BATTERY ENERGY STORAGE SYSTEM ON LAND ADJACENT TO THE CULHAM SCIENCE CENTRE

Landscape and Ecological and Management Plan

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1. INTRODUCTION

1.1. This is the Landscape and Ecological Management Plan (LEMP) for a proposed Battery Energy Storage System (BESS) on farmland adjacent to the Culham Science Centre, Oxfordshire. The Site is accessed from the A415 Abingdon Road. The site is currently a mix of arable, set aside and grazing land. The Site is located on Figures 1 and 2 within **Appendix A.**

1.2. The structure of the LEMP is as follows:

a. Description and evaluation of features to be managed.

b. Landscape and ecological factors that might influence management.

c. Aims and objectives of management.

d. Appropriate management strategies for achieving aims and objectives.

e. Prescriptions for management actions.

f. Work schedule

g. Details of the body or organisation responsible for implementation of the plan.

h. Details of monitoring and future surveys.

1.3. The LEMP sets out how the landscape and ecological components of the proposed development are to be managed immediately after planting and sowing, through the establishment phase and through to decommissioning. It describes the key landscape and ecological issues relating to the site that have been determined from a range of studies that have been undertaken to inform the planning process. A series of landscape and ecological objectives has been determined and strategies and management prescriptions set out to achieve these to a set to a timetable. The LEMP is intended to be a flexible document where the proposed management operations are to be reviewed following feedback from monitoring and adjusted where possible to better meet the objectives or evolve to meet changing circumstances and challenges.

1.4. The baseline ecological survey plans are presented in Appendix B, the proposed planting and ecological enhancement are presented in Appendix C and a timetable of management prescriptions is presented in Appendix D. Criteria by which habitats are to be assessed as they develop to are presented in Appendix E.

2. GUIDANCE

2.1. The LEMP has been produced with reference to the Biodiversity – Code of Practice for Planning and Development British Standard: BS 42020:2013 (BSI Standards Limited, 2013) and in particular, Section 11.1, which provides details on the content of the management plans.

3. DESCRIPTION OF THE PROPOSED DEVELOPMENT

3.1. The Proposed Development involves construction of the following:

- A compound containing the BESS infrastructure.
- The platforms will be finished in a loose permeable gravel with access tracks built from compacted stone providing vehicle circulation and parking within the compounds.
- Two hundred and ninety-six battery units comprising a steel box equivalent to a half size standard shipping container.
- Thirty-seven steel framed buildings containing inverter units, each with a floor area 12m x 9.5m and 3m to eaves, with a biodiverse flat roof.
- Five control room kiosks, each with a floor area 14m x 4.5m, with a 2.9m high flat roof.
- Infrared CCTV cameras mounted on 4m high poles around the perimeters of the compounds.
- A customer substation, with internal equipment typically below 9m high but some elements up to 10.72m high.
- An extension to one of the existing substations within the CSC.
- An underground cable connection to a new connect tower which lifts the wires up to the existing overhead line.
- Extensive landscape works will be undertaken throughout the development as landscape and visual mitigation and to achieve Biodiversity Net Gain.

3.2. The LEMP does not cover the areas of the Site which lie within the CSC, which includes the extension of the existing substation and existing internal access tracks.

4. ECOLOGICAL BASELINE

4.1. The proposed development does not lie within the boundary of any statutory or non-statutory sites designated for nature conservation or within any ecological buffer zones. The desk study identified two internationally designated sites of nature conservation importance within 7km of the site, one nationally designated sites of nature conservation importance within 5km and three non-statutory sites within 2km of the site.

4.2. The ecological opportunities and constraints within the Sites have been identified from an Ecological Impact Assessment undertaken by Ecology By Design, April 2023. The site comprises four fields containing modified grassland, two areas and margins of other neutral grassland, bare ground, hardstanding, scattered trees and scattered scrub. There are no ponds within the site or 500m of the site (aside from north of the River Thames which is 130m north of the site). Protected and priority species present or potentially present include:

- Badger setts at five or six locations and four latrines;
- Brown hare within the grassland habitats;
- Potential for common species of reptiles on the site boundaries and within the other neutral grassland habitat;

- Potential for foraging and commuting bats on the site boundaries (there are no opportunities for roosting within the site);
- Opportunities for nesting birds within the scattered trees and scrub; and
- Negligible opportunities for other protected or priority species.

4.3. Potential impacts Habitats within the site are of negligible intrinsic ecological interest due to being common and widespread, however, they are of biodiversity value, having a baseline value of 58.51 habitat units. In the absence of mitigation, habitat loss to accommodate the proposals would result in a loss of biodiversity habitat units and potentially reduce suitability of the site for badger, brown hare and reptiles.

5. LANDSCAPE BASELINE INFORMATION

5.1. A Landscape and Visual Impact Assessment has been undertaken by Sightline Landscape with site visits in 2022 and 2023. There are no international or national landscape designations relating to the application site or its immediate surroundings. The site is not in a National Park or an AONB and is classified as Countryside within the Local Plan. The part of the Site where it is proposed to locate the BESS electrical infrastructure, including a customer substation and extension to an existing CSC substation is not subject to a protective landscape designation. The area where it is proposed to undertake landscaping to create an area of permissive accessible green space lies with Nuneham Park, a Grade 1 Registered Park and Garden. The proposed tower connecting to the existing overhead transmission line which passes through Nuneham Park will be within the parkland.

5.2. No trees or hedges will need to be removed to construct the Proposed Development apart from a group within the CSC to accommodate a proposed extension to the existing substation. All root protection areas will be respected within the main development area. The change in character to the Site will not be completely out of character with that of the immediate locality, where electrical infrastructure is a notable feature. The electrical infrastructure is, however, perceived as a negative aspect of landscape character and the Proposed Development will reinforce that. In Year 1, the electrical infrastructure associated with the BESS and substations will only be visible for less than 3.8% of the total area of registered parkland, resulting in a less than significant Moderate adverse effect on the character and setting of this small area of the parkland. The proposed connection tower will have a slightly wider visual influence, but it will always be seen in context with the existing transmission line into which it will connect. The electrical infrastructure component of the Proposed Development will not be visible from the remaining 96.2% of the Registered Park and Garden, including the core area around Nuneham House and will have no effect on its character or setting.

5.3. Primary mitigation is achieved through the spatial arrangement and the earthworks, which seek to sit the electrical infrastructure as low as possible within the landscape. Acoustic fencing on the west and south side of the BESS compound will screen the electrical infrastructure from view, with native planting screening the fencing. It is also proposed that the containers and buildings are finished in a recessive green colour, rather than the standard white or light grey. It is also proposed to re-establish a historic tree belt along the southwest boundary of the Registered Park and Garden, which once followed the Parish Boundary and enhance this part of the parkland for aesthetic effect and biodiversity net gain. This will

minimise the visibility of the proposed electrical infrastructure from the Registered Park and Garden and improve the setting of the parkland in relation to the existing electrical infrastructure, the CSC and the potential future STRAT9 urban expansion area. New parkland trees will be planted to provide a succession of native trees within the parkland.

5.4. The Proposed Development will only be visible from a small area of countryside and this area of visibility will only become more constrained as an allocated urban expansion area is built out and as the buffer landscaping and buildings within it block views from the landscape further to the west and southwest. Visibility to the north and northeast is curtailed by rising ground and tree cover. The CSC and the part of the allocated urban expansion area on the east side of the railway, will block views from the wider landscape further to the south and southwest.

5.5. The only significant receptors affected by the operational Proposed Development will be walkers on the Oxford Green Belt Way as they move along the west side of the railway and along Thame Lane as it skirts the CSC. The setting of the section of the Oxford Green Belt Way east of the railway is already significantly adversely affected by the existing electrical infrastructure and the CSC. The route is not an unpaved rural footpath but follows a broad concrete track which runs immediately adjacent to the CSC security fence. The proposed electrical infrastructure will be screened by a combination of earthworks, native tree, shrub and hedge planting and the acoustic fences. This will result in a loss of openness, but only for a short eight hundred metre section of the footpath as it passes through an existing urban fringe landscape. This will be compensated for by proposed permissive access to an extensive area of enhanced parkland, including access to a viewpoint which affords exceptional views over the Thames Valley towards Abingdon. An additional permissive footpath link will also be provided through the parkland to the north.

5.6. It is concluded that overall, on balance, the Proposed Development will have at worst, a Neutral effect on visual amenity as adverse effects are offset by beneficial effects and ultimately it will have a net beneficial effect as the landscaping matures. It is likely that the landscaping proposed to minimise intrusion to users of the Oxford Green Belt Way will be effective within less than 10 years, while the landscaping to enhance the setting of the parkland will take 15 - 25 years. This is deemed acceptable because the creation of parkland landscapes has required patience throughout the centuries.

6. LANDSCAPE AND ECOLOGICAL OBJECTIVES AND STRATEGIES

6.1. This section sets out the objectives that are to be achieved through the management of the landscape and habitat features and other provisions designed to enhance biodiversity within the Site. The realisation of the objectives is through the implementation of strategies, which in turn are implemented by carrying out a series of prescriptions/tasks.

Objectives

Objective 1: Retain trees and habitats, particularly those with the potential to support protected and notable species.

Objective 2: Enhance retained and created habitats in accordance with the ecological recommendations to increase the biodiversity potential of the site and to achieve the Biodiversity Net Gain target.

Objective 3: Minimise the adverse effects of the Proposed Development on landscape character.

Objective 4: Minimise the adverse effects of the Proposed Development on visual amenity, particularly users of the public footpath network and future residents within a proposed urban expansion area south of the railway.

Objective 5: Increase ecological corridors across the Site.

Objective 6: Create appropriate habitats for biodiverse grassland through soil management in the construction process.

Objective 7: Drain the development in a sustainable manner.

Objective 8: Create a visually attractive and safe 'green areas' for casual recreational use by members of the public.

Objective 9: Create an area which encourages skylark nesting.

Strategies

6.2. The following strategies will be adopted to meet the objectives:

Strategy 1: Protect the habitats to be retained with fencing prior to the start of construction works. Strategy 1 contributes to meeting Objectives 1 and 2.

Strategy 2: Establish species rich meadow grassland on the ground disturbed by the construction works, adjustment of soil fertility and a long-term management strategy. Strategy 2 contributes to meeting Objectives 2, 6, and 9.

Strategy 3: Plant parkland trees, woodland scrub and hedges to integrate the Proposed Development into the landscape and screen the electrical infrastructure from those using the 'green' areas within the Proposed Development and within the surrounding landscape. Strategy 3 contributes to meeting Objectives 2, 3, 4, 5 and 8.

Strategy 4 Employ horticultural techniques to maximise the rate of growth of trees and develop a good structure to the woodlands. Strategy 3 contributes to meeting Objectives 2, 3, 4, 5 and 8.

Strategy 5: Provide hibernacula and enhanced habitat for invertebrates such as beetle banks and solitary bee habitats. Strategy 4 contributes to meeting Objective 2.

Strategy 6: Encourage use of the Site by local people though clear signage, information boards and use of social media and by keeping footpaths clear of encroaching vegetation. Strategy 5 contributes to meeting Objective 8.

Strategy 7: Re-establish a screening tree belt along the parish boundary to enhance the setting of the Registered Park and Garden. Strategy 7 contributes to meeting Objectives 2,3,4 and 5.

Strategy 8: Pond creation and management to provide new habitats, increase biodiversity and to form a sustainable drainage system that functions at all times Strategy 6 contributes to meeting Objectives 2,3,4, 7 and 8.

Strategy 9: Periodically monitor the effectiveness of the landscape and ecological mitigation including changes in biodiversity and the effectiveness of the screening and make adjustments to the LEMP if there are more practical ways to achieve the objectives. Monitoring of extent and condition of retained and created habitats will be undertaken to assess if habitats meet condition targets necessary to deliver the predicted Biodiversity Net Gain. This will require assessments of various habitat attributes in Years 5,10,15 and 20. Strategy 8 contributes to meeting Objectives 2 to 8.

7. MANAGEMENT TASKS

7.1. The following tasks within Table 1 are required to achieve the objectives of the LEMP.

Table 1: Management Tasks

FEATURE	OBJECTIVE	PRESCRIPTION	ECOLOGY	TIMING
Existing trees	Maximise growth and screening function. Maintain existing value to nesting birds, foraging bats and invertebrates. Enhance value to nesting birds, foraging bats, invertebrates, amphibians and reptiles.	• Inspect at each maintenance visit for issues such as disease, damage due to gales etc. • Where damage/disease take appropriate action to ensure the tree line is safe (e.g., no danger to people on site due to falling limbs etc.), undertaking remedial pruning where necessary. • Trim back any branches which are resulting in excessive shading. • Prior to any works taking place a suitably qualified ecologist shall survey the tree to check for roosting bats. If bats are found the ecologist shall make recommendations on how to proceed (or not) with the works. • Continue to pollard trees which have previously been pollarded, typically on a three year cycle.	• Any removed branches should be left on site for their invertebrate value e.g., small piles can be stacked along the hedgerow margins • The management of trees will be minimal, and the crown allowed to spread in order to maximise leaf cover which will be used as a navigational aid by commuting bats. • Continuous tree cover will maintain connectivity with adjacent tree cover.	• Pruning, if required must be undertaken outside of the nesting bird season which runs from March to August inclusive. • Dead/dying/ damaged limbs shall only be removed if they pose a danger to public health and safety. • Pollards to be pruned every three years.
New hedges	To screen the BESS compounds from existing PRoW and the proposed permissive footpath. To	• Ensure new plants are regularly watered during extended periods of dry weather. • Check that the plants/shelters are upright and secure. • Maintain weed free within at the base of new plants and inside the shelters	• Lengthening the time between hedge cutting increases the production of hard and soft mast resulting in an increased foraging	• Regular watering for the first 2 years. • Checking plants are upright and secure, annually or as

FEATURE	OBJECTIVE	PRESCRIPTION	ECOLOGY	TIMING
	provide a linear wildlife corridor feature. To increase biodiversity potential on site through the creation of new habitat and strengthened habitat connectivity for dispersal. Enhance value to nesting birds, foraging bats, invertebrates, amphibians and reptiles. Reduce the visibility of the electrical infrastructure to those within permissive access areas and from within the wider landscape.	by hand weeding. Maintain a zone of bare mulch to 0.75 m beyond the outer stems of the hedge. After 5 years allow the strip to colonise naturally, but for the next two years remove by hand pernicious weeds which may hinder the growth of the hedge such as dock, bramble, bindweed and nettles. • Check at each visit especially in the autumn and make a note of any dead or dying plants and replace them that autumn. This process is to be repeated each year until a 100% canopy cover is achieved. • The new hedgerow is to be trimmed at the end of year 2 to establish form and promote bushy growth. Ultimately managed at a winter cut height of at least 3.0 m. • Trim the sides of the hedges, particularly to ensure that they do not encroach on the adjacent compounds, highways, obscure sight lines or impede access for pedestrians and vehicles. Encourage or maintain a twiggy structure to enhance screening, especially in winter. • After five years consider removing tree shelters.	resource for wildlife to exploit. • Hedgerows provide habitat for nesting birds as well as cover for foraging amphibians. • Linear habitats provide commuting resources to bats. • The use of native species which produce seeds, nectar and berries at different times of year provides food resources to birds throughout the year and also maximises invertebrate potential within the hedgerow which in turn increases the value of the hedgerow to other wildlife such as foraging bats.	required i.e. Particularly after storms, remove stakes and guards after 5 years. • Maintain weed free at the base for the first 5 years. • Hedgerow trimming will be undertaken outside the nesting bird season which runs from March to August inclusive. Ideally trim late January/early February • Keep permissive footpath routes clear of encroaching hedges at all times.
Woodland planting	Maximise screening and provide a habitat.	• Ensure new plants are regularly watered during extended periods of dry weather. • Check that the plants/shelters are upright and secure. • Maintain weed free within at the base of new plants and inside the shelters by hand weeding. Check at each visit especially in the autumn and make a note of any dead or dying plants and replace them that autumn. This process is to be repeated each year until a 100% canopy cover is achieved. • After five years consider coppicing species such as hazel and dogwood to maximise the production of dense, twiggy screening growth. • After five years consider removing tree shelters. • Cut back branches which hinder safe passage along the Permissive Paths. • After 10 years consider thinning some species to favour the growth of long-term species such as oak and hornbeam.	• Planting provides habitat for nesting birds as well as cover for foraging amphibians.	• Maintain weed free at the base for the first 5 years. • Consider coppicing some species after 7 years. • Keep Permissive Paths clear of overhanging branches at all times.

FEATURE	OBJECTIVE	PRESCRIPTION	ECOLOGY	TIMING
		• Cut back or fell any trees which start to adversely affect the functioning or security of the electrical infrastructure.		
Scrub	To provide a different habitat type which will favour certain species. Provide an additional layer of screening and enhance the setting to the permissive access areas.	• Ensure new plants are regularly watered during extended periods of dry weather • Check that the plants are upright and secure. • Allow the wildflower sward among the shrubs to flower and set seed. Allow it to evolve its own composition/structure as the scrub establishes. • Check at each visit especially in the autumn and make a note of any dead or dying plants and replace them that autumn. This process is to be repeated each year until a 100% canopy cover is achieved. • After seven years consider coppicing species such as hazel and dogwood to maximise the production of dense, twiggy screening growth. • Cut back branches which hinder safe passage along the Permissive Paths. • Consider thinning and further coppicing after Year 14. • Cut back or fell any trees which start to adversely affect the functioning or security of the electrical infrastructure (scrub shall not be allowed to encroach closer than 10m to a battery container to minimise fire risk).	• Scrub provides habitat for nesting birds as well as cover for foraging amphibians. • Linear habitats provide commuting resources to bats. • The use of native species which produce seeds, nectar and berries at different times of year provides food resources to birds throughout the year and also maximises invertebrate potential within the hedgerow which in turn increases the value of the hedgerow to other wildlife such as foraging bats.	• Establishment management in the first 5 years. • Consider coppicing after seven years and further coppicing and thinning after 14 years.

FEATURE	OBJECTIVE	PRESCRIPTION	ECOLOGY	TIMING
Newly sown grassland type G1 (meadow areas)	Increase biodiversity value of the habitat. Create foraging, overwintering and refuge opportunities for invertebrates, amphibians and reptiles. Create structurally and species diverse habitat.	• Allow to grow up and the Yellow Rattle to flower and set seed. Strim down, typically in August in dry weather. Leave the arisings for one week, then rake up, collect, and remove from site. • Control undesirable plant growth within sward if necessary, such as dock, thistle, nettles, and ragwort by hand excavation/pulling. • Grassland areas with any bare patches will be re-seeded as necessary, and any invasive weeds controlled by mowing or hand pulling. • It is to be cut in sections leaving a week to a fortnight between cuts. Arisings are to be collected two weeks after being cut. A fifth of the sward will be left to stand uncut through the winter and cut down in March the following year, this will provide a habitat for invertebrates and some vertebrates over the winter. Rotate this area so a different section is left uncut each year. Lightly mow the sward down to 70 -100 mm as required throughout the winter months until March and collect the clippings. • Once a month between April and August close mow along the lines of PRoW and along footpaths that have been created through wear by users of the greenspace (or mow paths through the areas along perceived desire lines to encourage use). • Close mow a metre wide strip either side of the gravel path that parallels Coldharbour.	• Meadow grassland has the potential to support a range of invertebrates which in turn will provide a food source to foraging species such as birds. • Mowing/strimming (except in close mown areas) must result in a sward height no shorter than 100mm to avoid killing/injury to amphibians/reptiles that may be present.	• The meadow grassland will be subject to a single annual cut in the summer. The cutting month should be varied between August and September to maintain a diverse balance in the sward. • Close mown paths to be cut once a month between April and August.
	Restrict access to Field 5 during the bird nesting season (April to late August) to limit disturbance to ground nesting birds.	• Lock the gates providing access to these fields but erect weatherproof signs on the gates explaining why access is restricted. • Skylark Plots: In late March create 5 no 5m x 5m areas, for skylarks by cutting the sward very short and scarifying. Plots to be a minimum of 15metres apart and 20m away from hedges or overhead lines. Do not mow for the rest of the nesting season.	• To minimise disturbance to ground nesting birds • To create optimum conditions for skylark nesting.	Create plots late march, Lock gates to nesting areas form 1st April to 15th August.

FEATURE	OBJECTIVE	PRESCRIPTION	ECOLOGY	TIMING
Tussocky Grassland G2	Provide a habitat for wildlife and slow greenfield surface run off	• The tussock grassland will be cut once in August in the first year and then cut twice more until March of the second year. • After the fourth year, cut/trim one half of the area in August or September in dry weather, standing. Leave the arisings for one week, then rake up, collect, and remove from site. Leave the remaining half untouched. • Cut the remaining half in four years later leaving the rest untouched. Then repeat the cycle. • Control undesirable plant growth within sward if necessary, such as dock, thistle, nettles, and ragwort by hand excavation/pulling. • Grassland areas with any bare patches will be re-seeded as necessary, and any invasive weeds controlled by hand weeding.	• Develops a good structure providing shelter for wildlife, particularly small mammals and reptiles.	• Cut on a three year cycle.
Pond draw down areas Grassland G3	To provide a damp meadow with species that can withstand fluctuating water levels.	• Allow to grow uncut until late August when it is to be strimmed down in dry weather and the arisings collected and used to create a compost heap just outside the area, for use by reptiles etc.	• Provides long grass cover around the pond margin and a habitat for species which benefit from a damper habitat with fluctuating water levels.	• Mow every year in August.

FEATURE	OBJECTIVE	PRESCRIPTION	ECOLOGY	TIMING
New ponds and marginal edges	To provide sustainable drainage and increase habitat diversity.	• Allow the newly excavated area to settle and lie fallow for a couple of months. This will also allow the typical water regime to settle. • In early spring scrape emerging vegetation from the sides (taking any necessary precautions regarding protected species, which will depend on how long the pond has lain fallow) and plant marginal plants around the waterline. Seed the side slopes and areas surrounding the pond with the wet meadow seed mix. • In the first year monitor the establishment of the marginal vegetation. Adjust or replant if necessary to suit typical water levels. Ideally the marginal plants should be spreading naturally to seek out suitable conditions. • Check that the marginal plants are not impeding the drainage function of the pond, such as blocking inlets or outlets or reducing capacity. If so take remedial measures, such as clearing plants or detritus from pipework. If it is necessary to re-excavate the pond to maintain capacity, this should be undertaken in winter and the arisings left on the side of the pond for a week, before being removed from site.	• Provides a valuable new habitat. • Increased food source, such as insects for bats. • A water source for animals.	• Undertake establishment in early spring. • Monitor to ensure the establishment of a good marginal habitat for the first two years and adjust planting or carry out new planting if necessary. • Once established check at each visit that the sustainable drainage aspect is functioning. • Only undertake major restoration works in winter.
Refugia for reptiles and amphibians	To increase refuge opportunities and create hibernation potential.	• To be located close to the pond. • Augment with additional deadwood	• Refuge piles will comprise a combination of logs and branches stacked 600mm high and covering an area of 1.25 x 1.25 m. • Refuges will be created near to the site's boundary in the locations shown.	• Refuge piles could be occupied by protected species at any time of year and must not be moved at any time. • New logs/brash can be added to existing refuge piles in September/Oct every 5 years.
Bird boxes	Erect in accordance with Appendix F. Maintain in good order	• Each year inspect for use and clear out any old nests and debris. Repair or replace damaged boxes. • Spot treat any pernicious weeds. • In subsequent years strim down the half the bank	• To maximise and maintain nesting opportunities on the Site.	• Inspected for loss/damage each year. • All works to be outside the nesting season.

FEATURE	OBJECTIVE	PRESCRIPTION	ECOLOGY	TIMING
Bee Banks	To maintain the substrate in an optimum condition for colonisation by bees	• A certain amount of collapse or erosion of the bank is beneficial since it exposes fresh substrate for the bees to burrow into. • Areas subject to excessive collapse or due to erosion or vandalism are to be built back up. • Manage the vegetation growing on the bank to maximise flowering but also maintain at least 25% of the bank as exposed substrate. • Strim the sward down tightly in August and remove arisings after one week. • Control colonisation by undesirable/invasive species such as thistles, nettles, bindweed	• There is a need to maintain a careful balance of a floriferous sward and exposed substrate where there are some steep exposed faces.	• Inspect annually inn spring and undertake any remediation. • Strim down and collect arisings in August. Consider more frequent cuts if appropriate.
Fencing, ditch crossings, gravel paths, gates signage	Maintain in good order to protect the public from the electrical apparatus, exclude deer and livestock. Ensure safe, free movement along the PRoW and permissive paths within the Site.	• All internal and perimeter fencing for the development will be regularly checked to ensure it is safe and fit for purpose. Repairs and replacement of fencing will be made as soon as practically possible as and when required. • Check footpath direction signs, stiles, gates and information boards are in good working order and make any necessary repairs as promptly as possible. • Inspect the condition of the walking surface and consider remedial action to improve excessively wet or muddy areas, particularly around kissing gates. • Make good any damage to signs and gates. • Trim back hedges so that they do not encroach on the paths, particularly where paths pass through hedges.		• At each visit
Litter and vandalism	Maintaining the Site in good order.	• Report any fly tipping or vandalism. • Grounds maintenance will be delivered throughout the operational phase. • The facility will be kept clean and litter free. Response to acts of vandalism or graffiti will be dealt swiftly with repair or replacement implemented as soon as practically possible.		• At each visit

FEATURE	OBJECTIVE	PRESCRIPTION	ECOLOGY	TIMING
Ecological monitoring	To ensure that the biodiversity of the site is being maximised. To identify potentially new ecological constraints (such as a badger sett opening up on the site). To ensure that habitats and species are protected during decommissioning.	• Undertake a walkover survey after the first 5 years after the construction and then in Year 10 and then once every 10 years to assess whether the ecological objectives are being met. • Undertake bat surveys every five years and include findings in the ecology report. The survey shall include a survey of lux levels along commuting corridors plotted on a plan to identify any changes, if any. • Make recommendations for altering the management regime or undertaking additional works and alter the LEMP accordingly. • Prior to decommissioning an ecologist shall undertake a walkover survey to identify habitats to be retained and protected and identify other ecological constraints and make recommendations for protection works during the dismantling process. • The findings of the surveys shall be presented in an Ecological Monitoring Report completed not more than 3 months after the survey work has been completed. The report shall be presented to an appropriate officer within Dorset Council and agreement on the recommendations made. If appropriate, representatives of Dorset Council will be invited to the site to inspect the landscape areas to understand how the landscape is evolving and achieving the target conditions. Management recommendations following the visit are to be implemented in accordance with an agreed timetable.	• The ecological walkover must be carried out by a suitably qualified ecologist. • Collaboration with Buckinghamshire Council will ensure that the ecological objectives are being met.	• 5 years from the completion of the facility and then every 10 years throughout the life of the facility. • Immediately prior to decommissioning the facility.

7.2. The management tasks over the operational life of the facility are summarised in Appendix C.

8. ACHIEVING BIODIVERSITY NET GAIN AND HABITAT MONITORING TASKS

8.1. In order to determine whether habitats are achieving the condition necessary to deliver the Biodiversity Net Gain target a programme of habitat monitoring is to be undertaken. Each of the existing and proposed habitat types are to be periodically assessed using criteria set out in the Biodiversity Metric 4.0 Auditing and Accounting for Biodiversity Technical Supplement Natural England Joint Publication JP039 or any updated version of this document (a version of Annex 1 which sets out the criteria to be used is presented in Appendix E and has been abridged to refer only to the habitat types relevant to this project).

8.2. The monitoring required to assess whether BNG target conditions for each habitat are being achieved is set out in Table 2. This is in addition to other monitoring required in this LEMP to ensure that the habitats establish in the first place, with any dead or dying areas made good by new seeding and sowing (as set out in Table 1: Management Tasks).

Table 2. Ecological Monitoring Schedule

HABITAT	YEAR TARGET HABITAT CONDITION SHOULD BE ACHIEVED	YEARS AFTER CONSTRUCTION IN WHICH MONITORING SURVEY IS TO BE UNDERTAKEN	NOTES
New Species Rich Grassland Medium to High Distinctiveness	20	5, 10, 15	Undertake a detailed assessment using quadrats and species counting for at least four locations, including two within the BNG grassland area.
New Woodland	30+	5, 15, 30	Each woodland block to be assessed separately.
New Scrub	10	5, 10, 15	Each area of scrub to be assessed separately
Hedgerows with and without trees (existing and new)	10	5, 10	Each hedgerow to be assessed separately.
Ponds and ditches	5	5, 10	Each to be assessed separately.

8.3. Following a habitat extent and condition monitoring event a report shall be compiled that sets out current biodiversity value compared with target biodiversity value.

8.4. If monitoring indicates that target condition / extent is not being met for any of the assessed habitats, remedial works to address this will be developed, agreed and implemented by the organisation responsible for implementation of the LEMP.

9. DECOMMISSIONING

10.1 At the end of the operational period of the facility the fencing and electrical infrastructure shall be removed. Ideally removal operations should take place in dry conditions to minimise disruption and compaction of the existing sward and soil profile.

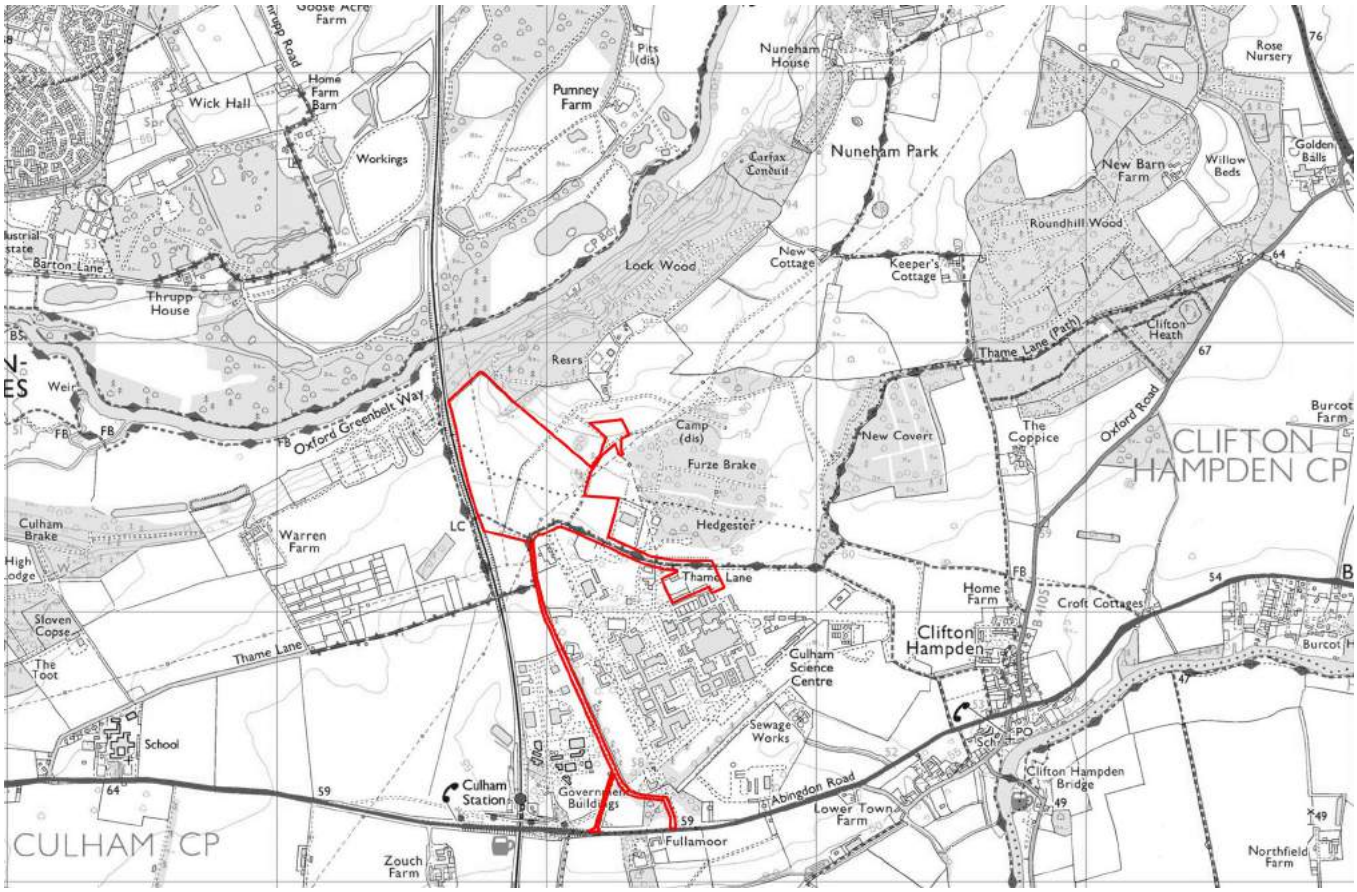
10.2 All underground cables should be removed, and any disturbed ground made good. Finally, the aggregate and ground stabilisation fabric within the tracks and hardstanding's shall be removed (unless required for a permitted agricultural use).

10.3 All trees, hedges and shrubs planted as part of the mitigation shall be retained but the treatment of the compounds will depend on any future use of the Site, that is either returned to agriculture or repurposed, subject to planning approvals.

10. IMPLEMENTATION OF THE LEMP AND RESPONSIBLE ORGANISATION

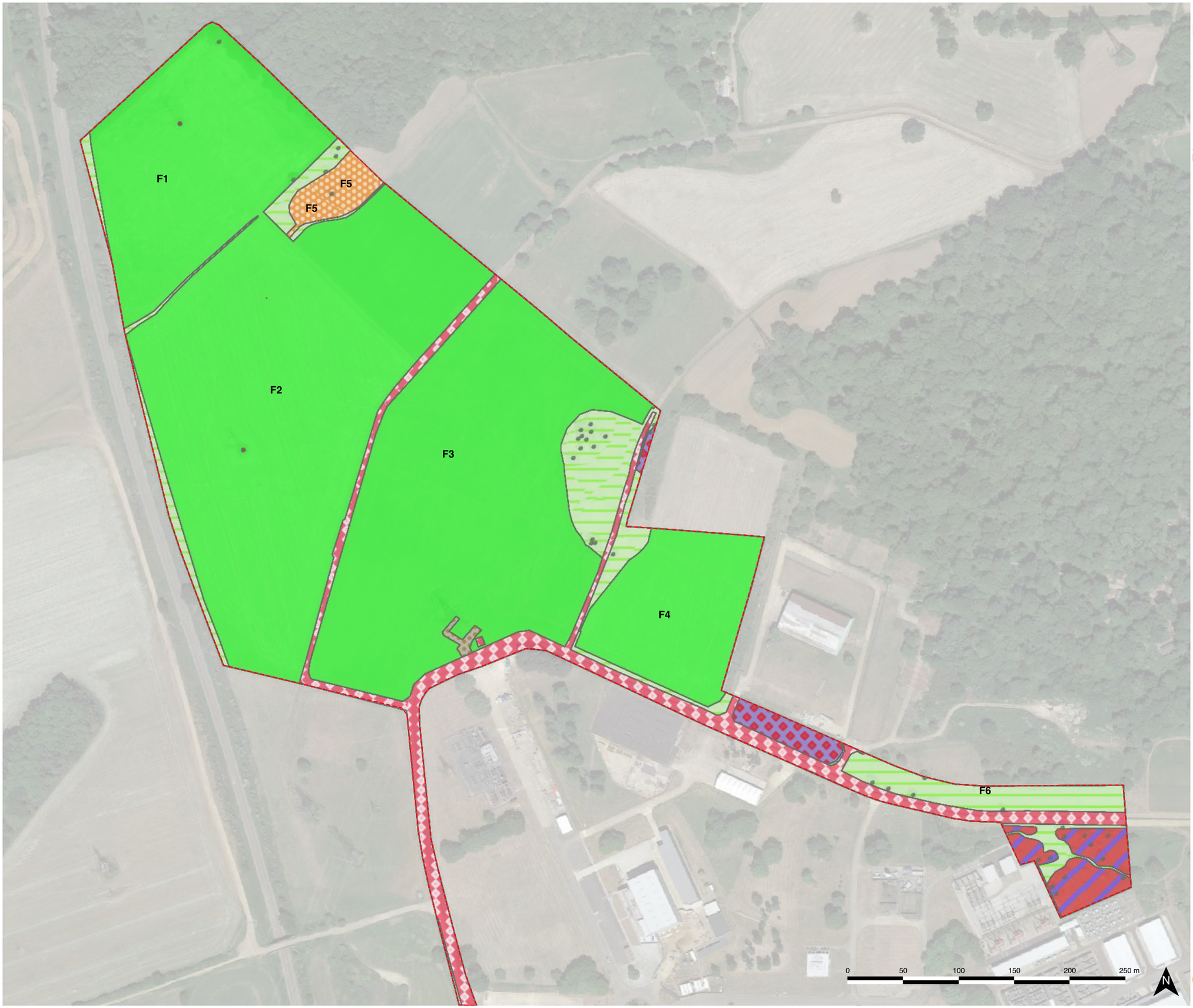
11.1. The Site will be managed by the company which builds out and operates the facility (currently East Claydon Storage Ltd.). For the first year after completion of the landscaping works the landscaping will be managed by the implementing landscape contractor in accordance with the LEMP and under the terms of the first year Defects Liability Period clause within the landscape contract. In subsequent years the landscape maintenance shall continue in accordance with the LEMP but may be awarded to a third-party landscape contractor by the organisation responsible for the management of the facility. This arrangement may periodically change subject to commercial terms and the performance of the landscape contractor; however, the operating company will always ensure that a landscape maintenance contract is in place for the duration of the operational life of the facility and implemented in accordance with the LEMP. The arrangement of ecological monitoring, and payment of associated fees, will be the responsibility of the management company operating the Facility.

APPENDIX A: LOCATION PLANS



OS Copyright Licence: Sightline Landscape 0100031673

APPENDIX B: BASELINE ECOLOGICAL SURVEY PLAN



LEGEND

- Site boundary (23.41 ha)
- c1d - non-cereal crops (0.31 ha)
- g3c - other neutral grassland (2.02 ha)
- g4 - modified grassland (18.7 ha)
- h3d - bramble scrub (0.51 ha)
- h3h - mixed scrub (0.25 ha)
- s(78) - bare ground (0.04 ha)
- u(11) - scattered tree (0.03 ha)
- u1b6 - other developed land (1.58 ha)

Location (1:75,000):

Project:

Culham Battery Storage

Client:

Statera Energy

Drawing Title:

Baseline habitats

Drawing No.: EBD_2513_DR001	*Scale (@A3):* 1:3,250
Central Grid Ref.: SU 52879 96551	*Date Drawn:* 24/04/2023
Drawn by: LG	*Approved by:* BG

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Hampden House, Monument Park, Chalgrove, Oxon, OX44 7RW

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e: laura@ecologybydesign.co.uk
w: www.ecologybydesign.co.uk

APPENDIX C: LANDSCAPE AND HABITAT CREATION PLAN

N

0 25 50 100 150m

SCALE 1:2,000

Water Treatment Works

Lock Wood

Reservoirs (covered)

Ewer's Copse

Tank

Nuneham and Courtenay Conservation Area

Viewpoint

Existing farm access track upgraded to a macadam surface 4.5m wide

Post and wire fence

1.8m high deer fence

EXISTING WOODLAND/TREES

Wildlife pond

Kissing gate

EXISTING TREES

1.5m high stock proof fence

Historic parkland boundary

Main entrance

Camp (disused)

Sports Facility

Hedgestar

SUBSTATION

GATE

Culham Science Centre

THAME LANE

EXTENSION TO SUBSTATION

Electricity

Legend

- Site boundary
- Existing hedgerows and trees
- New woodland planting
- New hedgerow
- Existing tree
- Existing tree
- Land ownership boundary
- Nuneham and Courtenay Conservation Area
- Historic parkland boundary
- Thames water main
- 2.5m high steel weld mesh fence
- 1.8m high deer fence
- Railway easement
- Existing contours
- Proposed contours
- Tower maintenance clearance zone
- Public Right of Way (PRoW)
- Permissive path for the duration of the planning consent
- Wildflower grass
- 4m high infrared CCTV pole
- Overhead electricity line
- New scrubland
- Stone access track
- Existing macadam track
- Attenuation pond
- Loose permeable gravel
- Underground electric cable connection
- Viewpoint
- Inverter building (total 37)
- Transformer
- Battery container (total 296)
- Control room (total 5)
- WT Fire water tank
- Welfare and storage containers
- Impermeable drainage channel with penstocks to allow drainage from the compound to be controlled in the case of an emergency
- New macadam track
- 4m high wooden acoustic fence
- 1.5m high stock proof fence

Revision	Date	Comment
-	-	-

STATERA
BALANCING THE GRID

ON BEHALF
STATERA

PROJECT
CULHAM BATTERY ENERGY STORAGE SYSTEM

DATE	22 July 2022
SCALE	1 : 2,000 @ A1
DWG No	SL254__L__X__GA__1
APPROVED	CMcD

TITLE

BLOCK PLAN

APPENDIX D: TIMETABLE FOR ECOLOGICAL MANAGEMENT OPERATIONS

APPENDIX D: Summary of management tasks over the operational life of the facility

FEATURE	PRESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	On to end of op.
Existing Trees	Inspect at each maintenance visit for issues such as disease, damage due to gales etc. Where damage/disease take appropriate action to ensure the tree line is safe (e.g. no danger to people on site due to falling limbs etc.), undertaking remedial pruning where necessary. Prior to any works taking place a suitably qualified ecologist shall survey the tree to check for roosting bats. If bats are found the ecologist shall make recommendations on how to proceed (or not) with the works.																									
New hedges Establishment Phase	Ensure new plants are regularly watered during extended periods of dry weather. Implement watering using the watering point/system based on site. Check that the plants are upright and secure. Maintain weed free within at the base of new plants by hand weeding ort spot treating with herbicide in early spring when the deciduous vegetation is still not in leaf. Maintain a zone of weed free mulch to 0.75 m beyond the outer stems of the hedge. After 5 years allow the strip to colonise naturally, but for the next two years remove pernicious weeds which may hinder the growth of the hedge such as dock, bramble, bindweed and nettles.																									

APPENDIX D: Summary of management tasks over the operational life of the facility

FEATURE	PRESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	On to end of op.
New hedges **Long term management**	Gradually increase the heights of the hedges, trimming to ensure thick, bushy growth.to produce hedges 3m summer height. Trim the sides of the hedges, particularly to ensure that they do not encroach on fence lines or tracks, obscure sight lines. Trimming must be undertaken outside of the nesting bird season which runs from March to August inclusive and ideally in late January, early February. Trim back any encroaching scrub or woodland to maintain a minimum 3m wide grass corridor alongside the hedge to enable management.																									
Hedgerow tree planting	In the first five years ensure new trees are regularly watered during extended periods of dry weather. Implement watering using the watering point/system based on site. Ensure that the stakes are upright, and firm and the ties are secure. Remove weeds. Maintain weed free under the trees (1.5 m dia. circle) by either hand weeding or application of an appropriate herbicide. Check at each visit especially in the autumn and make a note of any dead or dying plants and replace them that autumn until 100% success achieved.																									

APPENDIX D: Summary of management tasks over the operational life of the facility

FEATURE	PRESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	On to end of op.
	As the trees gain stature inspect at each maintenance visit for issues such as disease, damage due to gales etc. Where damage/disease take appropriate action to ensure the tree line is safe (e.g. no danger to people on site due to falling limbs etc.), undertaking remedial pruning where necessary outside of the nesting bird season which runs from March to August inclusive. Take care when trimming the hedges that the trunks are not damaged by machinery.																									
New Woodland establishment phase	In the first five years ensure transplants are regularly watered during extended periods of dry weather. Implement watering using the watering point/system based on site. Ensure that the tree stakes are upright, and firm and the ties are secure. Remove weeds. Maintain weed free under the plants by either hand weeding or application of an appropriate herbicide. Check at each visit especially in the autumn and make a note of any dead or dying plants and replace them that autumn until 100% canopy cover has been achieved. As the trees gain stature inspect at each maintenance visit for issues such as disease, damage due to gales etc.																									

APPENDIX D: Summary of management tasks over the operational life of the facility

FEATURE	PRESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	On to end of op.
New woodland long term management.	Manage to maximise growth and good form. After 10 years inspect to determine whether thinning/coppicing would be beneficial. Works to favour the growth of long-term species of stature such as oak, beech and lime. Leave arisings among the trees for invertebrates. Repeat the process after year 20.																									
Standard Specimen trees	Ensure new trees are regularly watered during extended periods of dry weather. Implement watering using the watering point/system based on site. Ensure that the stakes are upright, and firm and the ties are secure. Remove weeds. Maintain weed free under the trees (1.5 m dia. circle) by either hand weeding or application of an appropriate herbicide. Check at each visit especially in the autumn and make a note of any dead or dying plants and replace them that autumn until 100% success achieved. As the trees gain stature inspect at each maintenance visit for issues such as disease, damage due to gales etc. Where damage/disease take appropriate action to ensure the tree line is safe (e.g. no danger to people on site due to falling limbs etc.), undertaking remedial pruning where necessary outside of the nesting bird season which runs from March to August inclusive.																									

APPENDIX D: Summary of management tasks over the operational life of the facility

FEATURE	PRESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	On to end of op.
Scrub areas	Ensure transplants are regularly watered during extended periods of dry weather. Ensure that the tree stakes are upright, and firm and the ties are secure. Remove weeds. Eradicate pernicious weeds such as thistle, ragwort and bindweed. Manage the pollinator meadow mix by strimming in August but allow the sward to evolve naturally as the scrub develops. Check at each visit especially in the autumn and make a note of any dead or dying plants and replace them that autumn until 100% canopy cover has been achieved. As the trees gain stature inspect at each maintenance visit for issues such as disease, damage due to gales etc. Consider coppicing and thinning after 7 years to maintain an open structure and plants with good form. Scrub shall not be allowed to encroach closer than 10m to a battery container to minimise fire risk.																									

APPENDIX D: Summary of management tasks over the operational life of the facility

FEATURE	PRESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	On to end of op.
Newly sown species rich grassland G1	Cut/Strim in August in dry weather, standing. Leave the arisings for one week, then rake up, collect and remove from site. Control undesirable plant growth within sward if necessary, such as dock, thistle, nettles, and ragwort by hand excavation/pulling. Grassland areas with any bare patches will be re-seeded as necessary, and any invasive weeds controlled by hand weeding/cutting or spot spraying. In the first year keep mown to a height range 100-200mm to encourage the development of a close sward. In the second year allow to grow up, strim in August in dry weather. Leave the arisings for one week, then rake up, collect, and remove from site. If practical consider grazing with sheep in Autumn and early spring. If not, then mow in late October and collect the arisings. Grassland areas with any bare patches will be re-seeded as necessary, and any invasive weeds controlled by mowing or hand pulling. Occasionally close mow along the lines of the permissive footpath if a route is not being worn due to use, i.e. if tall grass is hindering passage.																									

APPENDIX D: Summary of management tasks over the operational life of the facility

FEATURE	PRESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	On to end of op.
Tussocky grass areas G2	The tussock grassland will be cut once in August in the first year and then cut twice more until March of the second year. After the fourth year, cut/trim one half of the area in August or September in dry weather, standing. Leave the arisings for one week, then rake up, collect, and remove from site. Leave the remaining half untouched. Cut the remaining half in year seven leaving the rest untouched. Then repeat the cycle. Control undesirable plant growth within sward if necessary, such as dock, thistle, nettles, and ragwort by hand excavation/pulling. Grassland areas with any bare patches will be re-seeded as necessary, and any invasive weeds controlled by hand weeding.																									
New Ponds	Newly excavated ponds are to be monitored and any undesirable growth such as thistles, brambles and bindweed to be cut back. Encourage the growth and spread of marginal plants. In the first year monitor the establishment of the marginal vegetation. Adjust or replant if necessary to suit typical water levels. Ideally the marginal plants should be spreading naturally to seek out suitable conditions. Check that the marginal plants are not impeding the drainage function of the pond, such as blocking inlets or outlets or reducing capacity. If so, take remedial measures, such as clearing plants or detritus from pipework. If it is necessary to re-excavate the pond to maintain capacity, this should be undertaken																									

APPENDIX D: Summary of management tasks over the operational life of the facility

FEATURE	PRESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	On to end of op.
	in winter and the arisings left on the side of the pond for a week, before being removed from site. If the woody vegetation grows and is shading the pond, cut back down to the ground in winter. Every five years clear out excessive debris/vegetation cover within the pond by excavation, deposit arisings on the side.																									
Ditches and swales	Check that the swales and ditches are functioning, i.e., retaining sufficient water to prevent run off beyond the Site. If necessary, adjust the profiles of the swales and repair debris dams in the ditches to maximise the containment of runoff.																									
Maintain bird and bat boxes	Monitor for use during the ecological walk over survey. Clear out debris if required and at an appropriate time. Make any necessary repairs or replace if appropriate.																									

APPENDIX D: Summary of management tasks over the operational life of the facility

FEATURE	PRESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	On to end of op.
General maintenance	Regularly inspect all internal and perimeter fencing and gates for the development will be regularly checked to ensure it is safe and fit for purpose. Repairs and replacement of fencing and gates will be made as soon as practically possible as and when required. Ensure gravel paths are smooth with no potholes and are shedding water to the sides, particularly around pedestrian gates. The facility will be kept clean and litter free. Appropriate response to acts of vandalism, fly tipping and graffiti to be undertaken swiftly with repair or replacement implemented as soon as practically possible. Check footpath direction signs, and information boards are in good working order ad make any necessary repairs as promptly as possible.																									
Ecological monitoring	Undertake in accordance with the ecological monitoring programme. Undertake monitoring surveys at the relevant period for the habitat types and prepare condition survey sheets as set out in Biodiversity Metric Guidance. Make recommendations for altering the management regime or undertaking additional works and alter the LEMP accordingly. Prior to decommissioning an ecologist shall survey the Site to identify any ecological																									

APPENDIX D: Summary of management tasks over the operational life of the facility

FEATURE	PRESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	On to end of op.
	constraints that need to be considered by the contractor responsible for removing the electrical infrastructure. The ecologist shall make recommendations for protecting ley habitats and species.																									

APPENDIX E: CRITERIA FOR MONITORING HABITAT CONDITIONS AS THEY ESTABLISH

Natural England Joint Publication JP039

The Biodiversity Metric 3.0

auditing and accounting for biodiversity

TECHNICAL SUPPLEMENT

First published 7th July 2021

www.gov.uk/natural-england

NATURAL ENGLAND

ANNEX 1: CONDITION SHEETS

5 Grassland – Low Distinctiveness

6 Grassland – Medium, High & Very High

8 Hedgerow

15 Line of Trees

17 Pond

19 Scrub

20 Sparsely Vegetated Land

24 Woodland

25 Wood-pasture & Parkland

5 Grassland – Low Distinctiveness

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)	
UKHab Habitat Type(s)	
Grassland - Modified grassland	
Habitat Description	
See UKHab	
Condition Assessment Criteria	
1	There must be 6-8 species per m^2. Note - if a grassland has 9 or more species per m^2 it should be classified as a moderate distinctiveness grassland habitat type. **NB - this criterion is non-negotiable for achieving good condition.**
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.
4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.
5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.
6	Cover of bracken less than 20%.
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species[1] make up less than 5% of ground cover.
Condition Assessment Result	**Condition Assessment Score**
Passes 6 or 7 of 7 criteria including non-negotiable criterion 7	Good (3)
Passes 4 or 5 of 7 criteria; OR Passes 6 of 7 criteria excluding non-negotiable criterion 7	Moderate (2)
Passes 0, 1, 2 or 3 of 7 criteria	Poor (1)
Notes	
Footnote 1 - Species considered undesirable for this habitat type include: Creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, greater plantain Plantago major, white clover *Trifolium repens*, cow parsley *Anthriscus sylvestris*.	

6 Grassland – Medium, High & Very High Distinctiveness

Condition Sheet: GRASSLAND Habitat Type (medium, high & very high distinctiveness)	
UKHab Habitat Type(s)	
Grassland - Lowland calcareous grassland **Grassland - Lowland dry acid grassland** **Grassland - Lowland meadows** **Grassland - Other lowland acid grassland** **Grassland - Other neutral grassland** **Grassland - Tall herb communities*** **Grassland - Upland acid grassland** **Grassland - Upland calcareous grassland** **Grassland - Upland hay meadows** **Sparsely vegetated land - Calaminarian grassland**	
Habitat Description	
See UKHab	
* Note Tall herb habitat that does not meet the definition of Annex 1 habitat 'Tall herb communities (H6430)' should be recorded as "Other neutral grassland"	
Condition Assessment Criteria	
1	The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward.
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.
3	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.
4	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.
5	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of undesirable species[1] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.
Condition Assessment Result	**Condition Assessment Score**
Passes 5 of 5 criteria	Good (3)
Passes 3 or 4 of 5 criteria	Moderate (2)
Passes 0, 1 or 2 of 5 criteria	Poor (1)
Notes	
Footnote 1 - Species considered undesirable for this habitat type include: Creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens*, cow parsley *Anthriscus sylvestris.*	

8 Hedgerow

UKHab Habitat Type
Native hedgerow **Native hedgerow - associated with bank or ditch** **Native hedgerow with trees** **Native hedgerow with trees - associated with bank or ditch** **Native species rich hedgerow** **Native species rich hedgerow - associated with bank or ditch** **Native species rich hedgerow with trees** **Native species rich hedgerow with trees - associated with bank or ditch**
Habitat Description
See Chapter 8 of User Guide
Condition Assessment Criteria
A series of ten attributes, representing key physical characteristics, are used for this assessment. The attributes, and the minimum criteria for achieving a favourable condition in each, are defined. The attributes use similar favourable condition criteria to the Hedgerow Survey Handbook and the handbook is the recommended source of reference for assessing individual hedgerow attributes.

Hedgerow favourable condition attributes		
Attributes and functional groupings (A, B, C, D & E)	**Criteria (the minimum requirements for 'favourable condition'**	**Description**
Core groups - applicable to all hedgerow types		
A1. Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is > 1.5 m height).
A2. Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion

			for up to a maximum of four years (if undertaken according to good practice[4]).
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).
B2.	Gap - hedge canopy continuity	· Gaps make up <10% of total length and · No canopy gaps >5 m	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness, but are not subject to the >5 m criterion (as this is the typical size of a gate).
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · measured from outer edge of hedgerow, and · is present on one side of the hedge (at least)	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness, but are not subject to the >5 m criterion (as this is the typical size of a gate).
C2.	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles (Urtica spp.), cleavers (Galium aparine) and docks (Rumex spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Neophytes are plants that have naturalised in the UK since AD 1500. For information on neophytes see the JNCC website and for information on invasive non-native species see the GB Non-Native Secretariat website.
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting).
Additional group - applicable to hedgerows with trees only			
E1.	Tree age	At least one mature tree per 30m stretch of hedgerow. A mature tree is one that is at least 2/3 expected fully mature height for the species.	This criterion addresses if there are sufficient mature trees (within the scope of planning timescales) which are of higher value to biodiversity.
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.

Each attribute is assigned to one of five functional groups (A – E), as indicated in Table TS1-2 and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria according to the approach set out in Table TS1-3.

The hedgerow condition assessment generates a score ranging from 1-3, which is used within the biodiversity metric 3.0. The scores for each are set out in tables TS1-3 and TS1-4 below.

Condition categories for hedgerows without trees		
Category	**Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2**	**Metric Score**
Good	No more than 2 failures in total; AND No more than 1 in any functional group.	3
Moderate	No more than 4 failures in total; AND Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 & C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; OR Fails both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition).	1
Condition categories for hedgerows with trees		
Category	**Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2**	**Metric score**
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3
Moderate	No more than 5 failures in total; AND Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1, C2 & E1 = Moderate condition).	2
Poor	Fails a total of more than 5 attributes; OR Fails both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition).	1

17 Pond

Condition Sheet: POND Habitat Type	
UKHab Habitat Type(s)	
Lakes - Ponds (priority habitat) **Lakes - Ponds (non-priority habitat)** **Lakes - Temporary lakes, ponds and pools** [Use this condition sheet for Temporary ponds and pools, use Lake condition sheet for Temporary lakes] **Lakes - Ornamental lake or pond** [Use this condition sheet for Ornamental ponds, use Lake condition sheet for Ornamental lakes]	
Habitat Description	
See UKHab other than for non-priority ponds, which are those which do not meet either the definition of (i) priority habitat ponds or (ii) ornamental ponds	
Condition Assessment Criteria	
CORE CRITERIA - applicable to all ponds (woodland[1] and non-woodland):	
1	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.
2	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.
3	Less than 10% of the pond is covered with duckweed or filamentous algae.
4	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.
5	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.
6	There is an absence of non-native plant and animal species[2].
7	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.
ADDITIONAL CRITERIA - only applicable to non-woodland ponds:	
8	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds)[3], should cover at least 50% of the pond area that is less than 3 m deep.

9	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.
Condition Assessment Result	**Condition Assessment Score**
If 8 criteria assessed (woodland ponds):	
Passes 7 of 7 criteria	Good (3)
Passes 5 or 6 of 7 criteria	Moderate (2)
Passes 0, 1, 2, 3 or 4 of 7 criteria	Poor (1)
If 10 criteria assessed (non-woodland ponds):	
Passes 9 of 9 criteria	Good (3)
Passes 6, 7 or 8 of 9	Moderate (2)
Passes 0, 1, 2, 3, 4 or 5 of 9 criteria	Poor (1)

Footnote 1 - A woodland pond will be surrounded on all sides by woodland habitat.

Footnote 2 - Any species included on the Water Framework Directive UKTAG GB High Impact Species List should be absent.

• Frequently occurring non-native plant species include water fern *Azolla spp.,* Australian swamp stonecrop *Crassula helmsii*, parrot's feather *Myriophyllum aquaticum*, floating pennywort *Hydrocotyle ranunculoides* and Japanese knotweed *Fallopia japonica,* giant hogweed *Heracleum mantegazzianum* (on the bank).
• Frequently occurring non-native animals include signal crayfish *Pacifastacus leniusculus*, zebra mussels *Dreissena polymorpha*, killer shrimp *Dikerogammarus villosus*, demon shrimp *Dikerogammarus haemobaphes,* carp *Cyprinus carpio*.

Footnote 3 - If the pond is seasonal (i.e. dries out in most summers) then emergent species alone are likely to be found.

				be notified, see footnote for details.	
3	**Water Quality**	No visual evidence of pollution. There are no nuisance algal growths that are likely to be attributable to nutrient enrichment. Seasonality of the assessment should be considered; peak bloom time is July – September	Visual evidence of low to moderate levels of pollution. elevated algal growth with increases in cover that may indicate nutrient enrichment. Seasonality of the assessment should be considered; peak bloom time is July – September.	Visual evidence of high algal growth that is indicative of nutrient enrichment. Signs of eutrophication that would impede bird feeding. Seasonality of the assessment should be considered; peak bloom time is July – September.	
4	**Non-natural structures and direct human impacts**	No evidence of impacts from direct human activities (including pontoons, moorings, boats, crab tiles, bait digging or anchoring scars) or they occupy <1% of the habitat area.	Some evidence of impacts from direct human activities (including pontoons, moorings, boats, crab tiles, bait digging or anchoring scars), occupying up to 10% of the habitat area.	Some evidence of impacts from direct human activities (including pontoons, moorings, boats, crab tiles, bait digging or anchoring scars), occupying over >10% of the habitat area.	
5	**Litter (when examining a beach strandline /mean high water line or intertidal rocky shore)**	Following the MCS beach litter survey method the number of items of litter does not exceed 0.0036 m^{-1} min^{-1} $person^{-1}$ equivalent to up to 21 items per person per 100m per hour. See Nelms 2017 *et al* and the link to the MSFD threshold value assessment[3].	Following the MCS beach litter survey method the number of items of litter does not exceed 0.0078 m^{-1} min^{-1} $person^{-1}$ equivalent to between 20 and 47 items of litter per 100m survey per person per hour. See Nelms 2017 *et al* and the link to the MSFD threshold value assessment[3].	Following the MCS beach litter survey method the number of items of litter exceeds 0.0078 m^{-1} min^{-1} $person^{-1}$ equivalent to more than 47 items of litter per 100m survey per person per hour. See Nelms 2017 *et al* and the link to the MSFD threshold value assessment[3].	
				Total score (out of a possible 15)	
Condition Assessment Result					
TOTAL SCORE >12 (75-100%) = **GOOD CONDITION** **TOTAL SCORE 8 - 12** (50--75%) = **MODERATE CONDITION** **TOTAL SCORE 5-7** (0-50%) = **POOR CONDITION**					
Notes					

Footnote 1 - The rocky shore macroalgal index enables an assessment of the condition of the rocky shore by looking at the macroalgal taxonomic composition and cover. WFD's Reduced Species List for the Macroalgae Tool.
https://www.wfduk.org/sites/default/files/Media/Environmental%20standards/Annex%2015%20Transitional%20and%20coastal%20waters%20opportunistic%20macroalgal%20blooming%20tool.pdf

Footnote 2 - Abundances estimated using SACFOR scales details available here:
http/archive.jncc.gov.uk/pdf/04_05_introduction.pdf
Use MSFD non-native species list for up to date list of species available here:
https://secure.fera.defra.gov.uk/nonnativespecies/downloadDocument.cfm?id=1518
High risk undesirable species at time of publication include:
• *Didemnum vexillum* – Carpet sea squirt
• *Hemigrapsus spp.* – Asian Shore crabs (*H. sanguineus*, *H. takanoi* or *H. penicillatus*)
• *Corella eumyota* – Orange-tipped sea squirt
• *Grateloupia turuturu* – Devil's tongue weed, gracie, red menace and red tide
• *Schizoporella japonica* – Orange ripple bryozoan
Please check for updates of high risk species

Footnote 3 - Please see Nelms et al (2017) for methodological details to identify litter m^{-1} min^{-1} $person^{-1}$.
Nelms, Coombes, Foster, Galloway, Godley, Lindeque & Witt (2017) Marine anthropogenic litter on British beaches: A 10-year nationwide assessment using citizen science data Science of The Total Environment, Volume 579, 1 February 2017, p. 1399-1409
https://www.sciencedirect.com/science/article/pii/S0048969716325918?via%3Dihub
The indicator thresholds for litter are based on the methods in Van Loon et al (2020), which is guidance developed within the Common Implementation Strategy for the Marine Strategy Framework Directive by the MSFD Technical Group on Marine Litter.
Van Loon, W., Hanke, G., Fleet, D., Werner, S., Barry, J., Strand, J., Eriksson, J., Galgani, F., Gräwe, D., Schulz, M., Vlachogianni, T., Press, M., Blidberg, E. & Walvoort, D., 2020. A European Threshold Value and Assessment Method for Macro Litter on Coastlines. EUR 30347 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-21444-1, doi:10.2760/54369, JRC121707
https://www.researchgate.net/publication/344340540_A_European_Threshold_Value_and_Assessment_Method_for_Macro_Litter_on_Coastlines

19 Scrub

Condition Sheet: SCRUB Habitat Type	
UKHab Habitat Type	
Heathland and shrub - Blackthorn scrub **Heathland and shrub - Bramble scrub** **Heathland and shrub - Gorse scrub** **Heathland and shrub - Hawthorn scrub** **Heathland and shrub - Hazel scrub** **Heathland and shrub - Mixed scrub** **Heathland and shrub - Sea buckthorn scrub (Annex 1)**	
Habitat Description	
See UKHab	
For sea buckthorn scrub use Habitats Directive Annex 1 definition	
Condition Assessment Criteria	
1	Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).
2	There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.
3	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species[1] make up less than 5% of ground cover.
4	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.
Condition Assessment Result	**Condition Assessment Score**
Passes 5 of 5 criteria	Good (3)
Passes 3 or 4 of 5 criteria	Moderate (2)
Passes 0, 1 or 2 of 5 criteria	Poor (1)
Notes	
Footnote 1 - Species considered undesirable for this habitat type include: creeping thistle *Cirsium arvense*, common nettle *Urtica dioica*, cherry laurel *Prunus laurocerasus*, snowberry *Symphoricarpos* spp., buddleia *Buddleja* spp., cotoneaster *Cotoneaster* spp., Spanish bluebell *Hyacinthoides hispanica* (or hybrids).	

24 Woodland

Condition Sheet: WOODLAND Habitat Type

This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here: https://woodlandwildlifetoolkit.sylva.org.uk/assess

UKHab Habitat Type(s)

Woodland and forest - Lowland beech and yew woodland
Woodland and forest - Lowland mixed deciduous woodland
Woodland and forest - Native pine woodlands
Woodland and forest - Other coniferous woodland
Woodland and forest - Other Scot's pine woodland
Woodland and forest - Other woodland; broadleaved
Woodland and forest - Other woodland; mixed
Woodland and forest - Upland birchwoods
Woodland and forest - Upland mixed ashwoods
Woodland and forest - Upland oakwood
Woodland and forest - Wet woodland

Habitat Description

See UKHab

Condition Assessment Criteria

	Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator
1	**Age distribution of trees**[1]	Three age classes present	Two age classes present	One age class present	
2	**Wild, domestic and feral herbivore damage**	No significant browsing damage evident in woodland[2]	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland	
3	**Invasive plant species**[3]	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species > 10% cover	
4	**Number of native tree species**	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel	
5	**Cover of native tree and shrub species**	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	< 50% of canopy trees and <50% of understory shrubs are native	
6	**Open space within woodland**[4]	10 – 20% of woodland has areas of temporary open space, unless woodland is <10ha in which case lower	21- 40% of woodland has areas of temporary open space	More than 40% of woodland has areas of temporary open space	

		threshold of 10% does not apply			
7	**Woodland regeneration**[5]	All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland	No classes or coppice regrowth present in woodland	
8	**Tree health**	Tree mortality less than 10%, no pests or diseases and no crown dieback	11% to 25% mortality and/or crown dieback or low risk pest or disease present	Greater than 25% tree mortality and or any high risk pest or disease present	
9	**Vegetation and ground flora**	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community	
10	**Woodland vertical structure**[6]	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots	
11	**Veteran trees**[7]	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland	
12	**Amount of deadwood**	50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	
13	**Woodland disturbance**[8]	No nutrient enrichment or damaged ground evident	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground	
				Total score (out of a possible 39)	

Condition Assessment Result	Condition Assessment Score
Total score >32 (33 to 39)	Good (3)
Total score 26 to 32	Moderate (2)
Total score <26 (13 to 25)	Poor (1)
Notes	

Footnote 1 - See EWBG method INDICATOR 1 for more information. If tree species is not a birch, cherry or Sorbus: 0 – 20 years (Young); 21 - 150 years (Intermediate); and >150 years (Old). A recognisable age class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age class' of young trees.

Footnote 2 - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed.

Footnote 3 - See EWBG method INDICATOR 3 for more information. Check for presence of the following invasive non-native species: American skunk cabbage *Lysichiton americanus;* Himalayan balsam *Impatiens glandulifera;* Japanese knotweed *Fallopia japonica;* Cherry Laurel *Prunus laurocerasus;* Shallon *Gaultheria shallon;* Snowberry *Symphoricarpos albus;* Variegated yellow archangel *Lamiastrum galeobdolon subsp. argentatum;* and Rhododendron *Rhododendron ponticum.*

Footnote 4 - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (e.g. glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (e.g. tarmac, buildings, rivers). Area is at least 10m wide with less than 20% covered by shrubs or trees.

Footnote 5 - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, the regeneration indicator is gathers additional information by considering regeneration potential i.e. if seedlings, saplings and young trees are all present that means natural regeneration processes are happening.

Footnote 6 - This indicator is looking at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer.

Footnote 7- See EWBG method INDICATOR 12 for more information. All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features:

1. Rot sites associated with wounds which are decaying >400 cm^2;
2. Holes and water pockets in the trunk and mature crown >5 cm diameter;
3. Dead branches or stems >15 cm diameter;
4. Any hollowing in the trunk or major limbs;
5. Fruit bodies of fungi known to cause wood decay.

Footnote 8 - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery or animal poaching; litter.

25 Wood-pasture & Parkland

Condition Sheet: WOOD-PASTURE & PARKLAND Habitat Type	
UKHab Habitat Type(s)	
Woodland and forest - Wood-pasture and parkland	
Habitat Description	
See UKHab	
Condition Assessment Criteria	
1	Presence of ancient[1] and / or veteran[2] trees.
2	Trees are of a range of different ages to ensure replacement. Three age classes are present and must include at least one of the following: mature[3], late-mature[3], ancient or veteran trees.
3	Presence of standing and / or fallen deadwood: • Wood-pasture - All ancient and veteran trees have standing deadwood, large dead branches, stems and stumps associated with them. • Parkland - 80% of ancient and veteran trees have standing deadwood, large dead branches, stems and stumps associated with them.
4	There is little or no evidence of an adverse impact on tree health by anthropogenic activities, livestock or wild animals, or pests or diseases (e.g. no evidence of poaching, nettles, ground compaction, bare ground under trees or grazing damage to bark and roots).
5	Ground cover comprises semi-natural grassland or heathland.
6	Grassland or heathland habitat is subject to an appropriate management regime: • Grassland - Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed. • Heathland - There is a range of age classes of heather present, with the following proportions: pioneer heather 10-40%, building/mature heather 20-80%, degenerate heather <30% and dead heather <10%.
Condition Assessment Result	**Condition Assessment Score**
Passes 6 of 6 criteria	Good (3)
Passes 4 or 5 of 6 criteria	Moderate (2)
Passes 0, 1, 2 or 3 of 6 criteria	Poor (1)
Notes	

Footnote 1 - Ancient trees are exceptionally valuable. Attributes can include: its great age in comparison with other trees of the same species; size, especially very wide trunk; condition; biodiversity value as a result of significant wood decay and the habitat created from the ageing process; and cultural and heritage value. Very few trees of any species become ancient.
Ancient trees can be classified using the following girth guide at 1.5 m from the ground:

- >2.5 m for field maple, rowan, yew, birch, holly and other smaller tree species;
- >4 m for oaks, ash, Scot's pine, alder;
- >4.5 m for sycamore, lime, horse chestnut, sweet chestnut, elm species, poplar species, beech, willows, other pines and exotics.

Footnote 2 - All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features:

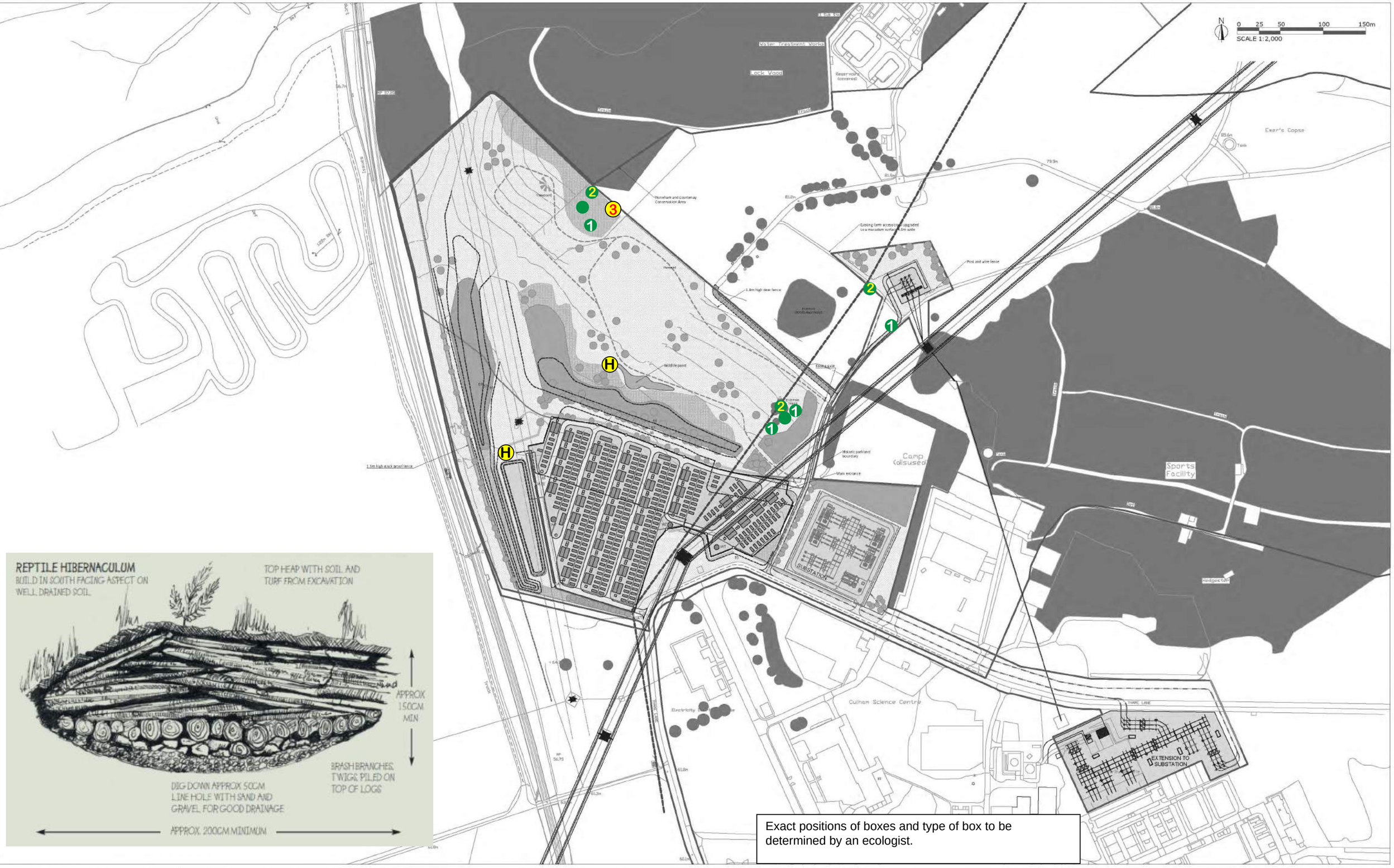
1. Rot sites associated with wounds which are decaying >400 cm^2;
2. Holes and water pockets in the trunk and mature crown >5 cm diameter;
3. Dead branches or stems >15 cm diameter;
4. Any hollowing in the trunk or major limbs;
5. Fruit bodies of fungi known to cause wood decay.

Footnote 3 - Mature trees are close to their full height and crown size, these dimensions being determined by species and site factors. Late-mature trees are still close to their full height and crown size while main-stem diameter (which by now is large) increases more slowly.

ANNEX 2: CONDITION ASSESSMENT PROFORMA

CONDITION ASSESSMENT PROFORMA FOR USE WITH BIODIVERSITY METRIC 3.0 - AREA BASED HABITATS														
Date							Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)							
Weather conditions														
Surveyor name(s)							Unique polygon reference(s)							
Project / development name							Metric 3.0 habitat type							
Site name or location							Condition assessment required? (y/n)							
Onsite or offsite?							Condition sheet used							
Reason for assessment (if not baseline condition survey)														
Limitations (if applicable)														
Habitat description														
Allocate pass 'P' or fail 'F'. Allocate 'NA' to any irrelevant criteria numbers where condition sheet contains fewer than 13 criteria. For Woodland & Intertidal condition sheets, allocate scores of '1' '2' or '3' against each criterion assessed.														
Criterion	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	**TOTAL**
Result														
Photo ref														
Target note ref														
Are any criteria non-negotiable? (Y/N) If Yes are they passed?							Condition (Good/Moderate/Poor):							
Suggested enhancement interventions to improve condition score														

APPENDIX F: ERECTION OF NEST BOXES



Exact positions of boxes and type of box to be determined by an ecologist.

STATERA
BALANCING THE GRID

Legend

- Site boundary
- Existing hedgerows and trees
- New woodland planting
- New hedgerow
- Existing tree
- Existing tree
- Land ownership boundary
- Nuneham and Courtenay Conservation Area
- Historic parkland boundary
- Thames water main
- 2.5m high steel weld mesh fence
- 1.8m high deer fence
- Railway easement
- Existing contours
- Proposed contours
- Tower maintenance clearance zone
- Public Right of Way (PRoW)
- Permissive path for the duration of the planning consent
- Wildflower grass
- 4m high infrared CCTV pole
- Overhead electricity line
- New scrubland
- Stone access track
- Existing macadam track
- Attenuation pond
- Loose permeable gravel
- Underground electric cable connection
- Viewpoint
- Inverter building (total 37)
- Transformer
- Battery container (total 296)
- Control room (total 5)
- WT Fire water tank
- Welfare and storage containers
- Impermeable drainage channel with penstocks to allow drainage from the compound to be controlled in the case of an emergency
- New macadam track
- 4m high wooden acoustic fence
- 1.5m high stock proof fence

1 Bird box to be erected on an existing tree

2 Bat box to be erected on an existing tree

H Reptile hibernacula to be constructed by pond

3 Pole mounted owl nest box

ON BEHALF
STATERA

PROJECT
CULHAM BATTERY ENERGY STORAGE SYSTEM

DATE	22 July 2022
SCALE	1 : 2,000 @ A1
DWG No	515_EE_01
APPROVED	CMcD

TITLE
ECOLOGICAL ENHANCEMENT