



Graven Hill Health Hub, Bicester

Landscape Ecological Management Plan

April 2022

Waterman Infrastructure & Environment Limited

Merchants House, Wapping Road, Bristol, BS1 4RW
www.watermangroup.com



Client Name: Assura PLC
Document Reference: WIE16470-100-R-14-1-1-Graven Hill Health Hub LEMP
Project Number: WIE16470-100

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Date	Prepared by	Checked by	Approved by
Planning	April 2022	Anna Barnes Senior Landscape Architect	Tom Hurlstone Associate Director	Tom Hurlstone Associate Director



Comments



Disclaimer

This report has been prepared by Waterman Infrastructure & Environment Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

Contents

1. Introduction.....	1
Format of the management plan	1
General description, principles and scope	1
2. Design Intention	3
3. Landscape Management Objectives	4
Landscape components with specific management objectives	4
Existing retained tree and hedgerow	4
Tree planting.....	4
Shrub planting within tree pits.....	4
Native and Ornamental shrub and hedge planting.....	5
Native Woodland planting.....	5
Species Rich grass areas	5
Amenity grass areas	6
Hard landscape.....	6
4. Landscape management types / specification.....	7
Existing Tree and hedgerow	7
Woodland Planting.....	9
Tree Planting	12
Shrub Planting in Tree Pits	16
Native and Ornamental Shrub and Hedge Planting	18
Species Rich and Amenity Grassland.....	21
Bird Boxes	23
Hard Landscape	23
5. Annual Maintenance Programme	25
6. Drawings	29

Tables

Table 1: Existing Tree and hedgerow – Summary of Management Activities.....	7
Table 2: Woodland Planting – Summary of Management Activities	10
Table 3: Tree Planting – Summary of Management Activities	13
Table 3: Shrub Planting in Tree Pits – Summary of Management Activities.....	16
Table 4: Native and Ornamental Shrub & Hedge Planting – Summary of Management Activities ...	18



Table 6: Species Rich and Amenity Grass – Summary of Management Activities	22
Table 8: Hard Landscape – Summary of Management Activities	24
Table 9: Annual Maintenance Activities	25

Contents

Graven Hill Health Hub, Bicester
WIE16470-100

WIE16470-100-R-14-1-1-Graven Hill Health Hub LEMP

1. Introduction

Format of the management plan

- 1.1. The primary aim of this plan is to ensure that the hard and soft landscape proposals for the Graven Hill Health Hub Scheme can be achieved through a long term and managed approach.
- 1.2. This plan sets out general principles and quality standards required for the long term hard and soft landscape management activities and includes:
 - Design Intentions;
 - Landscape management activities;
 - Specific requirements;
 - Landscape management types/specification; and
 - Indicative annual schedule of operations.
- 1.3. It should be read alongside the following drawings/document;
 - WIE16470-ZZ-XX-DR-L-74-100_Landscape General Arrangement
 - WIE16470-ZZ-XX-DR-L-74-110_BNG Plan
 - WIE16470-ZZ-XX-DR-L-74-300_Landscape Softworks Plan
 - WIE16470-100-AA-77-002_Tree Protection & Removal Plan
 - WIE16470-100-R-10-2-3_Arboricultural Impact Assessment
- 1.4. This document should be used to inform the principles of the required management activities to achieve successful long-term maintenance of all landscape areas within the Scheme. The plan will also form the basis for the maintenance provider to produce detailed scheduling/programming of works. It should also form the basis for periodic reviews, which are suggested to be carried out on a yearly basis, informed by the evaluation of previous year's maintenance works.

General description, principles and scope

- 1.5. The hub is designed for flexible use, with a substantial proportion of shared space, facilitating a possible later merger between the Practices. It will meet all statutory and infection-control requirements, allowing the Practices to offer more services to local patients and support Oxford CCG in moving more patient care from secondary care into the community. It will also help to deliver the CCG's agenda of clinical service redesign and transformation of care pathways with the opportunity for operational cost savings, as the local population increases. Facilitating more GP and nurse training will allow the hub to become a Teaching & Training Centre of Excellence.
- 1.6. The proposals comprise of a new building at 3350 sqm to replace 4 existing GP surgery premises with a new single integrated primary care hub for Alchester Medical Group / Montgomery House Surgery and a new retail Pharmacy / Dispensary. It is designed to serve a patient population of 50,000 and potential for a future extension to serve the population which is forecast to rise over the next 5-10 years to 60,000.
- 1.7. As part of the scheme there is a proposed new highway access road to the health and wellbeing

centre from the spine road to the South. The proposed highway works are to be undertaken in accordance with design, details and specifications provided by Waterman Group and to be carried out by Graven Hill Village Development Company to enable the required vehicular, cycle and pedestrian access to the proposed health and wellbeing centre.

- 1.8. The application site is approx. 1 hectare in size and the legal title of the existing site is indicated upon the location plan. The application site comprises the proposed new health and wellbeing centre with associated car parking and landscaping and the existing Northern boundary hedge which is to be protected & retained. The application site is wholly within the Graven Hill Village Development Company.
- 1.9. The site contains an existing mature hedgerow and tree and the submitted arboricultural report provides further documentation including root protection zones and protection measures.
- 1.10. The Landscape design incorporates a therapy garden, which provides a verdant setting for the health centre. Three main areas are located around the health hub – the tranquil area, the sensory area and a courtyard space within the centre of the building. A variety of materials within the hard landscape emphasises primary routes towards the health hub and creates a hierarchy of footpaths, while complementing the materials used on the building façade. A meandering path leads through the different green spaces and joins the varying elements of the garden together.
- 1.11. In order to achieve Biodiversity Net Gain, as part of the planning application, the Scheme has two off site native Woodland areas approximately 0.5km south west of the site.

2. Design Intention

2.1. The design intention for the landscape within the Health Hub Site is to provide a functional scheme which provides quality, and aids the setting of the development, whilst:

- Providing an aesthetically pleasing and environmentally diverse landscape that is both functional and complementary to the development throughout the year;
- Incorporating a therapy garden which includes a tranquil area, sensory area and courtyard space with ornamental and sensory planting, raised beds, seating areas and sculptures to provide a positive and relaxing experience for patients, visitors and staff and to support health and wellbeing;
- Providing a landscape that can be maintained to a high standard with resources that will promote a positive image of the development;
- Providing areas accessible to all and compliant with the Equality Act (DDA);
- Enhancing ecological diversity and create habitats to aid the well-being of local plants and wildlife;
- Reinforcing and enhancing the existing landscape qualities and character; and
- Enhancing the built-up area.

2.2. For the purposes of management and maintenance of the hard and soft landscape these are the following main areas:

- Soft landscaping within the car park;
- Hard and soft landscaping to wellbeing garden and courtyard space; and
- Offsite native woodland planting to form part of the Biodiversity Net Gain (BNG).

3. Landscape Management Objectives

- 3.1. To achieve the successful establishment and desired finishes to the landscape strategy for this new development, a series of objectives have been defined that give direction into the maintenance practices. The detailed criteria, together with time scaled actions detail how and when specific measures are to take place and are aimed to achieve the desired outcome.
- 3.2. General Maintenance Objectives for Soft Landscape
- a) apply good horticultural and ecological practice to all operations;
 - b) promote healthy growth and establishment of all grassed areas;
 - c) increase biodiversity;
 - d) ensure consistent control of invasive weeds;
 - e) promote optimum display and flowering periods and stem colour;
 - f) provide protection against pests and diseases;
 - g) promote wildlife value and species diversity where appropriate;
 - h) ensure long term commitment to replacement of defective plant material; and
 - i) review opportunities for introduction of new species or replacement of exhausted species where appropriate, in line with original design intentions; and
 - j) where ground remediation is carried out to remove contaminated material, it will be replaced with clean material and the landscape will be reinstated where appropriate to match the pre-existing planting and vegetation to maintain the amenity of the area that is remediated.

Landscape components with specific management objectives

Existing retained tree and hedgerow

- Retained trees and hedgerow to be protected throughout the construction phase as set out in line with the requirements of BS5837:2012 Trees in Relation to Design, Demolition and Construction, and the Arboricultural Impact Assessment pertinent to the Site (document ref. WIE16470-100-R-10-2-3); and
- Existing tree and hedgerow to be healthy, free of disease, damaged or broken stems/branches, dead wood, etc.

Tree planting

- Ensure that good horticultural practice is employed to encourage the long-term health and vitality of all trees;
- Maintain a clean and safe environment; and
- Ensure well-balanced crowns and natural shape.

Shrub planting within tree pits

- Ensure that good horticultural practice is employed to encourage long term health and vitality of

all shrub areas;

- Thin / re-space plants in order that they have sufficient room to develop;
- Maintain a clean and safe environment; and
- Ensure cultural techniques are employed which use a variety of mulches and organic fertilisers and which minimise the use of chemicals and peat wherever possible; and
- Ensure areas maintain an absence of invasive/injurious weeds.

Native and Ornamental shrub and hedge planting

- Ensure that good horticultural practice is employed to encourage long term health and vitality of all trees, shrubs, hedges and whip planted areas;
- Thin / re-space plants in order that they have sufficient room to develop;
- Maintain a clean and safe environment;
- Ensure areas maintain an absence of invasive/injurious weeds; and
- Ensure cultural techniques are employed which use a variety of mulches and organic fertilisers and which minimise the use of chemicals and peat wherever possible.

Native Woodland planting

- Ensure that good horticultural practice is employed to encourage long term health and vitality of all trees and shrubs;
- Woodland to be managed for nature conservation and biodiversity value, wildlife connectivity and visual screening value;
- Thin / re-space plants in order that they have sufficient room to develop;
- Ensure that good horticultural practice is employed to encourage the long-term health and vitality of all trees and shrubs;
- Ensure areas maintain an absence of invasive/injurious weeds; and
- Maintain a clean and safe environment.

- 3.3. Ensure cultural techniques are employed which use a variety of mulches and organic fertilisers and which minimise the use of chemicals and peat wherever possible.

Species Rich grass areas

- Aid seedling development and maintain a balanced composition from one year to the next;
- Create a structured grassland with grass tussocks creating a series of microclimates across the habitat, thus encouraging a diversity of floral and faunal species;
- Allow the meadow sward to meet and link up the native shrub and tree planting and enhance the wildlife corridor function; and
- Ensure grassed areas maintain an absence of invasive/injurious weeds.

Amenity grass areas

- Ensure sward is maintained and mown regularly during the growing season so as to create an optimum function for amenity use; and
- Ensure grassed areas maintain an absence of invasive/injurious weeds.

Hard landscape

- Ensure footpaths and cycleway routes are kept free of defects; and show no signs of wear and damage;
- Ensure furniture shows no signs of wear and damage; and
- Ensure raised planters are kept free of defects; and show no signs of wear and damage.

4. Landscape management types / specification

4.1. In addition to the principles outlined above, the landscape features have been divided into a series of sub-headings to outline methods for successful establishment and maintenance.

Existing Tree and hedgerow

Designed Character:

4.2. Existing tree and hedgerow will be managed for habitat and aesthetic value.

Actions (0-5 years):

- An appropriately qualified arboriculturist or tree surgeon will be consulted prior to undertaking any major tree works on Site. The person(s) responsible for the management of the trees on Site should regularly commission a tree condition survey, and directly following heavy storms, by a suitably qualified and experienced arboriculturist in order to manage the Health and Safety aspects of trees under their control and discharge their reasonable Duty of Care under the 'Duty of Care' owed under the Occupiers' Liability Act 1984.
- Checks will be made for damage and disease. Pruning will be undertaken to remove dead, damaged or hazardous branches, whilst retaining and promoting natural growth form and maintaining the health and structural stability of the tree.
- Any required tree works to be undertaken outside the bird nesting season and in accordance with BS 3998:2010 and Arboriculture Association Guidance Note 10. If this is not possible then a suitably qualified ecologist would be consulted to enable the works to be undertaken.
- Following the undertaking of any tree works arisings should be collected with brash and log piles created, which will be of benefit to faunal species.

Table 1: Existing Tree and hedgerow – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection (and dated record keeping) of all trees or woody vegetation within falling or failing distance of public footpaths, access tracks, property or on woodland boundaries.	<p>Full safety inspection undertaken annually and within 72 hours of high winds (with the potential to cause tree damage/failure).</p> <p>Record hazardous trees or tree defects during each scheduled maintenance visit and take immediate action to manage the risk to persons or property.</p> <p>Clear non-hazardous fallen trees or branches from paths and access tracks within 72 hours of reporting.</p>

Management Area	Management Activity	Frequency
Invasive species and pests / species	<p>Report presence of invasive species</p> <ul style="list-style-type: none"> - Giant Hogweed - Cotoneaster - Floating Pennywort - Himalayan Balsam - Japanese Knotweed - Robinia pseudoacacia - Buddleia <p>or pests/diseases including Chalara Dieback of Ash and seek further specialist advice to prevent spread and allow effective management and/or eradication.</p>	<p>Check undertaken during each scheduled maintenance visit.</p> <p>Report sightings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. as necessary.</p>
Thinning Management	<p>Selective thinning out of undesirable woody species e.g. non-natives, conifers and those generally suppressing species of higher ecological or arboricultural value. Encourage development of natural regeneration of native deciduous tree species.</p>	<p>Annually during November to February.</p>
General management	<p>Assess and undertake general formative pruning of young and semi-mature 'standard' trees to promote good/ natural form and balanced development, (where appropriate). Pruning to include, (but not limited to);</p> <ul style="list-style-type: none"> • Removal of competing leader shoots, • Alleviation of crossing branches, • Re-balancing canopies etc. <p>Only branches up to 75mm diameter may be removed for this purpose.</p>	<p>Annually during November to February.</p>

Woodland Planting

Designed Character:

4.3. To create a mix of native species to reflect those within the area that will provide:

- Biodiversity Net Gain for the proposed Scheme; and
- Nature conservation and biodiversity.

Indicative Species and Sizes:

- Refer to Landscape Drawings

Actions (0-5 years):

- Ensure ground preparation is carried out in advance of planting season, which is for deciduous bare root/ rootballed stock late October to late March, conifers and evergreens September/October. Note: Containerised/container grown plants can be planted at any time if ground and weather conditions are favourable. The planting site will have a soil texture and structure that will retain and release moisture and nutrients to the plant;
- After initial planting, damaged, dead, diseased or crossing branches shall be removed. Water regularly to ensure successful establishment;
- Manage to maintain multi layered structure for integration, biodiversity and visual functions. Maintain species mix;
- In subsequent years remove and replace any tree to be found to be dead, dying, and diseased or affected by vandalism;
- Within the early stages (2 years) of a tree's growth, the guying wires, ties, stakes, canes, rabbit and tree guards should be monitored and repaired if damaged. Loosen tree ties or remove stakes if trees have become sufficiently established;
- Years 4-5 check trees and shrubs for abrasions and chaffing with tree stakes, guards and ties or each other. Loosen tree and shrub ties or remove stakes if trees have become sufficiently established. Trees and shrubs found to be rubbing against each other should have their crossing over limbs removed, to limit the possibility of disease in the future;
- Replace bark / stone mulch around the base of trees and shrubs yearly as required to ensure the base remains weed free and the soil retains moisture;
- Watering should be carried out as required to ensure successful establishment and continued thriving of trees and shrubs throughout this period;
- Prune off side shoots and epicormic growth to maintain a clear stem during June and again in October each year. At the same time cut out any crossing or damaged wood along with any dead or diseased branches; and
- Ensure area is free of injurious/invasive weeds.

Table 2: Woodland Planting – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	<p>Safety inspection (and dated record keeping) of all trees or woody vegetation within falling or failing distance of public footpaths, access tracks, property.</p> <p>Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/ frequency. Clear fallen trees or branches where blocking roads or paths.</p>	<p>Full safety inspection undertaken annually after trees have reached sufficient size that they could pose an unacceptable hazard to persons or property.</p> <p>Following establishment and the above requirements, record hazardous trees or tree defects during each scheduled maintenance visit and take appropriate action to manage the risk to persons or property.</p> <p>Clear non-hazardous fallen trees or branches from paths and access tracks within one week of reporting.</p>
Invasive species and pests / species	<p>Report presence of invasive species</p> <ul style="list-style-type: none"> - Giant Hogweed - Cotoneaster - Floating Pennywort - Himalayan Balsam - Japanese Knotweed - Robinia pseudoacacia - Buddleia <p>or pests/diseases including Chalara Dieback of Ash and seek further specialist advice to prevent spread and allow effective management and/or eradication.</p>	<p>Check undertaken during each scheduled maintenance visit.</p> <p>Report sightings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/as required.</p>
Tree and shrub establishment	<p>Minimum 750mm diameter area around all new trees and shrubs to be kept in weed free condition during initial establishment period by means of hand weeding and</p>	<p>During years 1 to 5 undertake general weed control during April, June and September.</p>

Management Area	Management Activity	Frequency
	use of non-residual (glyphosate-free) herbicide, as necessary.	
	Adjust and replace all stakes, ties and tree guards to ensure healthy establishment of all new tree planting.	During years 1 to 5 during each scheduled maintenance visit.
	Where trees have become sufficiently established, remove tree stakes and ties and dispose of off-site at a suitable recycling facility.	Check annually during years 3 to 5 during September/ October. (All remaining plant stakes and ties to be removed at year 5).
	<p>Undertake formative pruning to new tree planting to:</p> <ul style="list-style-type: none"> • ensure adequate highway, access track and footpath clearances are maintained; • ensure development of a single, strong leader shoot; • alleviate duplicating/crossing branches; • ensure balanced canopy development/natural form; • remove all sucker and epicormic growth as necessary; • tidy torn branch stubs; • undertake progressive crown-lifting to achieve 1/3 clear stem to 2/3 canopy, up to a maximum clear stem of 3.0m height. <p>Pruning works to be undertaken by an Arboricultural Association Approved Contractor in accordance with BS3998:2010 Tree work – recommendations.</p>	Annually during years 1 to 5 following planting.
Habitat management	Standing or fallen dead wood to be retained in situ where safe to do so provide additional habitat for birds and invertebrates.	During years 1-5 as required. Inspection and management between October and February, to avoid nesting bird season.

Management Area	Management Activity	Frequency
General management	Record and report presence of ill-health, stress or pests/ diseases within new tree and shrub planting and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Check undertaken during each scheduled maintenance visit. Report siting of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. as necessary.
General management	Identify new trees and shrubs which have failed to establish and cause of failure. Submit proposals to alleviate future planting failures.	Annually during September/ October.
General management	Undertake replacement tree and shrub planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (incl. weed control, watering, staking etc.)	Annually during November to February.
General management	Grass cutting within 300mm of tree and shrub stems to be undertaken by hand.	As appropriate when cutting operations around tree stems are being undertaken.
Waste Collection	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Monthly.

Tree Planting

Designed Character:

- 4.4. To create informal groups and formal arrangements that will:
- Create strong linear focal points throughout the development;
 - Create visual links throughout the scheme, and creates a sense of orientation within the site;
 - Aid habitat creation and biodiversity; and
 - Provide screening qualities.

Indicative Species and Sizes:

- Refer to Landscape Drawings

Actions (0-5 years):

- Ensure ground preparation is carried out in advance of planting season, which is for deciduous bare root/ rootballed stock late October to late March, conifers and evergreens September/October. Note: Containerised/container grown plants can be planted at any time if

ground and weather conditions are favourable. The planting site will have a soil texture and structure that will retain and release moisture and nutrients to the plant;

- After initial planting, damaged, dead, diseased or crossing branches shall be removed. Water regularly to ensure successful establishment;
- In subsequent years remove and replace any tree to be found to be dead, dying, and diseased or affected by vandalism;
- Within the early stages (2 years) of a tree’s growth, the guying wires, ties, stakes, canes, rabbit and tree guards should be monitored and repaired if damaged. Loosen tree ties or remove stakes if trees have become sufficiently established;
- Years 4-5 check trees for abrasions and chaffing with tree stakes, guards and ties or each other. Loosen tree ties or remove stakes if trees have become sufficiently established. Trees found to be rubbing against each other should have their crossing over limbs removed, to limit the possibility of disease in the future;
- Replace bark/ stone mulch around the base of trees yearly as required to ensure the base remains weed free and the soil retains moisture;
- Watering should be carried out as required to ensure successful establishment and continued thriving of trees throughout this period;
- Prune off side shoots and epicormic growth to maintain a clear stem during June and again in October each year. At the same time cut out any crossing or damaged wood along with any dead or diseased branches;

Table 3: Tree Planting – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	<p>Safety inspection (and dated record keeping) of all trees or woody vegetation within falling or failing distance of public footpaths, access tracks, property.</p> <p>Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/ frequency. Clear fallen trees or branches where blocking roads or paths.</p>	<p>Full safety inspection undertaken annually after trees have reached sufficient size that they could pose an unacceptable hazard to persons or property.</p> <p>Following establishment and the above requirements, record hazardous trees or tree defects during each scheduled maintenance visit and take appropriate action to manage the risk to persons or property.</p> <p>Clear non-hazardous fallen trees or branches from paths and access tracks within one week of reporting.</p>

Management Area	Management Activity	Frequency
Invasive species and pests / species	<p>Report presence of invasive species</p> <ul style="list-style-type: none"> - Giant Hogweed - Cotoneaster - Floating Pennywort - Himalayan Balsam - Japanese Knotweed - Robinia pseudoacacia - Buddleia <p>or pests/diseases including Chalara Dieback of Ash and seek further specialist advice to prevent spread and allow effective management and/or eradication.</p>	<p>Check undertaken during each scheduled maintenance visit.</p> <p>Report sightings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/as required.</p>
Tree establishment	<p>Minimum 750mm diameter area around all new trees to be kept in weed free condition during initial establishment period by means of hand weeding and use of non-residual herbicide (glyphosate-free), as necessary.</p>	<p>During years 1 to 5 undertake general weed control during April, June and September.</p>
	<p>Provide artificial irrigation as needed to maintain healthy growth of all new tree planting, irrespective of weather conditions.</p>	<p>During growing season in years 1 to 3 (minimum) and additionally as needed.</p>
	<p>Adjust and replace all stakes, ties and tree guards to ensure healthy establishment of all new tree planting.</p>	<p>During years 1 to 5 during each scheduled maintenance visit.</p>
	<p>Where trees have become sufficiently established, remove tree stakes and ties and dispose of off-site at a suitable recycling facility.</p>	<p>Check annually during years 3 to 5 during September/ October. (All remaining plant stakes and ties to be removed at year 5).</p>
	<p>Undertake formative pruning to new tree planting to:</p> <ul style="list-style-type: none"> • ensure adequate highway, access track and footpath clearances are maintained; 	<p>Annually during years 1 to 5 following planting.</p>

Management Area	Management Activity	Frequency
	<ul style="list-style-type: none"> ensure development of a single, strong leader shoot; alleviate duplicating/crossing branches; ensure balanced canopy development/natural form; remove all sucker and epicormic growth as necessary; tidy torn branch stubs; undertake progressive crown-lifting to achieve 1/3 clear stem to 2/3 canopy, up to a maximum clear stem of 3.0m height. <p>Pruning works to be undertaken by an Arboricultural Association Approved Contractor in accordance with BS3998:2010 Tree work – recommendations.</p>	
General management	Record and report presence of ill-health, stress or pests/ diseases within new tree planting and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Check undertaken during each scheduled maintenance visit. Report siting of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. as necessary.
General management	Identify new trees which have failed to establish and cause of failure. Submit proposals to alleviate future planting failures.	Annually during September/October.
General management	Undertake replacement tree planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (incl. weed control, watering, staking etc.)	Annually during November to February.
General management	Grass cutting within 300mm of tree stems to be undertaken by hand.	As appropriate when cutting operations around tree stems are being undertaken.

Management Area	Management Activity	Frequency
Waste Collection	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Monthly.

Shrub Planting in Tree Pits

Designed Character:

- 4.5. Creation of new shrub planting areas within the tree pits. Trees planted within the soft areas will include ornamental shrubs, perennials, native shrubs and hedgerows. This will also integrate the new elements into the wider surroundings ensuring a similar character is maintained across the Health Hub site.

Indicative Species and Sizes:

- Refer to Landscape Drawings.

Actions (0-5 years):

- Ensure ground preparation is carried out in advance of planting season. For deciduous bare root/ rootballed stock late October to late March, conifers and evergreens September/October. Note container grown plants can be planted at any time if ground and weather conditions are favourable;
- Any weed growth that develops in the mulched area will be removed by chemical control; this shall be checked for twice annually and carried out as required;
- All plants to be re-firmed after frost to ensure they are not leaning, and that the soil level around the plants remains at the same height as the nursery level;
- Watering should be carried out as required to ensure successful establishment and continued thriving of plants throughout this period.

Table 3: Shrub Planting in Tree Pits – Summary of Management Activities

Management Area	Management Activity	Frequency
Waste Collection	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Collect at each scheduled maintenance visit and in any case within two weeks of reporting (e.g. fly-tipping away from access tracks etc.).
Invasive species and pests / species	Report presence of invasive species <ul style="list-style-type: none"> – Giant Hogweed – Cotoneaster – Floating Pennywort 	Check undertaken during each scheduled maintenance visit. Report sightings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. as necessary.

Management Area	Management Activity	Frequency
	<ul style="list-style-type: none"> - Himalayan Balsam - Japanese Knotweed - Robinia pseudoacacia - Buddleia <p>or pests/diseases including Chalara Dieback of Ash and seek further specialist advice to prevent spread and allow effective management and/or eradication.</p>	
General weed control	Shrub planting areas to be kept in weed free condition during initial establishment period by means of hand weeding and use of non-residual herbicide (glyphosate-free), as necessary.	During years 1 to 5 undertake biannual control of general weed growth during April/ May and July.
General weed control	Remove unwanted invasive weeds from all new shrub areas where restricting natural growth and development of new planting by means of hand weeding and non-residual herbicide (glyphosate-free) application, as necessary.	During years 3 to 5 undertake control of invasive weed growth during May.
Replacement planting	Identify new plants which have failed to establish and investigate cause of failure. Submit proposals to alleviate future planting failures.	Annually during years 1 to 5 during September/ October.
Replacement planting	Undertake replacement planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (incl. weed control, watering, staking etc.)	Annually during years 1 to 5 November to February.
General maintenance	Re-firm plants affected by wind-rock, frost heave or snow.	During each scheduled maintenance visit.
General maintenance	Record and report instances of damage by mammals (e.g. rabbits/deer) and submit proposals to alleviate.	During each scheduled maintenance visit.
Waste Collection	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Monthly.

Native and Ornamental Shrub and Hedge Planting

Designed Character:

- 4.6. Creation of new planting areas which include native and ornamental shrub and perennial species within the courtyard and building frontage. These will provide visual amenity and therapy benefits through sensory interaction, seasonal interest through flowering/leaf colour/structure as well as nature conservation value whilst also integrating the new elements into the wider surroundings ensuring a similar character is maintained.

Indicative Species and Sizes:

- Refer to Landscape Drawings.

Actions (0-5 years):

- Native shrubs and hedgerow mix to be fitted with guards;
- Ensure ground preparation is carried out in advance of planting season. For deciduous bare root/ rootballed stock late October to late March, conifers and evergreens September/October. Note container grown plants can be planted at any time if ground and weather conditions are favourable;
- Within the early stages (2 years) of a shrub's growth, the stakes, canes and rabbit guards should be monitored and repaired if damaged. Loosen ties or remove stakes if shrubs have become sufficiently established;
- Years 4-5 check shrubs for abrasions and chaffing with stakes, guards and ties or each other. Loosen ties or remove stakes if shrubs have become sufficiently established;
- Any weed growth that develops in the mulched area will be removed by chemical control; this shall be checked for twice annually and carried out as required;
- All plants to be re-firmed after frost to ensure they are not leaning, and that the soil level around the plants remains at the same height as the nursery level;
- Watering should be carried out as required to ensure successful establishment and continued thriving of plants throughout this period.

Table 4: Native and Ornamental Shrub & Hedge Planting – Summary of Management Activities

Management Area	Management Activity	Frequency
Waste Collection	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Collect at each scheduled maintenance visit and in any case within two weeks of reporting (e.g. fly-tipping away from access tracks etc.).
Invasive species and pests / species	Report presence of invasive species – Giant Hogweed	Check undertaken during each scheduled maintenance visit. Report sightings of invasive pests or diseases to overseeing

Management Area	Management Activity	Frequency
	<ul style="list-style-type: none"> - Cotoneaster - Floating Pennywort - Himalayan Balsam - Japanese Knotweed - Robinia pseudoacacia - Buddleia <p>or pests/diseases including Chalara Dieback of Ash and seek further specialist advice to prevent spread and allow effective management and/or eradication.</p>	authority e.g. FERA or DEFRA etc. as necessary.
General weed control	Shrub planting areas to be kept in weed free condition during initial establishment period by means of hand weeding and use of non-residual herbicide, as necessary.	During years 1 to 5 undertake biannual control of general weed growth during April/ May and July.
General weed control	Remove unwanted invasive weeds from all new shrub areas where restricting natural growth and development of new planting by means of hand weeding and non-residual herbicide (glyphosate-free) application, as necessary.	During years 3 to 5 undertake control of invasive weed growth during May.
Plant canes & shelters	Adjust and replace all planting canes and guards to allow healthy establishment of all new planting.	During years 1 to 5 during each scheduled maintenance visit.
Plant canes & shelters	Where plants have become sufficiently established remove planting canes and guards and dispose of off-site at a suitable recycling facility.	Annually during years 3 to 5 during September/ October. (All remaining canes and planting shelters to be removed in year 5).
Replacement planting	Identify new plants which have failed to establish and investigate cause of failure. Submit proposals to alleviate future planting failures.	Annually during years 1 to 5 during September/ October.
Replacement planting	Undertake replacement planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (incl. weed control, watering, staking etc.)	Annually during years 1 to 5 November to February.

Management Area	Management Activity	Frequency
Pruning/tidying	<p>Pruning to be in accordance with good horticultural and arboricultural practice, generally, to BS 7370-4.</p> <p>Shrubs and herbaceous perennials within the planting bed are to be pruned in a manner to encourage natural shape, form and healthy growth.</p> <p>Shrubs to be clipped back to ensure no encroachment onto footpaths.</p> <p>Clear litter (including leaves) where applicable.</p> <p>Carefully remove any dead or unsightly leaves along with seed heads and stalks ideally from late winter before the emergence of new growth.</p> <p>For grasses, cut down to around 10cm above ground level by early spring before the emergence of new growth.</p> <p>All cuttings to be removed from site to an approved recycling facility.</p>	<p>Annually during years 1 to 5</p> <p>February to March.</p>
Pruning/tidying	<p>For herbaceous perennials, remove to ground level at any time during the winter, ideally late on after having provided an extended display.</p>	<p>Annually during years 1 to 5</p> <p>During November to January.</p>
Pruning/tidying	<p>For Lavender, trim in late summer after flowering to maintain a bushy compact form with a second trim in autumn if wishing to achieve a very neat appearance, if a hard prune is then ever required, carry out in late spring.</p>	<p>Annually or biannually during years 1 to 5</p> <p>During August to October.</p>
General maintenance	<p>Re-firm plants affected by wind-rock, frost heave or snow.</p>	<p>During each scheduled maintenance visit.</p>
General maintenance	<p>Record and report instances of damage by mammals (e.g. rabbits/deer) and submit proposals to alleviate.</p>	<p>During each scheduled maintenance visit.</p>

Management Area	Management Activity	Frequency
Waste Collection	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Monthly.

Species Rich and Amenity Grassland

Designed Character:

4.7. Species Rich Grassland to create informal grassland character area that will:

- Blend different landscape plantings together, and create strong associations with the surrounding context;
- Provide a nature conservation and biodiversity function;
- Grass to be allowed to develop to flower and create an attractive floral sward for the benefit of wildlife in particular invertebrates, foraging bats and foraging barn owls; and
- Visual amenity.

4.8. Amenity Grassland to create formal grassland character area that will:

- Provide recreational use within wellbeing garden; and
- Visual amenity.

Actions (0-5 years):

- GT1 – Amenity Grassland - Year 1-5: Cut to height of 13-25mm monthly to control growth of existing grass and enable perennial species and grass to compete and develop root systems;
- GT2 - Species Rich Grassland - Year 1: Cut to height of 75-80mm monthly to control growth of existing grass and enable perennial species and grass to compete and develop root systems;
- GT2 - Species Rich Grassland - Years 2-5: 2 cuts per annum;
 - a) spring cut around Easter (no later than first week in May) to remove first flush of grass and produce a sturdier flowering meadow.
- All edges shall be trimmed;
- Grass cutting shall be removed from site;
- Seek specialist advice on managing or removing invasive weed species if these are found as these areas should not be cut;
- If any patches or areas of dead turf appear, areas should be re-cultivated and seeded with similar specification grass as was previously used.
- The species rich grassland area will be filled using exiting stockpiled subsoil from elsewhere on Site (preferably from beneath areas of existing sparse vegetation, which is likely to contain a minimal existing seedbank). If subsoil is to be imported, this should be low nutrient and in accordance with BS8601:2013: (Multipurpose Grade) Specification for Subsoil.
- Following this, a minimum depth of 150mm of low nutrient topsoil would be placed on top of the

subsoil in accordance with BS 3882:2015: (General Purpose Grade) Specifications for Topsoil and seeded with Germinal WFG8 ‘Hedgerows and shaded areas’ seed mix in two transverse directions at a sowing rate of 5g/m² and lightly raked.

Table 6: Species Rich and Amenity Grass – Summary of Management Activities

Management Area	Management Activity	Frequency
Grassland	GT1 - Undertake seasonal cutting in Spring and Summer to a height of 13-25mm. Remove arisings and take to suitable recycling facility.	Once a week September - November and March - May and twice a week from June-August.
	GT2 - Undertake seasonal cutting of main meadow areas to a height of 75-80mm. Turn and dry the cut arisings over period of 3-5 days. Rake off arisings from sward and take to a suitable recycling facility.	Biannually in March/ April and August/ September
Waste collection	Collect dog waste, litter and foreign materials and dispose off-site to a suitable recycling facility (where possible).	Litter and dog bins (where provided) – weekly General paths and access tracks – every two weeks. Remaining areas – within two weeks of reporting (e.g. fly-tipping away from access tracks etc.)
Invasive species	Report presence of invasive species <ul style="list-style-type: none"> - Giant Hogweed - Cotoneaster - Floating Pennywort - Himalayan Balsam - Japanese Knotweed - Robinia pseudoacacia - Buddleia <p>or pests/diseases including Chalara Dieback of Ash and seek further specialist advice to prevent spread and allow effective management and/or eradication.</p>	Checks to be undertaken during each scheduled maintenance visit. Report siting’s of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/as required.

Management Area	Management Activity	Frequency
General weed control	Remove unwanted invasive/injurious weeds from grass area where restricting natural growth and development of grass area by means of hand weeding and non-residual herbicide (glyphosate-free) application, as necessary.	During years 3 to 5 undertake control of invasive weed growth during May.

Bird Boxes

Objectives:

- To enhance the potential of the Site for breeding birds by providing suitable nesting opportunities.

Installation:

- Where possible, the erection of bird boxes should be undertaken during winter months to allow weathering in prior to the active season, therefore minimising impacts on nesting birds.

General siting guidance:

- Boxes will be installed within area of soft landscaping upon existing tree. If this is not possible, they will be mounted on standalone telegraph poles. The boxes shall be installed facing an eastern or northern aspect to avoid direct sunlight; and
- Boxes should be installed at least 4m above ground level to avoid vandalism and minimise disturbance.

Hard Landscape

4.9. The areas of hard landscape include:

- Paths;
- Cycleways;
- Parking bays; and
- Furniture and fencing items.

Actions (0-5 years):

- Inspect hard landscape surfaces for damage;
- Keep surfaces clear of weeds and litter; and
- Inspect all furniture for damage / fault

Table 8: Hard Landscape – Summary of Management Activities

Management Area	Management Activity	Frequency
Hard Landscape Surfaces	Undertake annual inspection to determine overall condition.	Annually during scheduled maintenance visits and if damages are reported.
Fencing	Undertake annual inspection to determine overall condition.	Annually during scheduled maintenance visits and if damages are reported.
Furniture	Undertake annual inspection to determine overall condition of furniture	Annually during scheduled maintenance visits.
	Undertake annual inspection of all furniture. Where damages have occurred, undertake replacement and/or repairs.	Annually during scheduled maintenance visits and if damages are reported.
	Carry out full maintenance service of furniture as per manufacturer's recommendations.	Every 5 years
	Record and report all instances of vandalism	Annually during scheduled maintenance visits and if damages are reported.
Waste Collection	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Monthly.

5. Annual Maintenance Programme

5.1. The table below shows the annual maintenance activities.

Table 9: Annual Maintenance Activities

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Existing Tree and Hedgerow												
Annual Inspection												
Inspect for Invasive Species												
Specialist to treat/remove Invasive Species												
Inspect for Damages												
Pruning												
Waste Collection												
Proposed Tree and Woodland Planting												
Annual Inspection												
Inspect for Invasive Species												
Specialist to treat/remove Invasive Species												
Inspect for Damages												
Weed Control												
Artificial Irrigation (Tree Planting)												
Inspection of Stakes/Ties												
Replacement of Stakes/Ties												

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Formative Pruning												
Inspect for Plant Failure												
Habitat management (Woodland Planting)												
Replacement Planting												
Manual Grass Cutting (within 300mm of trunk)												
Arboricultural Works												
Proposed Shrub Planting in Tree Pits												
Annual Inspection												
Inspect for Invasive Species												
Specialist to treat/remove Invasive Species												
Inspect for Damages												
Pruning												
Replacement Planting												
Waste Collection												
Weed Control												
Artificial Irrigation												
Inspection of Canes / Shelters												

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Proposed Shrub and Hedge Planting (including Ornamentals and Herbaceous Perennials)												
Annual Inspection												
Inspect for Invasive Species												
Specialist to treat/remove Invasive Species												
Inspect for Damages												
Pruning												
Pruning/tidying (Ornamental Shrubs and Grasses)												
Pruning/tidying (Herbaceous Perennials)												
Pruning/tidying (Lavender)												
Replacement Planting												
Waste Collection												
Weed Control												
Artificial Irrigation												
Inspection of Canes / Shelters												
Proposed Wildflower and Amenity Grassland												
Annual Inspection												
Inspect for Invasive Species												

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Specialist to treat/remove Invasive Species												
Inspect for Damages												
Amenity Grass Cutting			Once a week	Once a week	Once a week	Twice weekly	Twice weekly	Twice weekly	Once a week	Once a week	Once a week	
Species Rich Grass Cutting												
Weed Control												
Artificial irrigation												
Proposed Areas of Hard Landscape												
Inspection of General Condition												
Wash Paved Surfaces												
Wash In Situ Concrete Surfaces												
Gravel Surfaces (Year 1)												
Weed Control												

6. Drawings

- 6.1. LEMP should be read alongside the following drawings/document;
- WIE16470-ZZ-XX-DR-L-74-100_Landscape General Arrangement
 - WIE16470-ZZ-XX-DR-L-74-110_BNG Plan
 - WIE16470-ZZ-XX-DR-L-74-300_Landscape Softworks Plan
 - WIE16470-100-AA-77-002_Tree Protection & Removal Plan
 - WIE16470-100-R-10-2-3_Arboricultural Impact Assessment

UK and Ireland Office Locations

