

6.5
PLANTING AND BIODIVERSITY STRATEGY

6.5.2. Public Realm Planting Character

The planting areas in the public realm are designed to suit the urban setting with its limitations to light and space. Nevertheless, distinct planting characters support the creation of comfortable dwelling spaces and improve the microclimate.

In the public realm, these areas are

- the birch woodland understorey along the southeast edge of Friars Walk
- additional terraced planters along Friars Walk
- linear planters on Garrard Street consisting of robust, shade-tolerant planting, including scented climbers ideal for screening less active frontages and evergreens.

All proposed planting on structure will be irrigated with an automated irrigation system with rain sensors, ensuring water is used efficiently. Movable planters will be manually watered as needed. The proposed sedum green roofs do not require permanent irrigation, but will be temporarily irrigated for plant establishment, and as needed during drought periods. Watering points for this purpose are located throughout the development.



6. LANDSCAPE & PUBLIC REALM



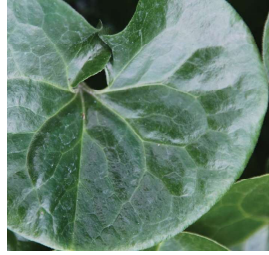
Skimmia japonica 'Kew White'



Clematis montana



Asarum europaeum



Lonicera henryi



Polystichum aculeatum



Luzula nivea



Brunnera macrophylla 'Jack Frost'



Ajuga reptans variegata



Anemone honorine jobert



Primula vulgaris



Blechnum spicant



Vinca minor Gertrude Jekyll



Astrantia major 'Roma'



Galium odoratum



Polystichum aculeatum



Brunnera macrophylla 'Jack Frost'



6.5
PLANTING AND BIODIVERSITY STRATEGY

6.5.1 Biodiversity and Ecological Features - Friars Walk
& Groundfloor Courtyard

The design strives to encourage a healthy and biodiverse wildlife community alongside its residential community.

The planting palette incorporates a number of native flowering species providing food for invertebrates, and a couple of bug hotels are proposed in the courtyard and terraces.

The inclusion of over 50 bird boxes aims to entice a wide range of species to make the site their home. The boxes are strategically placed on building facades and trees throughout the development based on where the individual species are inclined to nest.



Starling Nest Box Hole Nest Box



Swift Nest Box



Black Redstart Nest Box



Bug Hotels



- 42 No. Swift boxes
- 2 No. Starling boxes
- 2 No. Bug hotel
- 9 No. Hole nest box
- 6 No. Black Redstart Boxes



6. LANDSCAPE & PUBLIC REALM

6.6

PLAY STRATEGY

76.1. Incidental Play opportunities - Friars Walk & Courtyard

The approach to play is to integrate playful features in the landscape where possible through public realm furniture and detailing, and access to natural features.

Within the public realm, the linear edge to the birch stem woodland planting is formed as playable two tiered benches that invites activities such as balancing, climbing and foraging into the tree stems.

Likewise, the woodland courtyard features stepping stones and a robust naturalistic planting scheme with a 'secret garden' feel for children to explore.

The large lawn in the southern courtyard and the surrounding tiered timber seats provide ample space for lounging and gatherings. Not aimed at a specific age group, these areas provide opportunities for overlapping play and age categories, and social interaction.

On the rooftop amenity terraces, artificial turf areas provide a more formal playable space, which can be equipped with elements such as weather resistant soft toys, mini slides, and bean bags, surrounded by ample seating for carers.

The precedent images on the following page provide some examples of how this play strategy should be realised at Station Hill across the public and semi-private areas within the development.



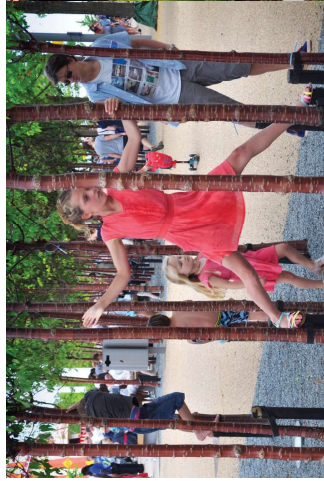
6. LANDSCAPE & PUBLIC REALM



Playable Bench Feature



Woodland walk, natural



Birchstem woodland edge



Woodland walk, natural play



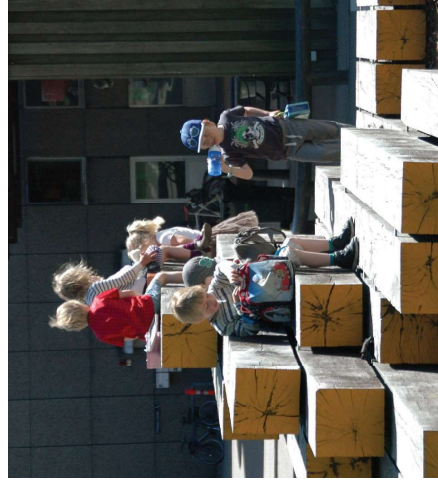
Playable Wall Feature



Sculpted artificial turf



Bean bags



Climbable bleacher seating



Sloped lawn

6. LANDSCAPE & PUBLIC REALM

6.7

SUMMARY

The above chapter intends to further describe and illustrate the public realm and landscape proposals and supplements the set of landscape architectural plans submitted in the planning application.

As stated throughout the document, the public realm and highways proposals that fall outside of the planning boundary are subject to a Section 278 agreement, they are shown here for context only.

7

LIGHTING DESIGN CONCEPT DPA LIGHTING CONSULTANTS

7.LIGHTING DESIGN CONCEPT

7.1 INTRODUCTION

dpa lighting consultants have been commissioned to prepare lighting concepts for the external areas of the Station Hill, Reading project, including both landscape and building façade treatments.

This section outlines the external lighting strategy approach conceived for the development, giving consideration to appropriate lighting for the human in the space, engendering a sense of place and belonging, encouraging use of the space during the evening hours, whilst ensuring appropriate lighting for safety and security, wayfinding, ecological considerations, and the development within the wider urban context.



7.2 LIT CONTEXT

The site is located in central Reading in close proximity to the Reading Railway Station, bounded to the north by Garrard Street and to the south by Friar Street. There is a proposed new link running north to south linking these two streets, creating a new link and pedestrian space known as Friars Walk, with residential buildings on either side.

Garrard Street currently has a number of lighting columns located along both sides of the street. The columns are approximately 6m tall mounted with a mix of ceramic metal halide and LED lanterns illuminating the street. The light sources have a cool white appearance (approximately 4,000 K Colour Correlated Temperature (CCT)). Some spill light is also received from the existing NCP car park which is illuminated with what is believed to be cool white (4,000 K CCT) fluorescent lamps. In addition there are a number of wall mounted sodium flood lights mounted to the NCP car park façade, none of which are currently operational.

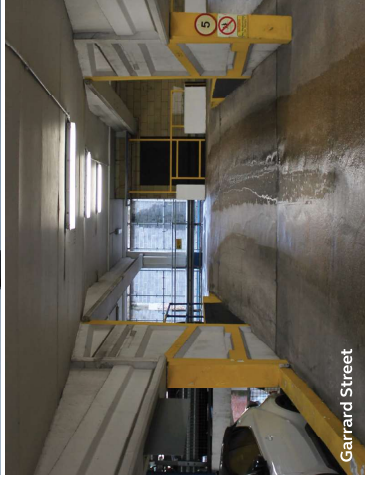
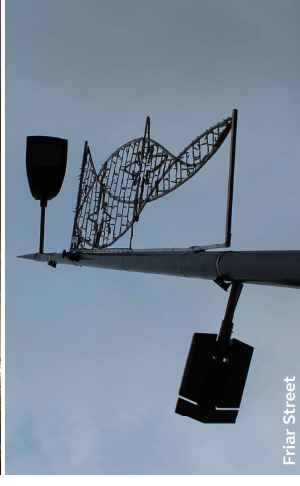
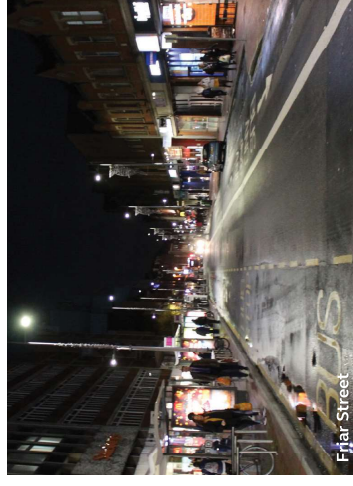
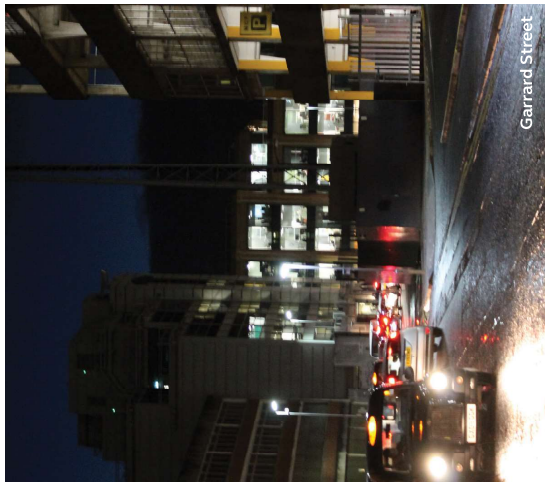
Along the length of Friar Street are a number of staggered lighting columns. The columns are approximately 8 m tall topped with a street lighting lantern providing roadway illumination. The lanterns utilise a cool white (4,000 K – 5,000 K CCT) light source and appear to have a flat glass giving full horizontal cut off to prevent the upward spill of light.

Mounted on the same columns at approximately 4-5 m above ground is a secondary lantern facing onto the pedestrian pathways adjacent to the roadway, providing direct illumination to the pathways. The lantern utilises lensed LEDs also with a cool white (4,000 K - 5,000 K

CCT) appearance, which appear to have horizontal cut off of light. The light sources used to illuminate both the road and pathways are visually prominent causing visual distraction.

Apart from a few illuminated signs and illuminated bus shelter advertising panels, no other public realm lighting is present.

There are also a number of illuminated shop/restaurant fronts/signage with varying styles and colours. Many of the shops have large glazed frontages with the interior lighting spilling onto the streetscape. The interior lighting varies in style and colour temperature giving an inconsistent effect.



7.3 LIGHTING OBJECTIVES

The objectives of the exterior lighting are to:

- a. Create an attractive, welcoming and memorable environment
- b. Complement and reinforce the landscape and architecture
- c. Create a comfortable and enjoyable space
- d. Use energy efficient luminaires and light sources for minimised energy consumption
- e. Minimise light pollution
- f. Avoid visual discomfort to occupants of the buildings and users of the public realm
- g. Provide appropriate lighting to engender safety and security
- h. Use automated lighting controls to minimise energy consumption and on-going maintenance requirements
- i. Consider ease of access for maintenance
- j. Ensure the daytime appearance is considered, where possible integrating luminaires with the architecture for minimal visual distraction
- k. Design in accordance with relevant standards and guidance
- l. Achieve optimum value for money

Light Sources & Luminaires

To create a comfortable, calm and welcoming lit environment for residents and visitors alike, warm white (2700 K – 3000 K CCT) LED light sources will be utilised for the external areas of the development. The selection of a warm white CCT for the development will also visually contrast with the surrounding streets' comparatively cooler appearance street lighting, subtly and intuitively leading visitors and helping to identify a different, high-quality, welcoming environment.

The LED light sources will also have a high colour rendering index (CRI), helping to reveal colours of the illuminated objects in the space and creating attractive skin tones of persons using the space, again reinforcing the quality environment and making the area feel more welcoming.

Luminaires with efficient LED light sources and luminaire optics will be utilised to ensure light is delivered to where it is required with minimal spill. This use of efficient light sources and luminaire optics will help to reduce the overall number of lighting points, installation costs, energy usage and ongoing maintenance costs.



7. LIGHTING DESIGN CONCEPT

7.4 LIGHTING LAYERS

The lighting will be conceived as a series of layers:

Base – Landscape

Ambient lighting will be provided to the pedestrian areas of the development, providing suitable light levels to engender a feeling of safety and promote security.

It is the intent to avoid the use of lighting columns to minimise street clutter and physical obstacles within the public space. Instead luminaires will be building mounted, carefully integrated with the architecture, minimising their daytime visual impact. It is proposed to utilise discreet projector style luminaires with well controlled optics, directing the light to where it is required with minimal spill. Suitable accessories (cows, louvers, etc.) will be utilised to further minimise potential views of the light source, prevent upward spill of light and potential distraction to pedestrians and residents.

Within the private garden areas low level human scale luminaires and concealed lighting integrated with the landscape features will be utilised to provide illumination where it is required. The luminaires will be selected and specified with appropriate accessories, or where integrated within landscape features detailed so as to avoid upward spill of light.

Base – Façade

To provide subtle wayfinding and a welcoming arrival sequence for residents and visitors alike, increased lighting levels will be provided to the building entrances from luminaires integrated within building canopies and/or façade mounted luminaires. Careful integration of the luminaires with the architecture will minimise daytime visual impact of the lighting equipment.

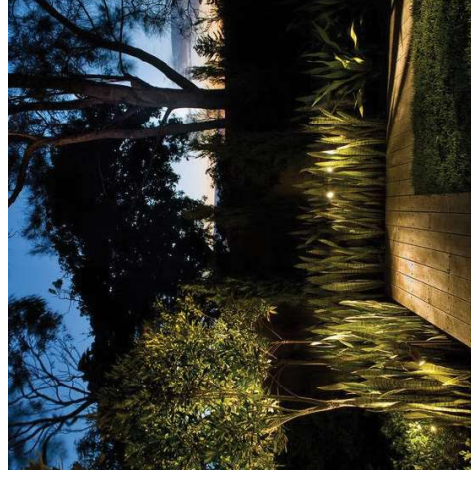
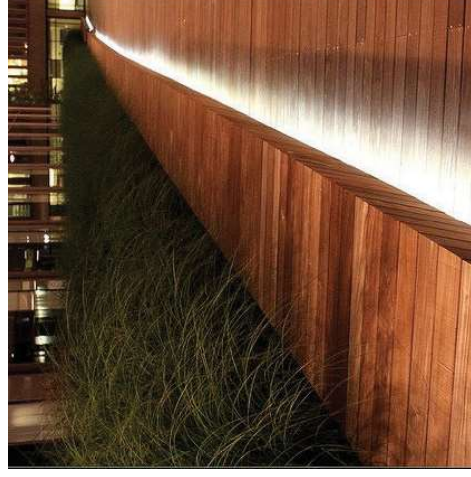
Luminaires will be specified with and detailed in such a manner to prevent upward spill of light.

Feature – Landscape

To create visual interest and encourage use of the space during the evening hours, lighting will be utilised to emphasise features in the landscape, such as seating, planting, trees and other feature elements. Hardscape elements such as bench lighting will be carefully detailed so as to conceal the light source and prevent upward spill of light. Some feature elements such as trees will be uplit from inground uplight luminaires, creating a visually attractive space during the evening, helping to express the visual texture, colour and density of the objects. These uplight luminaires will be carefully selected to ensure they have excellent optical control and will be adjustable so that they can be aimed at the objects that are to be lit, with minimal spill beyond the object being illuminated. Accessories such as internal snoots and baffles will be utilised to further control the light distribution and minimise unwanted upward spill light.

Feature – Façade

Feature lighting will be provided to selected elements of the façades referred to as lanterns. This will help to identify the development within the urban city scape, assisting wayfinding and creating a sense of place.



7.5 LIGHTING CONTROLS

All lighting is to be controlled via an astronomical time clock, adjusting switch on and off times for changing sunrise and sunset times during the year, ensuring illumination of the space is only provided during the hours of darkness and energy is not wasted illuminating the space during the daylight hours when the lit effect cannot be appreciated.

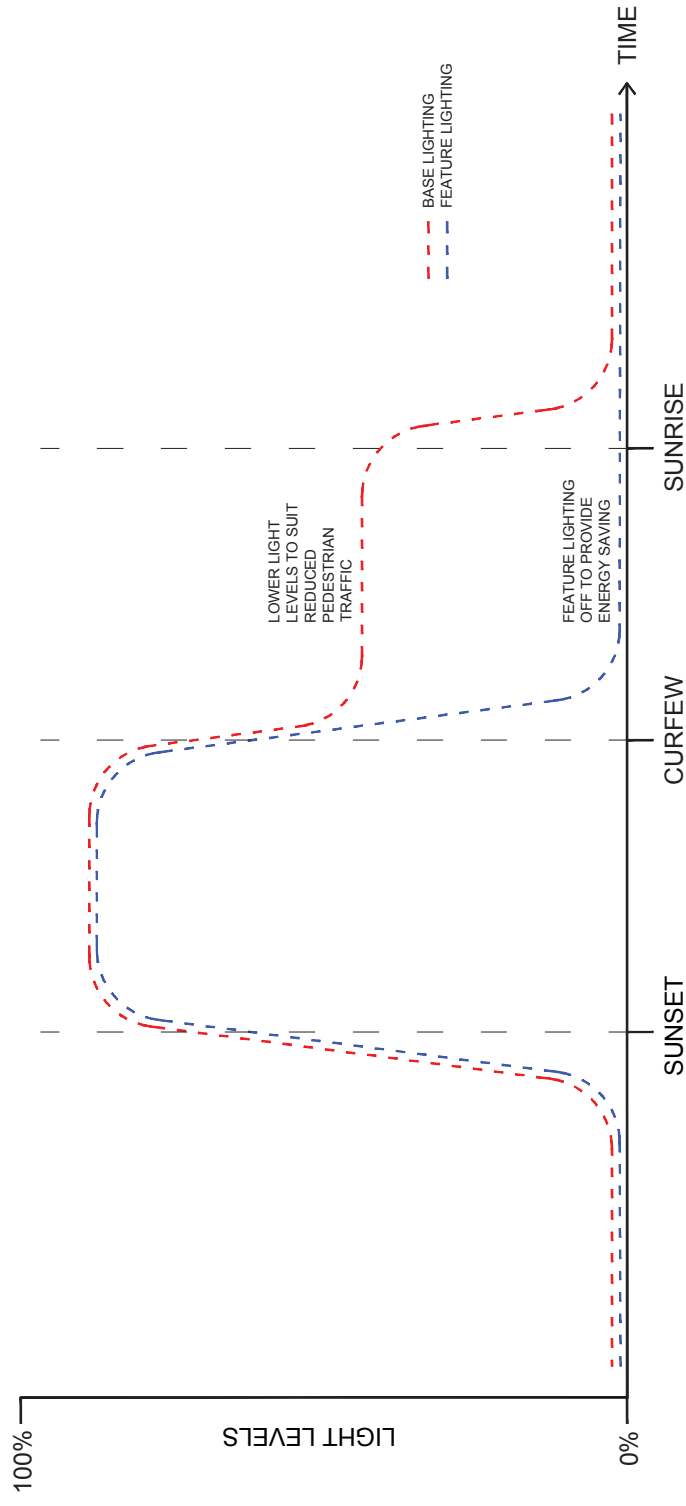
All external lighting will switch on at 30 mins before sunset (dusk).

The feature lighting elements of the scheme will switch off at curfew/2300, after which time only the base lighting for safety and security will be left on.

The base lighting for safety and security will then switch off at 30 minutes after sunrise (dawn).

In addition, a dimmable lighting scheme will be investigated in order to allow the lighting levels and overall brightness to be controlled throughout the nocturnal hours to suit the time of evening and activities taking place. Dimming will also allow smooth, subtle, imperceptible changes between the different lighting states and avoid confusion from the sudden turning off of the feature lighting at curfew. Further a DALI dimmable lighting scheme could be utilised to provide data on the operational status of luminaires, assisting the client's site maintenance team and simplifying ongoing maintenance of the lighting installation.

The lighting controls will provide further energy savings ensuring that the external lighting is only operational at the hours it is required.



7. LIGHTING DESIGN CONCEPT

7.6 SUSTAINABILITY & ECOLOGICAL CONSIDERATIONS

As already noted above, all exterior lighting will be carefully positioned and aimed, integrated with the architecture where appropriate, and specified with suitable optics and accessories to ensure that light is delivered to the point where it is required, thereby avoiding light pollution and light trespass.

Where uplighting of features is used it will be very carefully detailed and aimed to ensure minimal spill of light, and where possible completely eliminate this.

Any upward light spill will be kept within the limits for the relevant environmental zone as outlined in the ILP Guidance Notes for the Reduction of Obtrusive Light GN01:2011.

In locations of any bird boxes, lighting will be carefully adjusted to ensure that no light from the development falls on any roosting or sensitive locations.

Further, the decorative feature elements of the scheme (including the majority of the uplighting elements) will be switched off at curfew, limiting the timing of this lit effect to that when it can be appreciated by residents and visitors.

7.7 RELEVANT STANDARDS & GUIDANCE

The requirements and recommendations of all appropriate standards and guidance has been considered during the development of the exterior lighting concepts, as outlined below:

- Clean Neighbourhoods and Environment Act 2005 (Section 102)
- DEFRA, Guidance on Sections 101 to 103 of the Clean Neighbourhoods and Environment Act 2005
- BS EN 13201, Road Lighting (Part 1, 2014 & Part 2, 2015)
- BS 5489-1:2013 Code of practice for the design of road lighting, Lighting of roads & public amenity areas
- BS EN 12464-2:2014 Lighting of Workplaces – Part 2: Outdoor Work Places

- Institution of Lighting Professionals (ILP), Guidance Notes for the Reduction of Obtrusive Light, GN01:2011
- Countryside Commission/Department for Communities and Local Government, Lighting in the Countryside: Towards Good Practice (1997) (Out of Print)
- Society of Light and Lighting (SLL/CIBSE), The SLL Code for Lighting (2012)
- Society of Light and Lighting (SLL/CIBSE), The SLL Handbook (2018)
- Society of Light and Lighting (SLL/CIBSE), LG6: The Outdoor Environment (2016)
- Society of Light and Lighting (SLL/CIBSE), Guide to Limiting Obtrusive Light (2012)

7.8
KEY VIEWPOINTS



7.LIGHTING DESIGN CONCEPT

7.9
FRIARS WALK



Base – Façade Lighting



Feature – Roof Mounted Gobo Lighting



Feature – Façade Lighting



Feature – Wall Mounted Gobo Lighting



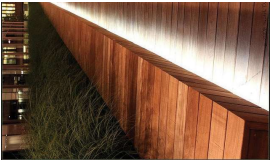
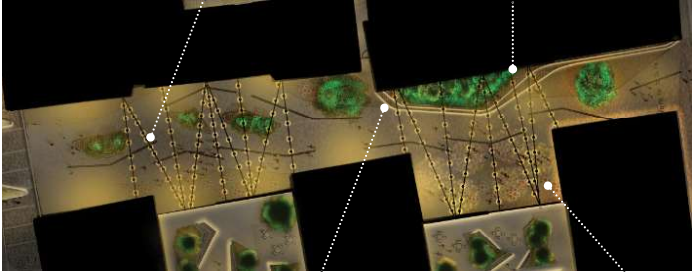
7.LIGHTING DESIGN CONCEPT



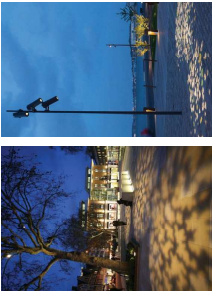
Festoon Lighting



Tree & Shrub Uplighting



Integrated bench lighting



Gobo Projection

7.LIGHTING DESIGN CONCEPT

7.10 CANOPY

