

## LANDSCAPE MANAGEMENT PLAN REVISION 3

### Fitzjohns Avenue



### PegasusLife

21 June 2016

## Document Revisions

### Revision 1

Pg. 6 2.3 Inclusion of ManSafe roof system

Pg. 6 2.4 Inclusion of ManSafe roof system

### Revision 2

Pg. 11 Update to sedum and extensive green roof maintenance requirements

### Revision 3

Pg. 13 Amendment to drawing numbers

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## 1.0 Introduction

This Landscape Management Plan (LMP) has been prepared by Camllins Landscape Architects on behalf of PegasusLife. Its purpose is to describe the proposed soft landscape implementation strategy and long-term maintenance activities required. PegasusLife requirements for all planting is to achieve a 'show garden' standard. Planting is fundamental to the quality of the finished product and as such the highest standards of horticulture, materials and finish will be expected. This Landscape Management Plan is to be read in conjunction with Drg. No. **LL489-300-0081** General Arrangement - Planting Plan, Drg. No. **LL489-300-002** General Arrangement - Roof Plan and the '**LL489 Soft Works Schedule**'.

The following Landscape Management Plan describes the works to be carried out under the construction Contract; identifies the long term design objectives for all soft landscape areas; the parties responsible for the implementation of the Plan; identifies maintenance activities to be carried out under the construction Contract and later by the Management Company; and finally provides a scheduled summary of all the maintenance operations.

The main construction Contract allows for a:

- 12 month maintenance and establishment period for all areas of grass, shrubs and hedges from the date of Practical Completion.
- 24 month maintenance and establishment period for all new tree planting from the date of Practical Completion.
- For both sedum and extensive bio-diverse green roof maintenance refer to planting and maintenance on Drg. No. **LL489-300-0002** General Arrangement - Roof Plan and **LL489-300-0081** General Arrangement - Planting Plan.

**The Contractor must allow for a minimum of 2 maintenance visits to site per week throughout the construction Contract maintenance and establishment period.** During these maintenance visits the Contractor must ensure that the maintenance activities described within this Landscape Management Plan are undertaken to the satisfaction of the Employer. This is to achieve the high standard of planting required by the Client.

Following the 12 month construction defects Contract maintenance and establishment period the hard and soft landscape areas within the external landscape will be maintained by a Property Management Company to be appointed by PegasusLife.

## 1.1 Programme & Practical Completion

This Landscape Management Plan and the written 'LL489 Soft Works Schedule' assumes that the **opening date** for the scheme will be during the summer months (May to August). Once the construction and hand-over programme has been agreed between the Contractor and Employer these planting proposals are to be re-appraised. The exact planting proposals must ensure an attractive and established planted environment at Practical Completion. The Contractor programme must consider seasonal planting requirements to ensure an established planted environment at Practical Completion. Should Practical Completion be achieved during the winter months the detailed planting proposals must be modified by a Landscape Architect. The exact details of all soft landscape works must be confirmed with the Employer once the programmed completion date has been agreed.

## 1.2 Landscape Implementation Plan

The Contractor must prepare a **Landscape Implementation Plan** to be submitted to the Employer a minimum of four weeks prior to the commencement of landscape works on site. This Landscape Implementation Plan must include:

- The identification of a Project Landscape Coordinator. This member of the Contractors on site team will be the principal point of contact between the Contractor and Employer and will be responsible for planning the landscape works and attending regular site meetings.
- A programme of works for the procurement and installation of all trees, hedges, shrubs, climbing plants and grassed areas etc
- A Contractor programme which allows for the inspection and approval of all trees, hedges, shrubs and climbing plants at the nursery. All plants to be good examples of the species and to be approved by the Employer.

- A Contractor programme which allows for all trees, hedges, shrubs and climbing plants to be selected and approved by the Employer, agreed at the nursery from a group of at least 200% of the required quantity. Representative photos of trees, hedges, shrubs, and climbing plants to be provided before any nursery visit. Cost schedule of all trees, hedges, shrubs and climbing plants to include travel expenses for nursery visits as necessary.
- A Contractor statement on the feasibility of early installation of trees, hedges, shrubs, climbing plants and grassed areas to allow maximum possible period for the establishment of soft landscape works prior to hand over.
- The identification of any temporary protection measures required to prevent other trades compacting areas of installed growing medium or damaging installed planting.
- A Contractor programme which allows for the removal of tree protection measures as set out within Drg. No. LL489-300-0011 General Arrangement - Site Constraints and reinstatement of soft landscape areas affected by the works.
- The identification of procedures and documentation required for the Employer approval of all installed landscape works prior to Practical Completion. Contractor to ensure all works are 'snagged' and rectified by Contractors on site team prior to any requests for Employer approval of completed works.
- Project Landscape Coordinator to monitor progress on site against programme with particular regard to seasonal restrictions of soft planting works. Contractor to liaise with Employer to ensure installed planting provides an attractive and established landscape setting at the time of Practical Completion.

### 1.3 Hand-Over Landscape Management Plan (Practical Completion)

The Contractor must prepare a hand-over **Landscape Management Plan** to be submitted to and approved by the Employer in advance of Practical Completion. The hand-over Landscape Management Plan will set out the long-term design objectives, management responsibilities and long-term maintenance requirements for all tree planting, shrubs, climbing plants and grassed areas. It will set out any additional temporary planting works required should Practical Completion be achieved during the winter months. The Landscape Management Plan will provide a summary of all the maintenance operations required to ensure the successful establishment of all soft landscape works. This plan will form the basis for any agreements between the Employer and the Property Management Company that will maintain the site following the defects liability period set out within the Construction contract.

This hand-over Landscape Management Plan that is to be submitted to the Employer in advance of Practical Completion can be based upon this tender stage Landscape Management Plan.

### 1.4 Contact Details

Contact details are as follows:

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## 2.0 Description Of The Works

The new building and external works at Fitzjohns Avenue create a carefully considered informal arrangement for rest and relaxation amongst the busy external setting for private use of the residents. The densely planted borders create an interesting visual experience, while providing a functional role of softening structural features. Trees have been selected to contribute to the existing street scape as well as beginning to produce a level of screening and adding vertical interest to the design of the landscape.

Refer to Drg. No.'s **LL489-300-0001** General Arrangement – Landscape Plan & Drg. No. **LL489-300-0081** General Arrangement - Planting Plan for details of the external landscape spaces.

## 2.1 Tree Planting

Large mature trees are to be planted throughout the site, at 40-50cm girths, replacing some of the existing trees. Three of these will be *Liriodendron tulipifera* (tulip tree) in the border on the street frontage to Fitzjohns avenue and a mix of five native trees to be planted in the interior landscape space, these will be fastigate in nature in response to the compact landscape space. Refer to Drg. No. **LL489-300-0071** General Arrangement - Tree Planting Plan for tree planting schedule. For details of tree pit construction and tree planting refer to Drg. No. **LL489-300-0274** Tree Pit and Tree Planting Details within Soft Landscape.

All trees planted as part of the construction Contract are subject to a 24 month defects liability period to ensure establishment.

## 2.2 Herbaceous shrubs, Grasses, Perennials, Bulbs and Climbing Plants

The building and hard landscape features sit within a dense sea of planting, include specimen shrubs, grasses, perennials and bulb planting, as in the 'Street Frontage', 'Gardens' and 'Courtyard'. For the location and details of all planting to the 'Street Frontage', 'Gardens' and 'Courtyard' refer to Drg. No.'s **LL489-300-0001** General Arrangement - Landscape Plan & Drg. No. **LL489-300-0081** General Arrangement - Planting Plan.

All areas of public realm planting (adjoining communal areas and public streets) undertaken as part of the construction Contract are to be subject to a 12 month defects liability period.

## 2.3 Sedum Roof System

Minimal maintenance sedum green roof. For the location and details of all hard landscape elements refer to Drg. No. **LL489-300-0002** General Arrangement – Roof Plan and Drg. No. **LL489-300-0081** General Arrangement - Planting Plan.

All areas of hard and soft landscape constructed as part of the construction Contract are to be subject to a 12 month defects liability period.

ManSafe system to be implemented for roof top maintenance. System to be specified by the main contractor. Only to be operated when necessary by a certified professional.

## 2.4 Extensive Roof System

Low maintenance extensive biodiverse roof system. For the location and details of all hard landscape elements refer to Drg. No. **LL489-300-0002** General Arrangement – Roof Plan and Drg. No. **LL489-300-0081** General Arrangement - Planting Plan.

All areas of hard and soft landscape constructed as part of the construction Contract are to be subject to a 12 month defects liability period.

ManSafe system to be implemented for roof top maintenance. System to be specified by the main contractor. Only to be operated when necessary by a certified professional.

## **2.5 Areas Of Paving**

The external spaces of Fitzjohns Avenue are to be surfaced with Dutch clay pavers in the Aureum and Saffron colours with connecting brickwork to match. For the location and details of all hard landscape elements refer to Drg. No. **LL489-300-0001** General Arrangement – Landscape Plan.

All areas of hard landscape constructed as part of the construction Contract are to be subject to a 12 month defects liability period.

### 3.0 Design Objectives For Landscape Elements

The long-term design objective for the landscape scheme is to provide an attractive communal external space and garden. All planting must provide an attractive green setting for the residents. Tree planting provides height and structure within the external landscape and should be maintained as an on-going objective to achieve a high quality landscape setting.

The long-term management and maintenance activities set out within this Landscape Management Plan seek to ensure the successful establishment of the external landscape spaces:

- the establishment of healthy **trees** of good form with a flowing branch line, strong leader and clear stems (dependant on species);
- the establishment of **the gardens** as herbaceous perennial / specimen shrub and grass borders free from weeds;
- the establishment of **the sedum and extensive green roof systems** free from weeds;
- the maintenance of smooth, even pedestrian **hard landscape** surfaces.

### 3.1 Long Term Design Objectives & Management Activities

The construction Contract will allow for a defects liability period to ensure the successful establishment of all landscape elements. All areas of soft landscape installed as part of the construction Contract will be subject to a defects liability period from the date of Practical Completion:

- the Contract will include for a 12 month maintenance and establishment period for all areas of grass and shrubs from the date of Practical Completion
- the Contract will include for a 24 month maintenance and establishment period for all new tree planting from the date of Practical Completion

Following the 12 or 24 months defects liability period the appointed Management Company will continue the maintenance of the external landscape spaces to ensure the continuation of the landscape structure and objectives.



#### 4.0 Landscape Maintenance Activities Generally

The landscape maintenance works required within the construction Contract are specified in a Landscape Specification issued as part of the contract documents. This is a contractual document between the selected Contractor and PegasusLife, identifying a 12 month Maintenance Period following Practical Completion for all areas of shrubs, grasses and perennials, with a 24 month maintenance period for all new tree planting. The specific work requirements are identified in clauses *Q30 Seeding/Turfing* and *Q31 External Planting*.

The Defects Liability Periods will begin from Practical Completion and will be as follows:

- Trees: 24 months or until leafing out in the third growing season after planting whichever is the later.
- All perennial planting: 12 months

#### 4.1 Summary Of Maintenance Operations Required To Tree & Shrub Planting Generally

- Frequency of maintenance visits: twice weekly throughout the construction Contract maintenance and establishment period.
- Plants/trees/shrubs that have failed to thrive (unless due to theft or malicious damage after completion) during the defects liability period stated above are to be replaced with equivalent plants/trees/shrubs.
- Replacements are to match size of adjacent or nearby plants of same species or match original specification (allowing for growth of originally planted stock) whichever is the greater size.
- Timing of making good: within 8 weeks of notification of failure (subject to planting season restrictions).
- Weed control: Maintain weed free area around each tree and shrub, minimum diameter the larger of 800mm or the surface of original planting pit. Keep planting beds clear of weeds, by hand and mechanical means.
- Planted areas: Fork over beds as necessary to keep soil loose, with gentle cambers and no hollows. Take care not to reduce depth or effect of mulch.
- Precautions: Ensure that trees and shrubs are not damaged by use of mowers, nylon filament rotary cutters and similar powered tools.
- Staking: Check condition of stakes, ties, guys and guards. Replace broken or missing items. Adjust if necessary to allow for growth and prevent rubbing of bark. Frequency of checks: 4 weeks.
- Trees: Spray crown when in leaf during warm weather. Carry out in the late afternoon / evening.
- Prune at appropriate times, to remove dead or dying and diseased wood and suckers, to promote healthy growth and natural shape. Prune trees to favour a single central leading shoot, unless type and form is of a multi stemmed or pleached nature.
- Watering: As necessary to ensure establishment and proper development at the discretion of the Contractor.

#### 4.2 Summary Of Maintenance Operations Required To Areas Of Paving

- Every month throughout the year sweep all areas of external paving free of mud, grit, debris etc and remove any weeds or litter.
- Throughout the winter months collect leaves and dead-head planting

#### 4.3 Landscape Management Responsibilities

The maintenance operations for all areas of new tree planting, shrub planting and grassed areas are to be undertaken by the Contractor as part of the construction Contract for the required defects liability period.

Following the 12 or 24 month defects liability period the appointed Property Management Company will continue the maintenance operations for the external spaces at Fitzjohns Avenue.

#### 4.4 Schedule Of Landscape Maintenance Activities

Please refer to the 'Schedule Of Landscape Maintenance Activities'. This table provides a summary of the landscape maintenance activities typically set out within a standard NBS Specification in a single matrix. It sets out the annual time periods during which specific maintenance activities should be undertaken.

## SCHEDULE OF SEASONAL LANDSCAPE MAINTENANCE ACTIVITIES

Feature	Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Week			1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4		
Trees (24 months)	Activity												
	Fertilize			✓							✓		
	Prune			✓			✓			✓			
Shrubs (12 months)	Water			✓	✓	✓	✓	✓	✓	✓			
	Fertilize			✓			✓				✓		
	Weed				✓		✓				✓		
	Prune			✓									
Herbaceous (12 months)	Water			✓	✓		✓	✓	✓	✓	✓		
	Fertilize			✓			✓				✓		
	Weed			✓	✓		✓	✓	✓	✓			
	Dig			✓							✓		
Biodiverse Green Roof (12 months)	Water					✓	✓	✓	✓	✓	✓		
	Fertilize												
	Weed				✓			✓			✓		
Sedum Roof (12 months)	Water												
	Fertilize												
	Weed							✓					

Note 1: Contract allows for 12 months maintenance and establishment period for all areas of grass, shrubs, and hedges from date of Practical Completion.

Note 2: Contract allows for 24 months maintenance and establishment period for all new tree planting from date of Practical Completion.

Note 3: Following the 12 or 24 month defects liability period the Property Management Company will continue the long-term maintenance of the external spaces.

## 5.0 Specific Maintenance Activities

In addition to the general maintenance requirements set out within Section 4.0 'Landscape Maintenance Activities Generally' the following section lists the specific maintenance requirements for all areas of planting.

Types of planting, individual beds and specific areas of planting are identified within Drg. No. **LL489-300-0081** General Arrangement - Planting Plan and the written 'LL489 Soft Works Schedule' by specific reference numbers (e.g. 1.0 Street Frontage). The following points refer to the specific maintenance requirements for these planting types.

### **5.1 Street Frontage (1.0) - Refer to Drg. No. LL489-300-0081**

- Throughout the year herbaceous planting areas should be kept weed and pest free using hand tools and clear of fallen leaves and litter.
- Dead or damaged plants should be pruned regularly and dead flower heads removed as appropriate for each species. Contractor to note that some flower and seed heads retain winter interest. Timing of dead heading to be agreed with Employer on site.
- Where necessary, plants should be staked or supported in as unobtrusive a manner as possible.
- After flowering, clip flower heads and remove arisings.
- At the end of the growing season plants should be cut back unless seed heads are to be retained for autumn and winter appeal and plants split when they have become overgrown in size.
- Grasses and Sedges which form part of the planting mix (refer to Schedule of Planting) should be left for winter appeal and cut back in early spring before new growth commences.

### **5.2 Gardens (2.0) - Refer to Drg. No. LL489-300-0081**

- Throughout the year herbaceous planting areas should be kept weed and pest free using hand tools and clear of fallen leaves and litter.
- Dead or damaged plants should be pruned regularly and dead flower heads removed as appropriate for each species. Contractor to note that some flower and seed heads retain winter interest. Timing of dead heading to be agreed with Employer on site.
- Where necessary, plants should be staked or supported in as unobtrusive a manner as possible.
- After flowering, clip flower heads and remove arisings.
- At the end of the growing season plants should be cut back unless seed heads are to be retained for autumn and winter appeal and plants split when they have become overgrown in size.
- Grasses and Sedges which form part of the planting mix (refer to Schedule of Planting) should be left for winter appeal and cut back in early spring before new growth commences.

### **5.3 Courtyard (3.0) - Refer to Drg. No. LL489-300-0081**

- Throughout the year herbaceous planting areas should be kept weed and pest free using hand tools and clear of fallen leaves and litter.
- Dead or damaged plants should be pruned regularly and dead flower heads removed as appropriate for each species. Contractor to note that some flower and seed heads retain winter interest. Timing of dead heading to be agreed with Employer on site.
- Where necessary, plants should be staked or supported in as unobtrusive a manner as possible.
- After flowering, clip flower heads and remove arisings.
- At the end of the growing season plants should be cut back unless seed heads are to be retained for autumn and winter appeal and plants split when they have become overgrown in size.
- Grasses and Sedges which form part of the planting mix (refer to Schedule of Planting) should be left for winter appeal and cut back in early spring before new growth commences.

#### **5.4 Extensive Bio-diverse Green Roof (4.0) - Refer to Drg. No. LL489-300-0081**

- For full installation and maintenance requirements refer to specialist manufacturers details, as part of technically integrated roof system.

#### **5.5 Sedum Green Roof (5.0) - Refer to Drg. No. LL489-300-0081**

- For full installation and maintenance requirements refer to specialist manufacturers details, as part of technically integrated roof system.

#### **5.6 Maintenance Activities For Hard Landscape Areas**

- Every month through year sweep all areas of external paving free of mud, grit, debris etc and remove any weeds
- Every month throughout the year inspect hard surfaces and notify Client of any damaged surfaces or trip hazards.
- Seasonal activities to include salting and clearance of snow and ice, and leaves, to footways.
- Litter bins to be emptied on a regular basis. When required bins should be cleaned with a pressure washer and scrubbed down with a detergent and if needed a proprietary disinfectant. Hinges may need to be oiled on a seasonal basis to ensure smooth operation.
- Hardwood timber benches and seats to be checked during visits for maintenance of planted areas. Vandalism and graffiti to be notified to the Client and any remedial measures required must be undertaken in accordance with manufacturers recommendations, potentially including power washing and light sanding. Timber not to be treated with preservative or varnish.