



Land at Tye Lane, Wallington

Landscape Management Plan

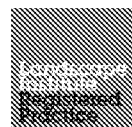
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CSA Environmental

on behalf of
Linden Homes Ltd

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CONTENTS

Page

1.0	Introduction	1
2.0	Site Description & Background	4
3.0	Key Aims and Management Principles	6
4.0	Landscape Management Objectives	7
5.0	General Management Principles	13
6.0	Maintenance Prescriptions	16
7.0	Soil Management Principles	34
8.0	Maintenance Schedules	36

Appendices

Appendix A: Drawing Schedule

1.0 INTRODUCTION

1.1 This report has been prepared by CSA Environmental on behalf of Linden Homes Ltd and it sets-out the Landscape Management Plan for the development site at Tye Lane, Walberton (hereafter referred to as 'the Site').

1.2 The Site has the benefit of outline planning permission for up to 175 new dwellings (ref: WA/44/17/OUT) and this report has been prepared to address the requirements of the reserved matters application, in respect of the landscape management of the proposed landscape scheme submitted under Condition 2.

1.3 This report has been prepared to specifically address the requirements of Condition 39 of the outline planning permission that states the following;

A Landscape Management Plan is submitted at Reserved Matters stage, which details the ongoing management and aftercare of the site once construction is complete. The Landscape Management Plan should include the following requirements;

- Any trees removed should be replaced at a ratio of 2:1;
- A wild flower meadow should be planted;
- Filling any gaps in tree lines or hedgerows with native species;
- Bat, bird and barn owl boxes installed on site;
- Grassland areas managed to benefit reptiles;
- Log piles provided on-site.

1.4 This report has been based on the principles established within the following documents submitted with the outline planning submission;

- Design and Access Statement 'Land East of Tye Lane, Walberton' – Wates June 2017

1.5 This management plan has had regard to the ecological and landscape features present within the Site and those new features that will be created as part of the future enhancement of the Site. This report should be read in conjunction with the following ecology reports produced by CSA Environmental;

- Ecological Technical Note (ref: CSA/3823/01)

- Ecological Mitigation and Management Plan (EMMP) (ref: CSA/3823/02)

The details of all ecological enhancement and mitigation are contained in the EMMP report above including details of the following items as outlined by Condition 39, specifically;

- Bat, bird and barn owl boxes installed on site;
- Log piles provided on-site.

1.6 Principal long-term management objectives are set out in Section 4 for the following distinct landscape areas;

- Green Infrastructure Areas; including green corridors, SuDS and boundaries
- Allotments
- Principle Highways
- Play Areas

1.7 General management prescriptions (Section 5) have been formulated to inform and underpin the detailed management prescriptions contained in Section 6.

1.8 Prescribed management works are intended to generally increase the botanical diversity and habitat structure on Site in order to retain existing and encourage new wildlife.

1.9 The first 5 -20 years after creation will see the development of the open space habitats on-site into more mature landscapes and this report provides details as to the long-term management objectives, beyond the initial 5 years maintenance schedules outlined at Section 4.

Management Structure

1.10 The first 12 months planting maintenance of any green infrastructure areas will be the responsibility of the landscape sub-contractor who undertook the works, as appointed by the developer, whose responsibility it will remain to maintain the site until it is handed-over.

1.11 Following this period, a site-wide appointed 'Management Company' (ManCo), will be set-up for the purpose of managing and administering the new and existing green Infrastructure assets, including all communal landscaping and open spaces at the Site.

1.12 In terms of SuDS management, it is anticipated that the SuDS features will be maintained by the ManCo (as outlined above), with the exception of the headwalls from the stormwater drainage connections adopted by local water authority, which will manage and maintain the underground drainage system at the Site (details to be confirmed).

- 1.13 Any planting areas that are conveyed to the individual dwellings will remain the responsibility of the occupier.

Phasing and Delivery

- 1.14 Delivery of green infrastructure areas and other key facilities e.g. play areas will be in-line with the adjoining residential development, being delivered, wherever feasible, in good time to serve the occupants of the adjoining houses.

Monitoring of the Maintenance Works

- 1.15 In order to ensure that the maintenance and management works outlined in this report are being carried-out to a satisfactory level by the appointed ManCo, the ManCo shall appoint a suitably qualified professional (Chartered Landscape Architect or equal) to undertake an independent inspection / audit of the works and provide a short report of their findings that can be made available to the LPA for inspection.
- 1.16 Audits should take place every 6 months during the first year following installation and then annually thereafter, for a minimum period of 5 years post-construction, to ensure works are being fully adhered to and that good management practice has been established.
- 1.17 Any defects identified and/or recommendations made within the audit reports should be remedied at the next available opportunity and each report should include a short statement clarifying whether actions identified in the previous visit have been suitably rectified or identify actions for the remedy at the next available planting season.

NB:- In the case of landscape areas being delayed in hand-over to the ManCo, thus remaining in the ownership and care of the developer in the short-term, responsibility for organising any such audit should remain with the developer until hand-over.

2.0 SITE DESCRIPTION AND BACKGROUND

- 2.1 The Site occupies an area of c. 11ha and is located to the northern extent of the village of Walberton.
- 2.2 It consists of an arable field bordered by native hedgerows and trees, with a small paddock of semi-improved grassland and occasional patches of dense scrub.
- 2.3 The land to the north is occupied by an existing golf course (Avisford Park), separated by an existing barbed-wire fence with associated scrub layer and line of existing trees.
- 2.4 To the immediate south and east lies the existing settlement of Walberton itself, with the southern boundary being varied along its length, being combined of rear garden boundaries, the boundary of the adjoining school site, the boundary to the recreation ground and open to Avisford Park Road, separated by an old iron railing. The eastern boundary abuts existing rear garden boundaries.
- 2.5 To the west lies Tye Lane, a rural road flanked by mature hedging and trees, with open countryside beyond.
- 2.6 Current Site Conditions
- 2.7 The main landscape features worthy of retention can be summarised as follows;
- Mature trees in the main body of the site covered by a Tree Preservation Order.
 - Mature boundary hedgerows running along the southern and western boundaries, containing isolated mature trees.
 - Copse of mature trees along the western boundary with Tye Lane.
 - Mature line of trees along the northern boundary.
 - Existing off-site trees along the school boundary.
 - Existing line of off-site trees along the access road to the golf course.
- 2.8 Retention wherever feasible and the enhancement of these key landscape features will assist in the ability of the proposed development to integrate well into the existing local landscape and provide additional enhancements in the longer-term through supplementary planting.

- 2.9 Careful consideration was given at the outline planning stage to ensure these feature were adequately retained in the illustrative masterplan and used to their best advantage in the design of the scheme, which has been carried forward to the reserved matters stage.
- 2.10 These retained features form the backbone to a network of green infrastructure and open spaces around the parcel and careful consideration is given to ensuring they are adequately enhanced through new planting.

Tree Preservation Orders

- 2.11 A number of the mature trees on site are covered by Tree Preservation Orders and these are all being retained within the proposals.

3.0 KEY AIMS & MANAGEMENT PRINCIPLES

General Management Aims

3.1 The three key aims of this management strategy are as follows:

1. Provide high-quality open-spaces for new and existing residents.
2. Provide an appropriate setting for the new housing that carefully integrates the development into the surrounding landscape context.
3. Promote the potential biodiversity value through the management and creation of a diversity of habitats and therefore encourage local wildlife in the long term.
4. Provide a range of interesting focal features for local residents to engage with their natural surroundings.

Landscape Objectives

3.2 The following landscape objectives are provided for the newly created areas of public open space and amenity space provided on the site:

- To create a development which is 'landscape-led' where the distribution, design and function of the various open space and green infrastructure network is a fundamental component of the overall development layout.
- To create a network of open spaces across the Site that provides a wide range of informal and formal recreation opportunities for new and existing residents, successfully integrating equipped play spaces and areas for passive recreation.
- To successfully integrate existing green infrastructure networks and features such as trees, hedgerows and ditches into the newly created open spaces and provide complimentary new green infrastructure assets.
- Provide open space that is both stimulating and engaging to the new residents and seeks to bring together the community.
- Provide opportunities for the general public to engage with nature and grow their own food.

4.0 LANDSCAPE AREAS & MANAGEMENT OBJECTIVES

- 4.1 The following section identifies the main landscape areas on the Site, providing a brief description of the existing landscape and habitat features and the overall management objectives for the area.

Green Infrastructure

(including SuDS, green corridors and site boundaries)

- 4.2 Newly created green infrastructure runs throughout the Site, mainly around the periphery of the main housing areas, including a series of drainage basins (SuDS), retained existing boundary features (hedges and trees) and newly created open spaces.
- 4.3 The existing habitats are all linear in nature, with the exception of the isolated mature trees in the centre of the site and provide the opportunity to create, enhance and maintain semi-natural corridors for wildlife movement around the periphery of the development. The landscape and ecological management strategy for these open spaces will have regard to the need for functioning hydrological drainage solutions for the site, as well as landscaping and the proximity of development.
- 4.4 Green infrastructure has been designed to comprise multifunctional spaces including areas of native habitat, amenity space, SuDS features and informal pedestrian routes.
- 4.5 A series of drainage basins will be created as an intrinsic part of the green infrastructure to serve the site-wide strategic stormwater drainage scheme. These will be predominantly dry, shallow infiltration features that will only accommodate water during periods of prolonged heavy rainfall, but include smaller areas of permanently wet ponds to act as wildlife ponds to enhance the potential aquatic habitat on site. These features will be designed to have wildlife benefit, as well as a recreational function.

Management Objectives

- 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.
- To provide peripheral areas of species-rich meadow and longer grassland to provide visual interest for local residents and maximise biodiversity value, including promoting habitat for reptiles.
- To retain and, where possible, enhance the existing tree and hedgerow lines along existing linear features such as boundary hedgerows.

- Manage SuDS features to maximise amenity value and biodiversity potential, whilst increasing management intensity to reflect their prominent location.
- To promote wildlife benefit from formal landscaping, including amenity tree planting and mixed shrub borders.
- Use of wildlife friendly planting including shrub species high in nectar.

SuDS Habitats

- 4.6 This habitat includes the creation of two new drainage basins, with additional wet pond elements for the benefit of SUDS solutions throughout the site, which will include areas of wetland and seasonally damp grasslands.
- 4.7 These habitats can be beneficial to wildlife through the seeding of new grassland to the banks, with suitable native marginal and aquatic wetland species in the permanent wet ponds and with local native damp grassland species mixes in the seasonally damp grasslands at the base.

Management Objectives

- To provide well-landscaped SuDS solutions.
- To provide a mosaic of damp grassland habitats that could provide a stepping stone link between the SuDS features and wider green infrastructure areas.
- Ensure SuDS features are designed to be safe and do not present a risk to future residents, especially young children.

Meadow Grasslands

- 4.8 This habitat would be created through the seeding with suitable local wild flower and meadow grass species mixes that takes into account the previous arable land management and the nature of the soils.
- 4.9 Where wildflower areas are created the habitat should be created using a thinner topsoil profile to allow wildflowers to compete more successfully with grasses.
- 4.10 There would be a period of creation and monitoring and management of establishment. The longer term management of this area would be predominantly through an annual cut in the late summer/early autumn and where necessary, management from mowing could be increased to spring and autumn cutting.

Management Objectives

- To provide areas of species-rich meadow and rough grassland to provide visual interest for local residents and maximise biodiversity value.
- Develop a mowing / cutting regime suitable to the species mix.
- Provision of locally sourced native species seed mix.
- To provide nectar and food-plants for invertebrates, in particular bees and butterflies. The presence of bees may, in turn, be of benefit to allotment holders at the Site.
- Control the establishment of perennial and arable weeds, particular dock, nettle and thistle, through intensive management to ensure species do not dominant the newly created sward.
- To provide additional and better quality foraging habitat for bats.
- Manage any encroaching scrub through annual / bi annual cutting.
- Explore suitable locations for on-site composting of arisings.

Hedgerow Habitats

- 4.11 A number of the retained boundaries within the green infrastructure areas include retained hedges and trees, and these will be enhanced with additional planting in appropriate locations to provide a thick and wide hedgerow feature. Any gaps would also be planted up. The species mix would include a diversity of locally native species.
- 4.12 New native species hedges would also be planted along the edges of the open spaces.
- 4.13 The establishment of the hedges would be monitored and establishment would be with reduced standard landscaping input such as herbicides and mulch mats. This will allow a rough grassland / edge habitat to develop along the edges of the hedge, and eventually allow for the establishment of a more natural hedgerow, providing better cover for small mammals and other fauna.
- 4.14 Longer term management of existing hedges would be to allow the hedges to develop and grow taller, with management undertaken on rotation. The limits of the hedgerow features would have regard for the adjoining rough grassland, hay meadow and swale habitats described above. Management of hedgerows should also target the production of a typical 'A' line profile.

Management Objectives

- To create and maintain high quality linear habitat features for local wildlife, including bats.
- To provide nesting/foraging/feeding opportunities for birds and other wildlife.

- To provide screening, structure and visual interest within the proposed landscape scheme.

Street Furniture, Signage and Hard Paved Areas

- 4.15 Throughout the areas of green infrastructure, a range of benches, litter bins and signage will be provide to facilitate informal recreational use and enjoyment of the Site by future residents.
- 4.16 A network of footpaths will be installed to allow passive recreation and seasonal use of the open space areas, including regular short mowing of peripheral grassed areas to facilitate circular walking routes.

Management Objectives

- To provide seating areas within public open spaces.
- To provide facilities to enable public open spaces to be kept clean.
- To provide a network of suitable maintained recreational footpaths to allow year-round use of the park.

Allotments

- 4.17 An area, approx. 0.08ha in size, is allocated for allotments, located in the south of the Site and shall be laid-out to provide access, car parking and a series of small, individual allotment plots for community use.
- 4.18 A mixed-species native hedgerow of typical hedgerow species, will be planted around the perimeter of the allotments where existing hedgerows are not present, to provide enclosure and a buffer to the adjacent housing.
- 4.19 It is assumed at this stage that the future management of the allotments will be taken on by the appointed site-wide ManCo, who may establish an 'Allotment Holders Association' to be responsible for the day-to-day running of the site. Alternatively the site may be offered to the local Parish Council for adoption.

Management Objectives

- To provide an accessible area incorporating allotments to enable growing of local produce and for physical and mental wellbeing of local people.
- Manage peripheral hedgerows to create enclosure to the Site.

Primary Streets

- 4.20 The Site is serviced by a primary streets (sometimes referred to as the Spine Road) that has been designed as a semi-formal avenue of semi-mature tree planting to provide a strong structuring element to the landscape of the Site. Additionally the primary street is flanked on one side by a roadside drainage swale.
- 4.21 Tree planting will occur within the adjacent highway verges, the widths of which will vary dependant on the requirements of the highways authority and the space available, including variable building set-backs. Tree planting should be designed in conjunction with detailed layouts to enable the public realm to accommodate trees, services and other constraints without conflicts.
- 4.22 Initially, trees will need to be pruned regularly to promote the development of a uniform and quality canopy, with clear-stem heights maintained to ensure appropriate clearance for traffic, including potential buses.
- 4.23 Following initial maintenance, through careful selection of tree species suited to the locality on site and the adjacent building set-back should ensure that trees do not require long-term regular pruning to maintain their shape and crown size.
- 4.24 The highway verges themselves will be managed as short-mown amenity grassland in line with highway standards to provide softening to the streetscene, with the additional swale areas managed through regular cutting to maintain an attractive and functional drainage network.
- 4.25 In addition to the principle highways, the development will be served by an extensive highway network of secondary streets and shared-surface streets, where further opportunities will exist for street tree planting and structural shrub planting to both soften the streetscene. Opportunities for tree planting should be maximised and species selected that are suitable to the environment in which they are proposed, adding height and structure, with seasonal interest.

Management Objectives

- To establish immediate biodiversity value, landscape structure and visual interest along principle highways across the Site.
- To provide an attractive frontage to the development parcels.
- To provide immediate opportunities for local wildlife (e.g. bird nesting).
- To provide additional street trees and structural shrub planting to the interior streets of the development to soften the streetscene.

Play areas

- 4.26 Across the Site, a range of formally equipped play areas will be provided, to provide a range of play experiences for young children.
- 4.27 The Site will provide a comprehensive play and recreation strategy focused around the Site's network of green corridors and open spaces. Play areas have been located to ensure that all new residents are within easy walking / cycling distance of a facility and play areas will be designed to cater for a variety of age ranges.
- 4.28 Soft landscaping installed as part of the play areas will be specified to provide sensory stimulation through variety in colour, texture and scent, with berry producing varieties omitted. Play areas will include extensive areas of short-mown grassland to facilitate active recreation and this will be managed intensely to maximise all-year round use.

Management Objectives

- To provide designated play space that provides a range of opportunities for play, with dedicated areas for all age groups.
- To provide play areas that are safe and free from hazards, with all playable items maintained in a safe working condition and compliant with all relevant legislation.
- Undertake routine inspections to ensure a safe play environment and undertake annual audits.
- To maintain any planting for seasonal interest, colour and variety to add to the play experience.
- Intensively manage grass areas to facilitate year-round use.

5.0 GENERAL MANAGEMENT PRINCIPLES

5.1 The following section contains a series of principal management prescriptions that should provide the basic framework for all landscape management of the Site going forward and will be expanded upon in more detail in Section 6.

5.2 All detailed management prescriptions shall have regard to Natural England's Technical Information Note (TIN) series on habitat creation and management.

General Management Prescriptions

5.3 All plant handling to be in accordance with the HTA 'Handling and establishing landscape plants' Part I, Part II and Part III (obtainable from the Horticultural Trades Association) and the CPSE publication: 'Plant Handling'.

5.4 All planting to conform to National Planting Specification Guidelines.

5.5 All new planting to be conducted into well-prepared ground in accordance with a detailed planting specification generated to support each reserved matters application.

5.6 Any tree surgery works shall be undertaken by a suitably qualified arboricultural contractor, registered with the Arboricultural Association.

5.7 All tree surgery works shall be undertaken in accordance with the requirements of BS 3998:2010 'Tree work - Recommendations'.

5.8 All pruning/removal works to existing vegetation, including trees, will be undertaken outside of the bird-nesting season to ensure nesting 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.

5.9 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 to meet the criteria of BS 5837:2012 Trees in relation to Construction.

5.10 Contractors and the appointed ManCo shall maintain existing levels around the base of existing trees and shall undertake all planting works occurring within tree protection zones in accordance with BS5837:2012. Contractor shall not remove or relocate any tree protection fencing without prior consent of the client.

5.11 Where tree surgery is planned 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.

- 5.12 All new planting will be maintained in accordance with good horticultural practice to ensure the thriving of individual species.
- 5.13 All new/replacement planting will be conducted into well-prepared ground and follow good horticultural practice.
- 5.14 Sufficient watering will be undertaken by the contractor to establish and maintain healthy plant growth.
- 5.15 New ornamental shrubs, hedges and herbaceous plants will be pruned in order to maintain attractive form as appropriate to their species.
- 5.16 Peat-based composts will be avoided wherever possible.
- 5.17 For the duration of the works the Contractor shall keep the site free from injurious weeds as listed in the Weeds Act 1959.
- 5.18 All plants will be maintained in a disease and pest free state. In most instances, 'natural' methods of pest control are to be undertaken prior to any chemical application. In the event that natural methods of eradication are unsuccessful, plants will be treated through the application of a suitable proprietary herbicide/pesticide.
- 5.19 The ManCo (and appointed contractors) shall carry out the work while soil and weather conditions are suitable. Planting is not to take place during periods of frost or strong winds.
- 5.20 All trees and shrubs 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, including replacement if necessary.
- 5.21 Any tree shelters, stakes, ties and guards will be checked annually for adjustment and/or replacement/removal as required.
- 5.22 All formal planting areas will be kept tidy and free from weeds, trimmings, debris and litter. Weeds will be removed by hand unless it is unfeasible; whereby weeds can be treated by the application of a suitable proprietary herbicide.
- 5.23 Any hard surfacing adjacent to management areas are to be protected from damage by machinery including mowers, with surface debris swept after each visit.
- 5.24 All field grown and root-balled trees must have been transplanted or undercut in the nursery no less than 18 months prior to supply.

- 5.25 As the responsible party, the ManCo will keep records of all visits undertaken and the operations carried out on each visit. Records are to be kept in one location and copies are to be made available for inspection by the Local Planning Authority.

6.0 DETAILED MAINTENANCE PRESCRIPTIONS

Existing Trees

- 6.1 Whilst the population of existing trees in site is not large, a small number of existing trees exist, primarily along the existing field boundaries and a small number of large, mature specimens in the centre of the site covered by a TPO.

Objectives

- To maintain and enhance the biodiversity value of existing trees / across the Site.
- Management of existing trees for safety, and to maintain healthy growth, attractive form and promote longevity. There are a number of trees located within the Site, and any management should be minimal and aimed at maintaining health and promoting longevity.

NB:- Should be read in conjunction with the detailed Tree Survey and Tree Protection Plans submitted with the reserved matters application produced by Barton Hyett Ltd .

Prescriptions

- 6.2 In year 1, any essential tree works as outlined in the tree reports submitted with the application should be undertaken by a suitably qualified tree surgeon.
- 6.3 In years 1 & 4 of this management plan, existing trees will be further inspected by a suitably qualified arboriculturalist, registered with the Arboricultural Association. For veteran or mature trees in the vicinity of higher risk areas such as roads and play areas this inspection should be carried out every 2 years.
- 6.4 Retained trees 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.
- 6.5 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 using an 'air-spade.'
- 6.6 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.

- 6.7 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 a suitably qualified arboriculturalist.
- 6.8 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.
- 6.9 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.
- 6.10 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

- 6.11 Small new areas of wooded copse and thicket are proposed across the public open space areas of the Site. New thicket planting is proposed to strengthen existing vegetation and to help screen the development and provide structure to the landscape.
- 6.12 New wetland thicket planting is proposed around surface water attenuation basins and swales

Objectives

- To increase overall tree cover at the Site and to add to the general biodiversity, creating healthy landscaped areas of predominantly native species, providing new habitats for invertebrates and wildlife.
- To use new thicket planting as a means to add long-term structure to the landscape.
- To create a landscape buffer to the proposed development
- To provide shade and interest to the areas surrounding the stormwater attenuation basin / swales.

Prescriptions

- 6.13 Planting will incorporate native tree and shrub species appropriate to the local area.
- 6.14 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.
- 6.15 Prune and re-shape native transplants at the appropriate time according to individual requirements to promote good form and encourage strong growth, minimum annually
- 6.16 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.
- 6.17 New planting will be monitored annually to ensure successful establishment and any remedial actions required outlined to the MANCO.
- 6.18 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
- 6.19 Any protective post and wire and post and rail fencing should be maintained in a good state and repaired / replaced as required by the ManCo.

Proposed Tree Planting

- 6.20 A 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

- To provide immediate biodiversity value, landscape structure and visual interest.
- To ensure new tree planting is suitably cared for to enable its successful establishment, and to promote healthy growth and attractive form.
- Include fruit tree species within the proposed community orchard to provide opportunities for residents to grow their own food and to provide foraging opportunities for badgers.

Prescriptions

- 6.21 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.
- 6.22 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.
- 6.23 Re-firm trees in ground after strong winds, frost heave or other disturbances.
- 6.24 Monitor and replace failed planting with new plants between October and March. Ensure planting is conducted into well-prepared ground.
- 6.25 Trees should be routinely inspected for pests and diseases and any remedial action taken swiftly to prevent the spread of disease and control pests.
- 6.26 Watering programme should be monitored to ensure that at times of water shortage (e.g. drought) sufficient water is applied to meet the conditions.
- 6.27 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.
- 6.28 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.

Existing Hedgerows

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

Objectives

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

Prescriptions

- 6.30 Existing hedgerows / tree lines will be in-filled as required with appropriate native species of local provenance. Carry-out an annual walk-over to assess gaps in hedgerow and carry out remedial work as required.
- 6.31 Infill planting will be conducted into well prepared ground. New transplants will be protected with proprietary spiral rabbit guards or shrub shelters.
- 6.32 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.
- 6.33 Established sections of hedgerow will be managed with a cut every 3 to 7 years, on rotation, with one side cut each year, in January to February (outside of the bird nesting season) to a height appropriate to its context, generally 3-4m tall, but no greater than 2m where a hedgerow resides close to proposed dwellings or where passive surveillance of adjacent open space areas would be reduced.
- 6.34 Cutting will be undertaken 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 quantity of existing hedgerows a rotational cutting programme should be implemented by the ManCo.
- 6.35 Arisings to be removed.
- 6.36 Any significant and stable dead wood will be kept on site to form log piles within woodland and thicket areas to form habitat that can be used by saprophytic organisms and hibernating fauna.

Proposed Ornamental Hedge Planting

- 6.37 New clipped ornamental hedge planting of both native and ornamental species is proposed within the both the open spaces and along the edges of the housing areas.

Objectives

- 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.
- To maximise biodiversity value by providing new habitats for wildlife.
- To provide enclosure to play areas, screening, structure and visual interest within the proposed landscape scheme.

Prescriptions

- 6.38 Prune and re-shape transplants at the appropriate time according to individual requirements to promote good form and encourage strong, bushy growth, minimum annually
- 6.39 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.
- 6.40 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.
- 6.41 Allow new ornamental hedges to attained 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 their planned dimensions. Inspect hedgerows for ground nesting birds prior to maintenance operations.
- 6.42 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.
- 6.43 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.
- 6.44 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.
- 6.45 Regularly check for plants which have been loosened by wind or frost and re-firm any loose plants back into the ground.
- 6.46 Monitor and replace failed planting with new plants of equivalent size and species between October and March.
- 6.47 All plants should be maintained in a disease and pest free state through the application of a suitable proprietary herbicide/pesticide.

Proposed Native Hedge Planting

- 6.48 New mixed native species hedge planting is proposed across the Site, including around the allotment area and to provide structure and screening to the boundaries of the Site.

Objectives

- To maximise new hedgerow diversity value and provide new linear habitat features for wildlife.
- To ensure newly planted hedgerows are suitably cared for to enable successful establishment into a dense bushy hedge.
- To provide screening, structure and visual interest within the proposed landscape scheme.

Prescriptions

- 6.49 New hedgerows will be monitored annually for good health with failed transplants replaced as appropriate.
- 6.50 Prune and re-shape native transplants at the appropriate time according to individual requirements to promote good form and encourage strong, bushy growth, minimum annually
- 6.51 Mixed native hedges are to be maintained at a height appropriate to their setting (no higher than 2m). Those hedges lying immediately adjacent to a carriageway are to be maintained at no higher than 1.2m
- 6.52 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.
- 6.53 Regularly check for plants which have been loosened by wind or frost and re-firm any loose plants back into the ground.
- 6.54 Monitor and replace failed planting with new equivalent plants between October and March.
- 6.55 All plants should be maintained in a disease and pest free state through the application of a suitable proprietary herbicide/pesticide.

Ornamental Shrub Planting

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

Objectives

- 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.

- Planted areas will be used to reinforce access routes and define space within the recreational landscape.
- To assist in creating a landscape of varying sensory experience, predominantly through colour, texture and scent to maximise wildlife benefit.

Prescriptions

- 6.57 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.
- 6.58 Prune and re-shape shrub species at the appropriate time according to individual requirements.
- 6.59 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.
- 6.60 Avoid hard pruning to bare wood.
- 6.61 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 arising off-site.
- 6.62 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.
- 6.63 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.
- 6.64 Regularly check for plantings which have been loosened by wind or frost and re-firm any loose plants back into the ground.
- 6.65 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.
- 6.66 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.

- 6.67 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.

Wildflower Meadow Areas (WF1 & WF2)

- 6.68 Swathes of new, diverse wildflower meadows are proposed throughout the open space areas.

Objectives

- 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.
- To provide nectar and food plants for invertebrates.

Prescriptions

- 6.69 Seeding of specified mixes is to be undertaken onto pre-prepared seed beds in accordance with the planting specification (refer to the plans listed at Appendix A). 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 through deep ploughing to reduce fertility.
- 6.70 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
- 6.71 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.

- Year 3 onwards – An annual cutting regime will be implemented with the grassland cut to a height no lower than 100mm in August - September to maximise vascular plant vitality.

NB:- Should sward length become excessively long to manage successfully with a single autumn cut by the appointed contractor, an additional late spring cut can be taken in late April to check growth.

- 6.72 Where feasible, arisings should be removed and composted.
- 6.73 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*.
- 6.74 Areas of persistent weeds should be ‘capped off’ by cultivation and sowing of a pure grass seed mix at the best available growing season (e.g. September)

Meadow Grass Areas (MG1)

- 6.75 Swathes of new meadow grassland are proposed throughout the parkland areas and around the periphery of the Site.

Objectives

- To provide areas seasonal grassland interest and maximise biodiversity value.
- To provide edge habitats adjacent to existing and proposed hedges.
- To provide nectar, food and cover for invertebrates and provide cover for reptiles.

Prescriptions

- 6.76 Seeding of specified mixes is to be undertaken onto pre-prepared seed beds in accordance with a detailed planting specification.
- 6.77 In all cases, special care should be taken to ensure the seed beds are as free from weeds as possible.
- 6.78 The meadow areas will be managed as follows;
- Year 1 – Following establishment, once the sward has reached 100mm, it should be maintained at a height of between 50-100 between April and October through regular cuts (minimum

monthly) for the first growing season to control weed growth and allow dense sward to establish.

- Year 2 onwards –
 - a) Cut on a bi-monthly rotation throughout the growing season down to a height of 100mm.

6.79 Peripheral areas adjacent to existing hedgerow boundaries should have the mowing regime relaxed to allow some margins to be left fallow to grow rank on a seasonal basis to provide cover and habitat for reptiles.

6.80 All arisings should be let-fly.

6.81 All meadow areas will be hand-weeded or spot swiped for any perennial weeds such as docks *Rumex* sp., nettles *Urtica* sp. and ragwort *Senecio jacobaea*.

6.82 Once all meadow areas are established, consultation should be undertaken between the ManCo, local stakeholder / resident groups and the appointed 'qualified professional' undertaking the necessary audit visit to discuss potential for relaxation of the mowing regime to certain areas.

Amenity Grass Areas (AG-s, AG-t & SW)

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

Objectives

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

Prescriptions

6.84 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.

6.85 Allow turf sward or amenity seeded areas to establish to a minimum height of 35mm before first cut, with no more than 1/3 of the sward removed,

6.86 Once established, maintain as follows;

- a) For general amenity areas, maintain to a height of 25-30mm by cutting fortnightly or as necessary throughout the growing season and as required during the winter months (to maintain to approx. 30mm). Arisings to be collected and removed from site.
 - b) For roadside swale areas (SW), maintain at a height of no greater than 400-500mm through minimum bi-monthly cuts during the growing season, or more frequently to ensure a tidy and functional drainage corridor, but with a more relaxed mowing regime to traditional roadside verges. The outer 0.5m from kerbline / pavement edge on both sides of the swale should be maintained as per general amenity areas above.
- 6.87 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.
- 6.88 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).
- 6.89 A selective herbicide should be used in order to suppress any emerging perennial weeds.
- 6.90 Edges adjacent to footpaths should be reformed and left neat after each maintenance visit.
- 6.91 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.
- 6.92 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.
- 6.93 Grass cutting will be avoided in areas planted with bulbs during late winter / early spring when bulbs are growing and for a period of 6-8 weeks after flowering to allow the bulbs to regain nutrients, after which a normal mowing regime can resume.
- 6.94 Dedicated bins for the disposal of dog mess are to be provided at strategic locations within the amenity grass areas.

Proposed Attenuation Basins (SuDS)

- 6.95 A number of new seasonally wet infiltration basins will be provided throughout the Site that will form part of the SuDS network.

- 6.96 The attenuation basins are designed to accommodate all storm events and include for small, permanently wet pond areas.

Objectives

- To create attractive and interesting features which have a landscape, amenity and ecological value as well as maintaining an attenuation function.
- To maximise the multi-functional value of surface water attenuation features for biodiversity and amenity use, creating a variety of habitats, including marginal and aquatic habitats and species-rich wildflower areas.

Prescriptions

- 6.97 New marginal and reed planting as specified in the plant schedules will be undertaken within the marginal shelves of the permanent wet ponds to create habitat. Marginal planting shall be cut-back to the base, in compartments, on a 2 year rotation and arisings taken off-site in order to prevent the build-up of nutrients and litter and to keep some reed young and healthy.
- 6.98 In other areas the basin will be partially planted with herbaceous, marginal plants and grasses which have an appropriate wetland character, but that are also tolerant of prolonged dry conditions. Management is unlikely to be required in the first five years, but this should be monitored.
- 6.99 The remaining areas on the base and banks of the basins will be seeded with a mix of wildflower meadow and grassland meadow seed mix. The seed-mixes will be sown onto well-prepared soil in accordance with the detailed planting specification and maintained in accordance with the earlier prescriptions for such grassland typologies.
- 6.100 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.
- 6.101 Inlets and outlets should be checked regularly for build-up of litter / sediment and cleared as required. Headwalls and basin banks should be inspected for damage.

- 6.102 An annual inspection should be carried out to check for any silt build-up / vegetation around components and remove if required.
- 6.103 Repair any erosion or other damage by re-seeding and re-level uneven surfaces and reinstate design levels.
- 6.104 All SuDS drainage features including basins and swales should be litter picked regularly (min. monthly) and any large debris removed as soon as discovered.

Equipped Play Areas

- 6.105 A series of equipped play areas will be provided within the site, including 2 No. LEAP and a series of smaller, doorstep play areas.
- 6.106 The play areas will cater for a range of age groups with a variety of play experiences.

Objectives

- To provide designated play spaces that provides a range of opportunities for play, with dedicated areas for all age groups and will serve as a central focus to the development.
- To provide play areas that are safe and free from hazards, with all playable items maintained in a safe working condition and complies with all relevant legislation.

Prescriptions

- 6.107 Inspect all play and exercise equipment, surfacing, signage, fencing and gates weekly and report any damage to the ManCo. Immediately fence-off any equipment that is deemed to be faulty or unsafe. Undertake remedial works when instructed.
- 6.108 Repairs should be carried out as soon as physically possible with a target response time within 2 weeks. However this is subject to parts availability / delivery times. Any remedial work should be carried out by a suitably qualified playground installer.
- 6.109 Maintain safety surfaces within play area free from litter and debris as part of weekly inspections, ensuring safety surfaces are sound and fit for purpose. Any section of surface deemed unsafe should be cordoned off and repaired immediately.
- 6.110 If any sharp objects (eg. knives and needles) are discovered during the weekly inspections, the object should be removed immediately. The discovery should be reported to and recorded by the management

company. The area should be cordoned off, appropriate signage erected and be subject to a full inspection immediately.

- 6.111 Undertake an annual inspection of the play / exercise equipment in the form of an independent audit by an organisation registered with the Register of Playground Inspectors International (RPiI) e.g. ROSPA to check the functionality and safety of the installed equipment. The result of such an inspection should be sent to the Local Authority Recreation Officer and a copy kept on files by the ManCo.
- 6.112 Any remedial action required as a result of the annual inspection to make safe the equipment should be undertaken with immediate effect and any failed equipment should be removed or fenced-off accordingly until such a point in time at which it can be fixed.

Street Furniture

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

Objectives

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

Prescriptions

- 6.114 Undertake bi-annual checks of all street furniture to ensure that it remains soundly and safely installed. Re-install any loose furniture.
- 6.115 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.
- 6.116 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.
- 6.117 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.

6.118 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.

6.119 Any litter bins to be emptied weekly

Hard Surfaces

6.120 A network of surfaced footpaths as well as areas of hardstanding will be provided throughout the Site.

Objectives

- To form part of the wider footpath network to facilitate public access across the Site.
- To provide areas of hard standing for both active and passive recreation.

Prescriptions

6.121 As required, ensure all hard surfaces are maintained free from debris, litter and fallen leaves through regular sweeping. Remove any arisings from site.

6.122 Undertake regular inspections to ensure that all hard surfaces 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.

6.123 Areas of hard surfaces to be spot treated bi-annually with an appropriate herbicide (e.g. Glyphosate) to remove any weeds, moss or algae growth.

Fencing and Boundary Treatments

6.124 A variety of fencing types will be used throughout the Site including fencing to enclose the play areas.

Objectives

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

Prescriptions

6.125 Ensure that all fencing is maintained in a safe, hazard-free state to facilitate the effective function of its intended use.

- 6.126 Undertake bi-annual inspections to ensure that all fencing is sound and free from damage.
- 6.127 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.
- 6.128 Undertake quarterly inspection of metal bow-top fencing and gates to the play areas, including checking the working gate mechanisms and fasteners for damage. Any damaged sections of railing or gates to be repaired and repainted as appropriate.
- 6.129 Undertake an annual inspection of the playground fencing and gates in the form of an independent audit by an organisation registered with the Register of Playground Inspectors International (RPII) e.g. ROSPA to check the functionality and safety of the installed equipment. The result of such an inspection should be sent to the Local Authority Recreation Officer and a copy kept on files by the Management Company.
- 6.130 Remove any temporary fencing to planted areas once the planting has established.

Allotment Area

- 6.131 An allotment area has been provided within the southern part of the Site to serve the new community.

Objectives

- To provide a space for the local community to grow their own produce.
- To provide access for all including those with disabilities.

Prescriptions

- 6.132 To carry out fortnightly cutting of the communal grass areas during the growing season (excluding the individual allotment plots) and re-pin / replace grass re-enforcement mats as required.
- 6.133 Trimming / removal of any invasive weeds within the communal areas by hand on a quarterly basis.
- 6.134 To rotovate / clear any vacant plots quarterly or as required.
- 6.135 Maintain / clear raised disabled access planting beds quarterly or as required. Re-install worn or damaged beds as required.

- 6.136 Carry out quarterly inspections of the gates, fencing and signage and carry out any repairs or replacements (as required)
- 6.137 Sweep all areas of hard surfacing on a quarterly basis.
- 6.138 Check water supply and functions of troughs on a quarterly basis.

Community Orchard

- 6.139 A community orchard will be planted to the south of the Site providing additional wildlife benefit and interest at the site.

Objectives

- 6.140 To provide a community benefit and an abundance of nectar for a range of invertebrates and windfall fruit foraging for local wildlife, including badger.

Prescriptions

- 6.141 New trees will be protected with proprietary rabbit guards and will be checked twice a year or after severe weather to ensure ties and guards are secure.
- 6.142 A 1m area of mulch will be applied to the base of each tree to help reduce weed intrusion.
- 6.143 Trees will need to be assessed annually for defects or poor health. Any signs of ill health or damage will be noted and remedial action taken when required.
- 6.144 The wider grassland under the trees will be seeded with a wildflower meadow mix and once established, should be maintained through an annual meadow cut in late summer, with the arisings raked-up by hand and piled-up at the base of each tree to provide an additional mulch to the trees and long-term nutrient bank.
- 6.145 Fruit trees to be pruned every other year to promote good form and an optimum fruiting branch structure in accordance with good horticultural practice to maximise fruiting potential.

7.0 SOIL MANAGEMENT PRINCIPLES

7.1 The management of soil resources on Site, both topsoil and subsoil is essential in the delivery of high quality landscaped areas and for the creation of new habitats.

7.2 Soil handling on site should be in general accordance with the following guidance;

‘Construction Code of Practice for the Sustainable Use of Soils on Construction Sites – Defra 2009’

7.3 Further details of soil handling will be provided in the Construction Management Plan (CMP) and this should provide more specific guidance on soil storage, stripping and replacement in respect of the relevant phase of works based on the principle DEFRA guidance.

Soil management during construction

7.4 The following general principles should apply to soil management during the construction phase;

- Confine traffic movement to designated routes.
- Keep soil storage periods as short as possible.
- Clearly define stockpiles of different soil materials.
- Keep topsoil and subsoil separate.
- Ensure that the entire soil profile is maintained in a good condition to promote sufficient aeration, drainage and root growth for future landscape operations.
- Minimise soil erosion and weed growth on stockpiles through grass establishment.

Importation of Soils

7.5 The principle aim should be to utilise the current soil resource on site sufficiently, wherever feasible. Imported material may be required to facilitate the works and in this case, all imported materials should be in accordance with the following minimum specifications;

- Topsoil – BS3882:2015 ‘Multi-purpose’ grade (sandy-loam)
- Subsoil – BS8601:2013

7.6 Where imported material is required, the use of sustainable imported ‘manufactured’ topsoil is encouraged.

Topsoil Stripping for Meadow Creation

7.7 In general terms, wildflower meadow creation, as outlined in the earlier sections of this report, requires the use of lower fertility soils to allow

wildflowers to compete with the more aggressive grass species. Additionally, traditional arable fields contain a high nutrient ratio in the upper soil horizons due to repeated fertiliser applications and also contain a high percentage of weed seeds.

- 7.8 For areas of new wildflower meadow grass creation, a strategy shall be developed for topsoil stripping in these areas, such that the fertility of the soil is reduced, creating more favourable conditions for meadow creation and generating topsoil material for use elsewhere on the development site.
- 7.9 In some locations where wildflower meadows are to be created, where subsoil conditions are poor and topsoil volumes on site are too low for the replacement of site-won material, imported topsoil should be to the following specification;
- BS3882:2015 – Specific Purpose Topsoil - Low Fertility Soil

8.0 MAINTENANCE SCHEDULES

8.1 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 ManCo will review these prescriptions, in consultation with interested parties and provide an updated Management Plan for on-going management.

General Maintenance Schedule

	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/m ²	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 foliar 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 Wooded Copse & Thicket 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	-	-
B	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
C	Transplants re-firmed into ground after severe weather and stakes checked.	As required	As required	As required	As required	As required
D	Woodland and 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 strimming	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
F	Woodland blocks to be assessed and thinned by up to 30% to allow development of healthy stock					Remove poor specimens
G	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

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 well 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 Hedge rows Maintenance Schedule

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	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 3-7 years on rotation to one side; maintain to an overall height of 3-4m, unless adjacent to housing (2m)	-	-	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/m ² .	Annually Mar/Apr	Annually Mar/Apr	Annually Mar/Apr	-	-

D	Undertake pruning of hedges, to encourage growth and promote good form; maintain to a height of 1.2m once established.	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.	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 manufacture s 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

Amenity Grass Maintenance Schedule (AG-s, AG-t and SW)

	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 25-30mm 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	For swale areas (SW), maintain at a height of no greater than 500mm through bi-monthly cuts during growing season; outer edges (0.5m) to be cut as per 'B' above.	Bi-monthly, Apr-Oct	Bi-monthly, Apr-Oct	Bi-monthly, Apr-Oct	Bi-monthly, Apr-Oct	Bi-monthly, Apr-Oct
E	Remove fallen leaves from grassed areas; as required	Sept-Nov	Sept-Nov	Sept-Nov	Sept-Nov	Sept-Nov
F	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

G	Carry out autumn scarification of all amenity grassed areas; depth 15mm.	I visit; Oct/Nov	I visit; Oct/Nov	I visit; Oct/Nov	I visit; Oct/Nov	I visit; Oct/Nov
H	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
I	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
J	Over-seed patchy areas; as required	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct	Annually Sept/Oct
K	Mow bulb areas in short grassland	6-8 weeks after flowering period and then maintain grass at height of 25-30mm.	6-8 weeks after flowering period and then maintain grass at height of 25-30mm.	6-8 weeks after flowering period and then maintain grass at height of 25-30mm.	6-8 weeks after flowering period and then maintain grass at height of 25-30mm.	6-8 weeks after flowering period and then maintain grass at height of 25-30mm.

Wildflower Meadow Maintenance Schedule (WF1 & WF2)

	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	Cutting regimes for wildflower meadows	Monthly cuts to maintain 100mm sward height Apr-Oct	Regular cuts to maintain 100mm sward height Apr-May. 2 further cuts late July & Sept to 100mm	Annual cut to 100mm in Aug-Sept	Annual cut to 100mm in Aug-Sept	Annual cut to 100mm in Aug-Sept
C	Spot treat meadow areas with approved herbicide where required	Bi-annually	Bi-annually	Bi-annually	Bi-annually	Bi-annually

Meadow Maintenance Schedule (MG1)

	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	Cutting regimes for meadows; all cuts in Yr 2 onwards down to 100mm.	Monthly cuts to maintain 50-100mm sward height Apr-Oct	For MG1 – cut bi-monthly through growing season For MG2 – cut 3 times a year (April/late May/September) For MG3 – cut twice yearly in early May & September	For MG1 – cut bi-monthly through growing season For MG2 – cut 3 times a year (April/late May/September) For MG3 – cut twice yearly in early May & September	For MG1 – cut bi-monthly through growing season For MG2 – cut 3 times a year (April/late May/September) For MG3 – cut twice yearly in early May & September	For MG1 – cut bi-monthly through growing season For MG2 – cut 3 times a year (April/late May/September) For MG3 – cut twice yearly in early May & September
C	Spot treat meadow areas with approved herbicide where required	Bi-annually	Bi-annually	Bi-annually	Bi-annually	Bi-annually

Attenuation Basins Maintenance Schedule

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Maintenance of native reed planting within low flow channels	Cut back compartments on a 2 year rotations	Cut back compartments on a 2 year rotations	Cut back compartments on a 2 year rotations	Cut back compartments on a 2 year rotations	Cut back compartments on a 2 year rotations
B	Wildflower/ meadow seeding to banks cutting regimes Arising left in-situ for 24 hours	Maintain as above	Maintain as above	Maintain as above	Maintain as above	Maintain as above
C	Remove litter from within basin. Clear inlets and outlets from litter / sediment	As required	As required	As required	As required	As required
D	Repair any erosion or other	As required	As required	As required	As required	As required

	damage by re-seeding and re-level uneven surfaces and re-instate design levels					
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Play Areas Maintenance Schedule

	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Damage inspection to play equipment & safety surfacing	Weekly	Weekly	Weekly	Weekly	Weekly
B	Maintain surfaces free from litter and debris; swept as necessary	Weekly	Weekly	Weekly	Weekly	Weekly
C	Independent audit	Annually	Annually	Annually	Annually	Annually
D	Jet wash playing surface to remove any moss / algae	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 dog waste and litter bins	Weekly	Weekly	Weekly	Weekly	Weekly

Allotments Maintenance Schedule

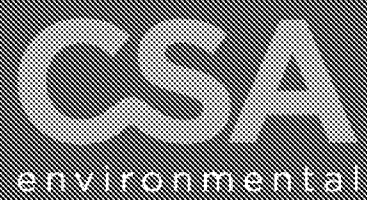
	Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5
A	Carry out grass cutting operations to communal areas. Re-pin / replace grass re-enforcement mats as required	Annually	Annually	Annually	Annually	Annually
B	Trimming / removal of invasive weeds	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
C	Inspection of gates, signage and fencing and repair as required	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
D	Rotovate / clearance of vacant plots	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
E	Sweeping of hard surfaced areas	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly

F	Check water supply and function of troughs	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
G	Maintain / clear raised disabled access planting beds	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly

Appendix A

Drawing Schedule

- CSA/3823/100 – Hab ita ts Pla n
- CSA/3823/101 – Soft La ndsc a pe Prop o sa ls – Shee t 1 of 3
- CSA/3823/102 – Soft La ndsc a pe Prop o sa ls – Shee t 2 of 3
- CSA/3823/103 – Soft La ndsc a pe Prop o sa ls – Shee t 3 of 3
- CSA/3823/107 – Open Sp a ce La ndsc a pe Prop o sa ls – Shee t 1 of 4
- CSA/3823/108 – Open Sp a ce La ndsc a pe Prop o sa ls – Shee t 2 of 4
- CSA/3823/109 – Open Sp a ce La ndsc a pe Prop o sa ls – Shee t 3 of 4
- CSA/3823/110 – Open Sp a ce La ndsc a pe Prop o sa ls – Shee t 4 of 4
- CSA/3823/112 – LEAP 1 De ta ile d Prop o sa ls
- CSA/3823/113 – LEAP 2 De ta ile d Prop o sa ls
- CSA/3823/114 – Ec o lo gi ca l Mitig a ti on a nd En ha nc em en t Pla n



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