

5.4 BIODIVERSITY ENHANCEMENT STRATEGY

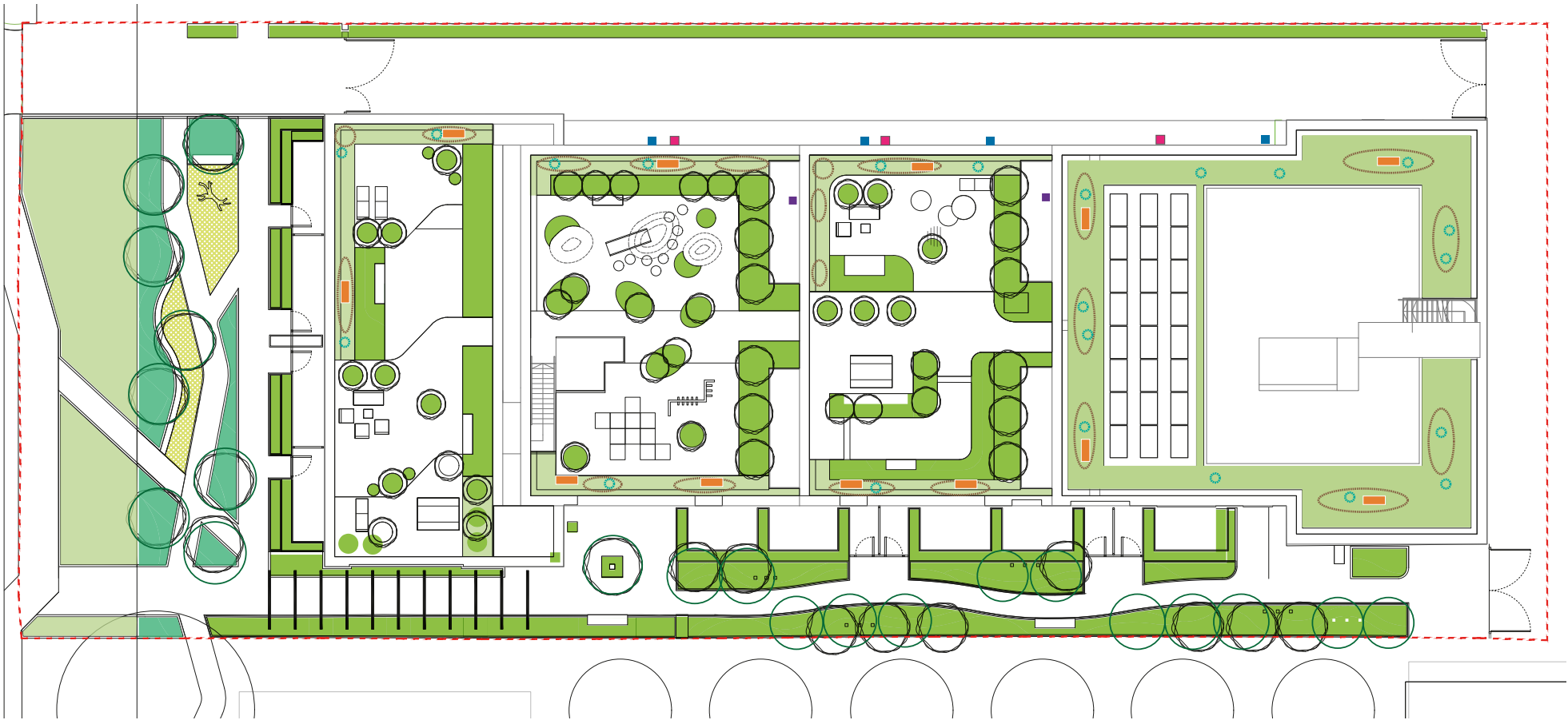
The approach to the design of Nestles Avenue is a sustainable scheme through the use of well landscaped spaces that will endure.

The rain gardens within the 9 Nestles Avenue typology forms a Sustainable Drainage System (SuDS) as they will be permeable, allowing for surface rainwater to drain naturally into the ground. The species chosen for this area are waterlogg tolerant.

The scheme will incorporate a general mix of species of trees and plants that include specimens that blossom, have fruit and flower at different times of the year, creating a long season of feeding and pollinating for invertebrates and birds. New ground cover planting also creates foraging areas for small mammals and insects.

The Day 1 Scheme will also include biodiverse meadow planting on the ground floor along the road, which will aid in the sustainability corridor. Large/instant specimens of trees will be planted to immediately mitigate the loss of visual amenity and linear habitat provided by the existing vegetation. The London Plan goal of increasing canopy cover in London by 10% by 2050 will be exceeded based on the current tree planting proposal compared with the existing trees/vegetation present based on the larger species proposed.

Within the terrace gardens, biodiverse wild flower meadow planting will be incorporated in order to promote higher numbers of species. This biodiverse green-roof system incorporates a slightly undulating profile, creating mounds to vary the habitat for different wildlife and create shallow depression to create bird baths.



Bird boxes are incorporated within the architecture. Urban insect hotels or wildlife boxes are proposed within the biodiverse wild flower meadow planting on the roof gardens and act as a haven for a variety of species of invertebrates.

The Biodiversity Action Plan section of the Hillington Council website has been consulted in order to identify key species within the site's approximate location.

KEY

Biodiverse planting including evergreen, native and nectar-rich species

Rain gardens including evergreen, native and nectar-rich species

Species-rich flowering lawn

Biodiverse meadow planting with evergreen, native wild flowers and nectar-rich species

Deciduous trees including native species

Invertebrate boxes

Bird Box (North and East facing)

House sparrow terrace box (North and East facing)

Stag beetle loggery, logs and rubble

Shallow depression for bird wash

BIODIVERSITY ENHANCEMENTS PALETTE



 Biodiverse planting including evergreen, native and nectar-rich species



 Rain gardens with biodiverse planting including evergreen, native and nectar-rich species



 Species-rich flowering lawn



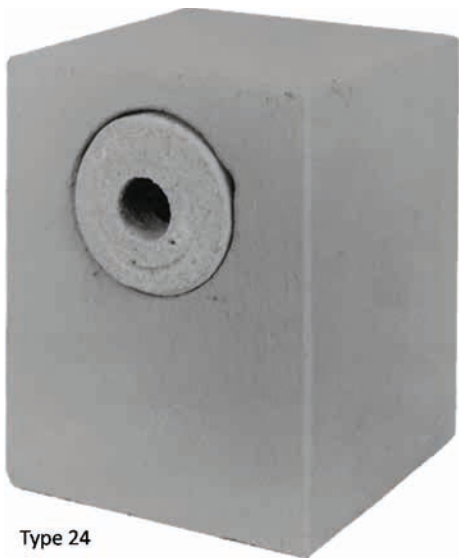
 Biodiverse roof with meadow including evergreen, native wildflowers and nectar-rich, species



 Deciduous trees including native species



 Invertebrate box



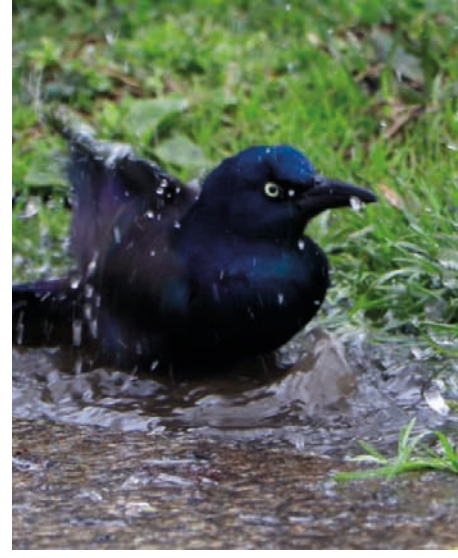
Type 24
 Bird box (North and East facing)



 House sparrow terrace box (North and East facing)

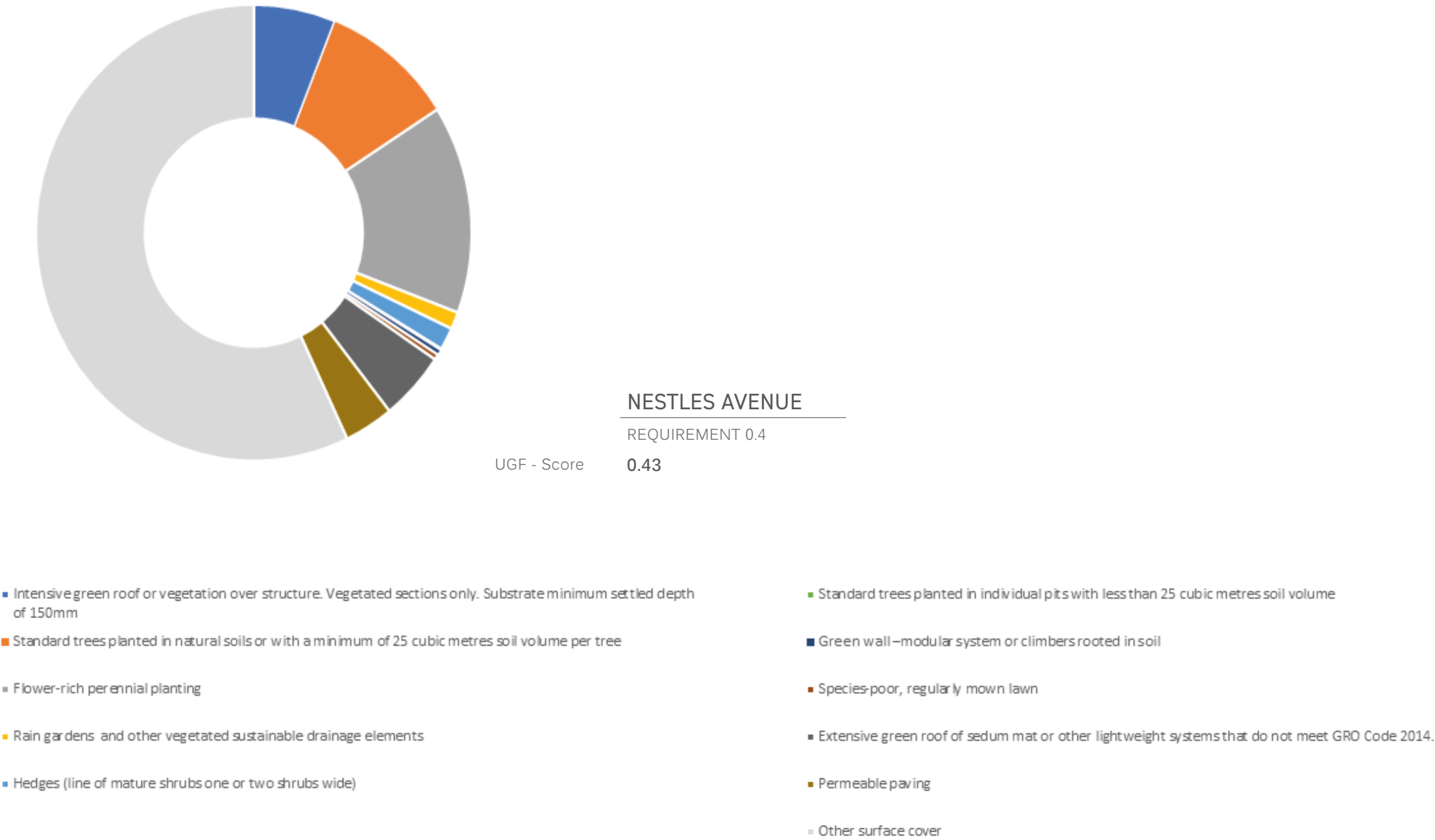


 Stag beetle loggery, logs and rubble



 Shallow water depression for bird wash

5.5 URBAN GREEN FACTOR



6 LANDSCAPE MANAGEMENT PLAN

6.1 INTRODUCTION

Exterior Architecture (ExA) has been appointed by Healey Development Solutions (Hayes) Ltd to prepare a Landscape Management Plan (LMP) that covers the landscaped areas within the proposed development referenced here as Nestles Avenue (the site).

6.2 GENERAL

This LMP has been developed to ensure the long-term management of the landscaped setting while enabling it to contribute positively to the visual amenities of the area and create usable and valued spaces for the users to enjoy.

This plan sets out the long-term maintenance principles required for the external hard landscape treatments (surface finishes) and soft landscape.

The principle management strategy for the site is for an easy to maintain landscape that uses durable and robust products and materials for enhanced longevity. The hard landscape materials will conform to British Standards (BS) as well as being easy to clean, maintain or replace if required.

This LMP should be reviewed annually to ensure its effectiveness at maintaining the landscape elements to the highest standards.

6.3 OBJECTIVES

The general objectives for this LMP are to:

- > Create an attractive and well cared for setting for the development.
- > Ensure the successful implementation, establishment and longevity of the planting scheme and external treatments.
- > Ensure the landscape contributes positively to its users.
- > Ensure the landscape contributes positively to the site context.
- > Enhance and protect the native flora and fauna (both existing and proposed); and,
- > Enhance biodiversity and ecology where possible.

6.4 SOFT LANDSCAPE

The soft landscape palette has been developed to add a strong, well-vegetated character to the site, forming a rich, verdant context to the proposed development. Species have been chosen to form an appropriate palette to:

- > Match the anticipated micro-climate
- > Create a sequence of clearly defined spaces
- > Create moments
- > Create a strong sense of character for each landscape character typology
- > Enhance ecological diversity; and
- > Provide visual interest and colour throughout the seasons.

Given the varying aspects of the soft landscape areas, the planting strategy has been very carefully considered.

What has been proposed responds directly to the level of light and shade each of the external spaces receives. These typologies draw on the hardy plant communities of natural ecological succession in disturbed land to form their planting palettes.

Please refer to section '5.3.2 Planting Strategy' of this document for more information on each typology.

6.5 HARD LANDSCAPE

The hard landscape treatments consist of a variety of clay pavers, composite decking, flag paving, porcelain paving, and concrete block paving. Surface treatments are designed to be robust and provide safe and attractive routes.

Pedestrian spaces and routes will be lit with low level path lighting to minimise any light pollution.

Furniture will be selected to ensure they are of durable and low maintenance materials. These will be located at key pedestrian junctions and congregation points. Refer to Section '5.2.2. Furniture Strategy' for more information.

6.6 MANAGEMENT RESPONSIBILITIES

*management responsibilities to be agreed

Maintenance operations should be refined to suit:

- > The needs of users;
- > The conservation of ecological interests
- > Improvements in equipment and horticultural aids
- > Changing legislation and sustainability requirements
- > The completed scheme when soft landscaping, including species, have been confirmed

6.7 LANDSCAPE MANAGEMENT PLAN PROGRAMME

YEAR 1

It is intended that the implementation of this management plan will help to fulfil the design objectives over the first year. This period is set to cover the 1st year of the defect's liability period of the appointed landscape contractor. Management objectives should be reviewed on a regular basis to ensure that they are being achieved.

From the point of final completion (end of the defects liability period) the appointed management team (TBA) will be responsible for the maintenance of the site.

YEARS 2-5

The management team is responsible for the site in the long term and should keep to the original design objectives/intent whilst responding in a sensitive and practical way to issues which may arise in future years.

The LMP should be reviewed and adjusted accordingly to ensure the design objectives are maintained in the longer term. Annual monitoring of the establishment and condition of the Landscape Scheme will be undertaken by a suitably qualified Landscape Management Advisor.

YEARS 5+

Subject to the outcome of the regular monitoring review from years 1-5 the frequency of monitoring will then be reduced to once every two years. As required, further reinstatement or remedial action may be undertaken and/or changes made to the maintenance schedule in light of this monitoring.

PLAN REVIEW

The LMP should be reviewed during the life of the plan with a final review undertaken before the end of the ten-year period, a revised LMP should be submitted for agreement. The revised plan will include similar provision for the long-term management of the Landscape Scheme and for future revision and updating.

The plan review must be undertaken by a suitably qualified Landscape Architect.

6.8 MANAGEMENT PROPOSALS

6.8.1. GENERAL

This section sets out management objectives and prescriptions for each of the different elements of the Landscape Scheme.

HARD SURFACES

Regular monthly maintenance inspections are to be undertaken of surface treatments for litter, debris, and leaf removal (or snow clearance and de-icing in winter months).

OBJECTIVE 1

To maintain the condition of all surfaces in a clean and safe condition.

Cleaning is to be either mechanically swept or jet washed as required to remove surface build-up of atmospheric dust. Removal of chewing gum or other significant marking may be done locally using an approved chemical agent. Frequency - monthly. Decking areas will require specialist maintenance treatments that should be recommended by the timber supplier in conjunction to BS Standards.

In the event of weeds or moss growth in paving joints these are to be treated with an appropriate water-based herbicide. Weeds are not to be pulled out by hand to preserve the bedding course. Frequency - monthly.

Damages to paving surfaces - In the event of any cracking, disturbance, breakages or damaging of paving surfaces these are to be replaced to match with like for like material.

6.8.2. FURNITURE

OBJECTIVE 1

To maintain all furniture elements in a clean, safe, and operational condition.

In the event that furniture items are damaged, the management team will be required to source replacement timbers and replace any broken or damaged units that are deemed to pose a risk to public safety or are aesthetically not in keeping with the design intent. Frequency: Inspections to be undertaken on a bi-monthly basis by the management and works undertaken immediately in identification of any fault by the original supplier or approved contractor of the original supplier.

Removal of chewing gum or any other significant marks – chewing gum may be removed using an approved chemical agent.

Other significant marks such as permanent markers and spray paint are to be removed using an approved chemical agent to manufacturer’s recommendations. Any surface coatings or finishes that are compromised by the marks are to be repaired. Frequency: Inspections to be undertaken on a weekly basis by the management team and works undertaken immediately in identification of any issues.

Damage to lighting units that are deemed to pose a risk to public safety, are not functioning, or are aesthetically not in keeping with the original design intent are to be repaired or replaced by a suitable qualified contractor. Any replacement units must be of the same specification as the original unit to maintain consistency throughout the design. Inspection to be carried out monthly on site and any due work is to be undertaken immediately in identification of any fault.

OBJECTIVE 2

To maintain all boundary treatments / edges in a clean, safe and operational condition. In the event that these boundaries / edges are damaged or vandalised, the management team as appointed by the legal property owner will be

required to source and replace any broken or damaged units that are deemed to pose a risk to public safety or are aesthetically not in keeping with the design intent. Frequency – Inspections to be undertaken on a bi- monthly basis and works undertaken immediately after the identification of any fault.

6.8.3. PLANTING

OBJECTIVE 1

Ensuring sustained tree and shrub growth during the life of the LMP.

Watering of trees and shrubs: Water as required during periods of drought to ensure satisfactory establishment, and for a period of not less than three years after planting. Frequency: as required to maintain healthy plant growth. Refer to Irrigation engineer’s information from more details. Robust watering and maintenance should be employed post development to ensure the trees develop to maturity

Inspection of trees and remedial actions: Trees are to be inspected every 6 months for the first two years of the management team to ensure that trees are healthy, not diseased or damaged, or dead. Inspections after the first 2 years can be reduced to yearly if they are establishing well. Inspections should be carried out by a qualified arboriculturalist to identify any dead limbs or other parts of a tree that may cause harm to the tree or member of the public and advise remedial actions.

Any failed trees during the first 5 years after planting will be replaced and maintained for a subsequent 5 years.

Frequency of remedial pruning: yearly pruning to be conducted between January and March based on findings

of inspections. Emergency pruning to be conducted immediately when a critical fault is noticed.

Pruning or (thinning up) of tree canopies should also be carried out to ensure light levels into the Garden Walk are maintained.

Frequency of tree replacement: To be undertaken in optimum tree planting in early spring or late autumn.

Height, width and overall form of the shrub and hedge planting is to be maintained so as not to cause damage or to interfere with visibility or light levels. Any pruning or shaping of planting to be carried out in accordance with good horticultural and arboricultural practice in order to ensure the overall health of the plant. Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well-balanced natural appearance.

Dead or unhealthy shrubs are to be removed on inspection and replaced with the same species and size as required to achieve the desired visual effect.

Frequency of inspections: 3 monthly

Frequency of remedial work: immediately as required.

Frequency of seasonal remedial pruning works: Pruning, dead heading at the end of plant flowering seasons (spring to autumn) as required.

Removal of harmful materials that may affect tree growth – weeds on the top of tree pits are to be removed by hand. Herbicides and weed strimmer’s are not to be used to control weeds in plant beds. Other material such as litter, debris and other harmful material is to be removed. Mulch is to be topped up to desired depths and levels as specified.

Frequency of debris removal: bimonthly

Frequency of mulch replenishing: 6 months

OBJECTIVE 2

Retain a healthy growing medium for all trees and amenity planting areas.

Fertilisation of soils to replenish nutrients: All shrub beds are to be fertilised using an approved slow release fertiliser as per the manufacturer’s recommendations. Trees are to be fertilised in the first two years of establishment using a liquid based organic fertiliser as per the manufacturer’s recommendations. An approved organic soil conditioning agent is to be applied to all garden beds as per the manufacturer’s recommendations and worked into the top 150mm of the soil profile without damaging the existing planting. Mulch is to be removed prior to application and reinstalled after soil conditioner has been added.

Frequency: Shrub fertiliser - annually

Frequency: Tree fertiliser – annually for the first two years

Frequency: Soil conditioner for amenity planting beds – annually in early spring

6.9 MAINTENANCE SPECIFICATION

6.9.1. STANDARD OF WORK

The management team is to be carried out to a high and consistent standard. Planted areas must be kept neat and clean in appearance at all times, weed and litter free, with all planting in a healthy state.

The management team shall ensure that the works themselves do not cause inconvenience or danger to users of the site and that any potential Health and Safety issues are raised, and all necessary measures are taken accordingly.

All staff will be trained in landscape maintenance operations and have suitable experience/qualifications to undertake the specified work.

6.9.2. BRITISH STANDARDS

All materials, workmanship and horticultural terms shall comply with the current, appropriate British Standards.

6.9.3. USE OF CHEMICALS

The management team must ensure that all approvals and measures are in place for the use of any chemicals e.g. herbicides or pesticides on the site within non-adoptable areas. The responsible party shall also ensure approvals and measures are in place for the use of any chemicals on the site within adoptable areas.

The responsible party shall ensure that any chemical application is undertaken by a trained operative with the appropriate qualification. They shall ensure at all times that the public, store employees and own staff are not

subject to any hazard from the use of chemicals, and that all equipment, containers and materials are kept in a secure place when on site and not in use, and that all empty containers, etc are removed from site at the end of each day.

6.9.4. CLEANLINESS

At the end of each day of each maintenance operation, the management team shall remove from site all rubbish, trimmings, and superfluous materials, leaving the works in a clean and tidy condition. Particular attention shall be paid to ensuring areas of hard surfacing are left in a clean condition, free from any soil, mud, leaves, cuttings and plant pruning.

6.9.5. PESTS AND DISEASES

The management team shall implement appropriate treatment to any pest or diseases occurring on-site that are found to be affecting the vegetation as agreed to coincide with normal maintenance visits, where possible. All operations shall comply with statutory safety requirements. All diseased wood, prunings etc. shall be removed from site.

6.9.6. MULCHING

All areas of shrubs are to be mulched to a depth of 50mm. Mulched areas are to be topped up as necessary using the same material as was originally specified.

6.9.7. WEED CONTROL

In the course of the routine maintenance visits, the management team shall undertake the weed control necessary to keep the site in a neat and tidy, weed free condition and to allow specified species to develop free from unnecessary competition. Weeding may be carried out by hand, machine, and herbicide or by a combination of all three consistent with the other requirements of this maintenance specification.

Where herbicide is to be used, it is the management team's responsibility to ensure that the herbicide proposed to use is appropriate for the purpose and location. Weeds and other debris will be removed from site at the end of each visit.

6.9.8. LITTER

At every maintenance visit the management team shall remove all litter from planted areas. During autumn all fallen leaves should be collected and removed from grass and hard surfaces.

6.9.9. WATERING

Watering to be full depth of the topsoil. To be carried out as necessary for the continued thriving of all plantings. Refer to

Irrigation engineer's information from more details.

6.10 HIGH LEVEL MANAGEMENT AND MAINTENANCE PROGRAMME

Month	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Item:												
Hard Surfacing Areas												
Litter pick and sweeping /blow through all hard surfaces. Pressure was as required.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Shrub Beds												
Application of a general fertiliser to shrub beds.				☐			☐					
Lightly fork over surface.			☐						☐			
Weeding – hoe or herbicide.			☐	☐	☐	☐	☐	☐	☐			
Replace dead plants.				☐					☐			
Top up amenity grade bark mulch to 75mm depth.			☐						☐			
Watering – as required in periods of drought.				☐	☐	☐	☐	☐	☐			
Pruning of shrubs – dependant on requirement of species and to prevent overspill onto hard surfaces.			☐			☐			☐			
Fleece tree ferns for the winter										☐	☐	
Thinning out of plants as required									☐	☐	☐	
Trees												
Check and re-tension underground ties of trees in beds and containers.			☐				☐				☐	
Apply slow release fertiliser. Top up slate Mulch to containers.				☐			☐					
Prune crown of trees – remove suckers at base.			☐							☐		
Watering – as required in periods of drought.				☐	☐	☐	☐	☐	☐			



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