

# **5 Year Landscape Maintenance & Management**

**Project Name: Banbury 200 Site, Southam Road, Banbury**

November 2021

Compiled by:



## Contents

	Page
<b>1. Introduction .....</b>	<b>1</b>
<b>2. Landscape Management Objectives</b>	
General Management Objectives .....	1
Maintenance Establishment Period (year 0-2).....	1
Maintenance from Completion (year 2-5).....	2
<b>3. Soft Landscape Maintenance</b>	
Weed Control .....	3
Trees .....	4
Hedging .....	5
Shrubs.....	6
Grassland / Wildflower Meadow Areas .....	7
Native Shrub Mix.....	8
Herbaceous Planting.....	9
Bulb planting.....	10
Low Grown Scrub/ Thicket & Native Whip planting.....	11
Other Ecological Considerations: Insect Hotels.....	12
 <b>British Standards.....</b>	 <b>13</b>
 <b>Appendix 1</b>	
Softworks General Arrangement Plan.....	14

## 1 Introduction

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- 1.1 Urban Wilderness Ltd. was commissioned by Lysander to create a Landscape Maintenance and Management Plan for the Site 200 Southam Road project in Banbury.
- 1.2 The Landscape Maintenance and Management Plan is broken down into two main sections; section 2 concerns the landscape management objectives whilst section 3 covers the maintenance requirements relating to soft landscape elements within the proposed site for development, including:
  - Trees, hedgerows, shrubs, herbaceous and grassland planting (including establishment and replacements)
- 1.3 The appendix contains '388-UW-T-001 Rev C. Banbury 200 Site Planting Plan – 10 Nov 21' which should be read in conjunction with the text.

## 2 Landscape Management Objectives

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- 2.1. The management objectives are split into two distinct groups to clarify the responsibility for the various maintenance tasks, namely during (i) the Works Contract period (including plant establishment and Defects Liability Period) and (ii) the subsequent post-completion period. During both these periods, the relevant contractor is responsible for regular horticultural maintenance. This is to ensure that the design is maintained at the same high level throughout its lifetime.
- 3 The main contractor will be responsible for remediating all instances where plants have failed as well as inadequate workmanship during the Defects Liability Period.

### **Maintenance: Establishment Period (year 0 – 2)**

*(During Works Contract and 1-year Defects Period following Practical Completion)*

- 3.1. A one-year aftercare maintenance period is built into the implementation contract to cover the following; tree, hedge, shrub, herbaceous and grassland meadow planting (including establishment and replacements).
- 3.2. During this period the contractor is responsible for all soft maintenance operations, including the replacement of all trees, shrubs, hedges and herbaceous planting which have failed during the Defects period. A full-time landscape maintenance contract will be arranged following the end of the DefectLiability period. However, the Facilities Management team will also employ a qualified landscape contractor to carry out the day-to-day maintenance tasks during the Defects period to ensure that watering, feeding, grass mowing, hedge cutting, and other essential operations are carried out regularly to maintain the various soft landscape elements within the site.

### *Access*

- 3.3. For landscape maintenance purposes, the site will be accessible via the main entrance which adjoins Southam Road.

### *Facilities*

- 3.4. The appointed Landscape Maintenance Contractor will liaise directly with the Facilities Management team regarding the following on-site requirements:
  - Contractor parking
  - Storage of equipment
  - Water usage and standpipe locations
  - Additional specific requirements

#### *Weeds*

- 3.5. All planting areas will be maintained to ensure consistent control of annual and perennial weeds. The use of chemicals is permitted, although the use of hand tools is preferred to prevent any possible negative environmental effects (such as contamination of surface water or ingestion by domestic animals).

#### *Trees & Hedges*

- 3.6. Trees and hedges will be maintained with good horticultural practice encouraging the vigorous growth and long-term health of all structural planting. The aim will be to present a landscape which is functional and easy to maintain. It is anticipated that this will be achieved through a balanced approach to tidiness and natural form. While hedging by definition will require regular cutting, the trees have been chosen on account of their habit and form and should require minimal annual maintenance. Tree and hedging plant failures will be replaced in the next available winter planting season.

#### *Shrubs & Herbaceous*

- 3.7. Shrubs and Herbaceous plants will be maintained with good horticultural practice encouraging the long-term health and vigorous growth of all ornamental planting. This will be achieved with minimum use of chemicals, all the while promoting optimum display of flowering periods and stem colour. Defective plants will be addressed to original high-quality specification ensuring ongoing design accomplishment.

#### *Wildflower/Grassland Area*

- 3.8. The wildflower and grass areas are to be maintained so as to optimise year-round functionality and flowering. This will be achieved through an annual maintenance program which minimises the use of chemicals wherever possible and includes a regular review process to highlight any areas for reinstatement or changes in the maintenance regime.

#### *Native Shrub border*

- 3.9. Native shrub borders will be maintained with good horticultural practice encouraging the vigorous growth and long-term health of all structural planting. The aim will be to present a landscape which is functional and easy to maintain while providing native planting which holds ecological value. It is anticipated that this will be achieved through a balanced approach to tidiness and natural form. The species have been chosen on account of their habit and form and should require minimal annual maintenance. Any plant failures will be replaced in the next available winter planting season.

#### *Replacements*

- 3.10. During the Contract Works and Defects Liability periods, plant failures will be replaced by the Main Contractor, or its nominated subcontractor, at their own cost. This includes:
- Theft of plants
  - Malicious damage
- 3.11. Any plants found to be defective during the five year post practical completion period as a result of the following will be at the Main Contractor's expense:
- Failure
  - Lack of vigour

- Being not in accordance with the specification
- 3.12. Replacement of plants should be undertaken a maximum of two times. If the plant fails for a third time, a Landscape Architect or trained Horticulturalist will be appointed to review the cause of plant failure and make recommendations for mitigation.
- 3.13. All plant replacements should occur within the correct planting season according to the specific requirements of the following plant types:
- *Woody Plants*  
Optimally, trees, shrubs and hedges should be planted within the dormant season (November to March) using bare root, root balled, or air-pot grown nursery stock. If planting is required at other times of year, containerized stock should be used instead, with plants watered regularly.

### **Maintenance: From Completion (year 2-5)**

#### **(From Completion Onwards)**

- 3.14. Following Contract Completion and discharging of all the Main Contractor's liabilities and responsibilities, the maintenance of all hard and soft landscape elements will be passed to a competent Landscape Maintenance Contractor, as appointed by Facilities Management team, for a minimum period of four years. The breakdown of landscape operations required is given in the following section.

## **3 Soft Landscape Maintenance**

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- 3.1. All Soft Landscape Maintenance should be undertaken in compliance with the requirements of BS 7370:1991.
- 3.2. The appointed landscape maintenance contractor will be expected to use his professional knowledge and discretion in both (i) producing a detailed annual program of maintenance operations and (ii) applying these standards of work to the contract area.

### **Weed Control**

- 3.3. Within the two-year establishment period, all planting beds should be kept weed free to ensure full and rapid establishment of all plant species. Frequency: once per month during active growing season (April-October).
- Do not allow strimmers or other mechanical tools closer than 200mm of the base of any plant. Operations within this zone should be carried out with hand tools.
  - Contact herbicide can be applied to emergent weeds. A non-residual herbicide such as glyphosate is recommended.
  - Loosen soil within the planting beds, taking care not to damage the roots of plants within the planting bed. Planting beds to be maintained weed-free.
  - Ensure the minimum amount of soil and mulch is removed during weeding.
  - Dispose of all weeds off site rake planting beds, with minimum disturbance to plants, to an even condition.
  - Re-mulch as necessary to maintain 50mm deep weed suppressing layer.

## Trees

### Objective

- 3.4. For the establishment and maintenance of all trees identified in Urban Wilderness 388-UW-T-001 Rev C.
- 3.5. All tree works to be undertaken by suitably qualified maintenance contractor able to work to BS 3998:2010 'Tree Work. Recommendations'.
- 3.6. New trees planted will include: *Sorbus* 'Joseph Rock', *Pyrus calleryana* 'Chanticleer', *Sorbus aria* 'Lutescens', *Carpinus betulus* 'Frans Fontaine', *Prunus padus* 'Watereri' and *Betula utilis jacquemontii*.

### Maintenance: Establishment Period (year 0-2)

#### Watering

- "Water in" each tree after planting with 40-50 litres of water. Frequency: once per week, during dry periods during the growing season.

#### Cultivation

- Weed planting beds as per paragraph 3.3.
- Monthly inspection for wind firmness: trees to be firmed as necessary. Where tree is beyond a slight lean it should be staked and tied. Upon subsequent inspection if tree has firmly established, remove all staking and ties.
- Replacement: if a tree fails as a result of disturbance, it should be replaced in the next planting season at the Contractors expense.
- Stakes to be kept in situ for two years, with an annual check on tree ties undertaken in early Spring to prevent abrasion and deterioration of the stem bark.

### Maintenance (year 2-5)

#### Watering

- Water each tree with 40-50 litres of water following 10 days without rain. Frequency: Weekly during growing season (May-September) and until natural rainfall resumes.

#### Cultivation – Tree Works

- Apply course organic mulch (preferably well-rotted horse manure) around the base of each tree. Frequency: once yearly in early Spring.
- Tree Inspections:
  - For all newly planted trees, except *Prunus* (cherry) species: Undertake inspection for dead or damaged wood. Frequency: yearly, between end-November and February. Remove all deadwood using either secateurs or a sharp pruning saw.
  - For *Prunus* (cherry) species: undertake pruning during active growing season as emergingsap in this species contains protective anti-fungal properties and helps promote natural healing.
- Other guidance:
  - Protect surrounding structures and plants during pruning.
  - Pruning should result in a natural and well-balanced crown appearance.
  - Pruning should be back to source stem.
  - Pruning arisings to be removed off site.
  - Do not apply any surface dressings to pruning wounds or pruning scars.

- For all mature trees on site, ensure that a suitably qualified tree surgeon (preferably Arboricultural Association accredited) is appointed to undertake all necessary tree works which arise during the maintenance period, due to storm damage, etc. Wherever possible, trees should be left to reach their respective mature growth habit and height. Only the bare minimum of tree work should be undertaken to ensure the health, longevity and safety of the tree population on site. The felling of existing trees and removal of hedgerows should correspond with those identified for removal in the 'Tree Constraints Plan' produced by Delta Simons.
- All existing tree stumps within the site boundary are to be mechanically removed or grinded out completely. Once removed, soil levels and conditions will be returned to their previous state (pre-removal) as accurately as possible.

## Hedging

### Objective

- 3.7. For the establishment and maintenance of all hedge plants identified in Urban Wilderness Drawing 388-UW-T-001 Rev C. (*Label FSY*).
- 3.8. The formal hedgerow consists of *Fagus sylvatica*.
- 3.9. *Maintenance: Establishment Period (year 0-2) Watering*
  - "Water in" each whip after planting until wet to full rooting depth (approx. 300mm).

### Cultivation

- Weed planting beds as per paragraph 3.3.
- Undertake monthly inspection for wind firmness in the first year, with whips to be firmed as necessary.
- Do not prune for first year.
- In year 2, in late February (before bird nesting season) prune the leaders back to 900mm high.
- In establishment period only, use hand tools for pruning.

### Maintenance (year 3-5)

#### Watering

- Water each plant after until wet to full rooting depth (approx. 300mm) following 10 days without rain. Frequency: once per week, during dry periods during the growing season.

#### Cultivation

- In year 3, in late February, cut the hedge to a rectilinear form to 1.5m-high using mechanical pruning equipment. An additional cut can be made after July (following the end of the Bird Nesting season).
- During visit after of the growing season to check all plants and remove any dead foliage/wood and any damaged element of the plant using hand tools.

## Shrubs

### Objective

- 3.10. For the establishment and maintenance of all shrubs identified in Urban Wilderness Drawing 388-UW-T-001 Rev C.

#### Maintenance: Establishment Period (year 0-2)

##### Watering

- “Water in” each shrub after planting until wet to full rooting depth (approx. 300mm). Frequency: once per week, during dry periods during the growing season.

##### Cultivation

- Weed planting beds as per paragraph 3.3 and maintain weed-free.
- Monthly inspection for wind firmness, with shrubs firmed-up as necessary.

#### Maintenance (year 2-5)

##### Watering

- Thoroughly water shrubs following 10 days without rain. Frequency: Weekly during growing season (May-September) and until natural rainfall resumes.

##### Cultivation

- Undertake annual inspection of all shrubs in October (at the end of the growing season), removing any dead foliage/wood or damaged limbs.
  - Protect surrounding structures and plants during pruning.
  - Pruning should result in a natural and well-balanced shape.
  - Pruning should be back to source stem.
- Pruning: Prune the following shrubs:
  - *Viburnum davidii*, if needed in mid-summer after flowering prune back any shoots to retain a natural and well-balanced shape.
  - *Sarcococca hookeriana digyna*, if needed lightly prune in mid to late spring after flowering, prune back any shoots to retain a natural and well-balanced shape.
  - *Weigela ‘Bristol Ruby*, prune after flowering in late spring and summer.
- Any growth which will obscure windows, signs or sightlines shall be removed.
- Remove all deadwood using either secateurs or a sharp pruning saw to avoid bacterial infection of affected plants.



## Grassland / Wildflower Meadow Areas

### Objective

- 3.11. For the establishment and maintenance of all wildflower meadow areas identified in Urban Wilderness Drawing 388-UW-T-001 Rev C. (Label RE1).

### Autumn Sown:

#### Maintenance: Establishment Period (year 0-2)

##### Cultivation

- During the first year the meadow should be mowed regularly. This will maintain a balance between faster growing grasses to slower growing wildflowers.
- Year One: First cut early July, then monthly during August, September and October. Cutting height 70-100mm. Ensure that all arisings are collected and disposed of off-site.
- Thereafter: Cut from mid-July to early September. This can be done as one cut but preferably, and if the meadow is big enough, you will cut it in sections leaving a week to a fortnight between cuts.

#### Maintenance (year 3-5)

##### Cultivation

- Mow the meadow to 70-100mm at the end of the active growing season and when all flowers have faded and set seed (usually around early October). Remove all arisings off site thereafter to retain a low-fertility soil substrate.

### Spring Sown:

#### Maintenance: Establishment Period (year 0-1)

##### Cultivation

- During the first year the meadow should be mowed regularly this will maintain a balance between faster growing grasses to slower growing wildflowers
- Year One: First cut early September, then again in October. Cutting height 70-100mm. Cutting height 70-100mm. Ensure that all arisings are collected and disposed off-site.
- Thereafter: Cut from mid-July to early September. This can be done as one cut but preferably, and if the meadow is big enough, you will cut it in sections leaving a week to a fortnight between cuts.

#### Maintenance (year 3-5)

##### Cultivation

- Mow the meadow to 70-100mm at the end of the active growing season and when all flowers have faded and set seed (usually around early October). Remove all arisings off site thereafter to retain a low-fertility soil substrate.

## Native Shrub Mix

### Objective

- 3.12. For the establishment and maintenance of all native grown shrub identified in Urban Wilderness Drawing 388-UW-T-001 Rev C. (Label NSM1).

#### Maintenance: Establishment Period (year 0-2)

##### Planting

- Plant the specified 2+1 whips in a 1m x 1m matrix, grouping 9 whips of one species together within the 1m x 1m matrix.
- The species include: *Cornus sanguinea*, *Corylus avellana*, *Crataegus laevigata*, *Euonymus europaeus*, *Ilex aquifolium* and *Ligustrum vulgare*.

##### Watering

- "Water in" each whip after planting until wet to full rooting depth (approx. 300mm). Frequency: once per week, during dry periods during the growing season.

##### Cultivation

- During years 0-2 the main aim is to allow the whips to establish,
- Weed planting beds as per paragraph 3.3 and maintain weed-free for the first two years.
- Monthly inspection for wind firmness, with shrubs firmed-up as necessary.

#### Maintenance (year 2-5)

##### Watering

- Thoroughly water plants following 10 days without rain. Frequency: Weekly during growing season (May-September) and until natural rainfall resumes.

##### Cultivation

- Undertake annual inspection of all shrubs in October (at the end of the growing season), removing any dead foliage/wood or damaged limbs.
- Remove all deadwood using either secateurs or a sharp pruning saw to avoid bacterial infection of affected plants.
- In year 3 take out one in 3 plants, again in Year 5 and year 10. This is to allow for the species to mature while not overcrowding or outcompeting with each other.

## Herbaceous Planting

### Objective

- 3.13. For the establishment and maintenance of all low grown thicket identified in Urban Wilderness Drawing 388-UW-T-001 Rev C.

#### Maintenance: Establishment Period (year 0-2)

##### Watering

- “Water in” each plant after planting until wet to full rooting depth (approx. 150mm).

##### Cultivation

- Weed planting beds as per paragraph 3.3.
- In November, remove all dead plant material at the end of each growing season and dispose off-site. Cut back herbaceous plants to their crown in preparation for regrowth the following spring.

#### Maintenance (year 3-5)

##### Watering

- Water each plant after until wet to full rooting depth (approx. 150mm) following 10 days without rain. Frequency: once per week, during dry periods during the growing season.

##### Cultivation

- In March, cut the old growth from the base of the following plants back entirely to within a few centimetres of the ground, avoiding the new shoots.
  - *Matteuccia struthiopteris*
- In spring, cut off damaged foliage of
  - Evergreen *Bergenia cordifolia* ‘Purpurea’.
  - *Geranium macrorrhizum* ‘Album’
- After flowering remove faded flower stems to encourage the production of fresh flowers
  - Evergreen *Bergenia cordifolia* ‘Purpurea’.
  - *Geranium macrorrhizum* ‘Album’
- Do not use mechanical pruning equipment.
- Pruning should result in a natural and well-balanced shape.

## **Bulbs**

### *Objective*

- 3.14. For the establishment and maintenance of all low grown thicket identified in Urban Wilderness Drawing 388-UW-T-001 Rev C.

### *Maintenance: Establishment Period (year 0-2)*

- When bulbs have finished flowering – cut off dead heads during flowering period. Cut and remove all dead leaves when completely brown and dispose off-site.

### *Maintenance (year 2-5)*

#### *Watering*

- As in establishment period. When bulbs have finished flowering – cut off dead heads during flowering period. Cut and remove all dead leaves when completely brown and disposed of off-site.

## Low Grown Scrub/Thicket & Native Whip Planting

### Objective

- 3.1. For the establishment and maintenance of all low grown thicket identified in Urban Wilderness Drawing 388-UW-T-001 Rev C.

#### Maintenance: Establishment Period (year 0-2)

- Plant the specified 2+1 whips in a 1m x 1m matrix, grouping 9 whips of one species together within the 1m x 1m matrix.
- The species include: *Cornus sanguinea*, *Corylus avellana*, *Crataegus laevigata*, *Crataegus monogyna*, *Euonymus europaeus*, *Ilex aquifolium*, *Ligustrum vulgare*, *Prunus spinosa* and *Viburnum opulus*.

#### Watering

- "Water in" each whip after planting until wet to full rooting depth (approx. 300mm). Frequency: once per week, during dry periods during the growing season.

#### Cultivation

- During years 0-2 the main aim is to allow the whips to establish,
- Weed planting beds as per paragraph 3.3 and maintain weed-free for the first two years.
- Monthly inspection for wind firmness, with shrubs firmed-up as necessary.

#### Maintenance: Establishment Period (year 2-5)

- Thoroughly water plants following 10 days without rain. Frequency: Weekly during growing season (May-September) and until natural rainfall resumes.

#### Cultivation

- Undertake annual inspection of all shrubs in October (at the end of the growing season), removing any dead foliage/wood or damaged limbs.
- Remove all deadwood using either secateurs or a sharp pruning saw to avoid bacterial infection of affected plants.
- In year 3 take out one in 3 plants, again in Year 5 and year 10. This is to allow for the species to mature while not overcrowding or outcompeting with each other.

## **Other Ecological Considerations: Insect Hotels**

### *Objective*

- 3.2. For the implementation and maintenance of all standalone insect hotels, identified in Urban Wilderness Drawing 388-UW-T-001 Rev C.

### *Management & Maintenance Notes*

- Ensure that the ground is level and even before positioning insect hotels on site.
- Ensure that the insect hotels are not disturbed whilst maintenance measures for shrubs and areas of grassland/wildflower meadow are occurring. Allow a buffer of approx. 2m in radius from the insect hotels located within areas of grassland. Maintenance measures including the use of strimmers will not surpass this 2m buffer to ensure the ecological benefits provided by the insect hotels.
- Monitor insect hotels throughout the year for any signs of disturbance and damage, be it from animals or the elements. Any signs of damage or disturbance will be raised, and measures will be taken to replace the insect hotels or return them to a suitable condition.

## 4 British Standards

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4.1. As well as the HTA standards described above the soft landscape works should meet the following British Standards:

### *Topsoil handling, stripping and storage*

- BS ISO 15799:2003 Soil quality - guidance on ecotoxicological characterization of soils and soil materials
- BS 3882:1994 Specification for topsoil and AMD 9938
- BS 6031:1981 Code of practice for earthworks
- BS 7562-4:1992 Planning, design and installation of irrigation schemes guide to water resources
- BS 4428:1989 guide of practice for general landscape operations (excluding hard surfaces) AMD 6784

### *Quality of Trees and Shrubs*

- BS 3936-1:1992 Nursery stock specification for trees and shrubs
- BS 3936-5:1985 nursery stock specification for poplars and willows
- BS 3936-10:1990 nursery stock specification for ground cover plants

### *Maintenance of gardens/ Landscapes*

- BS 7370-3:1991 grounds maintenance recommendations for maintenance of amenity and functional turf (other than sports turf)
- BS 3998:1989 recommendations for tree work and AMD 6549

### *Horticulture*

- BS EN 12579:2000 Soil improvers and growing media - sampling
- BS EN 13037:2000 Soil improvers and growing media - determination of pH

### *Turf*

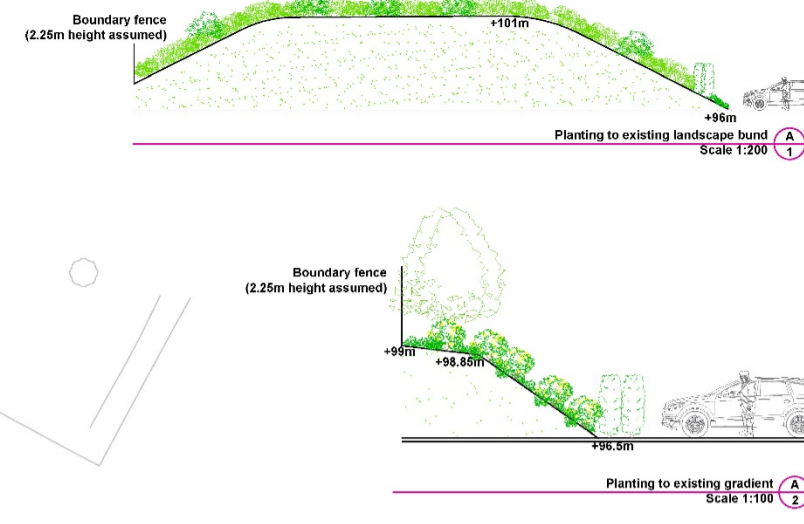
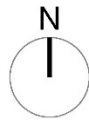
- BS 3969:1998 Recommendations for turf for general purposes
- BS 4428:1989 Code of practice

## **5 Appendix**

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1.4 Softworks General Arrangement: see dwg. 388-UW-T-001 Rev C.

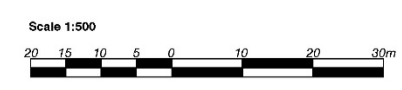




Planting Schedule

Tables detailing planting specifications including Botanical Name, Common Name, Height, Specification, and % Cont. for various plant types like Trees, Formal Hedging, Ornamental Shrubs, and Grassland.

- NOTES: All dimensions to be verified on site. Scale for the purposes of planting. All discrepancies to be clarified with project Landscape Architect. Includes legend for Site Boundary, Grassland, Hedging, and Proposed trees.



Project information including URBAN WILDERNESS logo, address (7 Saw Mill Yards, Water Lane, Hothelk, Leeds, LS16 5PL), website, and drawing title: Benbury 200 Site, Southern Road, Benbury.