



Heathy Wood Phase 3 and 4,
Cophorne

Landscape & Ecology Management Plan

Prepared by
CSA Environmental

on behalf of
Tailor Wimpey UK Ltd

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Drawing Schedule

1.0 INTRODUCTION

- 1.1 The following Landscape & Ecology Management Plan has been drawn-up by CSA Environmental on behalf of Taylor Wimpey UK Ltd. It sets out the necessary prescriptions for the landscape management of the existing planting and new landscaping associated with the Phases 3 and 4 of the site at Heathy Wood, Copthorne (known as the 'Site').
- 1.2 This report is concerned with all areas of communal landscaping within the proposed development.
- 1.3 The plan has been written in response to the requirements of Condition 16 of the outline planning consent, which states;

*No phase shall commence until **a landscape management plan** for that phase, including long-term design objectives, management responsibilities and maintenance schedules for all landscaped areas (except privately owned domestic gardens), has been submitted to and approved in writing by the LPA. The landscape management plan shall be carried out as approved and any subsequent variations shall be agreed in writing by the LPA. The scheme shall include the following elements:*

- detail extent and type of new planting (NB planting to be of native species)*
 - details of maintenance regimes*
 - details of any new habitat created on site*
 - details of treatment of site boundaries and/or buffers around water bodies*
 - details of management responsibilities*
- 1.4 Detailed proposals for the structural landscaping have been produced and include the key areas listed below. The schedule of drawings within **Appendix A**, including the 'Planting Specification', should be read in conjunction with the management prescriptions set out herein.
- Peripheral open space margins to existing tree and woodland belts;

- Small focal space in Phase 3.
- 1.5 Maintenance prescriptions have been formulated to maximise the landscape amenity of the Site, maintain healthy plant growth, keep planting beds free from weeds / litter and ensure plant stock remains free from pests and disease. Furthermore, the prescriptions have been formulated to realise the aims and objectives of the Ecological Mitigation and Enhancement Strategy (ref: **CSA/5221/02**).
- 1.6 This plan deals with the maintenance of the following areas:
- Maintenance of Trees & Thicket (existing & proposed);
 - Maintenance of Hedges (existing & proposed);
 - Maintenance of Proposed Shrub Planting;
 - Maintenance of Grassland & Wildflower Meadows (existing & proposed);
 - Maintenance of Proposed Swales;
 - Maintenance of Street Furniture, Boundary Treatment & Hard Surfacing.
- 1.7 Following initial development of the Site, it is anticipated that the first 12 months planting maintenance will be the responsibility of the landscape sub-contractor as appointed by the developer. After this period, it is anticipated that all management contained within this report will be undertaken by an appointed Management Company (ManCo).
- 1.8 Any planting areas that are conveyed to the individual dwellings will remain the responsibility of the occupier.
- 1.9 This plan does not cover those areas of communal landscaping lying in close proximity to the Site, but previously approved under separate planning applications, as recently installed. These are covered by separate documents.
- 1.10 The plan covers the first 5 years of maintenance. After which, the plan should be reviewed, with fresh objectives and prescriptions for the long-term maintenance, in consultation with any relevant stakeholders, including any emerging residents groups.

2.0 SITE DESCRIPTION

- 2.1 The Site is located to the west of the village of Copthorne, east of the M23 and north of the A264 (Copthorne Way). It forms Phases 3 and 4 of the wider 'Land west of Copthorne' development, a site of some 54ha, with outline permission for up to 500 new homes and a new school site.
- 2.2 The Phase 3 area adjoins the existing Phase 2 development to the south and occupies an area of former woodland in the centre of the Site. To the west lies the main access road (Spine Road) through the site which serves Phase 4 and beyond which lies the school site, whilst to the north and east lies areas of existing mature woodland, the east section of which is designated as Ancient Woodland.
- 2.3 The Phase 4 area lies to the north of Phase 3 and occupies areas of existing grassland and low-lying scrub, with well-vegetated mature treed boundaries, the western boundary of which abuts a further section of ancient woodland.
- 2.4 Phase 4 is sub-divided into two parts by a young tree line, with a break created part-way along the tree line to facilitate vehicle access into the northern field.
- 2.5 The Burstow Stream passes through the site, dissecting Phase 3 and 4 and is contained within mature lines of trees and scrub, with the proposals allowing for a 20m offset from any development.

3.0 IMPLEMENTATION OF THE WORKS

- 3.1 All works should be installed in accordance with the details and specification set out in this report and that contained on the drawings listed within **Appendix A**.
- 3.2 All planting should take place in the first available planting season following completion of the open space areas, and to meet the criteria of the general planting specification set out in on the drawings listed within **Appendix A**.
- 3.3 The actual programme of installation will be dependent on the build programme and a more detailed programme of installation should be developed once construction of the housing area has commenced.
- 3.4 Planting should be maintained by the installing landscape contractor for a minimum period of 12 months following installation, with any defective planting replaced at the end of the first year (or before).
- 3.5 Following this period, it is anticipated that all management contained within this report will be undertaken by an appointed Management Company (ManCo). Any planting areas that are conveyed to the individual private dwellings will remain the responsibility of the occupier.

4.0 GENERAL MAINTENANCE ITEMS

4.1 Maintenance of the landscape areas shall be undertaken by a competent landscape contractor (as appointed by the Management Company), registered with the British Association of Landscape Industries (BALI). For the purposes of this report the appointed landscape contractor is referred to as 'The Contractor.'

4.2 Maintenance visits shall be undertaken at minimum monthly intervals (i.e. 12 visits per year). Visits may need to be increased at certain times of the year to enable the operations set-out within the report to be properly executed.

At each visit the following operations shall be undertaken:

- Regularly litter pick entire site to ensure that all planting and amenity areas are kept free from litter;
- Rake-up any leaf litter and remove from site;
- Ensure that all adjacent areas affected by maintenance operations are protected using boards or tarpaulins. Do not place excavated or imported materials directly onto grass/hard surfaces;
- Undertake weeding of planted areas;
- Undertake watering (as required) to ensure healthy growth / establishment of plant stock especially during the summer months (May to Aug) or during periods of prolonged drought where more frequent visits may be required;
- Sweep all communal hard surfaces to ensure they are kept free from litter and leaves; and
- Undertake all the necessary landscape maintenance outlined in the following sections.

4.3 All tree surgery works shall be undertaken in accordance with the requirements of BS 3998:2010 'Tree Work – Recommendations', by a suitably qualified arboricultural contractor, registered with the Arboricultural Association.

4.4 All pruning / removal works to existing vegetation, including trees, should be undertaken outside of the bird nesting season to ensure that

breeding birds are not disturbed. For clarification, the bird nesting season is taken to be March to August inclusive. Where this is not possible, an ecologist will need to check for nesting birds prior to commencement of works

- 4.5 All trees and dense scrub / shrub areas to be retained are to be protected throughout the duration of the construction works in accordance with the prescriptions set out in the arboricultural assessment submitted with the planning application, to meet the criteria of BS 5837:2012 'Trees in Relation to Construction' – Recommendations'
- 4.6 Where tree surgery is planned as part of this management plan or in the situation where an approved tree surgeon has recommended remedial work for health and safety reasons, the potential for bats to be present must be considered before work is carried out.
- 4.7 All soft landscape areas to be maintained to BS7370-4:1993.
- 4.8 The Contractor shall physically maintain the whole of the Site in accordance with the schedules and specification included within this document. The landscape maintenance is to be carried out to a high standard at all times.
- 4.9 A record or log of all maintenance visits should be undertaken by the Contractor and these should be collated on a six monthly basis and submitted to the Management Company for review.
- 4.10 The Contractor shall ensure that any chemical application is undertaken by trained personal / operatives only, who have the appropriate NPTC certificates and in accordance with the manufacturer's recommendations. The 'Code of Practice for the Safe Use of Pesticides for Non-Agricultural Purposes' will be observed where applicable. The use of any chemicals shall be noted on the record sheets as outlined above.
- 4.11 The Contractor should ensure that the Site is left in a tidy and safe state following the undertaking of works outlined in the enclosed schedules and this shall be at the end of the day of each visit. All arisings should be removed from site in accordance with the schedules.
- 4.12 The Contractor shall programme and vary their agreed time of visits to coincide with appropriate weather conditions for carrying out of operations, with particular regard for the use of chemicals and the

mowing of grass. The mowing of grass during excessively wet weather or following periods of extended rain is strictly prohibited.

- 4.13 The Contractor should notify the Management Company to any significant pest or disease problem affecting the planted stock and shall provide a suitable strategy for treatment to be agreed with the client.
- 4.14 The Contractor shall advise the Management Company of all trees and other plants found to be dead, dying, vandalised or suffering significantly from the current growing conditions. All failed / defective plants identified within the first 12 months of installation should be replaced by the contractor at the soonest available planting season to ensure a continued coverage of growth. Replacement plants should be of the same species and specification of the failed specimens.
- 4.15 Chipping and shredding is not permitted on site without prior consent.
- 4.16 Should mammalian pests become a significant problem on site, then proposals for their control / eradication should be submitted for approval.
- 4.17 Ensure that a suitable water supply is available to carry out the operations detailed in this document. In the event of water restrictions (e.g. drought), the contractor will be responsible for submitting proposals to the Management Company for an alternative source of water e.g. use of a trailer mounted bowser.

5.0 TREES & THICKET

Existing Trees

- 5.1 A number of mature trees border the peripheries of the Site and will be retained by the proposed development. The majority of the trees fall outside of the parcel boundaries and thus their management is secured by separate reports associated with the outline planning permission. Housing has been deliberately set-back from the trees to maintain their rooting conditions.

Objectives

- 5.2 To maintain and enhance the biodiversity value of existing trees across the Site.
- 5.3 Management of existing trees for safety, and to maintain healthy growth, attractive form and promote longevity.

Prescriptions

- 5.4 The status of existing trees will be assessed in years 1 and 5 of this management plan. Where appropriate, selective removal will be undertaken to remove poor quality tree specimens and permit the development of a healthy mature tree structure to the site boundaries.
- 5.5 In year 1 of this management plan, existing trees will be inspected by a suitably qualified arboriculturalist, registered with the Arboricultural Association. Tree will be evaluated for signs of structural weakness or storm damage and a schedule of initial tree works drawn-up. Tree works should be carried out at the first available opportunity prior to occupation and outside of bird nesting season. The above should be repeated in Year 5 at the end of the plan period.
- 5.6 For any over-mature trees in the vicinity of higher risk areas such as roads and play areas this inspection should be repeated every 2 years.
- 5.7 Retained trees will be further monitored for any sign of defects or poor health by an annual check or after severe weather. Any signs of ill health or damage will be noted and remedial action taken when required.
- 5.8 If trees show signs of poor growth in a heavily trodden area, with no observable pests or diseases, feed and aerate the root area or in severe cases, undertake specialist de-compaction e.g. 'Terravent'.

- 5.9 Similarly, if trees appear to be suffering any signs of nutrient deficiency a general fertiliser should be applied as appropriate and in accordance with manufacturer's instructions, and hoed into bare soil beneath canopy line; annually as required.
- 5.10 Routine annual pruning of mature trees should be carried out only in exceptional circumstances if a health and safety issue is identified or for the benefit of the trees health. Prior to undertaking such works, advice should be sought from the principal designer / principal contractor.
- 5.11 Tree work should be carried out in accordance with BS 3998 and the Health and Safety Executive (HSE) 'Forestry and arboriculture safety leaflets'. Branches should be cut in accordance with the Arboricultural Association Leaflet 'Mature tree management'. In each case cut back to live wood using appropriate tools and do not prune during the late winter / early spring period.
- 5.12 Clean out and remove any dead, dying or diseased wood, broken branches or growths, fungal bodies and fruiting bodies. Remove any rubbish or objects / structures which have become attached or accumulated within the canopy or on the trunk of the tree. Any standing or attached dead wood should be left in situ unless it is causing an obstruction or poses a risk to health and safety.
- 5.13 Any significant and stable dead wood will be kept on site to form log piles within peripheral meadow and thicket areas to form habitat that can be used by saprophytic organisms and hibernating fauna.
- 5.14 All tree work should be carried out by a suitably qualified professional tree surgeon, a registered member of the Arboricultural Association. Consultation with the local authority should be sought for any works to trees covered by a Tree Preservation Order.

Proposed Thicket Planting

- 5.15 New areas of woody scrub and thicket are proposed across the public open space areas of the Site and new thicket planting is proposed along boundaries of the Site to strengthen existing vegetation and to help screen the development from these locations.
- 5.16 Careful treatment of the boundaries will be undertaken to promote an 'eco-tone', grading from existing grassland margin through to native shrubs and higher canopy trees.

- 5.17 New wet thicket planting is proposed around surface water attenuation basin.

Objectives

- 5.18 To use new thicket planting as a means to add long-term structure to the landscape.
- 5.19 To create enhanced boundaries to the proposed development
- 5.20 To provide structure and interest to the areas surrounding the stormwater attenuation basin / swales.

Prescriptions

- 5.21 Planting will incorporate native tree and shrub species appropriate to the local area. Planting will be undertaken in accordance with the species set out in the planting schedules (**Appendix A**).
- 5.22 Inspect trees / shrub shelters monthly to ensure they are secure and in position and re-firm / replace as required. Once ties / shelters are deemed to be too small and the trees have established, they should be removed and disposed of off-site.
- 5.23 Prune and re-shape native transplants at the appropriate time according to individual requirements to promote good form and encourage strong growth, minimum annually
- 5.24 Transplants will be re-firmed in the ground after strong winds, frost heave or other disturbances. New trees will be routinely inspected, at least annually, for pests and diseases.
- 5.25 New planting will be monitored annually to ensure successful establishment and any remedial actions required outlined to the Management Company.
- 5.26 The area at the base of new planting should be retained free from weed growth by occasional strimming between new planting stations, at least quarterly, with extra care taken to avoid strimming too close to transplants.
- 5.27 Any protective post and wire fencing should be maintained in good order and repaired as necessary to maintain integrity.

Proposed Tree Planting

- 5.28 A wide range of new trees will be planted across the whole site within the public open space areas and highway verges and will include semi-mature, extra-heavy and standard trees of both native and ornamental varieties.

Objectives

- 5.29 To provide immediate biodiversity value, landscape structure and visual interest.
- 5.30 To ensure new tree planting is suitably cared for to enable its successful establishment, and to promote healthy growth and attractive form.

Prescriptions

- 5.31 Proposed species will include a mix of native and ornamental species as set out within the planting schedules and the Planting Specification on the drawings listed within **Appendix A**.
- 5.32 All tree planting will be conducted into well-prepared ground in accordance with good horticultural practice.
- 5.33 Inspect stakes and ties to trees, twice yearly or after severe weather. Test for soundness in early and late winter, and replace tight or ineffective ties. Ties should be replaced in slightly different position. Remove stakes and ties as soon as trees are self-supporting to benefit tree establishment. Ensure that stake(s) are wholly removed from the ground and that the remaining hole is filled with clean topsoil.
- 5.34 Apply annually a single dose of evenly spread, 11:22:9 NPK, slow-release fertiliser to the base of the tree at a rate of 50g per tree, from March – April; replace any mulch layer.
- 5.35 Re-firm trees in ground after strong winds, frost heave or other disturbances.
- 5.36 Monitor and replace any failed tree stock with new trees between October and March. Ensure planting is conducted into well-prepared ground.
- 5.37 Trees should be routinely inspected for pests and diseases and any remedial action taken swiftly to prevent the spread of disease and control pests.

- 5.38 Watering programme should be monitored to ensure that at times of water shortage (e.g. drought) sufficient water is applied to meet the conditions.
- 5.39 Annually review and undertake crown pruning of young trees by removing dead branches and reducing selected side branches, ensuring development of a single strong leader. Pruning should be carried out in accordance with BS 7370-4.
- 5.40 Maintain a mulch layer at the base of each tree by annual topping-up to a depth of 75mm to a diameter of 1m around the trunk. Ensure mulch layer is free from weeds by hand cultivation.

Tree Watering

- 5.41 Newly planted trees should be watered when planted and for the first 2 summers. New trees should be watered at the beginning of the growing season (April/May) and regularly throughout the summer, with increased watering during spells of hot weather.
- 5.42 During the summer, water should be applied every other day at a rate at approximately 20-30 litres for standard trees and 40+ litres for larger trees. This figure should be reached during the height of summer and can be gradually increased to this in the spring and decreased before ceasing watering in the autumn.
- 5.43 If the ManCo opts to introduce watering bags, these should be checked regularly to ensure they are working efficiently and applying the correct watering rates to the tree.

6.0 HEDGEROWS

Existing Hedgerows

- 6.1 There are a number of hedgerows that bound the Site which are to be retained and protected for their ecological and biodiversity value.

Objectives

- 6.2 To protect and enhance the existing hedgerows / tree lines with regard to their features and function as wildlife corridors and general wildlife habitats.
- 6.3 To maintain the screening value of existing hedgerows / tree lines.

Prescriptions

- 6.4 Existing hedgerows / tree lines will be in-filled as required with appropriate with native species of local provenance. Carry-out an annual walk-over to assess any new gaps in hedgerow and carry out remedial work as required.
- 6.5 Any infill planting will be conducted into well-prepared ground. New transplants will be protected with propriety spiral rabbit guards or shrub shelters.
- 6.6 The existing hedgerows will be monitored for any sign of defects or poor health annually or after severe weather. Any signs of ill health or damage will be noted and remedial action taken when required.
- 6.7 Established sections of hedgerow will be managed on the Site side with a cut every three years in January to February (outside of the bird nesting season) to a height appropriate to its context, with the aim of promoting an 'A' line profile. Hedges to cut using a tractor and flail where space permits. Where the use of a tractor and flail is not possible due to space constraints, hand pruning will be required. Due to the relatively large quantity of existing hedgerows around the Site, a rotational cutting programme may be implemented by the Management Company. All arisings to be removed.

Proposed Native & Ornamental Hedge Planting

- 6.8 New clipped hedge planting of both native and ornamental species is proposed within the southern open space and alongside the focal LAP space.

Objectives

- 6.9 To ensure newly planted hedges are suitably cared for to enable successful establishment into a dense bushy hedge that can be suitably maintained for ornamental and amenity value.
- 6.10 To maximise biodiversity value by providing new habitats for wildlife.
- 6.11 To provide enclosure to formal areas, screening, structure and visual interest within the proposed landscape scheme.

Prescriptions

- 6.12 New planting of ornamental hedgerow species will be conducted as prescribed in the Planting Specification on the drawings listed within **Appendix A.**
- 6.13 Prune and re-shape young transplants at the appropriate time according to individual requirements to promote good form and encourage strong, bushy growth, minimum annually
- 6.14 During and following the establishment of the planting ensure that sufficient water is applied to maintain healthy growth as required. Ensure that full depth of topsoil is saturated. Watering programme should be monitored to ensure that at times of water shortage (e.g. drought), sufficient water is applied to meet the conditions.
- 6.15 Prune and re-shape hedge species at the appropriate time according to individual requirements to promote good growth and compact form, removing any dead or dying wood.
- 6.16 Allow new hedges, including those species rich native hedges to the periphery of the southern open space, to attain a planned height of 1.2m, by trimming lateral growth by hand once annually in September outside of the bird nesting season (March-August). Once established, hedges should be maintained at this planned dimension. Inspect hedgerows for ground nesting birds prior to maintenance operations.

- 6.17 Keep all hedge planting trenches clear of weeds by cultivating and use of approved herbicides. Fork-over/hoe beds as necessary to keep soil loose, disposing of arisings off-site.
- 6.18 Apply an annual single dose of evenly spread, 11:22:9 NPK slow-release fertiliser at a rate of 60g per m², from March - April.
- 6.19 Top-up the mulch surface (where applicable) with chipped tree bark following planting, to a depth of 75mm. Regularly monitor mulch levels and re-mulch in July to original depth, or when required.
- 6.20 Regularly check for plants which have been loosened by wind or frost and re-firm any loose plants back into the ground.
- 6.21 Monitor and replace failed planting with new plants of equivalent size and species between October and March.
- 6.22 All plants should be maintained in a disease and pest free state through the application of a suitable proprietary herbicide/pesticide.

7.0 ORNAMENTAL SHRUB PLANTING

- 7.1 New areas of proposed ornamental shrub planting will be provided throughout the Site consisting of a variety of species appropriate to their setting.

Objectives

- 7.2 To ensure planting within communal areas adjacent to dwellings and areas of public open space is suitably cared for to enable its successful establishment, to maintain growth and shape of plants and prevent planting beds becoming overgrown and untidy.
- 7.3 Planted areas will be used to reinforce access routes and define space within the recreational landscape.
- 7.4 To assist in creating a landscape of varying sensory experience, predominantly through colour, texture and scent to maximise wildlife benefit.

Prescriptions

- 7.5 All ornamental shrub planting to be conducted in accordance with the Planting Specification.
- 7.6 During and following the establishment of the planting ensure that sufficient water is applied to maintain healthy growth as required. Ensure that full depth of topsoil is saturated. Watering programme should be monitored to ensure that at times of water shortage (e.g. drought) sufficient water is applied to meet the conditions.
- 7.7 Prune and re-shape shrub species at the appropriate time according to individual requirements.
- 7.8 Remove dead or dying wood, in order to promote healthy growth and attractive form. Shrubs should be prevented from becoming overgrown, with particular attention to plants adjacent to windows, footpaths and roads to prevent obstruction.
- 7.9 Always avoid hard pruning to bare wood, with the exception of Dogwood and Willow species in planting beds within the southern open space and around the SuDS basin. These should be pruned through rotational coppicing every 3 years down to 100mm from ground level in February.

- 7.10 Keep all beds clear of weeds by cultivating and use of approved herbicides. Fork-over/hoe beds as necessary to keep soil loose, disposing of arisings off-site.
- 7.11 Apply an annual single dose of evenly spread, 11:22:9 NPK slow release fertiliser at a rate of 60g per m², in March - April.
- 7.12 Mulch the surface of the planting beds with chipped tree bark following planting, to a depth of 75mm. Regularly monitor mulch levels and re-mulch in July to original depth, or when required.
- 7.13 Regularly check for plantings which have been loosened by wind or frost and re-firm any loose plants back into the ground.
- 7.14 Regularly check beds on routine visits to assess whether thinning is required. When planting is starting to overlap it may be necessary to remove some individual plants to retain the character of the bed. Thinning should take place as required in a logical process over several stages.
- 7.15 Monitor and replace failed planting with new equivalent plants between October and March. All plants should be maintained in a disease and pest free state through the application of a suitable proprietary herbicide/pesticide.
- 7.16 Dead head flowering shrubs and herbaceous perennials following the flowering period to promote further flowering. Cut down perennials in autumn. NB:- Remove arisings from site.
- 7.17 Cut back any ornamental grasses to 100-150mm above ground level in late winter to encourage fresh young growth.

8.0 GRASSLAND & WILDFLOWER MEADOWS

Existing Grassland

- 8.1 The Phase 4 area contains extensive areas of existing grassland that is to be retained and enhanced through over-seeding to establish diverse meadow swards.

Objectives

- 8.2 These areas will be managed as long meadow grassland in order to provide structural and botanical diversity and will form part of the 'eco-tone' graded edge, requiring only a low intensity maintenance regime.
- 8.3 To provide areas of species-rich wildflower meadows of varying type, within the public open space areas to provide seasonal interest and maximise biodiversity value.
- 8.4 To define the edges of the existing ditch and swale corridors.
- 8.5 To provide nectar and food plants for invertebrates.

Prescriptions

- 8.6 The grassland will be monitored in the first season to review the pattern of species-richness and to inform further management actions.
- 8.7 Initially, the retained grassland will be cut short in Spring down to 50mm, followed by harrowing using a tractor mounted chain harrow to break-up and open the sward a little and allow germination of new seed bank. Following harrowing, the existing grassland areas are to be over-sown with a range of new grass seed in accordance with the proposals at **Appendix A**.
- 8.8 No nutrient improvement to the existing soil will be undertaken prior to sowing.

Wildflower Meadow Areas (WF1)

- 8.9 For longer grass areas (WF1), these shall be maintained by a bi-annual cutting regime, similar to a traditional hay meadow cut, with the grassland cut to a height no lower than 100mm in July (once gone to seed) and again at the same height in September/October to maximise vascular plant vitality.

- 8.10 All cuttings will be left in-situ for 24 hours after being cut to allow for any wildlife to disperse. Arisings will then be removed from the area to reduce nutrient build-up which would encourage the development of more vigorous plant species.
- 8.11 If the meadow sward becomes excessively long or hard to manage for the seasonal cut due to its height, then a further cut can be employed in late March / early April to check the growth (down to 100mm).
- 8.12 Meadow areas along the boundaries of the site can have the cutting regime relaxed further to allow the development of more tussocky grassland conditions, with selective areas cut on annual rotation to promote the growth of rank grassland areas, especially alongside hedge lines away from more publicly accessible areas.
- 8.13 The wildflower areas will be hand-weeded or spot swiped for any perennial weeds such as docks *Rumex* sp., nettles *Urtica* sp. and ragwort *Senecio jacobaea*.
- 8.14 Areas of persistent weeds should be 'capped off' by cultivation and sowing of a pure grass seed mix at the best available growing season (eg. September)

Amenity Grass Areas

- 8.15 The proposed scheme includes areas of short mown amenity grassland areas and grassed roadside verges throughout the Site.

Objectives

- 8.16 To provide areas of short mown recreational grassland to encourage active and passive recreation for the benefit of the new development and the wider community.
- 8.17 To ensure that highway verges are maintained so as to contribute to the visual amenity of the development.

Prescriptions

- 8.18 Following initial seeding/turfing, provide appropriate signage to discourage entrance for a minimum of 6 weeks or until the grass sward is suitably established to withstand footfall.
- 8.19 Allow turf sward or amenity seeded areas to establish to a minimum height of 35mm before first cut. Once established, maintain to a height

of 25-30mm by cutting fortnightly or as necessary through the growing season and as required during the winter months (to maintain to approx. 30mm). Arisings to be collected and removed from site.

- 8.20 Remove all litter including fallen leaves from grass areas prior to mowing. Do not use mowers/trimmers within 100mm of tree stems, use nylon filament rotary cutters or other hand-held machinery to avoid damage to bark. Strim around any obstructions.
- 8.21 All amenity grassed areas should receive an application of a proprietary granular slow-release fertiliser twice yearly in the spring and the autumn (refer to schedules).
- 8.22 A selective herbicide should be used in order to suppress any emerging perennial weeds.
- 8.23 Edges adjacent to footpaths should be reformed and left neat after each maintenance visit.
- 8.24 All amenity grassed areas should be scarified annually in the autumn to remove thatch conditions and the build-up of dead grass. Following annual scarification, grassed areas should be thoroughly spiked to aerate soil and improve drainage.
- 8.25 Bare areas and areas of dead grass which become apparent should be rectified by over-seeding and/or turf re-installation at the soonest available planting season.

9.0 PROPOSED SWALES

Wildflower Meadow Areas (WF2)

- 9.1 The scheme contains several swales that form the SuDS for this phase of the development, which will be seeded with an appropriate wildflower meadow mix tolerant of seasonally wet/damp conditions.

Objectives

- 9.2 To create attractive and interesting features which have a landscape, amenity and ecological value as well as maintaining an attenuation function.

Prescriptions

- 9.3 Seeding of specified mixes is to be undertaken onto pre-prepared seed beds in accordance with the planting specification. No nutrient improvement to the existing soil will be undertaken prior to sowing or during management and where feasible, topsoil and subsoil should be mixed to reduce fertility.
- 9.4 In all cases, special care should be taken to ensure the seed beds are as free from weeds as possible, through continued cultivation and herbicide applications with the aim of creating a 'stale seed' bed prior to seeding
- 9.5 The wildflower meadow areas will be managed as follows;
- Year 1 – Following establishment, once the sward has reached 100mm, it should be maintained at this height between April and October through regular cuts (minimum monthly) for the first growing season to control weed growth and allow for the slower growing perennial wildflowers to establish.
 - Year 2 – Regular cutting to maintain a grass height of approximately 100mm should continue from April till May, at which point the sward should be left to establish to a greater height, before 2 further cuts in late July and Sept down to 100mm.
- 9.6 Year 3 onwards - A bi-annual cutting regime will be implemented with the grassland cut to a height no lower than 100mm in July / August (once gone to seed) and again at the same height in October/ November to maximise vascular plant vitality.

- 9.7 All cuttings will be left in-situ for 24 hours after being cut to allow for any wildlife to disperse. Arisings will then be removed from the area to reduce nutrient build-up which would encourage the development of more vigorous plant species.
- 9.8 The wildflower areas will be hand-weeded or spot swiped for any perennial weeds such as docks *Rumex* sp., nettles *Urtica* sp. and ragwort *Senecio jacobaea*.
- 9.9 Areas of persistent weeds should be 'capped off' by cultivation and sowing of a pure grass seed mix at the best available growing season (eg. September).

10.0 STREET FURNITURE, BOUNDARY TREATMENTS & HARD SURFACES

Street Furniture

- 10.1 Street furniture including seats, benches and litter bins will be provided throughout the publicly accessible areas of the Site.

Objectives

- 10.2 To provide areas of seating and waste disposal for members of the public.

Prescriptions

- 10.3 Undertake bi-annual checks of all street furniture to ensure that it remains soundly and safely installed. Re-install any loose furniture.
- 10.4 If any street furniture requires replacement due to damaged, the area should be cordoned off with appropriate signage. The replacements should be installed as soon as physically possible with a target response time within 2 weeks, subject to parts available / delivery times. Installation should be carried out by a suitable qualified installer.
- 10.5 In the case of street furniture containing timber elements, ensure that the timber has not become worn or the preservative treatment eroded by continual use or UV exposure. Any worn or damaged timber should receive an application of proprietary timber preservative to match the colour and treatment of the adjacent timber.
- 10.6 In the case of street furniture containing painted metal elements, ensure that any painted surface has not become worn or eroded through continual use. Any worn or damaged paint work should be rectified by the application of an appropriate paint to match the existing.
- 10.7 Undertake bi-annual checks for graffiti. The contractor should keep accurate records of any graffiti and should make every endeavour to remove / remediate street furniture that is subject to graffiti.
- 10.8 Litter bins to be emptied weekly

Hard Surfaces

- 10.9 A network of surfaced footpaths will be provided throughout the Site.

Objectives

- 10.10 To form part of the wider footpath network to facilitate public access across the Site.

Prescriptions

- 10.11 As required, ensure all pathways are maintained free from debris, litter and fallen leaves through regular sweeping. Remove any arisings from site.
- 10.12 Undertake regular inspections to ensure that all pathways are sound and free from cracks or trip hazards. Patchy, worn areas or where the hard surface finish has visibly failed, are to be clearly fenced-off from the public and repaired as new as soon as feasibly possible.
- 10.13 Pathways to be spot treated bi-annually with an appropriate herbicide (eg. Glyphosate) to remove any weeds, moss or algae growth.

Fencing and Boundary Treatments

- 10.14 A variety of fencing types will be used throughout the Site including knee-rail to the peripheral roads.

Objectives

- 10.15 To be used to define space and restrict access to landscaped areas as appropriate.

Prescriptions

- 10.16 Ensure that all communal fencing is maintained in a safe, hazard-free state to facilitate the effective function of its intended use.
- 10.17 Undertake bi-annual inspections to ensure that all fencing is sound and free from damage.
- 10.18 Damaged or broken sections of timber and wire fencing should be securely repaired or replaced as required with treated softwood and mild steel wire as appropriate.
- 10.19 Remove any temporary fencing to planted areas once the planting has established.

11.0 MAINTENANCE SCHEDULES

General Maintenance Schedule

- 11.1 A schedule of work is provided in the following tables, giving a timetable for management actions for the first five years. Before the end of this Management Plan period the Management Company will review these prescriptions, in consultation with interested parties and provide an updated Management Plan for on-going management.

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Undertake watering as required to ensure healthy establishment of all plant stock	May-Aug As req.	May-Aug As req.	May-Aug As req.	May-Aug As req.	May-Aug As req.
B	Remove all arisings from maintenance operations	As req.	As req.	As req.	As req.	As req.
C	Ensure all planted areas are kept weed free; no weed cover to exceed greater than 5% in area or 300mm in height.	As req.	As req.	As req.	As req.	As req.
D	Re-instate any failed plant stock to agreed specification as agreed with client; incl for top dressing with slow release fertiliser @ 50g/m2	As req.	As req.	As req.	As req.	As req.

E	Ensure all hard surfaces are kept free from litter / leaves and sweep as required.	As req.	As req.	As req.	As req.	As req.
F	Apply folia acting / residual herbicide to hard surfaces to prevent ingress of weed and algae growth.	Sept-Oct As req.	Sept-Oct As req.	Sept-Oct As req.	Sept-Oct As req.	Sept-Oct As req.
G	Rake-up fallen leaf litter; remove from site	Sept-Dec As req.	Sept-Dec As req.	Sept-Dec As req.	Sept-Dec As req.	Sept-Dec As req.
H	Ensure all plants are maintained disease and pest free through the application of a suitable proprietary herbicide / pesticide	Annually As req.	Annually As req.	Annually As req.	Annually As req.	Annually As req.

Existing Tree Maintenance Schedule

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Monitor mature trees for signs of defects / poor health. Take remedial action only if required on the grounds of health and safety / condition.	As part of regular visits	As part of regular visits	As part of regular visits	As part of regular visits	As part of regular visits

New Thicket Maintenance Schedule

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Inspect stakes / ties / guards and replace/remove as required.	Monthly	Monthly	Monthly	-	-
B	Undertake formative pruning of young transplants to encourage good growth and shape.	Annually as required Oct-Nov	Annually as required Oct-Nov	Annually as required Oct-Nov	Annually as required Oct-Nov	Annually as required Oct-Nov
C	Transplants re-firmed into ground after severe weather and stakes checked.	As required	As required	As required	As required	As required
D	Thicket planting to be routinely inspected for pests / disease	At least Annually	At least Annually	At least Annually	At least Annually	At least Annually
E	Base of new planting to be free from weeds by occasional strumming	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly

F	Remove any dead plant material at the end of the growing season.	Annually as required Sept	Annually as required Sept	Annually as required Sept	Annually as required Sept	Annually as required Sept
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New Tree Planting Maintenance Schedule

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Inspect tree stakes / ties / guards and replace/remove as required.	Monthly	Monthly	Monthly	Monthly	Monthly
B	During excessive hot weather spray crowns	As required	As required	As required	As required	As required
C	Supply & apply slow-release fertiliser to base of each tree; 50g per tree.	Annually Mar-Apr	Annually Mar-Apr	Annually Mar-Apr	Annually Mar-Apr	Annually Mar-Apr
D	Following strong winds, re-firm base and check stakes / ties for stability.	As required	As required	As required	As required	As required

E	Undertake formative pruning of young trees to encourage good growth and shape.	Annually as required Oct-Nov	Annually as required Oct-Nov	Annually as required Oct-Nov	Annually as required Oct-Nov	Annually as required Oct-Nov
F	Monitor and replace failed trees and replace with new trees into wee prepared ground	As required Oct-Mar	As required Oct-Mar	As required Oct-Mar	As required Oct-Mar	As required Oct-Mar
G	Top of mulch layer at base of tree; 1.2m diam. x 75mm depth.	Annually Sept	Annually Sept	Annually Sept	Annually Sept	Annually Sept
H	Trees to be routinely inspected for pests / disease	At least Annually	At least Annually	At least Annually	At least Annually	At least Annually

Existing Hedgerows Maintenance Schedule

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Any infill planting to be monitored and shelters and guards inspected	Bi-annually	Bi-annually	Bi-annually	-	-

B	Hedges monitored for defects or poor health, remedial action taken	Annually as required	Annually as required	Annually as required	Annually as required	Annually as required
C	Hedges managed with a cut to promote an 'A' line profile every 3 years	-	-	1 time Jan-Feb	-	-

New Hedge Planting Maintenance Schedule

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Tidy up all planting areas removing rubbish, litter from hedge trenches.	Each visit	Each visit	Each visit	Each visit	Each visit
B	Re-cultivate around base of transplants by light hoe to relieve soil compaction.	4 times Apr-Oct	4 times Apr-Oct	4 times Apr-Oct	-	-
C	Supply & apply slow release fertiliser to planting areas; 60g/m2.	Annually Mar/Apr	Annually Mar/Apr	Annually Mar/Apr	-	-
D	Undertake pruning of hedges, to encourage growth and promote good form.	Annually, (lateral growth only) late summer	Annually, late summer	Annually, late summer	Annually, late summer	Annually, late summer

E	Remove any dead plant material at the end of the growing season.	Annually as required Sept/Oct	Annually as required Sept/Oct	Annually as required Sept/Oct	Annually as required Sept/Oct	Annually as required Sept/Oct
F	Top up mulch layer to all planting beds; depth 75mm	Annually Sept	Annually Sept	Annually Sept	Annually Sept	Annually Sept
G	Following strong winds, re-firm loose plants back into the ground	As required	As required	As required	As required	As required

Ornamental Shrub Planting Maintenance Schedule

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Tidy up all planting areas removing rubbish, litter from planting beds.	Each visit	Each visit	Each visit	Each visit	Each visit
B	Dead head flowering shrubs following flowering period	As required July-Sept	As required July-Sept	As required July-Sept	As required July-Sept	As required July-Sept
C	Re-cultivate around base of shrubs by light hoe to relieve soil compaction.	4 times Apr-Oct	4 times Apr-Oct	4 times Apr-Oct	4 times Apr-Oct	4 times Apr-Oct
D	Supply & apply slow release fertiliser to planting areas; 60g/m ² .	Annually Mar/Apr	Annually Mar/Apr	Annually Mar/Apr	Annually Mar/Apr	Annually Mar/Apr
E	Undertake formative pruning of ornamental shrubs, to encourage growth and promote good form. (Coppice Dogwood and Willow every 3 years)	Annually, as required Sept-Jan	Annually, as required Sept-Jan	Annually, as required Sept-Jan	Annually, as required Sept-Jan	Annually, as required Sept-Jan

F	Remove any dead plant material at the end of the growing season.	Annually as req. Sept/Oct	Annually as req. Sept/Oct	Annually as req. Sept/Oct	Annually as req. Sept/Oct	Annually as req. Sept/Oct
G	Top up mulch layer to all planting beds; depth 75mm	Annually Sept	Annually Sept	Annually Sept	Annually Sept	Annually Sept
I	Edge up planting beds to maintain soil level below adjacent hard surfaces.	4 times annually	4 times annually	4 times annually	4 times annually	4 times annually
J	Supply & apply selective herbicide to manufactures recommendations; to all grassed areas.	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct
K	Following strong winds, re-firm loose plants back into the ground	As required	As required	As required	As required	As required

Existing Grassland Maintenance Schedule (WF1)

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Tidy up all grass areas removing rubbish, litter.	Each visit	Each visit	Each visit	Each visit	Each visit
B	WF1 - Seasonal hay meadow cutting regime to be implemented. Grass cut to a height to a height no lower than 100mm. Arisings left in-situ	July & Sept	July & Sept	July & Sept	July & Sept	July & Sept
C	Spot treat meadow areas with approved herbicide where required	Bi-annually	Bi-annually	Bi-annually	Bi-annually	Bi-annually

Amenity Grass Maintenance Schedule

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Tidy up all grass areas removing rubbish, litter.	Each visit	Each visit	Each visit	Each visit	Each visit
B	Growing Season:- Maintain amenity grass at height of 25mm and trim / re-form edges.	Apr-Oct	Apr-Oct	Apr-Oct	Apr-Oct	Apr-Oct
C	Dormant Season:- Maintain amenity grass at height of 30mm and trim / re-form edges.	Mar-Apr & Oct-Nov	Mar-Apr & Oct-Nov	Mar-Apr & Oct-Nov	Mar-Apr & Oct-Nov	Mar-Apr & Oct-Nov
D	Remove fallen leaves from grassed areas; as required	Sept-Nov	Sept-Nov	Sept-Nov	Sept-Nov	Sept-Nov

E	Carry out bi-annual spiking to all amenity grassed areas; to a depth of 75mm.	2 visits; Mar/Apr & Sept/Oct	2 visits; Mar/Apr & Sept/Oct	2 visits; Mar/Apr & Sept/Oct	2 visits; Mar/Apr & Sept/Oct	2 visits; Mar/Apr & Sept/Oct
F	Carry out autumn scarification of all amenity grassed areas; depth 15mm.	1 visit; Oct/Nov	1 visit; Oct/Nov	1 visit; Oct/Nov	1 visit; Oct/Nov	1 visit; Oct/Nov
G	Supply & apply selective herbicide to manufactures recommendations; to all grassed areas.	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct
H	Supply & apply slow release lawn fertiliser:- Spring: 15:10:10 fertilizer @35g/m ² Autumn: 5:10:10 fertilizer @ 50g/m ²	Twice annually; Mar/Apr & Oct/Nov	Twice annually; Mar/Apr & Oct/Nov	Twice annually; Mar/Apr & Oct/Nov	Twice annually; Mar/Apr & Oct/Nov	Twice annually; Mar/Apr & Oct/Nov
I	Over-seed patchy areas; as required	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct

Swales

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Wildflower seeding to banks cutting regimes Arisings left in-situ for 24 hours	Monthly cuts to maintain 100mm sward height Apr-Oct	Regular cuts to maintain 100mm sward height Apr-Oct. 2 further cuts late July & Sept to 100mm	Bi-annual cuts to 100mm in July & Sept	Bi-annual cuts to 100mm in July & Sept	Bi-annual cuts to 100mm in July & Sept
B	Remove litter from within swale. Clear inlets and outlets from litter / sediment	As required	As required	As required	As required	As required
C	Repair any erosion or other damage by re-seeding and re- level uneven surfaces and reinstate design levels	As required	As required	As required	As required	As required

Street Furniture, Boundary Treatments & Hard Surfacing

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Check items for damage / wear & tear and repair as appropriate	2 times annually	2 times annually	2 times annually	2 times annually	2 times annually
B	Empty litter bins	Weekly	Weekly	Weekly	Weekly	Weekly

APPENDIX A

Drawing Schedule

- CSA/5221/101-105 – Soft Landscape Proposals
- CSA/5221/106-108 – Hard Landscape Proposals
- CSA/5221/111 – Landscape Masterplan



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