

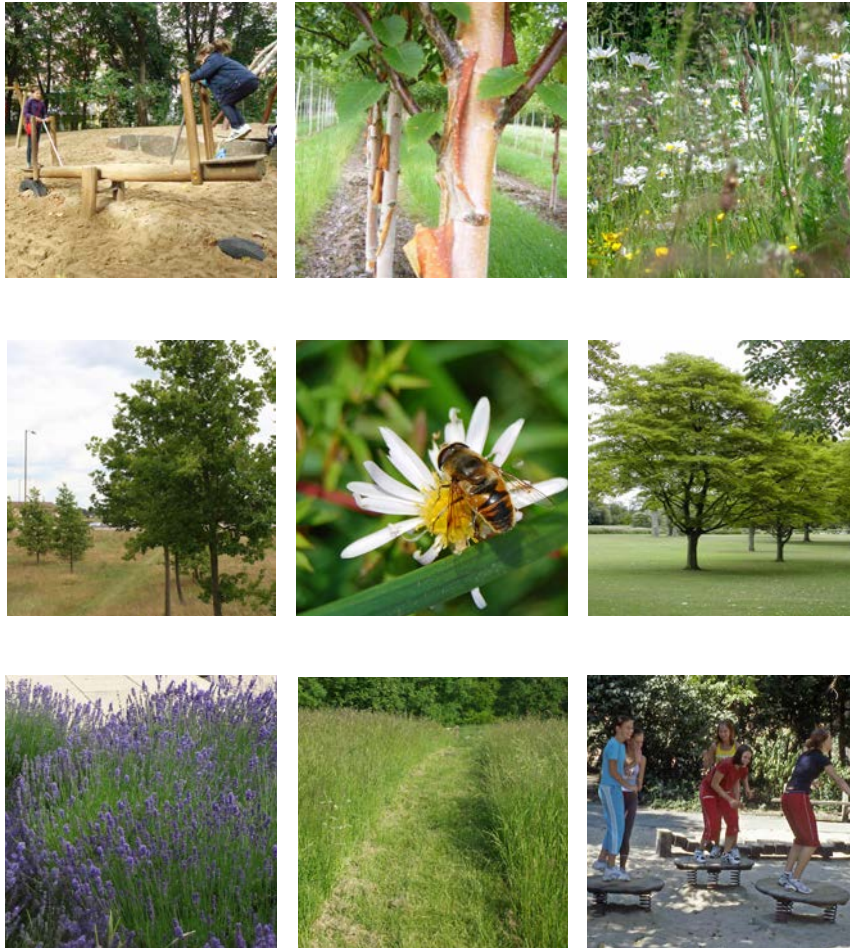
# Land at Charlton Road, Filton

## Landscape and Ecology Management Plan



Prepared by Pegasus Group on behalf of Redrow Homes South West  
October 2016 | R.0303





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# 1.0 Introduction

## Purpose of the Management Plan

1.1 The purpose of this Landscape and Ecological Plan is:

- To ensure that clear objectives for the public open space areas at Charlton Road, Filton, are agreed and laid down.
- To set clear standards for the performance of landscape maintenance work following handover from the landscape contractor.
- To identify, manage and resolve possible conflicts between different users of the site.
- To develop work programmes and schedules for landscape maintenance staff.
- To help in the allocation of financial resources for landscape maintenance.
- To help monitor success and progress against management targets.

## Planning Background

1.2 This Landscape and Ecology Management Plan is an accompanying document submitted as part of the full planning application.

## Management Aims

1.3 The main aims for site landscape management and maintenance are:

- To present an attractive and safe environment for home owners, residents and visitors.
- To provide and maintain access for the public for informal recreation purposes.
- To ensure that existing site features are appropriately managed ensuring that hard and soft landscape areas are fit for purpose and do not pose a health and safety hazard to the public.
- To ensure that newly planted areas become established.
- To keep the site clear of litter and rubbish.
- To carry out maintenance work according to best practice using sustainable techniques and materials.

## Review

1.4 The document should be seen as an operational guide, subject to change and improvement as the different landscape features mature and develop. We recommend that this management plan is reviewed and republished at five yearly intervals to ensure the management aims are still required and relevant.



## 2.0 Site Description and Management Overview

- 2.1 The development at Charlton Road, Filton, located to the south of the now closed Bristol Filton Airport, comprises residential dwellings, open space (including children's play spaces), sustainable urban drainage, vehicular access, pedestrian and cycle accesses, pumping station and related infrastructure and engineering works
- 2.2 This management plan applies to the areas of public open space within the development and Charlton Common.
- 2.3 Along the northern boundary areas of unmanaged bramble and low scrub vegetation to be removed and replaced with tree planting to maintain separation from the site to the north. The existing ditch is to be cleared and re-sown with wildflower grassland species suitable for seasonally wet conditions.
- 2.4 Within Charlton Common areas of scrub will be cleared to create grassland habitats. Scattered trees within the Common will be retained, along with a hedgerow bounding the Common. A dry pond will be retained with clearance of the leaf litter to improve its ecological value. A number of individual native trees will be planted adjacent to the development, this will help to create separation from the Common and an element of screening.
- 2.5 The removal of trees is required in order to implement the development, both within housing parcel and the Common itself. Landscape proposals within the Common, curtilage of the houses and public open space shall seek to mitigate the loss of vegetation.
- 2.6 All tree removals are to be undertaken in accordance with an approved tree retention and loss plan. The majority of tree removal required involves the removal of dead Elm stems.



- 2.7 Landscape proposals within the public open space areas of the site will be typically planted to present a naturalised character with trees, shrubs, amenity grass and wildflower grassland. Species will be chosen to focus on native plants and those which are of known benefit to wildlife.
- 2.8 Overall the landscape proposals will provide a range of new habitats whilst enhancing the existing landscape framework providing a diverse habitat for wildlife and landscape for users.

## 3.0 Environmental Considerations

- 3.1 This section details the environmental considerations that need to be examined to enable a thorough landscape and ecology management strategy for the site.

### **Horticultural Peat**

- 3.2 Horticultural peat is not to be used as mulch on any beds or as a soil conditioner, and wherever possible plants grown without peat will be preferred to those grown using peat.

### **Recycled Materials**

- 3.3 Where appropriate use should be made of materials made from recycled components e.g. wood chip mulch.

### **Pesticides/Herbicides**

- 3.4 Weed control of areas of transplant tree and ornamental shrub and herbaceous planting is to be achieved by using mulch mats and hand weeding. The control of invasive and pernicious weeds can be carried out with targeted applications of glyphosate based herbicides.

### **Water Management**

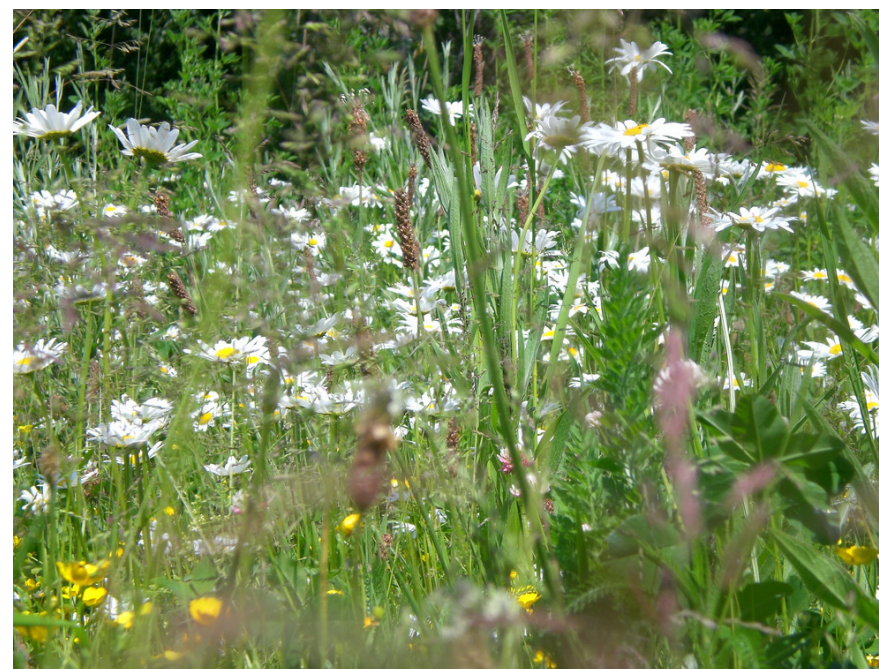
- 3.5 Where necessary maintenance staff are to water plants at appropriate times of the day to ensure minimum water evaporation.

### **Habitat management**

- 3.6 Low level activity of Bats has been recorded across the site, retention of trees and hedgerows, along with proposed tree planting and creation of grassland habitats within the Common will provide foraging opportunities for bats.
- 3.7 Opportunities for the creation of additional micro-habitats and habitat enhancement should be taken wherever possible for example within the Common, this could include working with the Wildlife Trust and

local wildlife groups to erect bat, bird and insect boxes along with log piles. Allow deadwood, jagged stumps, splits, fungal growths and holes in tree trunks to remain unless they are creating a safety hazard. Ivy should only be severed where it is growing into tree canopies and is likely to create a safety hazard.

- 3.8 The retention, as far as possible, of the existing trees, tree groups and hedgerow is considered an important part of the development. Such areas will be managed appropriately to maintain and develop their value.



## 4.0 General Maintenance

- 4.1 All new trees and shrubs shall be checked at each maintenance visit for damage, security, firmness, fixing and support.
- 4.2 Any shrubs, hedges or trees which fail to thrive in the first five years shall be replaced with the same species and variety at the size specified on the original landscape planting plans. Trees and shrubs should be checked in September and marked with paint, or noted on a plan, as necessary. Replacements will be planted during the following planting season. If a particular species fails to establish successfully then an alternative, comparable species should be considered as replacement, in agreement with the landscape consultant.
- 4.3 Amenity bark mulch shall be topped up annually to a depth of 75mm where there is bare soil in planted areas. To avoid accidentally damaging plants herbicides will not be used to control weeds once foliage covers 75% of the ground surface.
- 4.4 There will also be a 800mm diameter circle of mulch around trees in grass (in combination with mulch mats) in order to suppress grass and weed growth and minimise the risk of mower/strimmer damage.
- 4.5 Care should be taken not to overwater trees. Until well established all shrubs and trees are to be watered during the growing season. Following any dry periods of 7-10 days soil water content should be assessed and watering undertaken as necessary. Planting areas are to be brought up to field capacity at each visit and each tree is to receive 40 litres or as required. If trees are showing signs of drought stress the watering regime should be reviewed and increased as required. Care should be taken to ensure applied water is absorbed into the rootzone and does not run off the surface.
- 4.6 Any vegetation clearance will be carried outside the bird breeding season (March - July inclusive) or checks will be undertaken by a suitably qualified ecologist to ensure there are no nesting birds present. A precautionary approach will be undertaken during the removal of vegetation, whereby the habitat is cut down in a slow and systematic manner to ground level, before any habitat/vegetation takes place. This process forces any reptiles present into retained habitat in the wider area.
- 4.7 All tree surgery work is to be carried out to BS 3998:2010 Tree Work - Recommendations, and should be undertaken by a suitably qualified operative.
- 4.8 Maintenance operations are to be carried out with regard to BS4428: Code of Practice for General Landscape Operations. Maintenance of soft landscaping (other than amenity turf) to have regard to BS7370-4: Grounds Maintenance. Recommendations for Maintenance of Soft Landscape.
- 4.9 It is recommended that all new and existing planting on site is subject to on going management to maximise the value of these habitats to wildlife. Such an approach will involve minimised effective use of pesticides and vegetation pruning works to take place outside of the bird nesting season.
- 4.10 A separate tree protection scheme will ensure that the retained trees are not damaged during the construction process. The maintenance of the retained trees is discussed in Section 5.
- 4.11 Bird and Bat boxes will be checked annually to ensure they are in place and replacements supplied if necessary.





## 5.0 Maintenance Specification

### 5.1 Retained Trees and Tree Groups

#### Management Aim

- To prolong the life and enhance the aesthetic and wildlife value of the existing trees along the site's boundaries and within the Common.
- To enhance the functionality of the existing features such as trees, tree groups and hedgerows along the site boundaries and within the Common.

#### Management Objectives

- To maintain the health and visual amenity of the retained trees and tree groups.
- To protect the canopies and rooting environments of retained trees during construction and maintenance operations according to the guidelines set out in BS5837: 2012 "Trees in relation to design, demolition and construction."
- To enhance their ecological/ biodiversity value.

To avoid disturbing nesting birds, maintenance shall take place between September and February i.e. outside the bird nesting season.

A detailed condition survey of all trees will be carried out by a qualified arborist at least once every two years. Any necessary remedial works will be carried out as soon as possible. All tree work should be carried out in accordance with BS3998:2010 (or any subsequent updates). All arisings shall be removed from site.

Selective thinning of the group of trees which lies between the new dwellings and the Common will be undertaken to open up filtered views. This will also encourage the trees to develop good structural form.

The majority of tree removal required involves the removal of dead Elm.

Litter will be removed from the base of hedges or around trees at the same time as for shrub planting.



This table sets out the management objectives for the retained trees and tree groups on the site, how they will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
5.1.1	Check tree safety	Identify hazards and carry out necessary maintenance work Keep records up to date	Visual tree assessment with instrumental back up where necessary. Monitoring to be undertaken by qualified arboriculturists. Tree works to be carried out to BS 3998:2010 Any trees with bat potential to be inspected by a qualified bat specialist prior to any tree works commencing.	Every 2 years or as recommended
5.1.2	Removal of dead Elm trees	Remove dead Elm trees.  Ongoing checks to manage Elm re-growth which will require removal from site	Tree works to be carried out to BS 3998:2010 Monitoring to be undertaken by qualified arboriculturists. Any trees with bat potential to be inspected by a qualified bat specialist prior to any tree works commencing. All arisings shall be removed from site.	Annual check for Elm re-growth, manage and remove from site as per best arboricultural practice
5.1.3	Keep paths/highways/parking areas clear from branches/vegetation.	Pruning/cutting back	Prune tree branches from encroaching onto adjacent paths and highways. Tree works to be compliant with BS 3998:2010 Trees shall be pruned to a height of 5m over highways and 3m over paths	As required annually, avoiding bird nesting season of March to August inclusive
5.1.4	Control exotic and invasive tree / shrub / herbaceous species that do not belong in a native woodland setting, and are out competing less vigorous species.	Check and remove any exotic and invasive species e.g self-seeded sycamore, brambles, ground ivy and nettles	Clear by hand and remove from site	Annual
5.1.5	Removal of rubbish and debris and keep litter and rubbish free.	Remove litter and fly tipped rubbish	Remove by hand	Monthly
5.1.6	Maintain degree of visibility between the development and the Common	Selective thinning and removal of unwanted vegetation e.g brambles, nettles, ivy, which acts to reduce visibility.	Thinning of trees within tree groups (targeting removal of poor quality specimens and heavy shade casting species) and removal of unwanted invasive species as required. All arisings shall be removed from site, unless suitable to retain on site for ecological benefits.	Annually



## 5.2 Retained Hedgerows

### Management Aim

- To prolong the life and enhance the aesthetic and wildlife value of the existing hedgerows.

### Management Objectives

- To maintain a dense continuous hedge line with no gaps;
- To maintain their health and visual amenity;
- To take care in construction and maintenance operations near hedgerows;
- To enhance their ecological value;
- To keep hedgerows free from litter and other waste.

Hedgerows shall be trimmed every three years. All arisings from all trimming operations shall be removed from site. Litter will be removed from the base of retained hedgerows.

This table sets out the management objectives for the retained hedgerows, how they will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
5.2.1	Ensure good shape of hedgerows is created and maintained.	Pruning to create and maintain 'A' shape and control future growth.	Anticipated face-up and top off every 3 years, or as required	Autumn, 3 year rotation (side A year 1, side B year 2 / side year A 4, side B year 5)
5.2.2	Maintain diversity of plant species	Removal of invasive species	Dig by hand and remove from site	Annual
5.2.3	Control exotic tree and shrub species that do not belong in a native hedgerow	Check and remove any exotic species	Dig by hand and remove from site	Annual
5.2.4	Keep litter and rubbish free	Remove litter and fly tipped rubbish	Remove by hand	Monthly

NOTE: The two sides of a hedge often grow at different rates. It can therefore be recommended that hedgerows along the boundaries are to be trimmed on one side, leaving the alternate side untrimmed. The cutting regime for the hedgerows is to be done on a rotational basis where only one side of the hedge is cut at any given time. The untrimmed growth on one side of the hedge allows wildlife to migrate to the other side and recolonise before the next trim, and also to allow development of mature fruiting stems



### 5.3 Structural Tree and Shrub Planting

#### Management Aim

- To establish new areas of native tree and shrub planting.

#### Management Objectives

- To maintain newly planted trees and shrubs to ensure successful establishment.
- To minimise competition from grass and weeds from around newly planted trees and shrubs.
- To keep areas free from litter, rubbish and garden waste.

Planting of new trees to have regard to Section 10 of BS8545:2014 Trees: from nursery to independence in the landscape. All plants to conform to BS3936 and be in accordance with the National Plant Specification.



This table sets out the management objectives for the tree and structural tree and shrub planting, how they will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
5.3.1	Keep tree/shrub surrounds free from grass and weeds	Visual inspection to check for grass and weeds	Spray grass and weeds with glyphosate based herbicide. Do not use strimmers.	April / June / August
5.3.2	Keep tree/shrubs protected from animal damage	Visual inspection to check for signs of bark damage. Report to client.	On instruction from client replace shelters and guards as necessary	Monthly
5.3.3	Make good damage caused by vandalism	Visual inspection to check for vandalism. Report to client	On instruction from client replace shrubs and trees to fill in any gaps	Monthly
5.3.4	Keep planted areas clear of litter and fly tipped rubbish	Remove litter and fly tipped rubbish to a registered waste disposal facility	Remove by hand	Monthly
5.3.5	Allow transplants to develop into healthy trees and shrubs	Monitor to ensure that the trees/shrubs remain upright, firm and stable and do not suffer from wind rocking.	Check plants, if not stable/upright rectify by replanting in an upright position and re-firm, if plant remains unstable - remove by hand and replace.	Monthly for the first two years
5.3.6	Allow transplants to develop into healthy trees and shrubs	Visual inspection for any pests or diseases	Remove diseased wood or specimens as appropriate by careful pruning	Late September - early October - whilst trees/shrubs still in leaf
5.3.7	Allow transplants to develop into healthy trees and shrubs	Remove dead, damaged or dying branches	Remove as appropriate by careful pruning	Annually
5.3.8	Allow transplants to develop into healthy trees and shrubs	Remove shelters/guards/support stakes and ties from transplants when no longer required	To avoid damaging plants cut shelters away and remove stakes - take to legal tip	Approx 5 years after planting

## 5.4 New Trees

### Management Aim

- To successfully establish new tree planting.
- To present and maintain high quality visual appearance of new trees.

### Management Objectives

- To ensure successful establishment of new trees.
- To minimise competition from grass and weeds.
- To maintain appropriate form of trees for future growth.
- To ensure trees do not present a hazard to site users.

An establishment survey of all trees will be carried out by a qualified arboriculturist annually for the first five years, making recommendations to assist with establishment. Any necessary remedial works will be carried out as soon as possible. All tree work should be carried out in accordance with BS3998:2010 (or any subsequent updates). All arisings shall be removed from site.

Planting of new trees to have regard to Section 10 of BS8545:2014 Trees: from nursery to independence in the landscape. All plants to conform to BS3936 and be in accordance with the National Plant Specification.

Tree stakes and ties will be regularly checked during the establishment period and adjusted as necessary to ensure that the developing trees are not damaged. Stakes and ties will be removed by the landscape maintenance contractor at the earliest opportunity (typically between year 3 and year 5) when he considers that the trees are self supporting. All stakes and ties will be removed from site to a legal disposal facility.

There will be a minimal pruning policy for trees as pruning wounds can provide a source of infection. Formative pruning of new trees will be carried out to remove dead and diseased wood and to create a well balanced tree with a single leader. Clear stems of 2 metres will be maintained by rubbing off any shoots and when the trees reach 5 to 6 metres high lower branches will be removed to give a canopy height of approximately 2.4 metres.

If trees die the reason for death shall be investigated and addressed before replanting a replacement. If death is due to the planting conditions these shall be ameliorated. If death is due to pests or disease and likely to be present in the future a resistant species of an alternative similar tree shall be selected.

Where trees have become moribund due to compaction or lack of nutrients soil aeration techniques and the use of inoculants shall be considered.

Care should be taken not to overwater trees. Until well established all shrubs and trees are to be watered during the growing season. Following any dry periods of 7-10 days soil water content should be assessed and watering undertaken as necessary. Planting areas are to be brought up to field capacity at each visit and each tree is to receive 40 litres or as required. If trees are showing signs of drought stress the watering regime should be reviewed and increased as required.

Trees will establish anchor roots better, increase stem girth and form a better stem taper if allowed to move in the wind, whilst remaining secured at ground level. Therefore low staking (75mm dia x 1.5m length) will be used and attached to the tree at approximately 600mm above ground level.

Staked trees will be fixed using proprietary rubber ties and must be firmly fixed and a spacing device must be used to prevent chaffing against the tree. Trees that are underground anchored are to be checked and supplementary staked if not considered to be suitably secure.

This table sets out the management objectives for the new tree planting on the site, how it will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
5.4.1	Reduce competition from grass and weeds	Keep 800mm radius circle at base of tree, weed and grass free	Spray grass and weeds with glyphosate based herbicide. Do not use strimmers around the base of trees.	April/June/August
5.4.2	Ensure that trees grow straight and are not damaged	Check that stakes and ties and guards are intact and secure. Check that stakes are not rubbing against the bark and that the tie is not too loose, too tight or broken. Check underground anchors	Visual inspection Adjust or replace stakes, ties and guards as necessary. Re-plant in an upright position and re-firm any trees suffering from windrock.	Twice annually
5.4.3	Ensure that trees become self supporting	Remove stakes once root growth is well established. Visual inspection to confirm stability.	Check tree stability. Remove stakes, ties and guards when tree is established.	3 to 5 years after planting (typically)
5.4.4	Make good damage caused by vandalism	Visual inspection to check for vandalism. Report to client.	On instruction from client replace as per planting specification	Monthly
5.4.5	Ensure that trees develop healthily	Remove dead, damaged or dying wood	Prune in accordance with BS3998:2010	As required annually, avoiding bird nesting season of March to August inclusive
5.4.6	To keep newly planted trees free from pests and disease	Qualified arboriculturist to inspect and check on health of trees	Deal with individual problems as they arise keeping use of pesticides to a minimum	Monthly from March to October
5.4.7	Maintain good shape and remove hazards	Check for damage in canopy and low branches over footpaths	Prune in accordance with BS3998:2010	Autumn
5.4.8	Ensure continued health of trees	Check and respond as necessary	Water and fertilise if required to ensure the that the tree continues to develop Investigate any continued failed growth of trees and take remedial action.	As necessary
5.4.9	Ensure dead trees are replaced	Replacement of failed trees once deemed appropriate by qualified horticultural staff.	Remove dead tree and replacement as per original approved specification unless otherwise agreed to plant alternative species.	November/December

Note: Any standing deadwood that is removed will be retained in a number of piles within the wooded areas, providing additional habitat areas for wildlife. Piles are to be no more than 600mm in height. The wood at the bottom of the pile is to be set 1/3rd into the ground. Piles are not to be located in areas of green space with high usage.



## 5.5 Ornamental Planting

### Management Aim

- To successfully establish areas of new ornamental planting
- To present and maintain high quality visual appearance of planting.

### Management Objectives

- To maintain newly planted shrubs and herbaceous plants to ensure a good survival rate and development.
- To minimise competition from grass and weeds.
- To keep planted areas free from litter, rubbish, garden waste & dog faeces.

New shrub and herbaceous planting is located throughout the development, including public open spaces and along the streets.

Formative pruning will be kept to a minimum but where necessary diseased and damaged plant material will be removed. Where shrubs overhang path edges they will be neatly clipped back in order to maintain the full width of pedestrian access routes.

Planting beds will be checked regularly throughout the growing season for pests and diseases and treated as necessary. If a particular plant becomes subject to a fatal pest or disease it shall be replaced by an alternative resistant plant with a similar form and habit.

All plants to conform to BS3936 and be in accordance with the National Plant Specification.



This table sets out the management objectives for the ornamental planting on the site, how they will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
5.5.1	Keep planted beds free from weeds to reduce competition and improve visual amenity	Weeding  Keep planted beds topped up with mulch to prevent weeds and to present attractive appearance	Weed clearance by hand, hoe or fork as required. Take care not to disturb shrub roots and avoid excessive treading of bed surface  Topping up or replacement of mulch until close cover is achieved.	Monthly from March to October or as required
5.5.2	Maintain integrity of planting scheme	Monitor and record any plant losses. Report to client.	On instruction from client replace missing plants and maintain to ensure survival	October/ November
5.5.3	Keep planting beds free from excess leaf litter and fallen twigs and branches	Removal of leaves and tree debris	Leaf blower and leaf collection equipment	November to December
5.5.4	Keep paths and car parking bays clear from vegetation.	Pruning/cutting back	Prune back shrubs from encroaching onto the adjoining areas.	As required from March to October.
5.5.5	To keep newly planted shrubs, perennials and ground cover in prime condition and appearance.	Qualified horticultural staff to inspect and check on condition of ornamental planting.	Prune dead foliage, flowers and extension growth as necessary.  Divide perennials as necessary.  Formative and seasonal pruning to shrubs to create a natural shape - do not routinely clip shrubs.  Apply organic fertiliser, if required.  Re-plant in an upright position and re-firm plants that suffer from windrock.	As required depending on species
5.5.6	To keep newly planted shrubs and perennials free from pests and diseases	Qualified horticultural staff to inspect and check on health of ornamental planting.	Deal with individual problems as they arise keeping use of pesticides to a minimum	Monthly from March to October
5.5.7	To keep newly planted beds free from litter, fly tipped rubbish and dog faeces	Remove litter and fly tipped rubbish	Remove by hand	Monthly
5.5.8	To maintain balance of species.	Prevent vigorous species from becoming dominant and crowding out less vigorous species	Reduce amount of overly vigorous species. Remove by hand.	As required from March to October.



## 5.6 Formal and Informal Hedges

### Management Aim

- To assist the establishment of attractive hedges which demarcate private gardens along the spine road from the public open space and streetscape.

### Management Objectives

- To maintain a dense continuous hedge line with no gaps
- To control weeds
- To keep free from litter and rubbish

Formal hedges will be trimmed twice a year in order to maintain a well kept appearance. Informal hedges shall be trimmed only as necessary to preserve the natural form of the particular species.

It is intended that the hedgerows will be maintained as at least 0.4m wide and over 1m in height.

This table sets out the management objectives for the formal and informal hedge planting on the site, how they will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
5.6.1	Keep planting free from weeds to reduce competition and improve visual amenity	Weeding  Keep planted beds topped up with mulch to prevent weeds and to present attractive appearance	Weed clearance by hand, hoe or fork as required. Take care not to disturb shrub roots and avoid excessive treading of bed surface  Topping up or replacement of mulch until close cover is achieved - use recycled wood chip mulch	Monthly from March to October or as required
5.6.2	Maintain integrity of planting	Monitor and record any plant losses. Report to client.	On instruction from client replace missing plants and maintain to ensure survival	October/November
5.6.3	To maintain hedge shaped form appropriate to species.	Pruning/shaping	Prune dead foliage and extension growth as necessary.  Formative and seasonal pruning to create and maintain a natural 'hedge' shape - do not routinely clip shrubs.  Re-plant in an upright position and re-firm plants that suffer from windrock.	Annual during Autumn
5.6.4	To keep newly planted shrubs free from pests and diseases	Qualified horticultural staff to inspect and check on health of planting.	Deal with individual problems as they arise keeping use of pesticides to a minimum	Monthly from March to October
5.6.5	To keep newly planted shrub beds free from litter and fly tipped rubbish	Remove litter and fly tipped rubbish	Remove by hand	Monthly

## 5.7 Amenity Grass & Wildflower Grassland

### Management Aim

- For grassed areas to present and maintain high quality visual appearance
- Areas of wildflower and species rich long grass to be maintained as features with high ecological value as well as amenity value.

### Management Objectives

- To maintain amenity grass areas at specified height
- To control weeds detrimental to appearance or usage in amenity lawns
- To keep grass areas free from litter rubbish and dog faeces
- To keep amenity grass areas in good condition, suitable for play, recreation and with aesthetic value
- To maintain ecological value of wildflower and species rich long grass

There are several grassland types: amenity grass; species rich long grass; and wildflower meadow.

Amenity grass areas shall have a well kept appearance at all times and shall be regularly cut during the growing season from April to September to maintain a height of between 25 and 50mm. Unless otherwise agreed, all arisings shall be boxed and taken to a green compost facility. Arisings shall be swept from hard surfaces adjacent to amenity lawns after each visit.

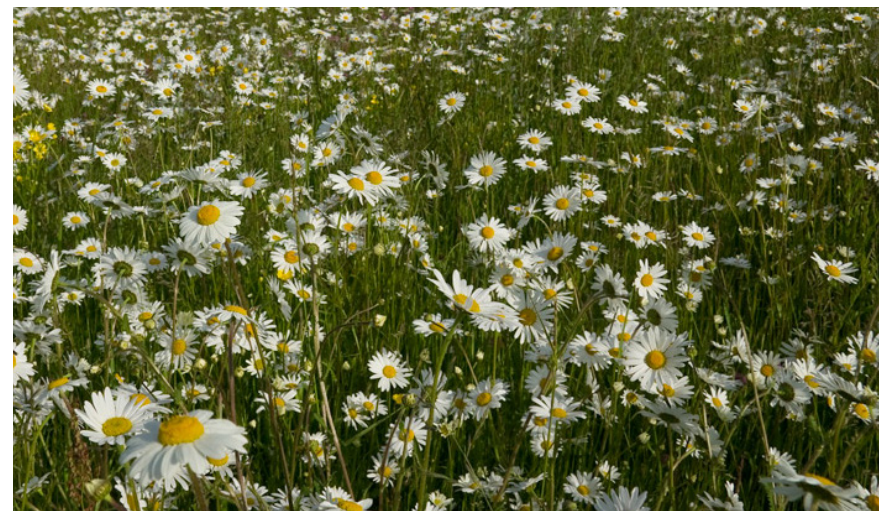
Junctions between amenity grass lawns and plant beds/hard surfaces shall be regularly edged and trimmed to maintain a neat and tidy appearance. In order to avoid damage to trees in amenity grass areas no mower or strimmer will be allowed within 400mm of a tree trunk.

Areas of failed grass shall be prepared and re-sown with the specified seed mix either in April or September. A spring “weed and feed” shall be applied to amenity grass areas at the manufacturer’s recommended rates.

Note: Grass growth regulator will not be permitted

Litter shall be hand picked and bagged from all grass areas prior to cutting. Bags shall be removed from site and legally disposed of.

Wildflower grassland and species rich long grass areas will be established using an appropriate seed mix to suit the site conditions for example Emorsgate EM2 Standard General Purpose Meadow Mix, Emorsgate EG11 Wild Meadow Grass Mixture, or other as recommended by ecologist. The existing ditch is to be seeded with a wildflower seed mix suitable for seasonally wet soil e.g. Emorsgate EM8 Meadow Mixture for Wetlands.





This table sets out the management objectives for the grass and bulb planting on the site, how they will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
5.7.1	Control height of amenity grass for recreational use	Cut grass to between 25-50mm	Mow areas with a self-propelled mower. Arisings should be removed from site and disposed of responsibly in council facility as green waste  Clean adjoining path areas after mowing	22 times during growing season April – September (weekly during May, June, July and August but do not cut in drought conditions)
5.7.2	Keep amenity sward in good condition	Check and report to client on damaged areas	On instruction from client repair damaged or failed areas and re-sow seed. Apply feed treatment. Undertake aeration/thatch removal, if required	April or September
5.7.3	Allow wildflower and species rich grassland areas to regenerate	On a rotational basis cut 1/3rd of the grassland to 50mm after flowering and at end of season - rotate to a different 1/3rd of the wildflower grassland each year on a three year cycle.	Cut the wildflower grassland with appropriate equipment. Collect arisings and dispose of offsite	Cut in September or April depending on weather conditions
5.7.4	Keep grass areas free from weeds to reduce competition and improve visual amenity	Weeding	Weed clearance by hand, hoe or fork, or mowing as appropriate.	Monthly from March to October or as required
5.7.5	Keep all grass areas free from litter, rubbish and dog faeces	Litter removal	Hand picking	Amenity areas - before each cut and monthly October - March. Meadow areas - monthly



## 5.8 Playground Equipment

### Management Aim

- To regularly inspect and maintain play and recreation areas to comply with current legislation and regulations.

### Management Objective

- To maintain the recreational equipment in a safe and viable state which ensures freedom from unacceptable risk.

All play equipment, both formal and informal, will be regularly inspected to identify any obvious hazards. All formal pieces of play equipment will undergo frequent checks to ensure the equipment is safe and fit for purpose. The high quality appearance of the equipment will be maintained through maintenance inspections with work undertaken as required.

Whilst annual inspection is not mandatory law under Section 3 of the Health and Safety at Work Act 1974 requires a risk assessment.

This table sets out the management objectives for the play equipment on the site, how they will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
5.8.1	To identify obvious hazards or respond to complaints by public	Routine visual inspection of all play areas	Check for signs of vandalism and remove any litter, glass etc. Check safety surface for faults/loose fill for depth. If parts are found to be unsafe and cannot be immediately repaired the equipment should be immobilised or cordoned off with a warning noticed attached. Record each visit on a spreadsheet.	Weekly
5.8.2	To check the operation and stability of the equipment	Operational inspection of all items of equipment, fences and gates	Check all working parts and oil and grease bearings as necessary. Check all ropes, chains and shackles. Check anti slip surfaces eg. on step treads Check that structures and foundations are secure. Check for trip hazards and obstructions in surrounding area. Check for finger traps. Check wooden items for splinters and cracks. Check metal items for corrosion and sharp edges. Check that plastic/polythene items for brittleness and sharp edges. If parts found to be unsafe and cannot be immediately corrected the equipment should be removed or immobilised and cordoned off with a warning noticed attached. Check each item against a check list and record each visit on a spreadsheet.	Monthly
5.8.3	To establish overall level of safety of the equipment. Whilst annual inspection is not mandatory a risk assessment is required by law under the Health and Safety Regulations.	Annual technical inspection of all play areas	To be carried out by RPII (Register of Play Inspectors International) trained and certified inspectors or manufacturers inspection engineers. Includes a non-dismantling inspection of all equipment supported by a detailed technical report highlighting any action required.  If parts are found to be unsafe and cannot be repaired the equipment should be removed or immobilised and cordoned off with a warning notice attached.	Every 12 months
5.8.4	To generally maintain superficial appearance of equipment and street furniture.	As necessary	Sand down and repaint or re-stain equipment, seats, bins and fences to specification supplied by supplier.	As necessary



## 5.9 Hard Landscape - including footpaths, paved areas and street furniture

### Management Aim

- To present the visible indication of high quality, regular site maintenance.

### Management Objectives

- To keep paths and paved areas free of debris, litter, graffiti & dog faeces
- To keep weed colonisation at a minimum and acceptable level
- To maintain footpaths and paved areas in safe condition
- To maintain street furniture, including seating and replace if necessary
- To maintain railings, fences and walls in good condition

Hard areas and elements will be regularly checked for subsidence and damage and will be repaired at the earliest opportunity using the original specified material. Areas where damage poses a hazard to pedestrians shall be cordoned off with bollards and high visibility tape until repair can be organised.

Painted and stained surfaces shall be checked at five yearly intervals. Where necessary surfaces shall be prepared and repainted/stained using the same product to maintain the integrity of the original design.

A “no tolerance” policy will apply to graffiti which shall be removed as soon as it appears and where necessary specialist contractors shall be employed to carry out this work.



This table sets out the management objectives for the hard landscaping on the site, this includes the footpaths, paved areas and street furniture. It details how the objectives will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
5.9.1	Keep footpaths and paved areas free from litter, dog faeces, staining and chewing gum	Remove bags from litter and dog bins and remove litter and faeces from paths and paved areas.  Clean stained surfaces	Remove and replace bags from bins and deposit in legal tip. Sweep up litter and faeces from paths and paved areas. Use pressure washer to remove chewing gum and staining	Twice weekly April to September, weekly October to March As required
5.9.2	Keep footpaths and paved surfaces free from leaf and tree debris	Removal of tree litter and debris, including leaves and branches	Removal, collection of all tree litter and debris, including leaves, conkers, branches and transport to tip	November and December
5.9.3	Keep hard landscape areas such as paths and paved areas free of weeds	Weed killing	Spray with herbicide containing glyphosate using knapsack sprayer	April/June and August
5.9.4	Maintain fencing, paved areas and all hard landscape areas including walls, seating and other street furniture in a safe, clean and graffiti free condition	Monitor and report to client on damaged areas	Repair as instructed by client	As necessary

## 5.10 Non-native Invasive Species

### Management Aim

- To eradicate non-native invasive species from the site as they occur

### Management Objectives

- Prevent the introduction and spread of non-native invasive species

The control of non-native and invasive species (such as Himalayan balsam or Australian swamp stonecrop which are known locally but not from the site) within the site to ensure that they cannot be spread throughout the site or to adjacent land.

For a list of what is classed as an invasive species refer to invasive species like under Schedule 9 of the Wildlife and Countryside Act 1982 (as amended).

The removal of these species from the site would contribute to the national aims and objectives of preventing, reducing and eliminating the impacts from these species in the UK.



This table sets out the management objectives for the non-native and invasive species on the site, how they will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
5.10.1	Prevent the introduction and the spread of non-native invasive species	Visual inspection for encroaching non-native/invasive species	Eradicate appropriately using any necessary licenses.  Remove waste to the appropriate place.  Records to be kept.	Monthly

# 5.11 Bat and Bird Boxes

## Management Aim

- To maintain and increase potential roost/nest sites.

## Management Objectives

- To maintain and increase potential roost/nest sites.

The local bat and ornithological groups will be contacted to determine whether management for the boxes will be passed over to these local groups .



This table sets out the management objectives for the bat and bird boxes on the site, how they will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
5.11.1	To maintain and increase potential roost/nest sites.	Visual inspection of all roosting/nesting boxes ensuring they are in place.	Replace any broken/fallen bat or bird boxes.	Annually

## 6.0 Common Maintenance

### Vision for Common

- 6.1 The Vision for the Common is to improve the land by maintaining the existing trees and grassland to create a beneficial local asset for people and wildlife.
- 6.2 Currently the Common is hard to access due to overgrown scrub and brambles. To open up access for users, areas of scrub will be cleared with the reinstatement of grassland habitats.
- 6.3 Scattered trees within the Common will be retained, along with a hedgerow bounding the Common to the east. Individual native tree planting is proposed to create an element of separation and screening from the development.
- 6.4 Key actions for the Common include:
- Improve access for users (a new crossing point within the development reinforces this);
  - Maintain existing grassland habitats that are beneficial for flora and fauna;
  - Ensure successful establishment of proposed trees.
  - Clear areas of scrub to open access and reinstate grassland in its place;
  - Maintain existing trees to retain overall character of the Common;
  - Clear leaf litter which is currently harmful to the pond in order to encourage a suitable wildlife habitat.
- 6.5 In the long term the aim for the Common is to restore a natural grassland habitat with the typical characteristics of a Common to enable the space to become a community resource.

### Maintenance Aims

- 6.6 The main aims for management and maintenance of the Common land are:
- To ensure that existing features within the Common are appropriately managed to maintain naturalistic grassland habitat that is accessible for people and upholds its ecological value
  - To keep the Common clear of litter and rubbish.
  - To carry out maintenance work according to best practice using sustainable techniques and materials to maintain the naturalistic character of the grassland within the Common.
- 6.7 The removal of a number of trees is required in order to implement the development, both within housing parcel and the Common itself. All tree removals are to be undertaken in accordance with an approved tree retention and loss plan. The majority of tree removal required involves the removal of dead Elm stems.

### Common Proposals - Overview

- 6.8 Enhancements to the Common include the creation of wildflower grassland through scrub clearance and oversowing with a species-rich wildflower grassland seed. For example Emorsgate EG11 Wild Meadow Grass Mix which includes suitable species to compliment the existing grassland found within the site, as well as diversifying the grassland habitats and increasing the floristic diversity of the site.
- 6.9 As stated within the Ecological Assessment, produced by Ecology Solutions (March 2016) it is recommended that the areas of new wildflower grassland will be managed to create rough grassland, which will provide suitable habitat for reptiles and diversify the habitats present.





Retain and enhance existing features such as trees and grassland



Remove areas of scrub to open access to Common



Retain and enhance existing features such as trees and grassland



## Maintenance Tasks

6.10 Maintenance tasks for the Common are:

- Maintain retained existing trees (refer to the table below) and enable a degree of visibility between the Common and the development;
- Maintain existing grassland and ensure establishment of new areas of grassland where areas of scrub is removed to create rough grassland sward. To maximise its floristic diversity ensure a long tussocky sward is maintained to provide suitable habitats

for wildlife. The grassland will be managed with a more intensive mowing regime in the first year to aid initial establishment of the wildflower species;

- Improve and maintain existing pond to enable habitat suitable for wildlife once cleared of leaf litter;
- To carry out maintenance work according to best practice using sustainable techniques and materials to maintain the naturalistic character of the grassland within the Common.

This table sets out the management objectives for the Common, how they will be achieved and the schedule for the maintenance tasks.

Ref	Management Objective	Maintenance task	Method	Timing
6.11.1	Check tree safety	Identify hazards and carry out necessary maintenance work Keep records up to date	Visual tree assessment with instrumental back up where necessary. Monitoring to be undertaken by qualified arboriculturists. Tree works to be carried out to BS 3998:2010 Any trees with bat potential to be inspected by a qualified bat specialist prior to any tree works commencing.	Every 2 years or as recommended
6.11.2	Removal of dead Elm trees	Remove dead Elm trees.  Ongoing checks to manage Elm re-growth which will require removal from site	Tree works to be carried out to BS 3998:2010 Monitoring to be undertaken by qualified arboriculturists. Any trees with bat potential to be inspected by a qualified bat specialist prior to any tree works commencing. All arisings shall be removed from site.	Year 1 remove dead Elms. Year 2 onwards conduct an annual check for Elm re-growth, manage and remove from site as per best arboricultural practice
6.11.3	Maintain degree of visibility between the Common and the development.	Selective thinning and removal of unwanted vegetation e.g brambles, nettles, ivy, which acts to reduce visibility.	Thinning of trees within tree groups (targeting removal of poor quality specimens and heavy shade casting species). All arisings shall be removed from site, unless suitable to retain on site for ecological benefits.	Annually, works to be undertaken outside the bird breeding season (March - July inclusive) or after suitably qualified ecologist has undertaken checks to ensure no nesting birds are present.
6.11.4	Existing pond to be cleared of leaf litter to improve its ecological value.  To be enhanced to create areas of open water (through de-silting and removal of overshadowing scrub and choking emergent vegetation).	Remove leaf litter, any exotic or invasive species and other debris. Aquatic vegetation will be removed if the pond becomes overgrown. Should invasive species be noted, these will be treated appropriately and with due consideration to the wildlife present within the pond. Marginal vegetation be managed if it becomes overgrown, removal to take place in the autumn if required.	Clear leaf litter by hand. Once cleared, keep any removed vegetation at the edge of the pond to allow any trapped reptiles, amphibians and invertebrates to migrate to a new habitat.  Remove all arising from site  The pond will be monitored on a yearly basis to ensure no invasive species colonise.	Late autumn, once leaves have fallen, prior to rotting down. Any vegetation to be removed will take place in the autumn and left adjacent to the ponds for a day to ensure no Great Crested Newts (none recorded in pond to date) and amphibians present within the vegetation leave before the vegetation is removed. Monitoring - annually

Ref	Management Objective	Maintenance task	Method	Timing
6.11.5	Grassland - areas to be oversowed to be established to create high quality sward <u>maintenance for the first 12 months</u>	Regularly cut sward to minimise competition and weed seed. Cutting to 25mm when species rich long grass reaches 150mm. Any bare patches to be made good (refer to section - 5.7)	Remove all arisings from site.	Cutting to be suspended between April and July to allow flowering of the cornfield annuals.
6.11.6	Allow grassland areas to regenerate and be managed as tussocky grassland <u>maintenance post initial 12 months after overseeding</u>	Every two years cut to 150mm to allow the grassland to maintain a tussocky nature.  Any areas of failed grassland (a loss of more than 5% in grassland cover) will be reseeded with a seed mix of similar species content.	Cut the wildflower grassland with appropriate equipment. Collect arisings and dispose of offsite	Cut between September or April depending on weather conditions. Every two years.
6.11.7	To maintain and increase potential roost/nest sites.	Visual inspection of all roosting/nesting boxes.	Replace any broken/fallen bat or bird boxes.	Annually
6.11.8	Control exotic and invasive tree / shrub species that do not belong in a native setting that are out competing less vigorous species.	Check and remove any exotic and invasive species e.g self-seeded sycamore, brambles, ground ivy and nettles	Clear by hand and remove from site	Annually
6.11.9	Removal of rubbish and debris.	Remove litter and fly tipped rubbish	Hand picking of litter with remove of all rubbish/debris off site.	Monthly
6.11.10	Ensure that trees grow straight and are not damaged	Check that stakes and ties and guards are intact and secure. Check that stakes are not rubbing against the bark and that the tie is not too loose, too tight or broken. Check underground anchors	Visual inspection Adjust or replace stakes, ties and guards as necessary. Re-plant in an upright position and re-firm any trees suffering from windrock.	Twice annually
6.11.11	Ensure that trees become self supporting	Remove stakes once root growth is well established. Visual inspection to confirm stability.	Check tree stability. Remove stakes, ties and guards when tree is established.	3 to 5 years after planting (typically)
6.11.12	Make good damage caused by vandalism	Visual inspection to check for vandalism. Report to client.	On instruction from client replace as per planting specification	Monthly
6.11.13	Ensure that trees develop healthily	Remove dead, damaged or dying wood	Prune in accordance with BS3998:2010	As required annually, avoiding bird nesting season of March to August inclusive
6.11.14	To keep newly planted trees free from pests and disease	Qualified arboriculturist to inspect and check on health of trees	Deal with individual problems as they arise keeping use of pesticides to a minimum	Monthly from March to October
6.11.15	Ensure continued health of trees	Check and respond as necessary	Water and fertilise if required to ensure the that the tree continues to develop Investigate any continued failed growth of trees and take remedial action.	As necessary
6.11.16	Ensure dead trees are replaced	Replacement of failed trees once deemed appropriate by qualified horticultural staff.	Remove dead tree and replacement as per original approved specification unless otherwise agreed to plant alternative species.	November/December



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