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Individual Trees Creation, Management & Monitoring Plan

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Technical Appendix

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1.0 Introduction & Objectives

- 1.1 This management plan covers the medium distinctiveness habitats 'Individual trees' as described within UKHab and within the Statutory Biodiversity Metric.
- 1.2 As part of a Ford Motor Company's initiative to enhance their UK industrial sites ecological and environmental footprint, Tyrer Ecological Consultants Ltd have been commissioned to undertake an ecological evaluation of the Ford Halewood Transmissions site, and advice options to enhance the sites ecological value.
- 1.3 Subsequently, a Habitat Enhancement Strategy report (v1.1) has been produced by Tyrer Ecological Consultants Ltd (**Appendix I**) and submitted to the project team, which outlines the sites baseline ecological condition by summarising the sites habitat value in addition to an assessment of the sites zone of influence to ensure enhancement options are suitably targeted. The primary component of this report was the inclusion of two enhancement strategy 'options' which aimed to provide quantifiable net gains through differing habitat enhancement/creation. The baseline value and both enhancement options were quantified through the use of the Statutory Biodiversity Metric Tool.
- 1.4 Following submission, a period of review was conducted by the Ford project team in order to deliberate over the direction of enhancement. Subsequent conclusions have resulted in 'Option 1' being decided as the most appropriate course of action.
- 1.5 Option 1 aims to provide the greatest increase in biodiversity units. This option aims to enhance habitats on site without changing the functionality of the site in its current form. This is achieved primarily through enhancement of existing modified grassland parcels found throughout the site into higher distinctiveness neutral grassland, as well as the enhancement of existing neutral grassland into better condition neutral grassland through an appropriate management strategy. Furthermore, it is proposed that additional individual trees and hedgerows are planted throughout the proposed neutral grassland parcels to increase terrestrial connectivity within the site.
- 1.6 To achieve biodiversity net gain at the sites, habitat creation and enhancement measures are required, along with management plans to ensure the habitats achieve their intended conditions.
- 1.7 This document therefore aims to address the need for such a plan in relation to 'Medium Distinctiveness Grassland' by providing extensive information in relation to the creation, management and continued maintenance of said habitat for an initial period of 5 years.
- 1.8 A clear understanding of the intended character and / or future use of the habitat will help ensure that it will be created, managed and maintained correctly and will therefore reach target condition and maturity in the form in which it has been designed in this habitat creation, management and maintenance plan (CMMP).
- 1.9 The Ford Halewood grounds maintenance team will be responsible for habitat creation, management, and maintenance within all areas of the site; as well as undertaking regular monitoring. Regular inspection of the site, keeping records of all work, inspections, issues and corrective action will be required. These records will feed into the wider monitoring of the site in accordance with the site's Management and Monitoring Plan. A list of Maintenance Operations will be included to help inform the teams which takes on the management and maintenance of this landscape.

NB: *The body managing the habitat does not need to be an ecologist, but should be familiar with the Tyrer Ecological report(s) as a minimum, the projected aims and objectives for the site, target habitat conditions, ecological sensitives and have sufficient authority and presence to influence activities. In the event of any uncertainty about ecological issues surrounding the habitat, the body is responsible for contacting an Ecologist.*

Aims

- 1.10 The general aims for the management and maintenance of this specific habitat within the Halewood site include the following:
- Maintain and manage the newly created / enhanced habitat at the stated target condition for the period of at least 5 years.
 - To maintain and manage the newly created/ enhancement habitat to deliver the proposed biodiversity units for the site.
 - Ensure maintenance of the site habitat in a safe and secure condition.
 - Provide an enhanced / novel habitat on the site which will benefit biodiversity both within the site and the immediate vicinity and contributes towards the wider ecological network and nature recovery.

Possible Constraints to Creation, Management & Maintenance

- 1.11 Any management that would result in offences under protective legislation pertaining to wildlife **cannot** be undertaken and additional measures may be required to ensure wildlife is protected. As such, creation and management provisions are devised to ensure conformity with all relevant legislation, which includes (but is not limited to); the Wildlife and Countryside Act (WCA) 1981 (as amended) and the Conservation of Habitats and Species Regulations 2019 (EU Exit) (as amended).
- 1.12 The key species groups which have the potential to be present on-site both during and at the post-development stage, therefore requiring careful consideration during any management and / or maintenance operations, are:
- **Amphibians:** Many amphibian species are protected under legislation, with common toad (*Bufo bufo*) being a UK Biodiversity Action Plan (UKBAP) species, common frog (*Rana temporaria*) legislated under a variety of local BAPs (LBAP), and great crested newt (GCN) (*Triturus cristatus*) are fully protected in all life stages by Schedule 2 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579) and the Wildlife and Countryside Act (1981) (as amended). They are listed a priority species under section 41 (s.41) of the Natural Environment Rural Communities Act 2006 (NERC Act). Should a GCN be observed at any time during management operations then work should cease and an ecologist be contacted for further advice.
 - **Breeding birds:** All wild birds, their eggs, young and nests, whilst being built or occupied are protected under both the Wildlife and Countryside Act (WCA 1981) and Natural Environment and Rural Communities Act (NERC Act 2006). Birds listed on Schedule 1 of the WCA 1981 are afforded a greater level of protection and are protected also from disturbance. The new habitats within various grasslands could provide certain bird species with suitable nesting habitat within tall areas of vegetation, and sufficient checks should be made by the wildlife champion to ensure that operations will not have an impact on breeding birds during the months of May – September. Any areas found to contain any nesting birds should be left undisturbed until such time the nest site has been naturally abandoned.
 - **Mammals:** Many mammalian species are protected under legislation, with badger (*Meles meles*) legislated under the Protection of Badgers Act (1992) and the Wildlife and Countryside Act (1981) (as amended) and hedgehog (*Erinaceus europaeus*) listed a priority species under Section 41 (s.41) of the Natural Environment Rural Communities Act 2006 (NERC Act). These species alongside other small mammals are likely to be present within grassland habitats, at least in a foraging/commuting capacity. Should evidence of any protected species be observed onsite, Reasonable Avoidance

Measures may be necessary to limit any impacts to the species. Water vole are fully protected under the Wildlife and Countryside Act (1981) (as amended), they may be utilise grassland habitats in a riparian setting. Works near watercourses may require a pre-commencement check for water vole to ensure they are unharmed.

2.0 Enhancement Opportunities

- 2.1 This document aims to provide clear and concise creation, management and maintenance operations regarding the habitat for which it has been created.
- 2.2 These operations should, however, provide measurable benefits to the individual trees habitat in accordance with the BNG Metric guidance sheets available from Natural England. The condition sheets provided for each habitat showcase a variety of different criteria which are applicable for the specific habitat. Based on the number of criteria passed by the habitat, a condition is achieved which helps to better represent the biodiversity value of said habitat. As such, a condition can be 'enhanced' by ensuring that more criteria are met by the habitat by way of management provisions.
- 2.3 For the 'Individual Trees' habitat, there are six core criteria with no criteria considered essential for achieving specific condition tiers (see **Table 2.1** below for further detail).

Table 2.1 – Condition Assessment Criteria Sheet for 'Individual Trees'

Condition Assessment Criteria	
A	The tree is a native species (or at least 70% within the block are native species).
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).
C	The tree is mature (or more than 50% within the block are mature).
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.
Condition Assessment Result	
Individual Trees (Result out of 6 criteria)	
Passes 5 or 6 criteria	Good
Passes 3 or 4 criteria	Moderate
Passes 2 or fewer criteria	Poor
Footnotes	
Footnote 1 – See gov.uk standing advice on ancient and veteran trees. Available from: Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk) and: Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk) Footnote 2 – Enhancement of this habitat type is only possible by improving the habitat so that it meets all Criteria B, D and F. It is not possible or appropriate to enhance individual tree/s through meeting just one or two of those Criteria, nor by meeting Criteria A, C or E.	

- 2.4 Given the generalist nature of this document, no specific recommendations will be made in respect of exact individual trees enhancement as the nature of the recommendations will vary dependent on the existing and target conditions of the habitats in question. Options to match each of the criteria below have been provided in **Section 4.0**, with specific operations regarding each criteria prescribed.

3.0 Creation Scheme

- 3.1 This individual trees CMMP has been created with the specific objectives set out in Section 1.0, however in brief the plan aims to cover the entire process of habitat management, from inception stage all the way through to enhancement, maintenance and monitoring. Through following the plans outlined, the habitat, in time, should provide at a minimum the proposed units outputted by the relevant Metric which has been referenced in the Ford Halewood Habitat Enhancement Strategy report (**Appendix I**).
- 3.2 This management plan covers the habitat 'Individual Trees which is a medium distinctiveness habitat type as described within UKHabs and within the Statutory BNG Metric. Habitats covered include:
- Individual Trees – Urban Trees
- 3.3 Any planting scheme for the creation of this habitat should consist of native species which are within their native range in the north-west of England, though the wider ecological context should also be taken into consideration when selecting species; as well as creating a diverse species list, the scheme should aim to complement, enhance, and/or extend what native habitat exists on the site or in its immediacy.

Individual Trees Creation

- 3.4 The Statutory BNG condition assessment criteria defines individual trees as follows:

"Individual trees (description applied to the urban or rural environment): Young trees over 7.5 cm in diameter at breast height whose canopies are not touching.

Urban Perimeter / Linear Blocks and Groups (description applied to the urban environment only): Groups or stands of trees (size requirement as defined above) within and around the perimeter of urban land. This includes those along urban streets, highways, railways and canals, and also former field boundary trees incorporated into developments. Canopies must overlap continuously. Groups of urban trees that don't match the descriptions for woodland may be assessed within this category."

- 3.5 It is encouraged that individual trees should be native – a list of indicative appropriate native trees is presented in **Table 3.1**. Where possible, it is recommended that species to be planted are locally harvested, though this is not essential (British Standard 3936:1992 – Nursery Stock – Part 1).

Table 3.1 – Suitable native species for planting to create/enhance individual trees

Common Name	Scientific Name
Alder	<i>Alnus glutinosa</i>
Alder Buckthorn	<i>Frangula alnus</i>
Aspen	<i>Populus tremula</i>
Bird Cherry	<i>Prunus padus</i>
Black Poplar	<i>Populus nigra subsp. betulifolia</i>
Lime	<i>Tilia x europaea</i>
Crab Apple	<i>Malus sylvestris</i>
Downy Birch	<i>Betula pubescens</i>
Elder	<i>Sambucus nigra</i>
Field Maple	<i>Acer campestre</i>
Goat Willow	<i>Salix caprea</i>
Grey Poplar	<i>Poplar x canescens</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Hornbeam	<i>Carpinus betulus</i>

Common Name	Scientific Name
Large-leaved Lime	<i>Tilia platyphyllos</i>
Midland Hawthorn	<i>Crataegus laevigata</i>
Osier	<i>Salix viminalis</i>
Pedunculate Oak	<i>Quercus robur</i>
Rowan	<i>Sorbus aucuparia</i>
Sessile Oak	<i>Quercus petraea</i>
Silver Birch	<i>Betula pendula</i>
Small-leaved Lime	<i>Tilia cordata</i>
Common Whitebeam	<i>Sorbus aria</i>
Wild Cherry	<i>Prunus avium</i>
Wild Service Tree	<i>Sorbus torminalis</i>
Wych Elm	<i>Ulmus glabra</i>
Yew	<i>Taxus baccata</i>

Planting

- 3.6 Planting of individual trees or groups of scattered trees typically includes using a chosen species mix of propagated stems. Stems should be sourced from local UK provenances where possible to achieve a native species tree line which is best adapted to local conditions, and to avoid introduction of pests and diseases such as ash dieback. Where local/community tree nurseries are not available, UK and Ireland Sourced and Grown (UKISG) certified stock should be utilised, sourced from seed zone 302.
- 3.7 All planting should be undertaken in the first planting season of habitat creation, with bare root stock to be planted between October-March and outside of periods of heavy rain/flooding, frost, or drought.
- 3.8 Holes for trees will be dug to a depth of 600mm; during digging any contaminants including rubbish will be removed. Timber stakes should be placed in the holes prior to planting of the trees, and on the side of the prevailing wind. After planting, a surface layer organic mulch will be applied to a depth of 50mm and in a 500mm radius around the stem to discourage weeds. Each tree should be attached to its stake using a rubber tie and spacing device, and tree guard applied.
- 3.9 The trees should not need watering except in summer during times of drought; however, regular assessment should be made through the first two years to check for dry and curling leaves. Should watering be required, the earth around the trees should be thoroughly saturated to encourage roots to grow down to groundwater as opposed to up towards surface water.

4.0 Management & Maintenance Programme

- 4.1 During any future tree / surrounding habitat management / maintenance works, disturbance to the surrounding habitats will be minimised and the works should be undertaken by hand and light machine (trimmer, brush cutter, clearance saw and/or chainsaw) wherever possible.
- 4.2 The ideal time to undertake management/maintenance of individual trees will depend upon the specific activity – for example, activities to support newly planted trees including weeding or watering and best undertaken in spring-summer, whilst planting and replacement of trees should be undertaken during winter when the trees are dormant. **Table 4.1** provides management and maintenance prescription objectives to be implemented to assess and enhance the individual trees in relation to each condition assessment criterion, whilst **Table 4.3** provides a summary guide to timings.
- 4.3 Any planting scheme should consist of native species which are within their native range in the north-west of England; suitable species for planting in this habitat can be found in **Table 3.1** above.
- 4.4 **Table 4.1** provides management and maintenance prescription objectives to be implemented to assess and enhance individual trees in relation to each condition assessment criterion.

Table 4.1 – Specific management prescriptions in relation to each criterion

Criterion A
<i>"The tree is a native species (or at least 70% within the block are native species)."</i>
Objective: To ensure all individual trees are native and at least 70% of a block of trees are native.
Management Prescriptions: 1. Planting of native individual tree species (such as those listed in Table 3.1). NB: The Statutory Biodiversity Metric Condition Assessments sheet for individual trees does not allow enhancement of individual trees by meeting this condition.
Criterion B
<i>"The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion)."</i>
Objective: To ensure a continuous canopy and encourage flora and fauna associated with shade. To provide connectivity for commuting species.
Management Prescriptions: 1. In existing blocks of trees supplementary planting to ensure a predominantly continuous canopy should be undertaken where newly planted trees are no greater than 5m away from its nearest neighbour. This is applicable for groups of trees only. 2. Blocks/groups of individual trees should not be planted to form a habitat with a width of less than 5m and length of 20m or greater; such a group would be classed as a line of trees and score Hedgerow units as opposed to Habitat units.
Criterion C
<i>"The tree is mature (or more than 50% within the block are mature)."</i>
Objective: To facilitate the maturation of trees and retain existing mature trees.

Management Prescriptions:

1. Allow existing trees and newly planted trees to achieve maturity by favourable management and prevention of damage / vandalism via use of fencing, tree guards and supportive stakes.

NB: Not all newly planted tree species listed in **Table 3.1** will feasibly achieve maturity within 30 years, hence it is likely that Criterion C will often not be able to be met for newly planted young whips. Furthermore, the Statutory Biodiversity Metric Condition Assessments sheet for individual trees does not allow enhancement of individual trees by meeting this condition.

Criterion D

"There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide, or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height."

Objective: To ensure the maintenance of health tree specimens and the retention of at least 75% of an individual's expected canopy for its respective age range and height.

Management Prescriptions:

1. Signage and / or fencing to prevent specimens, particularly when young and fragile, from being damaged by the general public.
2. Management operations with regard to pruning should be undertaken only when tree features pose risk to public health or the health of an individual tree and not as a means of landscaping / aesthetics.

NB: Tree diseases and pest risk levels which if present are indicative of a tree in poor/declining health is presented within **Table 4.2**.

Criterion E

"Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark."

Objective: To ensure the retention of trees with natural ecological features

Management Prescriptions:

1. Retain trees with natural ecological features such as deadwood, cavities, ivy or loose bark. Retain trees host to veteran trees such as major trunk cavities, water pool in tree crevices, and holes in the trunk, branches and roots.

NB: The Statutory Biodiversity Metric Condition Assessments sheet for individual trees does not allow enhancement of individual trees by meeting this condition. Additionally, newly planted trees are not mature enough to artificially create veteran features in.

Criterion F

"More than 20% of the tree canopy area is oversailing vegetation beneath."

Objectives: To ensure greater than 20% of the canopy is oversailing vegetation.

Management Prescriptions:

1. Newly planted trees should be positioned in areas where the surrounding habitat is natural e.g., a grassland and not within areas of hardstanding.

NB: Criterion F may not be able to be met where individual trees are pre-existing / to be planted within paths / streets or any areas where there is significant ground cover of hardstanding / artificial ground which may include astroturf or loose bark chippings.

Table 4.2 – Tree Diseases/Pests and Risk Levels

Common Name	Risk Level
Acute/Chronic Oak Decline	High
<i>Anoplophora chinensis</i>	High
<i>Anoplophora glabripennis</i>	High
Ash Dieback	High
Asian Longhorn beetle	High
Bronze Birch borer	High
Canker	Low
<i>Cryphonectria parasitica</i>	High
<i>Dendroctonus micans</i>	Low
Emerald Ash borer	High
<i>Gibrellia circinata</i>	High
Horse Chestnut Bleeding Canker	High
Horse Chestnut leaf miner	Low
<i>Ips amitinus</i>	High
<i>Ips duplicatus</i>	High
<i>Ips typographus</i>	High
Oak Processionary Moth	Low
<i>Phytophthora lateralis</i>	High
<i>Phytophthora kernoviae</i>	High
<i>Phytophthora ramorum</i>	High
<i>Phytophthora austrocedrae</i>	High
<i>Phytophthora spp</i>	High
Pine Lappet Moth	High
Pine Processionary Moth	High
Red Band Needle Blight	High
Sawyer Beetle	Low
<i>Tomicus piniperda</i>	Low
Weevils	High

4.5 **Table 4.3** below outlines a yearly calendar for the undertaking of the above management prescriptions.

Table 4.3 – Maintenance operations schedule for individual trees

Operation	Months												Notes
	J	F	M	A	M	J	J	A	S	O	N	D	
Visual inspection of trees					2						2	2	Inspect trees for signs of disease, damage or as required following adverse weather.
Weeding/mulch				✓	✓	✓	✓	✓	✓				Remove undesirable species and top up mulch (mulch topped up annually) to retain a weed free zone around base of each tree.
Tree stakes, ties and guards				✓					✓				Check and adjust, replace or remove as required until the tree has established. Check and readjust after strong winds. Remove in year 3-5 or as required.
Tree Guying				✓					✓				Repair and adjustment. Check and readjust after strong winds.
Watering					a/r								Repair and adjustment. Check and readjust after strong winds.
Routine pruning				✓					✓				Should not be required for the first few years for new trees, after which pruning should only include the removal of dead or diseased branches. Mature trees should be subject to pruning if deemed necessary by the arboricultural specialist.
Tree replacements	✓	✓									✓	✓	Any trees that have failed should be replaced to the original specification and planted within the next planting season.
Fencing Monitoring/ Maintenance					2						2	2	To be undertaken during the visual inspection of trees; all fencing should be checked for damage and repairs made as required.

Table Key

One operation per year (annually) – ✓
Two operations per year (biannually) - 2
Four operations every month – 4
As required = a/r

5.0 Monitoring Scheme

- 5.1 Through the 5-year duration for which this management plan covers, records should be kept of all operations carried out in relation to any part of the management plan. The actual management operations carried out can then be compared to the theoretical plan and any areas where there are discrepancies can be investigated further and changes can be made, either to the operation schedule or to the plan itself, to better reflect the nature of the habitat in question and to improve the efficacy of the scheme. Reviews should be undertaken annually for the first 5 years, in order to better develop the scheme and to adjust any parts of the plan which may not be achieving their objectives (see **Table 4.3**); refer to **Table 5.1** for monitoring schedule.
- 5.2 Annual monitoring reviews should only be undertaken by a suitably qualified person, typically an ecologist or arborist. As a part of this, along with the INNS and ground flora monitoring, an updated condition assessment should be carried out using the appropriate BNG Metric condition assessment sheets, and changes in condition through increase or decrease in criteria scores relative to the baseline recorded. All individual trees should be monitored for the full duration of the project, and additional management may be required to ensure the desired criteria are being met.
- 5.3 In the final year of the plan, the actual progress should be reviewed against the predicted status of the individual trees, in order to evaluate the effectiveness of the operations carried out up to that point. This information can then be used to inform a subsequent long-term management plan if it is deemed necessary by the local authority.
- 5.4 All of the species suggested within **Table 3.1** have been carefully selected, and all plant material should comply with the minimum requirements in BS 3936-1: 1992 Specification for trees and shrubs, BS 3936-4: 2007 Specification for forest trees and BS 8545: 2014 Trees from Nursery to Independence in the Landscape. Any plant material, which, in the opinion of the appointed Landscape Architect, does not meet the requirements of the Specification, or is unsuitable, or defective in any other way, will be rejected.

Table 5.1 – Monitoring schedule

Monitoring Year	Attending Ecologist (Signature)	Recommendations (Following Inspection)
2025		
2026		
2027		
2028		
2029		
2030		

