high, the assessment of effects on landscape character would remain in line with that set out in the LVIA, with minor adverse effects upon the character of the host LCA 8 Yate Vale as a whole.

2.7. As set out in the LVIA, the proposed development would fit well into the existing field pattern and scale of the landscape, does not negatively alter the field boundaries, and would be respectful of the existing landscape features that characterise this part of the landscape. Most importantly the key characteristics identified in the published landscape character assessments would not be redefined and would continue to characterise the local landscape.

3. Assessment of LCA 7: Falfield Vale

3.1. The submitted LVIA considered the potential for effects of the proposed development on landscape character in its Section 4. This included consideration of the published landscape character areas defined in the *South Gloucestershire Landscape Character Assessment* Supplementary Planning Document (SPD)[2]. These included LCA 8 Yate Vale which covers the site and much of the surrounding local landscape.

3.2. The potential for effects on the landscape character areas surrounding the site, were also considered in paragraph 4.32, which noted as follows:

'None of the adjacent LCAs, such as LCA 5 Wickwar Ridge & Vale and LCA 7 Falfield Vale would experience any direct physical effects, with the only potential change limited to its perceptual and experiential qualities. Given the very limited theoretical visibility of the proposed development, and as confirmed by the visual assessment (Section 5 below) views from the neighbouring LCAs are extremely limited to two specific areas: from the higher ground to the north east of the site – near Brand Wood, and from the south east on the northern edge of West End. In both instances, views are heavily restricted and are not representative of the general lack of inter-visibility between the proposed development and the two LCAs. For that reason, the landscape character effects upon the neighbouring LCA 5 Wickwar Ridge & Vale and LCA 7 Falfield Vale are assessed as negligible, with effects negligible neural'.

3.3. The Landscape Officer requested that further detail was provided regarding the assessment of the effects on LCA 7 Falfield Vale. This is therefore set out below.

3.4. LCA 7 Falfield Vale lies to the north of the proposed solar development, but the proposed access track runs into the southern part of the LCA. The Council's *Landscape Sensitivity Assessment – Solar PV and Wind Energy Development*, identifies the area to be of 'High' sensitivity to solar development which is greater than 31ha and whilst this refers to development which is brought forward within the LCA rather than development in adjacent areas, it is considered an appropriate starting point for consideration.

3.5. The LVIA included a Zone of Theoretical Visibility Plan (Figure 4). However, as highlighted at LVIA paragraph 5.30, the actual extent and pattern of visibility is likely to be considerably lower than that indicated on the SZTV. As such, a 'zone of visual influence' was mapped on the SZTV to indicate the locations from where the proposed scheme would be visible and aimed to illustrate a more realistic extent of the visibility of the proposed scheme. This indicated that there would be very little potential for visibility of the proposed solar development from LCA 7 Falfield Vale, with visibility largely limited to an area of higher ground near Brand Wood.

3.6. LVIA VP2 was included to illustrate the potential visibility of the scheme from this area and was one of the VPs which was provided as a photomontage visualisation. This image serves to illustrate the highly limited nature of any potential views of the proposals from this area.

3.7. It is noted that the access track also runs into LCA 7, but much of this route follows existing tracks which already experience periodic vehicle movement. During those parts of the

[2] South Gloucestershire Landscape Character Assessment, Landscape character assessment | South Gloucestershire Council (southglos.gov.uk)

construction phase when the greatest number of vehicles are using the access track, there would be low magnitude of change to the character of that part of LCA 7 resulting in a temporary moderate effect.

3.8. However, the magnitude of change on LCA 7 Falfield Vale as a whole during the operation phase of the development would be negligible, which is defined as 'No notable or appreciable introduction of new elements into the landscape or change to the scale, landform, landcover or pattern of the landscape'. This would result in a negligible effect, as identified in the LVIA.

4. Clarification regarding the effects that would be applicable to various receptors

4.1. The Landscape Officer requested additional viewpoints/visual assessment to cover the following matters:

- *the effect of the new access route in views from both Talbot Ends and Farleigh Lane*
- *effect on residential receptors along Talbots End, as this does not seem to have been verified by site analysis with reference to Paras. 5.22-5.23.*
- *effect on residential receptors along B4058, The Green (including the seat and picnic area), and Cowslip Lane (to complement the Glint and Glare assessment – see Section 3.7 below), and where there are gaps between properties also on the National Cycle Route, for example there is an open view towards Viewpoint 10 location and into the site from the B4058 to the immediate north of The Dutch Barn*
- *Viewpoint 4 is not ideal as the view is obstructed by objects in the foreground.*

4.2. The LVIA already included a series of 11 representative viewpoints from key receptors that would have potential for views towards the site. It also included assessment of all relevant visual receptor groups (properties, settlement, footpaths, roads etc). However, RES were happy to provide further written clarification regarding the effects that would be applicable to these locations, and this is set out below.

5. The effect of the new access route in views from both Talbot Ends and Farleigh Lane

5.1. The access route would run between the north of the solar development and the B4058. The northern extent of the route would follow the existing Farleigh Lane, with part of the route then running on a new track to be constructed to the west of Farleigh Lane, much of which would run on an existing farm access track immediately adjacent to the farm buildings associated with Varley Farm, before crossing Talbots End and following the alignment of the existing field access track.

5.2. Effects arising on users of either Farleigh Lane or Talbots End and their nearby residential properties would be largely limited to the construction period. During this stage there would be views of vehicles moving along the route, at a greater frequency than existing movements along the routes. There is likely to be a temporary visual effect during the construction phase which may be moderate in nature, but this would reduce to negligible following construction.

6. The effect on residential receptors along Talbots End

6.1. The potential for effects on the residential properties along Talbots Lane was addressed in the LVIA which noted that the majority of residential properties within the surrounding area

would not have views of the proposed development due to the orientation of the properties in relation to other nearby built form, and vegetative cover within the site and around it. It also confirmed that none of the residential properties would gain any views of the proposed scheme from their ground floor windows or curtilage. The proposed scheme is also unlikely to be seen in its entirety and views from the upper floors would be limited to specific small parts of the site only, rather than its full extent.

6.2. At year 1, following construction, a low magnitude of change in the view and a moderate effect was identified. Once mitigation planting had established these effects were noted to be further reduced.

6.3. As noted in Section 1, following comments made by the Landscape Officer, additional proposed woodland has been provided at the northernmost extent of the site as well as the addition of 58no. trees along the northern and western boundaries and along the public rights of way. It is considered that the addition of this planting will aid in further mitigating any views of the site, particularly to the residential receptors on Talbot's End.

7. The effect on residential receptors along B4058, The Green (including the seat and picnic area), and Cowslip Lane, and where there are gaps between properties also on the National Cycle Route, for example there is an open view towards Viewpoint 10 location and into the site from the B4058 to the immediate north of The Dutch Barn

7.1. The B4058 runs to the west of the site and there are several residential properties which are located along its route. As with potential effects on properties along Talbots Lane the LVIA confirmed that the none of the residential properties would gain any views of the proposed scheme from their ground floor windows or curtilage. A low magnitude of change in the view and a moderate effect was identified. Once mitigation planting had established these effects were noted to be further reduced. In addition, as noted above, further planting of trees is now proposed along the western boundary of the site which would serve to further reduce the potential for views from the properties along the B4058. LVIA VP7 illustrates the view from the B4058 (which it is acknowledged also forms part of the Sustrans: Avon Cycleway) and illustrates the extent of screening which would limit views from the road. It is noted that there is indeed a more open view from the B4058 to the immediate north of The Dutch Barn, however, with reference to the wireline for VP10 which is located between this location and the site, there would be both existing vegetation and the further proposed planting of trees which would restrict potential views.

7.2. The Green is a short residential street at the north of Heath End, which runs to the east of the B4058. The majority of residential properties would not have views of the proposed development due to their orientation in relation to other nearby built form. As with views from the B4058, none of the residential properties would gain any views of the proposed scheme from their ground floor windows or curtilage and views from the upper floors would be limited to specific small parts of the site only, rather than its full extent. A low magnitude of change

in the view and a moderate effect was identified, with these effects also being further reduced by the additional planting of trees along the western boundary of the site. Any views from the seat and picnic area which are located at the western end of The Green would be screened by intervening vegetation or built form.

7.3. Cowship Lane runs to the south of the site between West End and Cromhall Common. LVIA VP 6 illustrates the view from the route near to Cowship Farm and illustrates the extent of screening which would limit views from the road.

8. Viewpoint 4 is not ideal as the view is obstructed by objects in the foreground

8.1. VP4 illustrates the view from public footpath LWR/2 as it heads north out of West End. Whilst there are indeed some objects visible in the farmyard in the foreground of the view (mostly farm equipment), this location was chosen as it is the most elevated point on the route which had the greatest potential for views towards the site. If you were to head further north along the footpath beyond the farmyard the route drops downhill such that the screening brought about by intervening vegetation would be further apparent. Nonetheless, even from this more elevated location it is clear that there would no potential for views of the development from this section of the footpath network to the north of West End.

9. Clarification regarding the effects that would be applicable to the nearby residential properties

9.1. The LVIA considered the potential for visual effects on the nearby residential properties. This identified that there may be some visibility of parts of the proposed development from certain residential properties in the surrounding area, with the extent of that visibility reducing with increasing distance from the site. However, the majority of residential properties within the surrounding area would not have views of the proposed development due to the orientation of the properties in relation to other nearby built form, and vegetative cover within the site and around it.

9.2. The properties identified to have the potential for views of the scheme were Varley Farm, Faith Cottage, The Gables & Brew House, Talebrocke, and Heathend Farm. None of the identified residential properties would have any views of the proposed scheme from their ground floor windows or curtilage. The proposed scheme is also unlikely to be seen in its entirety and views from the upper floors would be limited to specific small parts of the site only, rather than its full extent.

9.3. At year 1 following construction, for all but one property, a low magnitude of change in the view and a moderate effect was identified. Heathend Farm was noted to experience a medium magnitude of change and a major effect. Once mitigation planting had established these effects were noted to be further reduced with effects on Heathend Farm being no greater than moderate.

9.4. It is also important to reiterate the distance which lies between the nearby residential properties and the proposed development. For example, the Dutch Barn property, to the east of the B4058, referred to by the Landscape Officer, lies 370m from the closest part of the development, with two different field boundaries between it and the site. Even the closest property, Heathend Farm, where the greatest potential effect has been identified, is still located over 200m from the site.

9.5. As noted in Section 1, following comments made by the landscape officer, additional proposed woodland has been provided at the northernmost extent of the site as well as the addition of 58no. trees along the northern and western boundaries and along the public rights of way. It is considered that the addition of this planting will aid in further mitigating any views of the site, particularly to the residential receptors on Talbot's End. The maintenance and management of the proposed planting and boundary treatments will be secured via an appropriately worded condition. It is important to note that all landscape mitigation proposed will be in situ for the lifetime of the development and will remain as a feature of the landscape following the decommissioning of the scheme.

9.6. Overall, effects on nearby residential properties would be highly limited and further reduced in future years once the proposed mitigation planting, which has now been further enhanced, has matured.

Appendix 1: Updated Landscape Masterplan

Refer to Inset for continued landscape proposal

Existing track to be widened

Close board timber gate to restrict views

Proposed 3.5m hedgerow and tree planting to screen views from adjacent PRoW, offset 4m from security fencing.

Existing solar panels

Proposed 3.5m hedgerow to screen views from adjacent PRoW, offset 4m from security fencing.

Proposed 3.5m hedgerow and tree planting to screen views from adjacent PRoW, offset 4m from security fencing.

Indicative location of proposed pond

Proposed tree planting, offset 4m from security fence

Ward RW

1.22m RH

Inset

Proposeed Access Road – compacted crushed aggregate (permeable)

Existing grassland to be reinstated

Existing track to be widened

Existing track to be widened

PROPOSED PLANTING SCHEDULE

PROPOSED TREE PLANTING

Species	Common Name	Girth	Height (cm)	Form	Root condition
Acer campestre	Field Maple	12-14	350-425	Heavy Standard	RB
Corylus avellana	Hazel	12-14	350-425	Heavy Standard	RB
Malus sylvestris	Crab Apple	12-14	350-425	Heavy Standard	RB
Quercus robur	English Oak	12-14	350-425	Heavy Standard	RB
Salix fragilis	Crack willow	12-14	350-425	Heavy Standard	RB

PROPOSED WOODLAND PLANTING

Trees to be planted at 1.8m centres (0.3/m2), shrubs to be planted at 1.2m centres (0.7/m2)

Species	Common Name	Mix (%)	Girth	Height (cm)	Form	Age/ Times transplanted	Root condition
Trees (40%)							
Acer campestre	Field Maple	25	12-14	200–250	Feathered	-	B
Corylus avellana	Hazel	25	12-14	200–250	Feathered	-	B
Malus sylvestris	Crab Apple	15	12-14	200–250	Feathered	-	B
Quercus robur	English Oak	35	12-14	200–250	Feathered	-	B
Shrubs (60%)							
Acer campestre	Field Maple	10	-	60-80	Transplant	1+1	B
Cornus sanguinea	Dogwood	10	-	60-80	Transplant	1+1	B
Corylus avellana	Hazel	15	-	60-80	Transplant	1+1	B
Crataegus monogyna	Hawthorn	40	-	60-80	Transplant	1+1	B
Prunus spinosa	Blackthorn	15	-	60-80	Transplant	1+1	B
Sambucas nigra	Elder	10	-	60-80	Transplant	1+1	B

PROPOSED HEDGEROW PLANTING

To be planted at 5 per linear metre in double staggered rows, rows will be 40cm apart or as appropriate where infilling gaps in existing hedgerows

Species	Common Name	Mix (%)	Height (cm)	Form	Age/ Times transplanted	Root Condition
Acer campestre	Field Maple	20	60-80	Transplant	1+1	B
Cornus sanguinea	Dogwood	5	60-80	Transplant	1+1	B
Corylus avellana	Hazel	5	60-80	Transplant	1+1	B
Crataegus monogyna	Hawthorn	40	60-80	Transplant	1+1	B
Prunus spinosa	Blackthorn	20	60-80	Transplant	1+1	B
Sambucas nigra	Elder	10	60-80	Transplant	1+1	B

KEY

CONSTRAINTS

- **Site Boundary**
- **Existing Overhead Power Lines**
- **Existing Gas Lines**
- **Existing Telecom line**
- **Public Right of Way**
- **Existing vegetation with RPA to be retained. To be maintained at 3.5m where possible**
  Refer to Arboricultural Report by Barton Hyett Associattes for details
- **Existing vegetation to be removed**
- **Existing solar panel**
- **Ditches**

HARD LANDSCAPE PROPOSALS

- **Security Fence**
- **Gates within security fence**
- **CCTV**
- **Temporary Compound**
- **Indicative Solar PV Array**
- **Access Road/Hard standing**
- **Existing Access Road**
- **Spare Container**
- **Inverter**
- **Substation compound**
- **Sheep handling system**
- **Close board timber gate**

SOFT LANDSCAPE PROPOSALS

- **Emorsgate EM2 Standard General Purpose Meadow Mixture –** or similar approved sown at 4g/m2. To be sown over existing areas under arable
- **Emorsgate EMF2 Standard General Purpose Wildflowers –** or similar approved sown at 1.5g/m2. To be sown over existing pastures.
- **Proposed Woodland Planting**
- **Proposed Native Tree Planting**
  12–14, Heavy Standards, 350–425cm high, RB
- **Proposed New Hedgerow Planting**
  Maintained at max height of 3.5m
  Species to match existing hedgerows on site.
  BR Transplant stock, 60–80cm high
- **Proposed Scrub planting**
- **Surface water attenuation**
- **Indicative location of proposed pond**

Landscape Strategy
Varley Solar Farm

Client: RES

DRWG No: P22-0915_04 Sheet No:_ REV: J

Drawn by : LAB Approved by: DT

Date: 15/05/2023

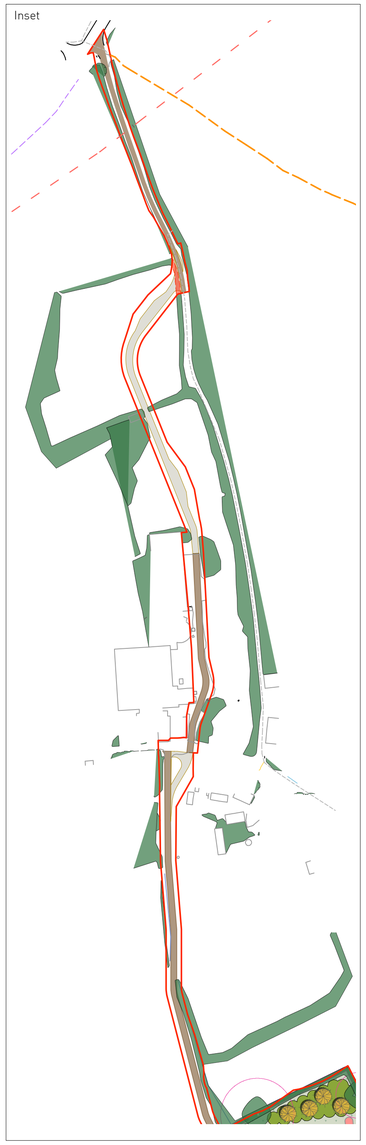
Scale: 1:2,000 @ A1

Pegasus Design

0 100m N

Appendix 2: Detailed Landscape Proposals

Inset



PLANTING SPECIFICATION

1 GENERAL

1.1 All plants will conform to BS 3936-1 (1992): and be in accordance with the National Plant Specification. Supplying nurseries will be registered under the HTA Nursery Certification Scheme. All plants will be packed and transported in accordance with the Code of Practice for Plant Handling as produced by CPSE.

1.2 Planting will not be carried out when the ground is waterlogged, frost bound or during periods of cold drying winds.

1.3 All bare-root planting stock will be kept covered until actually planted in order to minimise water-loss and prevent the roots from drying out.

1.4 All bare-root planting stock will be root dipped in an approved water-retaining polymer.

1.5 If the formation level is compacted it should be ripped through before topsoiling.

2 TREE PLANTING

2.1 All areas of proposed structure mix/tree belt planting shall be ripped in advance of planting works.

2.2 All extraneous matter such as plastic, wood, metal and stones greater than 100mm diameter will be removed from the planting areas and disposed of off-site.

2.3 Where necessary existing weeds will be treated with a suitable glyphosate-based herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect before new planting commences.

Standard

2.4 Standard trees are to be placed into pits (1000 x 1000 x 600mm depth) and backfilled with excavated topsoil. A general-purpose slow release fertiliser (at the rate of 35gm/m2) and Tree Planting and Mulching Compost (at the rate of 20 litres/m2) are to be incorporated into the top 150mm of topsoil during backfilling if existing ground is unsuitable for re-use or is deemed to be required. Where tree pits are more than 300mm deep, backfilled material shall be consolidated/firmed in 150mm layers.

2.5 Trees shall be planted as per the plant schedule shown on this drawing.

2.6 All standard trees will be held so that movement at the root collar is minimised until new roots have developed to anchor the tree. A single vertical stake (75mm dia x 1.8m length) will be used and attached to the tree at approximately 1200mm above ground level. Stakes will be driven 300mm into undisturbed ground beneath tree pit before planting the tree, taking care to avoid underground services and cables. The trees will be secured using proprietary rubber straps and must be firmly fixed with a spacing device used to prevent chafing against the tree.

2.7 All select standard trees will be protected from rabbit and deer damage by the fitting of 1.2m tree guards.

2.8 Composted bark mulch or equivalent will be spread to a depth of 50mm in a 1.0m diameter circle around all individual select standard trees.

2.9 All trees shall be watered in at the end of each day of planting.

Feathered Trees

2.10 Feathered trees are to be placed into the pits 500 x 500 x 300mm deep and backfilled with excavated topsoil site. A general-purpose slow release fertiliser (at the rate of 35gm/m2) and Tree Planting and Mulching Compost (at the rate of 20 litres/m2) are to be incorporated into the top 150mm of topsoil during backfilling if existing ground is unsuitable for re-use or is deemed to be required.

2.11 All newly planted feathered trees will be held so that movement at the root collar is minimised until new roots have developed to anchor the tree. Therefore low staking (75mm dia x 1.5m length) will be driven diagonally into the ground and attached to the tree at approximately 600mm above ground level. Stakes will be driven 300mm into undisturbed ground below base of tree pit before planting the tree, taking care to avoid underground services and cables. The trees will be staked using proprietary rubber ties and must be firmly fixed with a spacing device used to prevent chafing against the tree.

2.12 All feathered trees will be protected from rabbit and deer damage by the fitting of 600mm spiral tree guards.

2.13 All trees shall be watered in at the end of each day of planting.

3 NATIVE WOODLAND BUFFER PLANTING

Ground Preparation

3.1 Cut existing rough grass and weeds to between 20mm and 30mm and remove 300x300mm squares of turf.

Planting

3.2 All native shrub planting to be UK grown, cell grown 60-80cm stock.

3.3 The minimum overall recommended rooting depth for shrubs is 600mm and for trees is 900mm. The first 300mm shall be made up of multi-purpose topsoil, it shall be ensured that a suitable subsoil provides the remainder of the minimum rooting depth. Before receiving topsoil, subsoils should be loosened using ripping equipment; this shall be done when the subsoil is dry to encourage soil shattering. All stones and other objects larger than 50 mm shall be removed from the prepared surface.

3.4 Shrub / tree planting is to be as per the planting pattern as set out on the planting plan and planting schedule, with shrubs / trees planted at even spaces into the prepared soil at the specified number per centre, with minimal disturbance to the rootball, and well firmed in. Planting should avoid man-made grids and lines, and should group species together in groups of 5-7 plants. Spread ornamental pine bark mulch to a depth of 50mm to a 900mm diameter around each planting station.

3.5 All bare-root planting stock will be protected from rabbit damage using approved proprietary 0.6m (for shrub species) or 1.2m (for tree species) biodegradable shrub/tree guards, supported with 0.9m (or 1.35m for trees) x 32mm x 32mm softwood stakes as advised by the manufacturer.

3.6 All areas to receive native shrub planting to be covered with weed supressing coir matting and pinned into place. Wood chip mulch be spread to a depth of 75mm across the full extent of the coir matting, ensuring that the root flare and base of the stem, along with any ground cover plants, are not buried.

Maintenance

3.7 Using approved herbicides, a 900mm diameter circle centred on each planting station shall be kept weed free throughout the maintenance period. In the autumn following planting the CA will prepare a list of all plants which are dead, dying or diseased and are to be replaced during the following planting season.

4 NATIVE HEDGE PLANTING

Ground Preparation

4.1 Where necessary existing weeds will be treated with a glyphosate-based herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect.

4.2 All extraneous matter such as plastic, wood, metal and stones greater than 50mm diameter will be removed from site to a registered waste disposal facility.

Planting

4.3 New hedgerows to be planted in double staggered rows as per schedule.

4.4 Existing hedgerows to have infill planting (as required following detailed review on site), species and stock size to match proposed new hedgerow planting (see planting schedule).

4.5 The plants should be planted using L shaped or straight notches) using spades of a design suitable for this purpose. The notches must be vertical and deep enough for the roots to hang freely, with the transplant being planted so that the root collar is exactly level with the ground surface. The notch must then be closed and the soil will be well firmed round the roots in line with the guidelines as set out in BS 4428 (1989).

4.6 All bare-root hedge planting stock will be protected from rabbit damage using approved proprietary 600mm clear plastic spiral guards, supported with 0.9m 12/14lb canes as advised by the manufacturer. Excluding evergreen species.

4.7 All plants shall be watered in at the end of each day of planting.

4.8 Weed growth in all areas of tree planting will be controlled until successful establishment is achieved by careful application of a systemic herbicide such as Roundup by an approved landscaping contractor in order to clear any extraneous vegetation.

4.9 All hedgerow planted areas to be finished with a 50mm min depth of Amenity bark mulch.

Maintenance during first growing season

4.10 All dead, dying or diseased hedge plants will be replaced with plants of similar size and species. If the failure of the plant is due to disease and the disease is considered likely to re-occur then an alternative species may be used as replacement if agreed with the LPA.

4.11 The planting area will be kept weed free throughout the maintenance period using approved herbicides in April, June and August.

5 NATIVE HEDGEROW SUPPLEMENTARY INFILL PLANTING

Ground Preparation

5.1 Where necessary existing weeds will be treated with a glyphosate-based herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect.

5.2 All extraneous matter such as plastic, wood, metal and stones greater than 50mm diameter will be removed from site to a registered waste disposal facility.

Planting

5.3 The planting arrangement shall be as set out in the plant schedule on the relevant planting plan.

5.4 Bare-root hedge plants shall be notch planted in a double staggered row at the rate of 5 plants per linear metre (using L- shaped notches) using spades of a design suitable for this purpose. The notches must be vertical and deep enough for the roots to hang freely, with the transplant being planted so that the root collar is exactly level with the ground surface. The notch must then be closed and the soil will be well firmed round the roots in line with the guidelines as set out in BS 4428 (1989).

5.5 All container-grown planting stock will be protected from rabbit damage using approved proprietary 600mm biodegradable shrub shelters, supported with 0.9m x 32mm x 32mm softwood stakes as advised by the manufacturer.

5.6 All bare-root hedge planting stock will be protected from rabbit damage using approved proprietary 600mm biodegradable spiral guards, supported with 0.9m 12/14lb canes as advised by the manufacturer.

Maintenance during first growing season

5.7 All dead, dying or diseased hedge plants will be replaced with plants of similar size and species. If the failure of the plant is due to disease and the disease is considered likely to re-occur, then an alternative species may be used as replacement if agreed with the LPA.

6 NATIVE SCRUB PLANTING

6.1 All planting areas to be weed free prior to planting.

6.2 All whips to be planted using the slit planting method. Slits are made by inserting a spade into the ground to a depth deep enough for the roots and pushing forwards. The whip is inserted into the slit with the roots 2cm below ground level and the soil pushed back and firmed around the stem.

6.3 All stock to be well watered when planted with a minimum of 4.5L/whip prior to applying 75mm deep medium grade bark mulch (5-75mm particle size and of British origin, FSC certified), and then when required within the Maintenance Period to ensure survival.

6.4 Mulch is not to be placed against the stem of the whip. All planting to be fitted with proprietary rabbit guards.

7 GRASS

Preparation

7.1 Areas of grassland to be seeded shall be sprayed out with a glyphosate herbicide and cultivated to a depth of 100mm removing all weeds debris and stones over 75mm diameter. The surface shall be raked to smooth flowing contours with a fine tilth.

Seeding

7.2 Seeds shall be sown in September during calm weather and not when the ground is frost bound or waterlogged.

7.3 To achieve an even sowing, bulk with an inert carrier, such as sand. Seed shall be sown in two equal sowings in transverse directions at e.g. Emorsgate EM2 Standard General Purpose Meadow Mixture, 4g/m2 and Emorsgate EMF2 Standard General Purpose Wildflowers, 1.5g/m2. After sowing the contractor shall roll in the seed to guarantee intimate contact with the soil, ensuring not to rake or cover the seed with soil.

8 GENERAL MAINTENANCE

8.1 The Landscape contractor shall maintain all areas of new planting for a period of 12 months following practical completion. At stock deemed to be dead, dying or diseased within the defects period shall be replaced by the contractor at his own cost. The site is to be visited monthly throughout the year to undertake the Following operations:

- Weed clearance: All planting areas to be kept weed free by hand weeding or herbicide treatment.
- Litter clearance: All litter is to be removed from planting beds.
- Watering: All planted areas are to be watered for the first two years from May to September following any dry periods of 7 days.

Trees and Shrubs

8.2 All trees are to be watered weekly from May to the end of September unless unnecessary due to heavy rain; to receive 20 gallons of water. All shrubs are to be watered for the first two years from May to September following any dry periods of 7 days. All tree ties and stakes are to be checked and adjusted if too loose, too tight or if chaffing is occurring. Any broken stakes are to be replaced. Any damaged shoots/branches are to be pruned back to healthy wood. Plants are to be pruned in accordance with good horticultural practice to maintain healthy, well-shaped specimens. Native shrubs – Using approved herbicides a 1m diameter circle centred on each planting station shall be kept weed free throughout the maintenance period. Stakes may be removed from Year 2 if plant is fully established and if shelter is suppressing further growth.

Hedges

8.3 Hedge lines shall be kept mulched until established. At the end of the Defects Liability Period/ First Year's Maintenance the CA will prepare a list of all plants which are dead, dying or diseased and are to be replaced during the following planting season at the contractor's expense.

PROPOSED PLANTING SCHEDULE

PROPOSED TREE PLANTING

Species	Girth	Height (cm)	Form	Root condition
Acer campestre	12-14	350-425	Heavy Standard	RB
Corylus avellana	12-14	350-425	Heavy Standard	RB
Malus sylvestris	12-14	350-425	Heavy Standard	RB
Quercus robur	12-14	350-425	Heavy Standard	RB

PROPOSED WOODLAND PLANTING

Trees to be planted at 1.8m centres (0.3/m2), shrubs to be planted at 1.2m centres (0.7/m2)

Species	Mix (%)	Girth	Height (cm)	Form	Age/ Times transplanted	Root condition
Trees (40%)						
Acer campestre	25	12-14	200-250	Feathered	-	B
Corylus avellana	25	12-14	200-250	Feathered	-	B
Malus sylvestris	15	12-14	200-250	Feathered	-	B
Quercus robur	35	12-14	200-250	Feathered	-	B
Shrubs (60%)						
Acer campestre	10	-	60-80	Transplant	1+1	B
Cornus sanguinea	10	-	60-80	Transplant	1+1	B
Corylus avellana	15	-	60-80	Transplant	1+1	B
Crataegus monogyna	40	-	60-80	Transplant	1+1	B
Prunus spinosa	15	-	60-80	Transplant	1+1	B
Sambucas nigra	10	-	60-80	Transplant	1+1	B

PROPOSED HEDGEROW PLANTING

To be planted at 5 per linear metre in double staggered rows, rows will be 40cm apart or as appropriate where infilling gaps in existing hedgerows

Species	Mix (%)	Height (cm)	Form	Age/ Times transplanted	Root Condition
Acer campestre	20	60-80	Transplant	1+1	B
Cornus sanguinea	5	60-80	Transplant	1+1	B
Corylus avellana	5	60-80	Transplant	1+1	B
Crataegus monogyna	40	60-80	Transplant	1+1	B
Prunus spinosa	20	60-80	Transplant	1+1	B
Sambucas nigra	10	60-80	Transplant	1+1	B

PROPOSED SCRUB PLANTING

To be planted at 1m2

Species	Mix (%)	Height (cm)	Form	Root Condition
Cornus sanguinea	20	60-80	Branched	B
Crataegus monogyna	35	60-80	Branched	B
Euonymus europeus	10	60-80	Branched	B
Ligustrum vulgare	10	60-80	Feathered	B
Prunus spinosa	15	60-80	Branched	B
Viburnum lantana	10	60-80	Branched	B

Refer to Inset for continued landscape proposal

Proposed woodland planting
Trees
56 no. Acer campestre
56 no. Corylus avellana
33 no. Malus sylvestris
78 no. Quercus robur
Shrubs
52 no Acer campestre
52 no. Cornus sanguinea
78 no. Corylus avellana
207 no. Crataegus monogyna
78 no. Prunus spinosa
52 no. Sambucas nigra

Proposed hedgerow planting (2 blocks)
26 no Acer campestre
7 no. Cornus sanguinea
7 no. Corylus avellana
52 no. Crataegus monogyna
26 no. Prunus spinosa
13 no. Sambucas nigra

Proposed hedgerow planting
218 no Acer campestre
55 no. Cornus sanguinea
55 no. Corylus avellana
436 no. Crataegus monogyna
218 no. Prunus spinosa
109 no. Sambucas nigra

Proposed hedgerow planting
225 no Acer campestre
56 no. Cornus sanguinea
56 no. Corylus avellana
450 no. Crataegus monogyna
225 no. Prunus spinosa
113 no. Sambucas nigra

Proposed hedgerow planting
5 no Acer campestre
1 no. Cornus sanguinea
1 no. Corylus avellana
10 no. Crataegus monogyna
5 no. Prunus spinosa
3 no. Sambucas nigra

Proposed hedgerow planting
3 no Acer campestre
1 no. Cornus sanguinea
1 no. Corylus avellana
6 no. Crataegus monogyna
3 no. Prunus spinosa
2 no. Sambucas nigra

Proposed hedgerow planting
156 no Acer campestre
39 no. Cornus sanguinea
39 no. Corylus avellana
312 no. Crataegus monogyna
156 no. Prunus spinosa
78 no. Sambucas nigra

Proposed hedgerow planting
5 no Acer campestre
1 no. Cornus sanguinea
1 no. Corylus avellana
10 no. Crataegus monogyna
5 no. Prunus spinosa
3 no. Sambucas nigra

Proposed hedgerow planting
311 no Acer campestre
78 no. Cornus sanguinea
78 no. Corylus avellana
622 no. Crataegus monogyna
311 no. Prunus spinosa
156 no. Sambucas nigra

Proposed hedgerow planting
99 no Acer campestre
25 no. Cornus sanguinea
25 no. Corylus avellana
198 no. Crataegus monogyna
99 no. Prunus spinosa
50 no. Sambucas nigra

Proposed scrub planting
242 no. Cornus sanguinea
424 no. Crataegus monogyna
121 no. Euonymus europeus
121 no. Ligustrum vulgare
182 no. Prunus spinosa
121 no. Viburnum lantana

Proposed scrub planting
152 no. Cornus sanguinea
266 no. Crataegus monogyna
76 no. Euonymus europeus
76 no. Ligustrum vulgare
114 no. Prunus spinosa
76 no. Viburnum lantana

Proposed scrub planting
185 no. Cornus sanguinea
323 no. Crataegus monogyna
92 no. Euonymus europeus
92 no. Ligustrum vulgare
139 no. Prunus spinosa
92 no. Viburnum lantana

3 no. Quercus robur
3 no. Acer campestre
2 no. Corylus avellana
3 no. Malus sylvestris
2 no. Acer campestre
1 no. Malus sylvestris
3 no. Corylus avellana
2 no. Malus sylvestris
3 no. Quercus robur
2 no. Quercus robur
4 no. Quercus robur
3 no. Acer campestre
1 no. Quercus robur
3 no. Malus sylvestris
3 no. Corylus avellana
2 no. Malus sylvestris
2 no. Quercus robur
1 no. Acer campestre
1 no. Quercus robur
1 no. Quercus robur
1 no. Corylus avellana
1 no. Acer campestre
1 no. Quercus robur
3 no. Corylus avellana
6 no. Malus sylvestris

1.22m RM

KEY

CONSTRAINTS

- **Site Boundary**
- **Existing Overhead Power Lines**
- **Existing Gas Lines**
- **Existing Telecom line**
- **Public Right of Way**
- **Existing vegetation with RPA to be retained. To be maintained at 3.5m where possible**
  Refer to Arboricultural Report by Barton Hyett Associates for details
- **Existing vegetation to be removed**
- **Existing solar panel**
- **Ditches**

HARD LANDSCAPE PROPOSALS

- **Security Fence**
- **Gates within security fence**
- **CCTV**
- **Temporary Compound**
- **Indicative Solar PV Array**
- **Access Road/Hard standing - to be compacted crushed aggregate**
- **Existing Access Road**
- **Spare Container**
- **Inverter**
- **Substation compound**
- **Sheep handling system**
- **Close board timber gate**

SOFT LANDSCAPE PROPOSALS

- **Emorsgate EM2 Standard General Purpose Meadow Mixture -** or similar approved sown at 4g/m2. To be sown over existing areas under arable
- **Emorsgate EMF2 Standard General Purpose Wildflowers -** or similar approved sown at 1.5g/m2. To be sown over existing pastures.
- **Proposed Woodland Planting**
- **Proposed Native Tree Planting**
  12-14, Heavy Standards, 350-425cm high, RB
- **Proposed New Hedgerow Planting**
  Maintained at max height of 3.5m
  Species to match existing hedgerows on site.
  BR Transplant stock, 60-80cm high
- **Proposed Scrub planting**
- **Surface water attenuation**
- **Indicative location of proposed pond**

0 100m

N

Detailed Landscape Proposal
Varley Solar Farm

Client: RES

DRWG No: P22-0915_09 Sheet No:_ REV: A

Drawn by : LAB Approved by: DT

Date: 15/05/2023

Scale: 1:2,000 @ A1

PEGASUS GROUP

DESIGN | ENVIRONMENT | PLANNING | ECONOMICS | HERITAGE

Appendix 3: Wireline overlays

PEGASUS GROUP

Camera make & model	- Canon 6D	**Viewpoint height (AOD)**	- 77m	**Visualisation Type**	- Type 1
Lens make & focal length	- Canon EF 50mm, f/1.4 USM	**Distance from site**	- 693m	**Horizontal Field of View**	- 75˚
Date & time of photograph	- 20/09/2022 @ 09:40	**Projection**	- Cylindrical	**Height of camera AGL**	- 1.5m
OS grid reference	- 370734 , 190926	**Sheet Size**	- A1	**Page size / Image size (mm)**	- 841 x 297 / 820 x 260

VIEWPOINT 02 - EXISTING

View from Public footpath OCR/13 on the approach to Brand Wood

PEGASUS GROUP

Camera make & model	- Canon 6D	**Viewpoint height (AOD)**	- 77m	**Visualisation Type**	- Type 3
Lens make & focal length	- Canon EF 50mm, f/1.4 USM	**Distance from site**	- 693m	**Horizontal Field of View**	- 75°
Date & time of photograph	- 20/09/2022 @ 09:40	**Projection**	- Cylindrical	**Height of camera AGL**	- 1.5m
OS grid reference	- 370734 , 190926	**Sheet Size**	- A1	**Page size / Image size (mm)**	- 841 x 297 / 820 x 260

VIEWPOINT 02 – WIRELINE

View from Public footpath OCR/13 on the approach to Brand Wood

PEGASUS GROUP

Camera make & model	- Canon 5D
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 20/09/2022@ 11:49
OS grid reference	- 371596, 189068
Viewpoint height (AOD)	- 74m
Distance from site	- 630m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 1
Horizontal Field of View	- 75°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 3 – EXISTING

View from Public Footpath LWR/3, north of West End

PEGASUS GROUP

Camera make & model	- Canon 5D
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 20/09/2022@ 11:49
OS grid reference	- 371596, 189068
Viewpoint height (AOD)	- 74m
Distance from site	- 630m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 75°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 3 – WIRELINE

View from Public Footpath LWR/3, north of West End

PEGASUS GROUP

Camera make & model	- Canon 6D	Viewpoint height (AOD)	- 59m	Visualisation Type	- Type 1
Lens make & focal length	- Canon EF 50mm, f/1.4 USM	Distance from site	- 0m	Horizontal Field of View	- 75°
Date & time of photograph	- 20/09/2022 @ 10:19	Projection	- Cylindrical	Height of camera AGL	- 1.5m
OS grid reference	- 369994 , 190095	Sheet Size	- A1	Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 09A – EXISTING

View from Public Footpath OCR/17 within the site

PEGASUS GROUP

Camera make & model	- Canon 6D	Viewpoint height (AOD)	- 59m	Visualisation Type	- Type 3
Lens make & focal length	- Canon EF 50mm, f/1.4 USM	Distance from site	- 0m	Horizontal Field of View	- 75°
Date & time of photograph	- 20/09/2022 @ 10:19	Projection	- Cylindrical	Height of camera AGL	- 1.5m
OS grid reference	- 369994 , 190095	Sheet Size	- A1	Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 09A - WIRELINE

View from Public Footpath OCR/17 within the site

PEGASUS GROUP

Camera make & model	- Canon 6D	Viewpoint height (AOD)	- 59m	Visualisation Type	- Type 1
Lens make & focal length	- Canon EF 50mm, f/1.4 USM	Distance from site	- 0m	Horizontal Field of View	- 75°
Date & time of photograph	- 20/09/2022 @ 10:19	Projection	- Cylindrical	Height of camera AGL	- 1.5m
OS grid reference	- 369994 , 190095	Sheet Size	- A1	Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 09B – EXISTING

View from Public Footpath OCR/17 within the site

PEGASUS GROUP

Camera make & model	- Canon 6D
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 20/09/2022 @ 10:19
OS grid reference	- 369994 , 190095
Viewpoint height (AOD)	- 59m
Distance from site	- 0m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 75°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 09B – WIRELINE

View from Public Footpath OCR/17 within the site

PEGASUS GROUP

Camera make & model	- Canon 5D	Viewpoint height (AOD)	- 58m	Visualisation Type	- Type 1
Lens make & focal length	- Canon EF 50mm, f/1.4 USM	Distance from site	- 103m	Horizontal Field of View	- 75°
Date & time of photograph	- 20/09/2022@ 10:43	Projection	- Cylindrical	Height of camera AGL	- 1.5m
OS grid reference	- 370066, 189734	Sheet Size	- A1	Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 10A - EXISTING
View from Public Footpath OCR/19 east of Heath End

PEGASUS GROUP

Camera make & model	- Canon 5D
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 20/09/2022@ 10:43
OS grid reference	- 370066, 189734
Viewpoint height (AOD)	- 58m
Distance from site	- 103m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 75°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 10A – WIRELINE

View from Public Footpath OCR/19 east of Heath End

Camera make & model	- Canon 5D
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 20/09/2022@ 10:43
OS grid reference	- 370066, 189734
Viewpoint height (AOD)	- 58m
Distance from site	- 103m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 1
Horizontal Field of View	- 75°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 10B – EXISTING

View from Public Footpath OCR/19 east of Heath End

PEGASUS GROUP

Camera make & model	- Canon 5D
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 20/09/2022@ 10:43
OS grid reference	- 370066, 189734
Viewpoint height (AOD)	- 58m
Distance from site	- 103m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 75°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 10B – WIRELINE

View from Public Footpath OCR/19 east of Heath End

Camera make & model	- Canon 5D
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 20/09/2022@ 12:44
OS grid reference	- 370967, 189350
Viewpoint height (AOD)	- 64m
Distance from site	- 189m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 1
Horizontal Field of View	- 75°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 11A - EXISTING

View from Public Footpath LWR/1 between Heath End and West End

Camera make & model	- Canon 5D
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 20/09/2022@ 12:44
OS grid reference	- 370967, 189350
Viewpoint height (AOD)	- 64m
Distance from site	- 189m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 75°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 11A – WIRELINE

View from Public Footpath LWR/1 between Heath End and West End

PEGASUS GROUP

Camera make & model	- Canon 5D
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 20/09/2022@ 12:44
OS grid reference	- 370967, 189350
Viewpoint height (AOD)	- 64m
Distance from site	- 189m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 1
Horizontal Field of View	- 75°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 11B – EXISTING

View from Public Footpath LWR/1 between Heath End and West End

PEGASUS GROUP

Camera make & model	- Canon 5D
Lens make & focal length	- Canon EF 50mm, f/1.4 USM
Date & time of photograph	- 20/09/2022@ 12:44
OS grid reference	- 370967, 189350
Viewpoint height (AOD)	- 64m
Distance from site	- 189m
Projection	- Cylindrical
Sheet Size	- A1
Visualisation Type	- Type 3
Horizontal Field of View	- 75°
Height of camera AGL	- 1.5m
Page size / Image size (mm)	- 841 x 297 / 820 x 260

VIEWPOINT 11B – WIRELINE

View from Public Footpath LWR/1 between Heath End and West End

Appendix 4: Updated Landscape and Ecological Management Plan (LEMP)

Landscape and Ecological Management Plan

Varley Solar Farm

On behalf of RES.

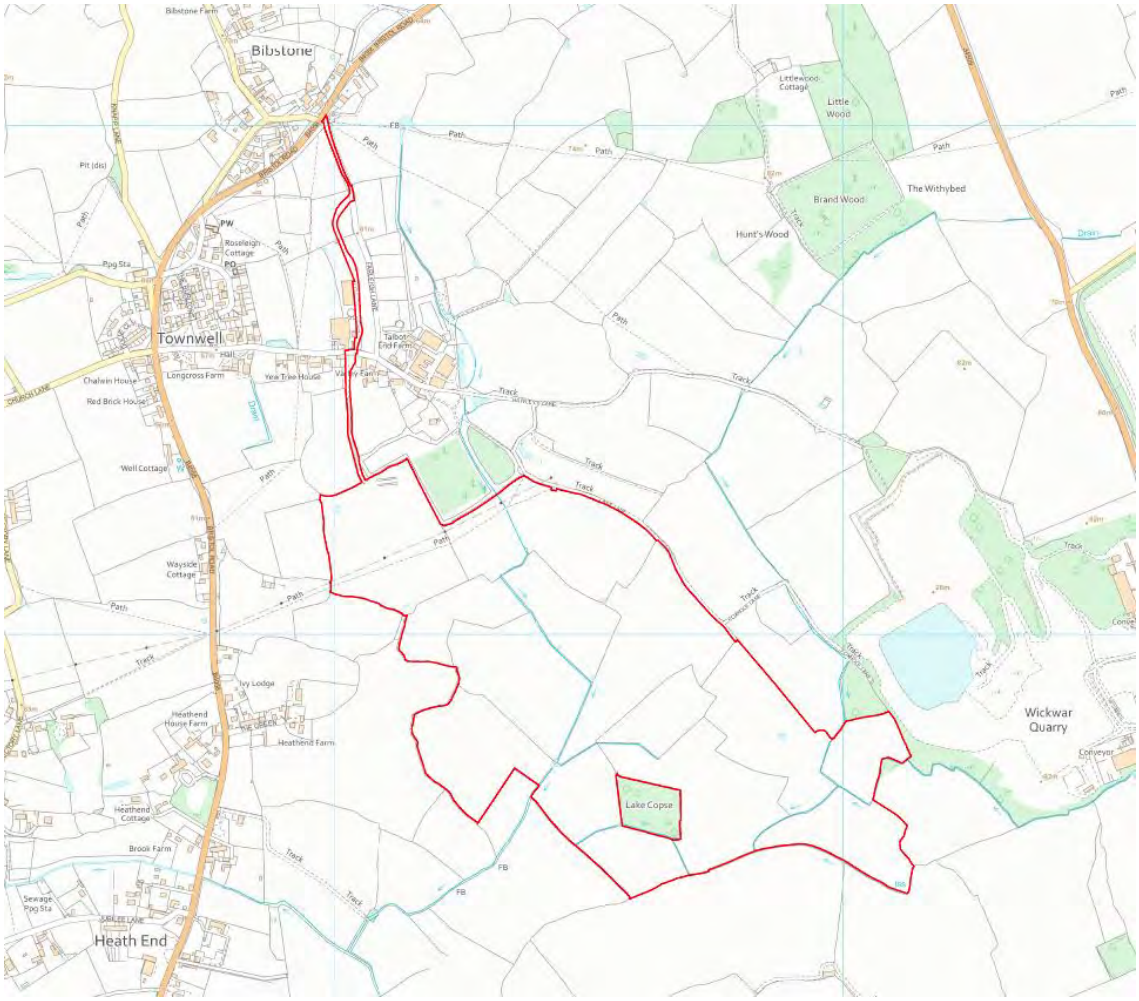
Date: May 2023 | Pegasus Ref: P22-0915-EN-002B

Contents.

Appendices contents.

1. Introduction

1.1. This Landscape and Ecological Management Plan (LEMP) has been prepared by Pegasus Group and BSG Ecology in relation to the Varley Solar Farm and on behalf of RES. The proposed development comprises a series of solar modules arranged in strings, associated inverters and substation, access tracks, CCTV cameras, and fencing. The site comprises a number of small to medium scale field enclosures of agricultural land, combined in a single development parcel, accessed off Talbots End Road to the north, as shown on the plan below.



1.2. The LEMP has been prepared in order to ensure the delivery and ongoing management of the detailed landscape proposals for both ecological and landscape and visual benefits. Detailed landscape proposals have been produced, setting out the existing and proposed areas of planting within the site. The detailed landscape proposals plan is included in Appendix 1.

1.3. This LEMP draws on the findings and recommendations detailed in the following reports:

- Landscape and Visual Impact Assessment by Pegasus Group, November 2022; and
- Varley Farm Ecological Appraisal by BSG Ecology, November 2022.

- Arboricultural Impact Assessment Varley Solar Farm, Barton Hyett Associates, September 2022.

1.4. The National Planning Policy Framework, July 2021 (NPPF) identifies ways in which the planning system should contribute to and enhance the natural and local environment (Paragraph 174), including minimising impacts upon biodiversity and promoting net gains where possible. Opportunities to enhance biodiversity in and around developments are to be encouraged which are resilient to current and future pressures and as such, local authorities have a responsibility to ensure that such opportunities are taken.

1.5. The Environment Bill received Royal Assent in November 2021, becoming the Environment Act. The Act includes the provision of biodiversity gain for developments in England, and will be mandated through an amendment to the Town and Country Planning Act 1990. The two-year transition period that follows Royal Assent means that biodiversity gain will become law in November 2023.

1.6. The South Gloucestershire Council has a local plan policy "Policies Sites and Places policy – PSP19 – wider biodiversity" which currently highlights the need for management of development proposals to restrict loss and deterioration of irreplaceable habitats. As of February 2022, South Gloucestershire Council is intending to update PSP19 to include mandatory Biodiversity Net Gain (BNG) for development projects. The amendment wording can be found on their website with a working policy title "Biodiversity Net Gain" which states that "Acceptable development proposal will be expected to: … Provide biodiversity net gain 10%, secured in perpetuity (at least 30 years)". The proposed solar farm presents considerable opportunity for biodiversity enhancement. This LEMP has been prepared to ensure that the opportunities for enhancement are realised.

2. Landscape Design and Ecological Aims

2.1. This LEMP sets out how the valuable ecological features of the site will be protected during the construction phase and how, during the operational phase of the site, ecological enhancements can be managed to increase the value of the site for wildlife.

2.2. The overall aim for the LEMP is to manage the site for the lifetime of the solar farm, to protect existing features in peripheral areas of the site during construction and manage existing landscape features along with new planting, for the benefit of local wildlife, as well as to ensure long term visual enclosure of the development. The aims will be achieved through a series of objectives and the identification of management operations to achieve these.

2.3. The purpose of the LEMP is:

- To set out the agreed objectives for landscape and ecological management of the site;
- To set clear standards for the performance of landscape and ecological maintenance work;
- To assist in the development of work programmes for landscape maintenance staff;
- To establish landscape and ecological maintenance responsibilities; and
- To help monitor success and progress against the aims and objectives.

2.4. The Plan sets out a strategy for the 40 years of operation of the solar farm. It is recommended that after 10 years the objectives and prescriptions set out in the Plan are reviewed and updated if required, in line with the proposed monitoring schedule to ensure the LEMP remains relevant and up to date for the lifetime of the solar farm.

2.5. Subsequent management and monitoring of the site will be put in place to ensure the benefits are long-lasting.

3. Landscape Design and Ecological Management and Maintenance Objectives and Prescriptions

Construction Phase

3.1. The following objectives through the construction phase of the proposed development are as follows:

- To adequately protect existing retained habitats and features from damage and disturbance;
- To ensure the findings and recommendations of the Arboricultural Impact Assessment are noted and undertaken;
- To ensure protected and notable species are adequately safeguarded during construction to ensure their continued favourable conservation status; and
- To provide habitat and landscape enhancements through new planting and ensure this is protected from damage and disturbance.

3.2. In order to achieve these objectives, the following construction prescriptions have been identified.

Removal of Existing Vegetation

3.3. Where vegetation is to be removed, it will be carried out outside the bird nesting season, i.e. not between mid-February and mid-September. Where works in the spring/summer are unavoidable, vegetation will be cleared the preceding winter or following a survey by an ecologist to confirm the absence of nesting birds. Indicative locations of vegetation removal are shown on the detailed landscape proposal plan in Appendix 1. Footpaths crossing the site will be maintained in a safe and useable condition during the Construction Phase.

Existing Retained Habitats and Features

3.4. Prior to any construction works associated with the panels and infrastructure being carried out, the security fencing would be constructed to act as a protective fence to boundary vegetation, acting as an exclusion zone. In addition, temporary protective fencing will be installed around areas of vegetation where recommended by the arboriculturalist. The purpose of both types of fencing will be to act as protection against construction activity for boundary trees and hedgerows throughout the implementation of the solar farm.

3.5. The supplementary temporary protective fencing will be in erected in accordance with the Arboricultural Impact Assessment (AIA) and guidance set out in BS5837:2012. The fencing should be located as set out in the AIA, allowing construction of the solar farm to be unhindered.

3.6. The temporary protective fencing shall remain in place until all construction activities have taken place. The fencing should not be moved at any point during construction, with stockpiling of materials prohibited and no vehicles allowed to enter the exclusion area at any point during construction.

3.7. There will be clear delineation of working areas and access routes for vehicles entering the site and instructions on these will be given to all site construction staff, delivery drivers and subcontractors.

3.8. All tree works are to be undertaken by a qualified arborist, outside the bird nesting season.

Protection of Notable Species

Bats

3.9. Trees and hedgerows will be protected within a protective buffer as detailed in paragraph 3.4 and measuring 4 m from the base of the tree / hedgerow.

Birds

3.10. Where vegetation is to be removed, it will be carried out outside the bird nesting season Where works in the spring/summer are unavoidable, vegetation will be cleared following a survey by an ecologist to confirm the absence of nesting birds.

Great crested newts and reptiles

3.11. Existing ponds will be protected within a buffer to avoid accidental damage during the construction as per paragraph 3.4

3.12. Where the grass margins are to be mown this should be carried out in phases to allow any individuals present to disperse.

Dormice

3.13. Trimming of hedgerows and trees should continue in line with their current management, maintaining a dense hedgerow structure that provides a linear habitat feature.

Grass Seeding

3.14. Following construction of the solar panels and all infrastructure, all areas of bare earth within the site, including those areas in between temporary protective fencing and existing landscape features, will be sown with grass seed. Within the site, either Emorsgate EM2F – Standard General Purpose Wildflowers or Emorsgate EM2 – Standard General Purpose Meadow Mixture, or similar approved by a suitably qualified ecologist, will be sown.

<u>Ground Preparation</u>

3.15. Following the installation of the array, reinstatement works should include the removal of all stones and other debris to ensure the ground is suitable for use with mowers.

3.16. Subsequent to the last crop being removed, no fertilizer will be added to the arable land on the site.

3.17. Construction activities requiring heavy machinery will only take place during periods of dry weather, in order to avoid churning and damaging the soil.

3.18. Prior to seeding, the ground will be harrowed and rolled, using a tine harrow in order to avoid damaging underground wiring. However, if there are any areas which have suffered high soil compaction, for instance due to heavy machinery being deployed, these will be harrowed using a disc harrow to ensure the soil structure is suitable for subsequent sowing. If such a requirement arises to harrow with discs, caution should be exercised to ensure newly installed underground services are not damaged during harrowing.

3.19. If there is an abundance of annual or perennial weeds, then small areas of the site may be treated with herbicide prior to seeding.

Seeding

3.20. All seeding will take place ideally in mid-Spring or Late Summer to Mid-Autumn. Seed will be sown in the first year following completion of underground wiring, and be broadcast by machine (fertiliser spreader, slug pellet applicator, grass seed box) and rolled where possible. The gaps between strings of panels are to be wide enough to accommodate a tractor travelling between them for harrowing, sowing and rolling purposes. In areas where a machine is unable to access, such as far underneath panels, seeding in these areas should be broadcast by hand. Seeds can be mixed with a substrate such as sand or sawdust for ease of broadcasting.

3.21. Sowing rate is recommended by the manufacturer as 1.5g per square metre or 15kg/hectare for EM2F and 4g per square metre or 40kg/hectare for EM2.

Hedgerow and Scrub Planting

3.22. New hedgerows are to be planted in numerous locations within the site, with some additional scrub planting in select areas. All planting will be in accordance with the density, species and spacings as set out on the detailed landscape proposals in Appendix 1.

3.23. Areas of existing hedgerow within the site will be improved by select areas of infill planting where shown on the detailed landscape proposals plan, or where there are gaps greater than 1m, to ensure the hedgerow acts as a visual screen. Where there are gaps in the existing hedgerow, new plants will be planted with the same density, species and spacings as for new hedgerows.

Ground Preparation

3.24. Hedge trenches shall be dug 450mm wide x 450mm depth and scrub planting pits shall be dug 450mm width x 300mm depth. The base of trenches and pits will be broken up before returning the approved topsoil backfill mixture to the trench at the rate of one part compost to two parts topsoil. All extraneous matter such as plastic, wood, metal and stones greater than 100mm diameter will be removed from the planting stations and disposed of offsite.

Planting

3.25. Bare-root plants will be planted in accordance with the density, species and spacings as set out on the detailed landscape proposals plan in Appendix 1. Plants must be vertical and deep enough for the roots to hang freely, with the transplant being planted so that the root collar is exactly level with the ground surface.

3.26. All plants will conform to BS 3936 -1 (1992); and be in accordance with the National Plant Specification. Supplying nurseries will be registered under the HTA Nursery Certification Scheme. All parts will be packed and transported in accordance with the Code of Practice for Plant Handling as produced by CPSE.

3.27. Preparation of the planting environment (including de-compaction and drainage) should be at least to the standards set out in British Standard 4428 (1989) Code of Practice for General Landscape Operations (excluding hard surfaces).

3.28. All transplants/cuttings will be protected from rabbit damage using rabbit proof fencing or individual spirals/shrub guards, as advised by the manufacturer. Any spiral/shrub guards used that are not biodegradable, will be removed approximately three years after planting or once established.

3.29. All plants will be watered in at the end of each day of planting/or as required. After planting a 50mm layer of approved compost fine bark (nominal size 1-10mm) shall be spread along the hedge trench to 1m wide or spread around the pit of each scrub plant at 1m wide.

Tree Planting (Heavy Standards)

3.30. New native trees (Heavy Standards) are to be planted along the northern and western boundaries and along the footpath corridors. All planting will be in accordance with the locations, species and sizes set out on the detailed landscape proposals in Appendix 1.

3.31. Standard trees are to be placed into pits (1000 x 1000 x 600mm depth) and backfilled with excavated topsoil. A general-purpose slow release fertiliser (at the rate of 35gm/m2) and Tree Planting and Mulching Compost (at the rate of 20 litres/m2) are to be incorporated into the top 150mm of topsoil during backfilling if existing ground is unsuitable for re-use or is deemed to be required. Where tree pits are more than 300m deep, backfilled material shall be consolidated/firmed in 150mm layers.

3.32. All standard trees will be held so that movement at the root collar is minimised until new roots have developed to anchor the tree. A single vertical stake (75mm dia x 1.8m length) will be used and attached to the tree at approximately 1200mm above ground level. Stakes will be driven 300mm into undisturbed ground beneath tree pit before planting the tree, taking care to avoid underground services and cables. The trees will be secured using proprietary rubber straps and must be firmly fixed with a spacing device used to prevent chafing against the tree.

3.33. All select standard trees will be protected from rabbit and deer damage by the fitting of 1.2m tree guards. Composted bark mulch or equivalent will be spread to a depth of 50mm in a 1.0m diameter circle around all individual select standard trees. All trees shall be watered in at the end of each day of planting.

Native Woodland Planting (Including Heavy Standard Trees)

<u>Ground Preparation</u>

3.34. Cut existing rough grass and weeds to between 20mm and 30mm and remove 300x300mm squares of turf.

<u>Planting</u>

3.35. All native woodland planting to be UK grown, cell grown 60-80cm stock plus Heavy Standard Trees distributed through the blocks as set out on the detailed landscape proposals plan, (and to the specification set out above).

3.36. The minimum overall recommended rooting depth for shrubs is 600mm and for trees is 900mm. The first 300mm shall be made up of multi-purpose topsoil; it shall be ensured that a suitable subsoil provides the remainder of the minimum rooting depth. Before receiving topsoil, subsoils should be loosened using ripping equipment; this shall be done when the subsoil is dry to encourage soil shattering. All stones and other objects larger than 50 mm shall be removed from the prepared surface.

3.37. Shrub / tree planting is to be as per the planting pattern as set out on the planting plan and planting schedule, with shrubs / trees planted at even spaces into the prepared soil at the specified number per centre, with minimal disturbance to the rootball, and well firmed in. Planting should avoid man-made grids and lines, and should group species together in groups of 5-7 plants. Spread ornamental pine bark mulch to a depth of 50mm to a 900mm diameter around each planting station.

3.38. All bare-root planting stock will be protected from rabbit damage using approved proprietary 0.6m (for shrub species) or 1.2m (for tree species) biodegradable shrub/tree guards, supported with 0.9m (or 1.35m for trees) x 32mm x 32mm softwood stakes as advised by the manufacturer.

3.39. All areas to receive native woodland planting to be covered with weed supressing coir matting and pinned into place. Wood chip mulch be spread to a depth of 75mm across the full extent of the coir matting, ensuring that the root flare and base of the stem, along with any ground cover plants, are not buried.

Surface Water Attenuation Feature

3.40. It is assumed that the surface water attenuation feature adjacent to the substation compound would be seeded in the same way as other grass seeding areas.

Pond

3.41. The new pond would be seeded up to their high water level, with marginal and aquatic planting allowed to naturally establish around the pond edges, therefore, no additional planting is proposed around the periphery.

Operation Phase

3.42. The following objectives through the operational phase of the proposed development are as follows:

- To maintain and manage existing field boundary hedgerows to a height of up to a height of 3.5m where possible, to safeguard visual enclosure and retain as wildlife corridors;
- To retain existing footpath routes within pleasant green and planted corridors, with appropriate screening of the adjacent Solar PV development areas, and retention of views towards key features within the surrounding landscape;

- To establish and maintain new areas of proposed hedgerow and scrub planting on the site;
- To manage the grassland, (including by sheep grazing) and establish a diverse sward surrounding the solar panels and elsewhere on the site;
- To provide additional nesting and refuge/overwintering habitat for wildlife; and
- To monitor the site and assess the success of management.

3.43. In order to achieve the objectives outlined, the following management prescriptions have been identified.

Existing Hedgerows

3.44. Existing hedgerows shall be left to grow with minimal selective thinning and maintained to a height of up to 3.5m.

3.45. During establishment, dead, dying and diseased wood is to be removed annually or as required and replaced with stock of a similar size and species by the appointed contractor at their own cost. If the failure of the plant is due to disease and the disease is considered likely to re-occur, then an alternative native species of local provenance may be used as a replacement. Planting should ideally be undertaken between the months of December and February.

3.46. Hedgerows across the whole site to be cut on a rotational basis, i.e. not all hedgerows in the same year. This will maintain a resource of flowering and fruiting plants across the site, create nesting and foraging habitat for wildlife, and prevent hedgerows becoming leggy.

3.47. Established hedgerows will be cut between late September and February where possible and no cutting or trimming is to be undertaken during the breeding bird season (1st March to 31st August inclusive).

3.48. Ground flora will be cut at the base of hedges on a 3 year rotation to 200mm height, with arisings removed. This is to maximise the value of the habitat for overwintering and foraging insects, and prevent scrub establishment. Cutting is to take place in October/November.

Existing Trees

- Management operations will ensure health and safety inspections are carried out at 12-15 month intervals, particularly those in proximity to public rights of way, to note any:
- major deadwood that needs to be removed from crowns;
- split or damaged branches, storm damage, hung-up limbs, and jagged or open wounds that require tidying;
- forks, cavities and major defects that could result in structural failure, cavities, cracks or bark wounds at the base of trees, together with bracket fungus. An arboriculturalist will probe cavities as required to determine the course of action;

- basal suckers or epicormic growth that require removal from the main trunk;
- poor quality trees with structural defects, such as forked trunks that may require pruning or felling; and
- diseases.

3.49. Ivy on tree trunks will be retained, except where it needs to be removed to facilitate inspection of trees or where it has become extensive and could result in a tree falling in high winds.

New & Infill Hedgerows

3.50. All canes, spirals or guards shall be regularly checked and adjusted or replaced as required. Base of all hedges to be kept weed-free with a minimum of 4No. applications of systematic herbicide per growing season; or a combination of visits to manually remove weeds in conjunction with the use of herbicide, during the first three years. Thereafter the ground flora is to be allowed to develop naturally in order to contribute to the wildlife value of the hedgerow and managed as an existing hedgerow.

3.51. Any litter to be cleared at the same time as weed control operations.

3.52. All hedge lines shall be regularly watered in times of drought to field capacity and shall receive an application of slow-release fertiliser for the first three years.

3.53. Plants will remain upright and adjusted during treatment of weeds. Rabbit protection will be retained/replaced until no longer needed, when it will be removed from site and disposed of. This is to be checked annually.

3.54. All hedges shall be allowed to grow up to a minimum of 3m high and maintained at 3m or above. Any plants that fail to thrive shall be replaced with stock to the original specification.

3.55. Annual inspection is to be undertaken in September to replace dead/diseased plants at the end of each growing season and to be replaced within the first five years after planting. Pruning will be undertaken to promote healthy growth, where required, between late September – February to avoid bird breeding season.

3.56. Bark mulch to be topped up annually or as required, to maintain 50mm deep layer, until the plants have established.

3.57. Once new and infill sections of hedgerows have established, management operations are to reflect those as set out for existing hedgerows.

New Scrub Planting

3.58. Operations within new areas of scrub planting will ensure:

- dead, dying and diseased wood and suckers will be removed annually to promote healthy growth, a natural shape and to avoid health and safety concerns;
- dead, missing, dying or defective plants will be replaced annually for the first 5 years after implementation;

- plant protection will be maintained until no longer needed and then removed. This will be checked annually;

- weed-free ground, including the remove of invasive weeds, will be maintained with the use of translocated, non-residual herbicides, until the canopy closes, in order to avoid competition for water and nutrients. This will be done four times a year, reducing to two times a year when the canopy is closed;

- Any litter to be cleared at the same time as weed control operations;

- a slow release fertiliser (4:19:10) will be spread annually in early March in the first three years after planting or replanting after defects replacements;

- plants overhanging access roads will be trimmed back annually;

- self-sown trees will be removed annually by digging up or use of suitable herbicides; and

- plants will be watered in dry weather in the initial three year establishment period. Watering will be carried out twice a week to field capacity. Beyond the establishment period, watering will be in times of drought.

- If the scrub is being excessively poached by sheep grazing temporary protective fencing will be installed to allow the scrub to regenerate.

New Native Tree (Heavy Standards) and Woodland Planting

3.59. Using approved herbicides, a 900mm diameter circle centred on each planting station shall be kept weed free throughout the maintenance period. In the autumn following planting the CA will prepare a list of all plants which are dead, dying or diseased and are to be replaced during the following planting season.

3.60. All trees are to be watered weekly from May to the end of September unless unnecessary due to heavy rain; to receive 20 gallons of water. All shrubs are to be watered for the first two years from May to September following any dry periods of 7 days. All tree ties and stakes are to be checked and adjusted if too loose, too tight or if chaffing is occurring. Any broken stakes are to be replaced. Any damaged shoots/branches are to be pruned back to healthy wood. Plants are to be pruned in accordance with good horticultural practice to maintain healthy, well-shaped specimens. Native shrubs - Using approved herbicides a 1m diameter circle centred on each planting station shall be kept weed free throughout the maintenance period. Stakes may be removed from Year 2 if plant is fully established and if shelter is suppressing further growth.

Grass areas outside the security fences

<u>Mowing</u>

3.61. The grass areas shall be mown under differing regimes for Year 1 after seeding and subsequent years, as detailed below.

3.62. Mowing will only take place during periods of dry weather to ensure that no waterlogged ground is damaged by machinery.

3.63. The grassland will not be improved by chemical fertilizer or slurry and nutrient levels in the soil should be allowed to reduce over time.

3.64. Cutting should be limited to a single cut of no less than 200 mm or if there is a need to mow to ground level, then cutting should be completed in phases to allow any animals present to disperse. The margins should be taken down to 200 mm and left for 24 hours before being taken down to ground level.

3.65. All arisings should remain on Site for three to five days following the cut to allow seeds to disperse, and then either removed from site or placed on habitat piles within field margins.

Year 1

3.66. Newly seeded grassland will be subject to regular cutting to a height of 20cm during the breeding bird season, during the first year of establishment in order to prevent annual weeds from establishing. This shall constitute a cut 6-8 weeks after sowing and then every month thereafter between May and September.

3.67. The frequency of cutting will be increased should annual weeds establish.

Subsequent Years

3.68. After the first year following seeding, grassland will be managed by mowing as per the schedule below:

January	No mowing required.
February	Cut can be undertaken (if necessary), to approx. 20cm
August-September	Cut to approx. 20cm during the breeding bird season (by mowing) once the wildflowers have seeded; cut grassland slowly and allow opportunities for animals and birds to escape.
Late September to end of December	No mowing required.

3.69. Cutting should adopt a systematic method (i.e. working outwards towards the boundary features); this will allow fauna to temporarily and safely vacate the area.

3.70. The management will take a flexible approach and the exact dates will be dependent upon weather conditions. A phased (rotational) cutting regime is recommended (i.e., ideally the entire area should not be cut at the same time) in order to allow a more varied structured grassland.

3.71. There may be circumstances when an additional selective summer cut is required to prevent vegetation obscuring panels, in such cases cuts should be 20cm and should be confined to areas close to panels where growth is causing shading. Other areas should be left uncut.

Re-seeding: Years 1 and 2

3.72. Newly seeded areas are unlikely to remain bare for extended periods of time. In the unlikely event that grassland fails to become established upon areas of bare ground created during the works, these areas should be lightly scarified and reseeded with the same seed mix used to seed the site at the during the construction phase. An inspection will be undertaken in early August following completion of the installation. Should the proportion of bare ground be greater than 20% then sowing should be repeated in these areas.

3.73. Reseeding in August is likely to be particularly appropriate if the months of May, June and July have been very dry.

Re-seeding: Year 5

3.74. If monitoring finds that by Year 5 following seeding the sward contains <10% cover by forbs, or that the sward contains <75% of the species which were included in the seed mix, then targeted re-seeding will be conducted.

Grass Areas within the security fences

Mowing:

3.75. The grass areas shall be mown during Year 1 after seeding and grazed by sheep during subsequent years, as detailed below.

Year 1:

3.76. The mowing regime during Year 1 shall mirror that set out above for Species Rich Wildflower Grassland.

Subsequent Years

3.77. After the first year following seeding, grassland will be managed by rotational low-intensity grazing in accordance with the landowners' requirements, either rotating sheep within the site through control with stock proof fencing or through rotational grazing using nearby fields.

3.78. Ideally, it is best to aim for a stocking rate just sufficient to maintain a varied structure, rather than the maximum that the grassland can support. Grazing density (As per the table below) is based on medium sized sheep (e.g. 60kg). It is important to constantly monitor the site to ensure the grassland is not under or over grazed and stock density and duration altered accordingly. The stocking density should be reduced in wet periods or in conditions when poaching would lead to a break-up of the sward and colonisation by aggressive weed species.

An indicative guide to stocking levels for lowland grassland (number of sheep per hectare). Adapted from the Lowland Grassland Management Handbook produced by Natural England.

Number of grazing weeks per year	Neutral Grassland (sheep per ha)
16	12.5
20	10

Number of grazing weeks per year	Neutral Grassland (sheep per ha)
24	8
36	5.5
52	4

3.79. The following indicators will be used to review and amend stocking densities:

- An increase in the amount of uneaten grass, the accumulation of litter, an increase in vigorous rank and unpalatable grasses, and a reduction in low growing herbs, indicates stocking density is too low (need to increase density).
- A reduction in density/diversity of plants, excessive poaching, weed invasion and the development of bare patches, indicates stocking density is too high (need to reduce density).

3.80. Any herbicide applications to control weeds should be undertaken immediately after sheep have been removed from a grazing area.

3.81. The areas will be subject to light intermittent grazing by sheep between approximately September and January, where conditions allow. Moderate trampling will expose ground for colonisation by annuals the next spring; however, heavy trampling can lead to ground poaching and infestations by weed species that will be detrimental to the site. During the spring and summer (March to August), sheep will be removed, or stocking density reduced, to allow summer flowering plants to set seed. Grazing will be carefully monitored in the winter period in order to prevent excessive compaction of wet earth.

3.82. Cutting of any un-grazed areas will be in accordance with measures mentioned previously.

Surface Water Attenuation Feature

3.83. The attenuation feature would be managed in the same way as the grassland as set out above. Should the attenuation feature have water within it, maintenance operations would be delayed until such time as they could be undertaken safely.

Pond

3.84. Management operations will ensure:

- rubbish, vegetation and litter will be removed, including adjacent to any pipes, overflows or grates. This will be done biannually;
- marginals and aquatics will be cut back each year in early autumn. Dead flower stems will be removed;
- vegetation removed from ponds will be kept on the sides for 48 hours for invertebrates to crawl back into the water, and then be removed;

- peripheral scrub or hedgerow will not be allowed to encroach into open areas, or to cast too much shade over the water; and

- algae will be controlled annually, or as required, with the use of barley straw or biodegradable chemicals.

Wildlife Enhancements

3.85. The development will deliver opportunities for the enhancement of protected species through pond management and the provision of hibernation and additional nesting / roosting sites. Management working methods i.e. the creation of habitat piles using dead wood and grass cuttings will be implemented where appropriate (see Figure 1 in Appendix 2).

3.86. The management aims and objectives for these specific features are to:

- Install and maintain the habitat piles across the Site with advice from the project ecologist as required. Habitat piles can be constructed using the woody arisings from the hedgerow removal, or grass cuttings, placed in a sunny location and set within existing areas of long grass or scrub.

- Install and maintain bird and bat boxes on mature trees across the Site with advice from the project ecologist as required.

- Undertake remedial works as required after consultation with the project ecologist to ensure the continued integrity of the features created.

Pond enhancement

3.87. Ponds 15, 16, 17 and 18 will be enhanced to benefit great crested newts (GCN) and a range of other species. This work should be done under a working method statement to minimise the impacts on any potential GCN present and in the presence of a GCN licenced ecologist.

3.88. In order to improve the condition of the following actions should take place

- ponds scrub should be thinned and removed from the pond edge to improve the levels of light getting to the surface of the pond. This will allow the temperature of the water to increase and reduce the amount of vegetation shed into the water, thus making it more suitable for breeding populations of GCN.

- Excessive leaf litter, debris and silt should be removed from the pond basin using a small excavator, or by hand. Silt from the pond should be removed during early autumn or late winter, when the weather will be milder, to prevent hibernating animals at the bottom of the pond from being suddenly exposed to cold weather. It is recommended that vegetation and silt removed from the pond is moved to an area of the site away from the area of works around the pond, where any amphibians are able to find suitable alternative shelter. Excavated silt should be left to on the side of the pond for 48 hours before being thinly spread on Site and ploughed into the fields during grassland creation.

- Deadwood should be stacked into habitat piles adjacent to the pond to enhance the terrestrial habitat for GCN.

3.89. The ponds should be checked on an annual basis to establish if / when any further management is required.

Creation of hibernation sites

3.90. Deadwood that has been removed from the working area during construction should be placed in habitat piles on within buffer areas, providing shelter for a variety of species.

3.91. Indicative locations for habitat piles have been included in Figure 1, Appendix 2.

Installation of bat and bird boxes

3.92. A single barn owl box should be installed on Site. It is recommended that a barn owl box is sourced directly from The Barn Owl Trust, to ensure the best quality box for nesting barn owls. An indicative location has been provided on Figure 1 in Appendix 2, however this should be ground-truthed by a barn owl licenced ecologist and the accurate location recorded on installation to ensure that the following criteria are met (based on advice from The Barn Owl Trust[1]);

- A mature tree with a thick trunk;
- Isolated in a hedgerow or woodland edge;
- Facing away from the prevailing weather i.e. the entrance should face East/NE/SE;
- A tree with a high canopy or few or no low branches;
- Where the nestbox access hole would be visible to a passing owl, even when the tree is in full leaf and seen from a distance; and
- Close to strips or patches of rough grassland.

3.93. The barn owl box should be checked annually by a barn owl licenced ecologist and cleaned out every one to three years depending on nesting status. The checks should occur between November and January to avoid disturbance of breeding barn owls, in good weather.

3.94. A single kestrel box should be installed on Site. It is recommended that a kestrel box is sourced from the RSPB. An indicative location has been provided on Figure 1 in Appendix 2, however this should be ground-truthed by an experienced ecologist and the accurate location recorded upon installation to ensure that the following criteria are met;

- The box should be sited high in a tree at least five meters above the ground;
- The box should be faced away from prevailing weather, with a good view of the surrounding landscape and clear flight path into the entrance, preferably along a woodland edge or on an isolated tree;

[1] Available at: https://www.barnowltrust.org.uk/barn-owl-nestbox/owl-boxes-for-trees/

- The tree that the box is being sited on should have branches near by as perches for fledgling kestrels; and
- Avoid siting the box above water.

3.95. The kestrel box should be checked annually to ensure the box is clean and secure for the next breeding season. The checks should occur between November and January to avoid disturbance of breeding kestrels. It is recommended the check is carried out in good weather.

3.96. It is recommended that three bat boxes are installed on site to enhance the Site for use by bats, as follows:

- 1 x Schwegler 1FF Bat Box;
- 1 x Schwegler 2F General Purpose Bat Box; and
- 1 x Schwegler 2FN Special Woodland bat Box.

3.97. These bat boxes should be sited at least 3m above the ground on trees, and well connected to the landscape through connective features such as hedgerows. Indicative locations have been included on Figure 1 in Appendix 2, but precise locations should be advised by a bat licenced ecologist and the accurate locations recorded on installation.

3.98. The bat boxes should be checked annually and cleaned out if necessary, by a Natural England level 2 bat licenced ecologist. The checks should occur between November and January to avoid disturbing roosting bats and ensure the boxes are ready for the next season.

4. Maintenance Schedule for the First Five Years

4.1. The following maintenance schedule sets out all maintenance operations to be undertaken on the site for the initial five years. Unless otherwise amended as part of the monitoring the progress of management and maintenance on site, these operations should continue for the lifetime of the development.

	Operation Phase											
Prescriptions	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Management of Wildflower and Grazing Grassland (including attenuation feature) – YEAR 1 *Cutting of newly seeded grassland to prevent unwanted weeds.* *Re-seed as necessary.*												
Management of Wildflower Grassland (including attenuation feature) – SUBSEQUENT YEARS *Re-seed as necessary.*		*Grass cut*		*Flowering season – no management*				*Grass cut*				
Management of Grazing Grassland - SUBSEQUENT YEARS *Re-seed as necessary.*	*Light rotational grazing*								*Light rotational grazing*			
Management of Injurious Weeds for Wildflower Grassland, Grazing Grassland, Scrub & Hedgerows – Existing and Proposed				*Check for injurious weeds*		*Check for injurious weeds*		*Check for injurious weeds*				

<table>
<tr><th rowspan="2">Prescriptions</th><th colspan="12">Operation Phase</th></tr>
<tr><th>Jan</th><th>Feb</th><th>Mar</th><th>Apr</th><th>May</th><th>Jun</th><th>Jul</th><th>Aug</th><th>Sep</th><th>Oct</th><th>Nov</th><th>Dec</th></tr>
<tr><td>Existing Hedgerow Management

Rotational Cutting every 2/3 years. No more than 1/3 cut in any one year.</td><td colspan="2">Trimmed to a minimum height of 3.5m where possible</td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="4">Trimmed to a minimum height of 3m where possible</td></tr>
<tr><td rowspan="2">New/Infill Hedgerow Management and Scrub Management

Slow-release fertiliser for the first 3 years.

Replace dead/diseased plants for first 5 years.

Prune as required annually.

Weed control 4 times per year.</td><td colspan="2">Trimmed/ Pruning to a minimum height of 3m</td><td rowspan="2">Slow release fertiliser applied</td><td colspan="6" rowspan="2">Weeding over growing period</td><td colspan="4">Trimmed/ Pruning to a minimum height of 3m</td></tr>
<tr><td colspan="2">Replacement of poor stock and adjusting guards</td><td>Inspection of planting</td><td></td><td></td><td>Replacement of poor stock and adjusting guards</td></tr>
</table>

Prescriptions	Operation Phase											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
New Woodland Planting (including Heavy Standard Trees) Maintain 900mm wide planting station weed free Replace dead/diseased plants for first 5 years. Prune as required annually. Water weekly from May to September Remove stakes once trees are secure	*Replacement of poor stock, pruning and adjusting guards.* *Remove stakes from year 2 if trees secure*				*Water weekly during dry weather conditions*							*Replacement of poor stock and adjusting guards*
Pond Remove rubbish, vegetation and litter. Cut back marginals, aquatics, overhanging vegetation. Remove algae growth annually as required.	*Remove rubbish, vegetation and litter*			*Remove algae growth*					*Cut back vegetation. Remove rubbish, vegetation and litter*			
Monitoring *in years 1, 3, 5 and 10 by a suitably experienced consultant.*								*Inspection and annual report by consultant including assessment of plant replacements*				

Maintenance Schedule for Years 6 -40

4.2. The following maintenance schedule sets out all maintenance operations to be undertaken for the remaining operational period. Unless otherwise amended as part of the monitoring the progress of management and maintenance on site, these operations should continue for the lifetime of the development.

	Operation Phase											
Prescriptions	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Management of Wildflower Grassland (including attenuation feature) – YEAR 6 Onwards *Re-seed as necessary.*		*Grass cut*		*Flowering season – no management*				*Grass cut*				
Management of Grazing Grassland - SUBSEQUENT YEARS *Re-seed as necessary.*	*Light rotational grazing*								*Light rotational grazing*			
Management of Injurious Weeds for Wildflower Grassland, Grazing Grassland, Scrub & Hedgerows – Existing and Proposed				*Check for injurious weeds*		*Check for injurious weeds*		*Check for injurious weeds*				
Hedgerow Management *Rotational Cutting every 2/3 years. No more than 1/3 cut in any one year.*	*Trimmed to a minimum height of 3m*								*Trimmed to a minimum height of 3m*			

Prescriptions	Operation Phase											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Woodland and Scrub Areas *Prune as required annually.*	*Plants are to be pruned in accordance with good horticultural practice to maintain healthy, well-shaped specimens.*											
Pond Remove rubbish, vegetation and litter. Cut back marginals, aquatics, overhanging vegetation. Remove algae growth annually as required.	*Remove rubbish, vegetation and litter*			*Remove algae growth*					*Cut back vegetation. Remove rubbish, vegetation and litter*			
Monitoring *in years 10, 15, 20, 25, 30 & 35 by a suitably experienced consultant.*								*Inspection and report by consultant*				

5. Management Responsibilities and Monitoring

Responsibilities

5.1. The overall responsibility for the implementation and management of the proposed development will be the Developer of the site, working in conjunction with the landowners and/or appointed management organisation. Implementation and maintenance works will be undertaken by a suitably qualified landscape contractor. Specialist ecological or arboricultural input or implementation may also be required.

Monitoring

5.2. In order to ensure that the objectives of the development are achieved, and to inform any changes in management that may be required, it is essential that monitoring is undertaken in years 1, 3, 5 and 10 and every 5 years thereafter for the lifetime of the development. Monitoring should be undertaken by a suitably qualified consultant and include a site visit and supporting note/report.

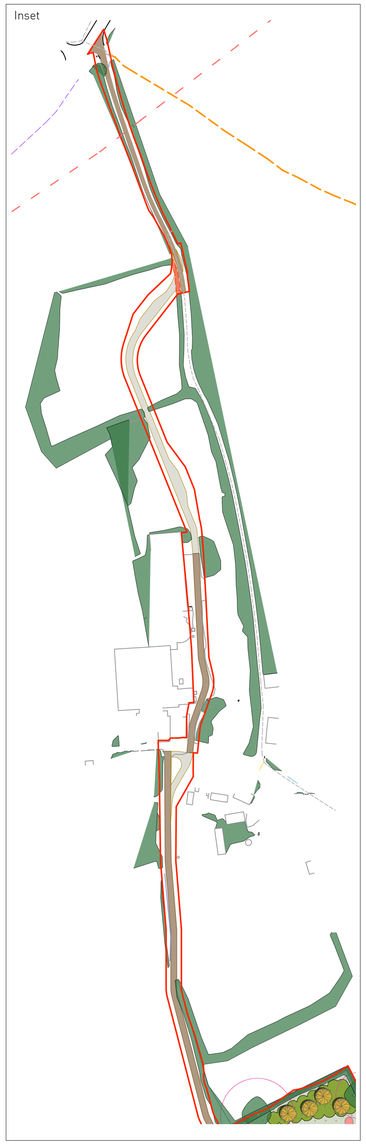
5.3. A review of the scope of management works will be undertaken in conjunction with monitoring. The review will identify where the existing maintenance regime requires modification to meet management objectives.

5.4. The landscape contractor responsible for the maintenance and management will submit maintenance inspection reports annually to the developer and landowner for each visit undertaken.

5.5. Any issues arising during each visit by the landscape contractors shall be raised immediately to the developer and landowner, preferably whilst still on site.

Appendix 1 – Detailed Landscape Proposals (Drawing No. P22-0915_09)

Inset



PLANTING SPECIFICATION

1 GENERAL

1.1 All plants will conform to BS 3936-1 (1992): and be in accordance with the National Plant Specification. Supplying nurseries will be registered under the HTA Nursery Certification Scheme. All plants will be packed and transported in accordance with the Code of Practice for Plant Handling as produced by CPSE.

1.2 Planting will not be carried out when the ground is waterlogged, frost bound or during periods of cold drying winds.

1.3 All bare-root planting stock will be kept covered until actually planted in order to minimise water-loss and prevent the roots from drying out.

1.4 All bare-root planting stock will be root dipped in an approved water-retaining polymer.

1.5 If the formation level is compacted it should be ripped through before topsoiling.

2 TREE PLANTING

2.1 All areas of proposed structure mix/tree belt planting shall be ripped in advance of planting works.

2.2 All extraneous matter such as plastic, wood, metal and stones greater than 100mm diameter will be removed from the planting areas and disposed of off-site.

2.3 Where necessary existing weeds will be treated with a suitable glyphosate-based herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect before new planting commences.

Standard

2.4 Standard trees are to be placed into pits (1000 x 1000 x 600mm depth) and backfilled with excavated topsoil. A general-purpose slow release fertiliser (at the rate of 35gm/m2) and Tree Planting and Mulching Compost (at the rate of 20 litres/m2) are to be incorporated into the top 150mm of topsoil during backfilling if existing ground is unsuitable for re-use or is deemed to be required. Where tree pits are more than 300mm deep, backfilled material shall be consolidated/firmed in 150mm layers.

2.5 Trees shall be planted as per the plant schedule shown on this drawing.

2.6 All standard trees will be held so that movement at the root collar is minimised until new roots have developed to anchor the tree. A single vertical stake (75mm dia x 1.8m length) will be used and attached to the tree at approximately 1200mm above ground level. Stakes will be driven 300mm into undisturbed ground beneath tree pit before planting the tree, taking care to avoid underground services and cables. The trees will be secured using proprietary rubber straps and must be firmly fixed with a spacing device used to prevent chafing against the tree.

2.7 All select standard trees will be protected from rabbit and deer damage by the fitting of 1.2m tree guards.

2.8 Composted bark mulch or equivalent will be spread to a depth of 50mm in a 1.0m diameter circle around all individual select standard trees.

2.9 All trees shall be watered in at the end of each day of planting.

Feathered Trees

2.10 Feathered trees are to be placed into the pits 500 x 500 x 300mm deep and backfilled with excavated topsoil site. A general-purpose slow release fertiliser (at the rate of 35gm/m2) and Tree Planting and Mulching Compost (at the rate of 20 litres/m2) are to be incorporated into the top 150mm of topsoil during backfilling if existing ground is unsuitable for re-use or is deemed to be required.

2.11 All newly planted feathered trees will be held so that movement at the root collar is minimised until new roots have developed to anchor the tree. Therefore low staking (75mm dia x 1.5m length) will be driven diagonally into the ground and attached to the tree at approximately 600mm above ground level. Stakes will be driven 300mm into undisturbed ground below base of tree pit before planting the tree, taking care to avoid underground services and cables. The trees will be staked using proprietary rubber ties and must be firmly fixed with a spacing device used to prevent chafing against the tree.

2.12 All feathered trees will be protected from rabbit and deer damage by the fitting of 600mm spiral tree guards.

2.13 All trees shall be watered in at the end of each day of planting.

3 NATIVE WOODLAND BUFFER PLANTING

Ground Preparation

3.1 Cut existing rough grass and weeds to between 20mm and 30mm and remove 300x300mm squares of turf.

Planting

3.2 All native shrub planting to be UK grown, cell grown 60-80cm stock.

3.3 The minimum overall recommended rooting depth for shrubs is 600mm and for trees is 900mm. The first 300mm shall be made up of multi-purpose topsoil, it shall be ensured that a suitable subsoil provides the remainder of the minimum rooting depth. Before receiving topsoil, subsoils should be loosened using ripping equipment; this shall be done when the subsoil is dry to encourage soil shattering. All stones and other objects larger than 50 mm shall be removed from the prepared surface.

3.4 Shrub / tree planting is to be as per the planting pattern as set out on the planting plan and planting schedule, with shrubs / trees planted at even spaces into the prepared soil at the specified number per centre, with minimal disturbance to the rootball, and well firmed in. Planting should avoid man-made grids and lines, and should group species together in groups of 5-7 plants. Spread ornamental pine bark mulch to a depth of 50mm to a 900mm diameter around each planting station.

3.5 All bare-root planting stock will be protected from rabbit damage using approved proprietary 0.6m (for shrub species) or 1.2m (for tree species) biodegradable shrub/tree guards, supported with 0.9m (or 1.35m for trees) x 32mm x 32mm softwood stakes as advised by the manufacturer.

3.6 All areas to receive native shrub planting to be covered with weed supressing coir matting and pinned into place. Wood chip mulch be spread to a depth of 75mm across the full extent of the coir matting, ensuring that the root flare and base of the stem, along with any ground cover plants, are not buried.

Maintenance

3.7 Using approved herbicides, a 900mm diameter circle centred on each planting station shall be kept weed free throughout the maintenance period. In the autumn following planting the CA will prepare a list of all plants which are dead, dying or diseased and are to be replaced during the following planting season.

4 NATIVE HEDGE PLANTING

Ground Preparation

4.1 Where necessary existing weeds will be treated with a glyphosate-based herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect.

4.2 All extraneous matter such as plastic, wood, metal and stones greater than 50mm diameter will be removed from site to a registered waste disposal facility.

Planting

4.3 New hedgerows to be planted in double staggered rows as per schedule.

4.4 Existing hedgerows to have infill planting (as required following detailed review on site), species and stock size to match proposed new hedgerow planting (see planting schedule).

4.5 The plants should be planted using L shaped or straight notches) using spades of a design suitable for this purpose. The notches must be vertical and deep enough for the roots to hang freely, with the transplant being planted so that the root collar is exactly level with the ground surface. The notch must then be closed and the soil will be well firmed round the roots in line with the guidelines as set out in BS 4428 (1989).

4.6 All bare-root hedge planting stock will be protected from rabbit damage using approved proprietary 600mm clear plastic spiral guards, supported with 0.9m 12/14lb canes as advised by the manufacturer. Excluding evergreen species.

4.7 All plants shall be watered in at the end of each day of planting.

4.8 Weed growth in all areas of tree planting will be controlled until successful establishment is achieved by careful application of a systemic herbicide such as Roundup by an approved landscaping contractor in order to clear any extraneous vegetation.

4.9 All hedgerow planted areas to be finished with a 50mm min depth of Amenity bark mulch.

Maintenance during first growing season

4.10 All dead, dying or diseased hedge plants will be replaced with plants of similar size and species. If the failure of the plant is due to disease and the disease is considered likely to re-occur then an alternative species may be used as replacement if agreed with the LPA.

4.11 The planting area will be kept weed free throughout the maintenance period using approved herbicides in April, June and August.

5 NATIVE HEDGEROW SUPPLEMENTARY INFILL PLANTING

Ground Preparation

5.1 Where necessary existing weeds will be treated with a glyphosate-based herbicide and a suitable period allowed to elapse, as recommended by the manufacturer, for the herbicide to take effect.

5.2 All extraneous matter such as plastic, wood, metal and stones greater than 50mm diameter will be removed from site to a registered waste disposal facility.

Planting

5.3 The planting arrangement shall be as set out in the plant schedule on the relevant planting plan.

5.4 Bare-root hedge plants shall be notch planted in a double staggered row at the rate of 5 plants per linear metre (using L- shaped notches) using spades of a design suitable for this purpose. The notches must be vertical and deep enough for the roots to hang freely, with the transplant being planted so that the root collar is exactly level with the ground surface. The notch must then be closed and the soil will be well firmed round the roots in line with the guidelines as set out in BS 4428 (1989).

5.5 All container-grown planting stock will be protected from rabbit damage using approved proprietary 600mm biodegradable shrub shelters, supported with 0.9m x 32mm x 32mm softwood stakes as advised by the manufacturer.

5.6 All bare-root hedge planting stock will be protected from rabbit damage using approved proprietary 600mm biodegradable spiral guards, supported with 0.9m 12/14lb canes as advised by the manufacturer.

Maintenance during first growing season

5.7 All dead, dying or diseased hedge plants will be replaced with plants of similar size and species. If the failure of the plant is due to disease and the disease is considered likely to re-occur, then an alternative species may be used as replacement if agreed with the LPA.

6 NATIVE SCRUB PLANTING

6.1 All planting areas to be weed free prior to planting.

6.2 All whips to be planted using the slit planting method. Slits are made by inserting a spade into the ground to a depth deep enough for the roots and pushing forwards. The whip is inserted into the slit with the roots 2cm below ground level and the soil pushed back and firmed around the stem.

6.3 All stock to be well watered when planted with a minimum of 4.5L/whip prior to applying 75mm deep medium grade bark mulch (5-75mm particle size and of British origin, FSC certified), and then when required within the Maintenance Period to ensure survival.

6.4 Mulch is not to be placed against the stem of the whip. All planting to be fitted with proprietary rabbit guards.

7 GRASS

Preparation

7.1 Areas of grassland to be seeded shall be sprayed out with a glyphosate herbicide and cultivated to a depth of 100mm removing all weeds debris and stones over 75mm diameter. The surface shall be raked to smooth flowing contours with a fine tilth.

Seeding

7.2 Seeds shall be sown in September during calm weather and not when the ground is frost bound or waterlogged.

7.3 To achieve an even sowing, bulk with an inert carrier, such as sand. Seed shall be sown in two equal sowings in transverse directions at e.g. Emorsgate EM2 Standard General Purpose Meadow Mixture, 4g/m2 and Emorsgate EMF2 Standard General Purpose Wildflowers, 1.5g/m2. After sowing the contractor shall roll in the seed to guarantee intimate contact with the soil, ensuring not to rake or cover the seed with soil.

8 GENERAL MAINTENANCE

8.1 The Landscape contractor shall maintain all areas of new planting for a period of 12 months following practical completion. At stock deemed to be dead, dying or diseased within the defects period shall be replaced by the contractor at his own cost. The site is to be visited monthly throughout the year to undertake the Following operations:

- Weed clearance: All planting areas to be kept weed free by hand weeding or herbicide treatment.
- Litter clearance: All litter is to be removed from planting beds.
- Watering: All planted areas are to be watered for the first two years from May to September following any dry periods of 7 days.

Trees and Shrubs

8.2 All trees are to be watered weekly from May to the end of September unless unnecessary due to heavy rain; to receive 20 gallons of water. All shrubs are to be watered for the first two years from May to September following any dry periods of 7 days. All tree ties and stakes are to be checked and adjusted if too loose, too tight or if chaffing is occurring. Any broken stakes are to be replaced. Any damaged shoots/branches are to be pruned back to healthy wood. Plants are to be pruned in accordance with good horticultural practice to maintain healthy, well-shaped specimens. Native shrubs – Using approved herbicides a 1m diameter circle centred on each planting station shall be kept weed free throughout the maintenance period. Stakes may be removed from Year 2 if plant is fully established and if shelter is suppressing further growth.

Hedges

8.3 Hedge lines shall be kept mulched until established. At the end of the Defects Liability Period/ First Year's Maintenance the CA will prepare a list of all plants which are dead, dying or diseased and are to be replaced during the following planting season at the contractor's expense.

PROPOSED PLANTING SCHEDULE

PROPOSED TREE PLANTING

Species	Girth	Height (cm)	Form	Root condition
Acer campestre	12-14	350-425	Heavy Standard	RB
Corylus avellana	12-14	350-425	Heavy Standard	RB
Malus sylvestris	12-14	350-425	Heavy Standard	RB
Quercus robur	12-14	350-425	Heavy Standard	RB

PROPOSED WOODLAND PLANTING

Trees to be planted at 1.8m centres (0.3/m2), shrubs to be planted at 1.2m centres (0.7/m2)

Species	Mix (%)	Girth	Height (cm)	Form	Age/ Times transplanted	Root condition
Trees (40%)						
Acer campestre	25	12-14	200-250	Feathered	-	B
Corylus avellana	25	12-14	200-250	Feathered	-	B
Malus sylvestris	15	12-14	200-250	Feathered	-	B
Quercus robur	35	12-14	200-250	Feathered	-	B
Shrubs (60%)						
Acer campestre	10	-	60-80	Transplant	1+1	B
Cornus sanguinea	10	-	60-80	Transplant	1+1	B
Corylus avellana	15	-	60-80	Transplant	1+1	B
Crataegus monogyna	40	-	60-80	Transplant	1+1	B
Prunus spinosa	15	-	60-80	Transplant	1+1	B
Sambucas nigra	10	-	60-80	Transplant	1+1	B

PROPOSED HEDGEROW PLANTING

To be planted at 5 per linear metre in double staggered rows, rows will be 40cm apart or as appropriate where infilling gaps in existing hedgerows

Species	Mix (%)	Height (cm)	Form	Age/ Times transplanted	Root Condition
Acer campestre	20	60-80	Transplant	1+1	B
Cornus sanguinea	5	60-80	Transplant	1+1	B
Corylus avellana	5	60-80	Transplant	1+1	B
Crataegus monogyna	40	60-80	Transplant	1+1	B
Prunus spinosa	20	60-80	Transplant	1+1	B
Sambucas nigra	10	60-80	Transplant	1+1	B

PROPOSED SCRUB PLANTING

To be planted at 1m2

Species	Mix (%)	Height (cm)	Form	Root Condition
Cornus sanguinea	20	60-80	Branched	B
Crataegus monogyna	35	60-80	Branched	B
Euonymus europeus	10	60-80	Branched	B
Ligustrum vulgare	10	60-80	Feathered	B
Prunus spinosa	15	60-80	Branched	B
Viburnum lantana	10	60-80	Branched	B

Refer to Inset for continued landscape proposal

Proposed woodland planting
Trees
56 no. Acer campestre
56 no. Corylus avellana
33 no. Malus sylvestris
78 no. Quercus robur
Shrubs
52 no Acer campestre
52 no. Cornus sanguinea
78 no. Corylus avellana
207 no. Crataegus monogyna
78 no. Prunus spinosa
52 no. Sambucas nigra

Proposed hedgerow planting (2 blocks)
26 no Acer campestre
7 no. Cornus sanguinea
7 no. Corylus avellana
52 no. Crataegus monogyna
26 no. Prunus spinosa
13 no. Sambucas nigra

Proposed hedgerow planting
218 no Acer campestre
55 no. Cornus sanguinea
55 no. Corylus avellana
436 no. Crataegus monogyna
218 no. Prunus spinosa
109 no. Sambucas nigra

Proposed hedgerow planting
225 no Acer campestre
56 no. Cornus sanguinea
56 no. Corylus avellana
450 no. Crataegus monogyna
225 no. Prunus spinosa
113 no. Sambucas nigra

Proposed hedgerow planting
5 no Acer campestre
1 no. Cornus sanguinea
1 no. Corylus avellana
10 no. Crataegus monogyna
5 no. Prunus spinosa
3 no. Sambucas nigra

Proposed hedgerow planting
3 no Acer campestre
1 no. Cornus sanguinea
1 no. Corylus avellana
6 no. Crataegus monogyna
3 no. Prunus spinosa
2 no. Sambucas nigra

Proposed hedgerow planting
156 no Acer campestre
39 no. Cornus sanguinea
39 no. Corylus avellana
312 no. Crataegus monogyna
156 no. Prunus spinosa
78 no. Sambucas nigra

Proposed hedgerow planting
5 no Acer campestre
1 no. Cornus sanguinea
1 no. Corylus avellana
10 no. Crataegus monogyna
5 no. Prunus spinosa
3 no. Sambucas nigra

Proposed hedgerow planting
311 no Acer campestre
78 no. Cornus sanguinea
78 no. Corylus avellana
622 no. Crataegus monogyna
311 no. Prunus spinosa
156 no. Sambucas nigra

Proposed hedgerow planting
99 no Acer campestre
25 no. Cornus sanguinea
25 no. Corylus avellana
198 no. Crataegus monogyna
99 no. Prunus spinosa
50 no. Sambucas nigra

Proposed scrub planting
242 no. Cornus sanguinea
424 no. Crataegus monogyna
121 no. Euonymus europeus
121 no. Ligustrum vulgare
182 no. Prunus spinosa
121 no. Viburnum lantana

Proposed scrub planting
152 no. Cornus sanguinea
266 no. Crataegus monogyna
76 no. Euonymus europeus
76 no. Ligustrum vulgare
114 no. Prunus spinosa
76 no. Viburnum lantana

Proposed scrub planting
185 no. Cornus sanguinea
323 no. Crataegus monogyna
92 no. Euonymus europeus
92 no. Ligustrum vulgare
139 no. Prunus spinosa
92 no. Viburnum lantana

3 no. Quercus robur
3 no. Acer campestre
2 no. Corylus avellana
3 no. Malus sylvestris
2 no. Acer campestre
1 no. Malus sylvestris
3 no. Corylus avellana
2 no. Malus sylvestris
3 no. Quercus robur
2 no. Quercus robur
4 no. Quercus robur
3 no. Acer campestre
1 no. Quercus robur
3 no. Malus sylvestris
3 no. Corylus avellana
2 no. Malus sylvestris
2 no. Quercus robur
1 no. Acer campestre
1 no. Quercus robur
1 no. Quercus robur
1 no. Corylus avellana
1 no. Acer campestre
1 no. Quercus robur
3 no. Corylus avellana
6 no. Malus sylvestris

1.22m RM

KEY

CONSTRAINTS

- **Site Boundary**
- **Existing Overhead Power Lines**
- **Existing Gas Lines**
- **Existing Telecom line**
- **Public Right of Way**
- **Existing vegetation with RPA to be retained. To be maintained at 3.5m where possible**
  Refer to Arboricultural Report by Barton Hyett Associates for details
- **Existing vegetation to be removed**
- **Existing solar panel**
- **Ditches**

HARD LANDSCAPE PROPOSALS

- **Security Fence**
- **Gates within security fence**
- **CCTV**
- **Temporary Compound**
- **Indicative Solar PV Array**
- **Access Road/Hard standing - to be compacted crushed aggregate**
- **Existing Access Road**
- **Spare Container**
- **Inverter**
- **Substation compound**
- **Sheep handling system**
- **Close board timber gate**

SOFT LANDSCAPE PROPOSALS

- **Emorsgate EM2 Standard General Purpose Meadow Mixture -** or similar approved sown at 4g/m2. To be sown over existing areas under arable
- **Emorsgate EMF2 Standard General Purpose Wildflowers -** or similar approved sown at 1.5g/m2. To be sown over existing pastures.
- **Proposed Woodland Planting**
- **Proposed Native Tree Planting**
  12-14, Heavy Standards, 350-425cm high, RB
- **Proposed New Hedgerow Planting**
  Maintained at max height of 3.5m
  Species to match existing hedgerows on site.
  BR Transplant stock, 60-80cm high
- **Proposed Scrub planting**
- **Surface water attenuation**
- **Indicative location of proposed pond**

0 100m

N

Detailed Landscape Proposal
Varley Solar Farm

Client: RES

DRWG No: P22-0915_09 Sheet No:_ REV: A

Drawn by : LAB Approved by: DT

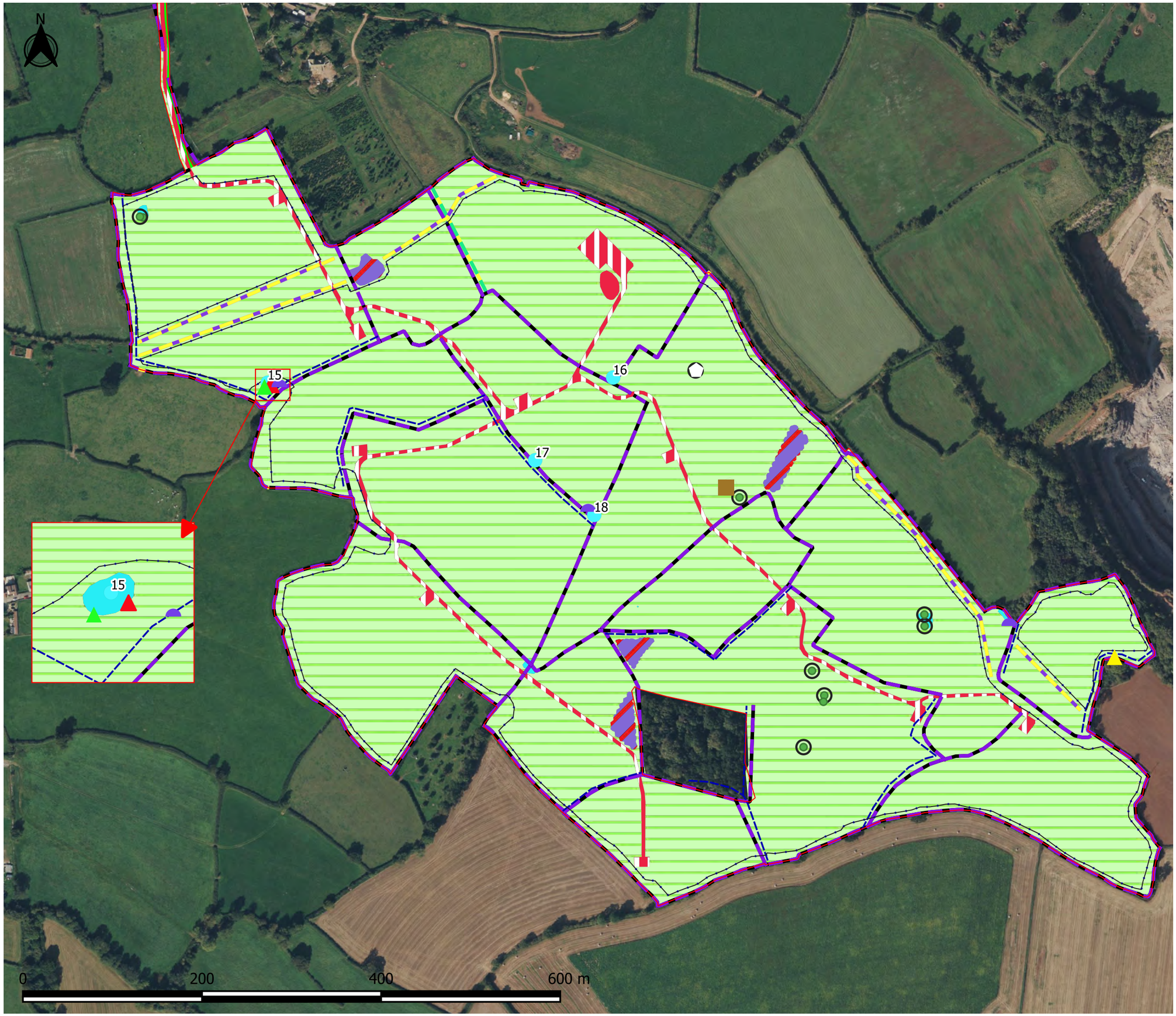
Date: 15/05/2023

Scale: 1:2,000 @ A1

PEGASUS GROUP

DESIGN | ENVIRONMENT | PLANNING | ECONOMICS | HERITAGE

Appendix 2 – Figure 1. Indicative locations of ecological enhancements



Legend

Proposed enhancements

- 1FF bat box
- 2f bat box
- 2FN bat box
- Barn owl box
- Habitat pile
- Kestrel box
- Ponds to enhance

Proposed Plan

- Existing large tree
- Existing medium tree
- Existing small tree
- Native Hedgerow
- Native Species Rich Hedgerow with trees
- Native Species Rich Hedgerow with trees Associated with bank or ditch
- Blackthorn scrub
- Developed land; sealed surface
- Modified grassland
- Other neutral grassland
- Ponds (Non Priority Habitat)
- Sustainable urban drainage feature
- Ditches
- Dry ditch
- Varley Farm Fenceline
- Site boundary

BSG | ecology

OFFICE: NEWPORT
T: 01633 509000

JOB REF: P22-254

PROJECT TITLE

VARLEY FARM

DRAWING TITLE

Figure 1: Ecological enhancements

DATE: 05/12/2022 CHECKED: OG SCALE: 1:4500

DRAWN: RS APPROVED: RS VERSION:1.1

Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: BSG Ecology survey data

Graphics Ref. No.: 02058

Town & Country Planning Act 1990 (as amended)
Planning and Compulsory Purchase Act 2004

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