

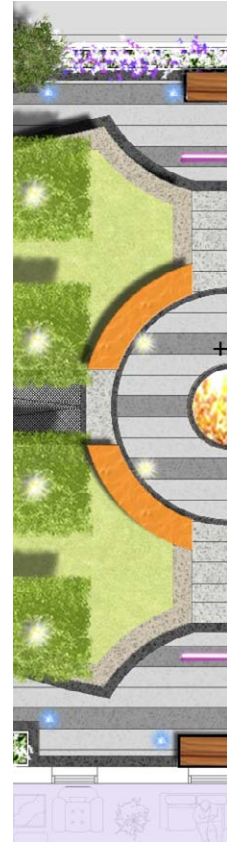
# LANDSCAPE STRATEGY DOCUMENT 21 STRAND STREET, LIVERPOOL

JUNE 2016



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21 Strand Street, Liverpool

# 1.0 LANDSCAPE DESIGN AIMS AND OBJECTIVES

The main objective of the landscape scheme is to provide a well-designed, cost effective, sustainable landscape that responds to the architecture, maximising the use of external areas created by the scheme and at the same time providing usable spaces that respond to both the public and private realm. The landscape proposals look to enhance and reinvigorate the water front aspect, by providing a high quality active frontage.

The proposed landscape scheme at the main entrance has been designed to work with the built form to maximise the water front aspect and promote an interactive space with active building frontage. The raised entrance terrace, benefitting from a glass balustrade enclosure and fixed timber seating, encourages residents to use the entrance area and enjoy open views across the water.

To facilitate the changes in level, a series of stepped terracing and graded access has been used to integrate the built form into the existing setting. The scheme addresses the important link to the road frontage and adjacent public realm. The landscape treatment wraps around the building along Redcross Street providing continuity to the public realm thereby visually enhancing the important pedestrian route up towards the city centre.

Alongside the architectural drivers and inspiration behind the proposed scheme, practical constraints have also been a strong consideration in its development. Wind analysis studies have provided a clear direction in terms of tree planting and boundary treatments required to mitigate wind exposure.

Site security and access have also been key elements, as have material choices that are robust and vandal resistant. Soft landscape has been designed to reduce maintenance and ensure longevity.

Within the core of the site a private courtyard has been designed to provide residents with a safe environment in which to enjoy outdoor recreation. To encourage residents use in the evening, a central seating area with gas fire pit has been included. Set within a raised oval artificial lawn (that will incorporate requisite car parking vents) the overall space has been designed with flexible use in mind. Various access requirements, for both residents and commercial operations, have been considered and allowed for within the arrangement.

On the sixteenth floor, additional recreational space has been provided for residents. Designed with the benefit of a roof top panorama and facilities will include: an outdoor kitchen with BBQ; flexible garden space; booth seating areas with fire pits and fire tables. Enclosed by glass balustrading and semi- mature tree planting, residents will be able to actively enjoy the roof garden.

The following are important considerations in the design process of this scheme:

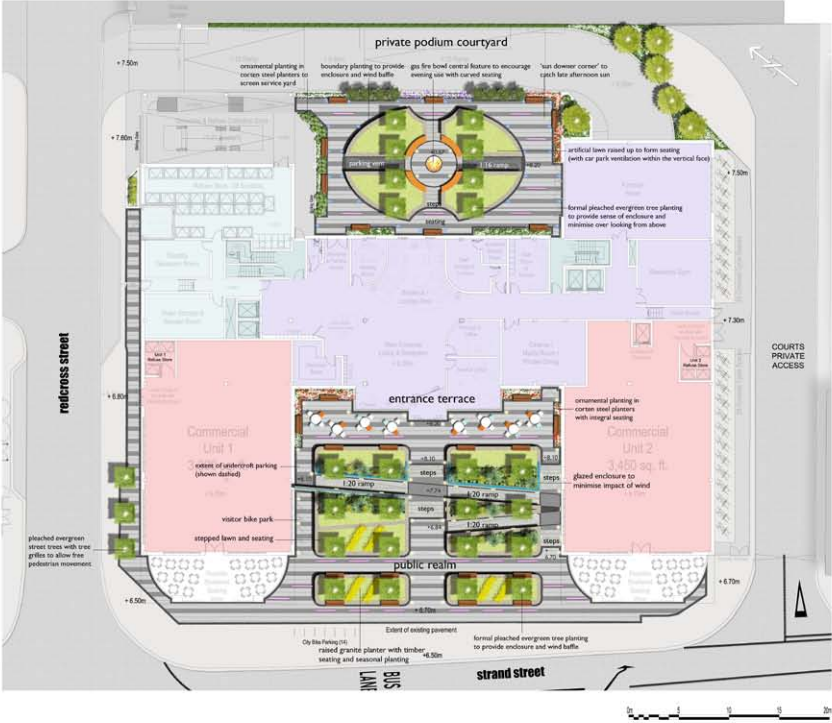
- Architectural layout and use of internal /external spaces and impact of prevailing wind conditions
- Bay side location and proximity of and integration with existing vehicular and pedestrian links and adjacent public realm
- Community benefits and Secure by Design
- Landscape and visual features
- Sustainability, BREEAM, Ecological and biodiversity features

2.0 LANDSCAPE MASTERPLANS

2.1 GROUND FLOOR AND PUBLIC REALM



landscape proposals: ground floor & public realm  
21 strand street, liverpool



Client  
Panacea Property Development

Project  
21 Strand Street, Liverpool

Description  
Landscape Proposals- Public Realm

Scale  
1:200 @ A1

Job number  
3429

Drawing number  
01

Date  
June 16

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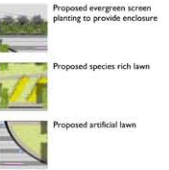
All levels and dimensions to be checked on site for correction prior to construction. Any variations to be reported to the client. This drawing is to be read in conjunction with all others relating to the project and all information derived therefrom. Any variations to be reported to the client. Do not scale from this drawing. Site figures dimensions only. Work shown on this drawing is to be carried out in accordance with current British Standards and Codes of Practice.

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LEGEND - HARDWORKS



LEGEND - SOFTWORKS



2.2 ROOF GARDEN LEVEL 16



landscape proposals: roof garden level 16  
21 strand street, liverpool



LEGEND - HARDWORKS



Proposed raised planters formed from rendered concrete block work

Proposed Kobra Grey granite paving 30x450x900mm with Crystal Black granite set edge 100x100x50mm

Proposed hardwood timber deck

Proposed timber booth seating with external soft furnishings

Proposed informal seating

Proposed glass balustrade 1.5m high

Proposed lighting Refer to Landscape Strategy Document

LEGEND - SOFTWORKS



Proposed native pleached box headed tree planting 20-25cm girth

Proposed native feature tree planting 18-20cm girth

Proposed ornamental shrub planting with specimen shrubs positioned at key locations

Proposed evergreen screen planting

Proposed artificial lawn to provide flexible use of outdoor space



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Client  
Panacea Property Development

Project  
21 Strand Street, Liverpool

Description  
Landscape Proposals- Roof Garden

Version  
Planning

Scale  
1:200 @ A1

Drawn  
RM

Job number  
3429 02

Date  
June 16

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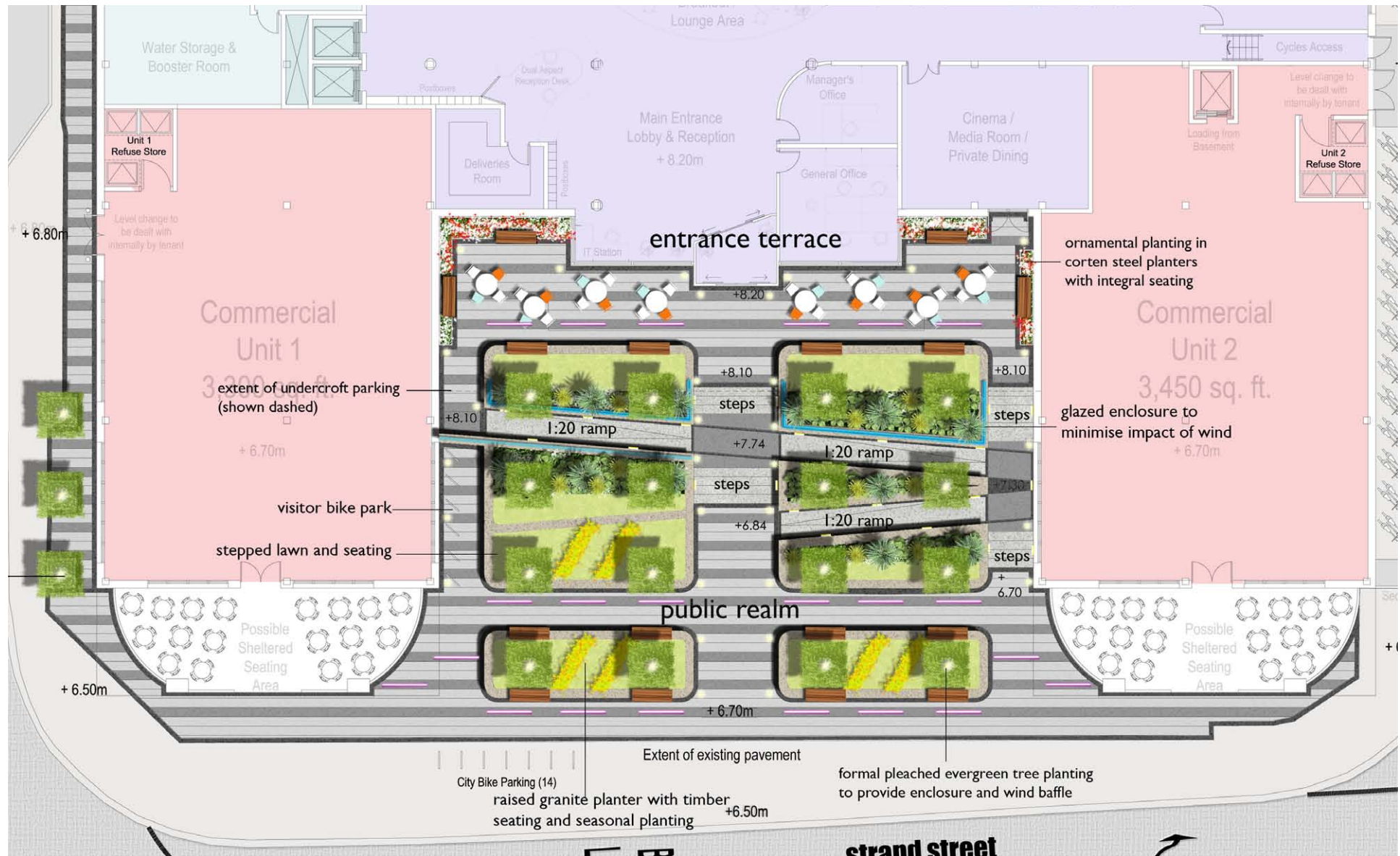
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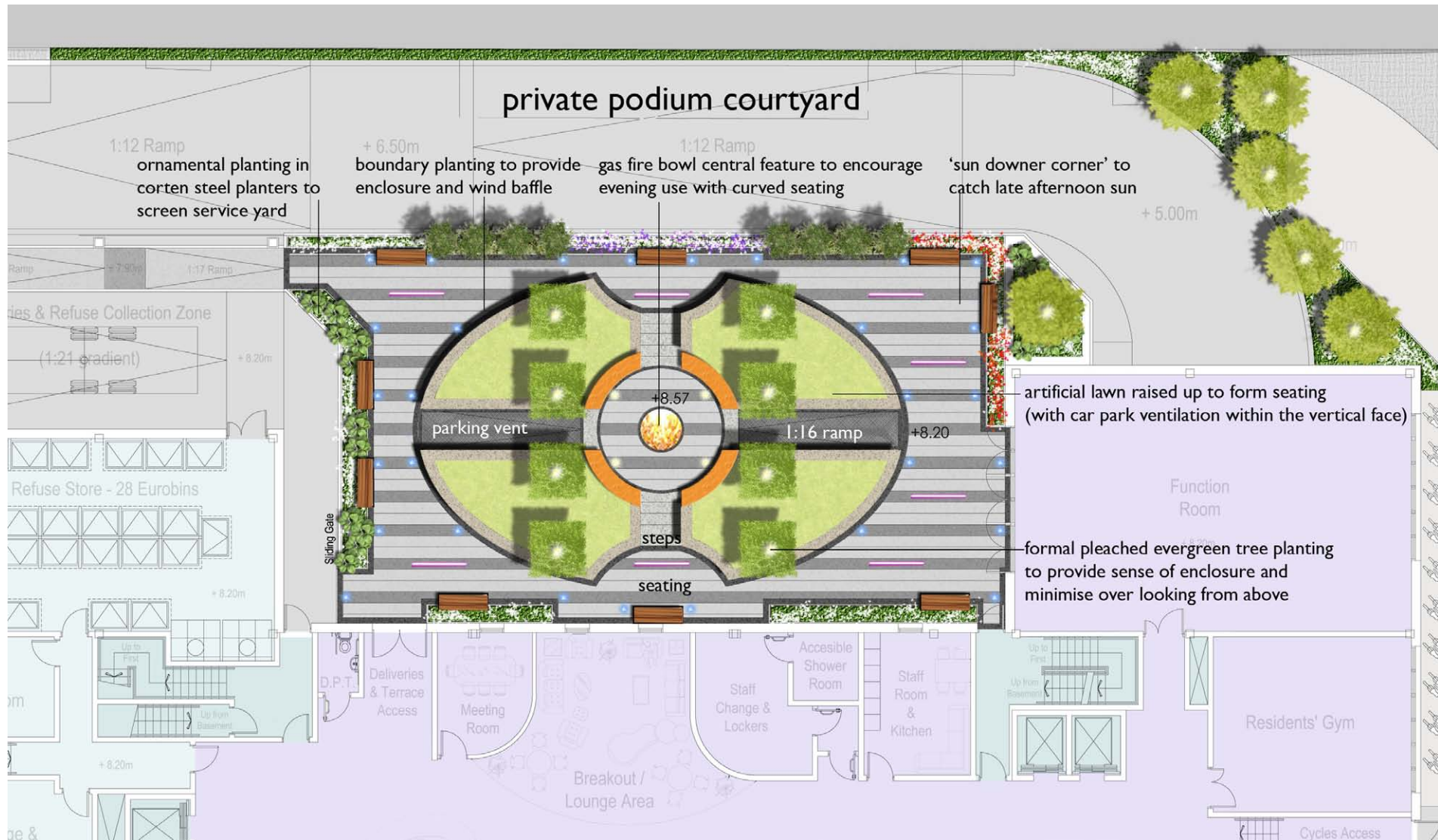
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### 3.0 DETAIL PLANS: PUBLIC REALM



### 3.1 DETAIL PLANS: PRIVATE PODIUM COURTYARD



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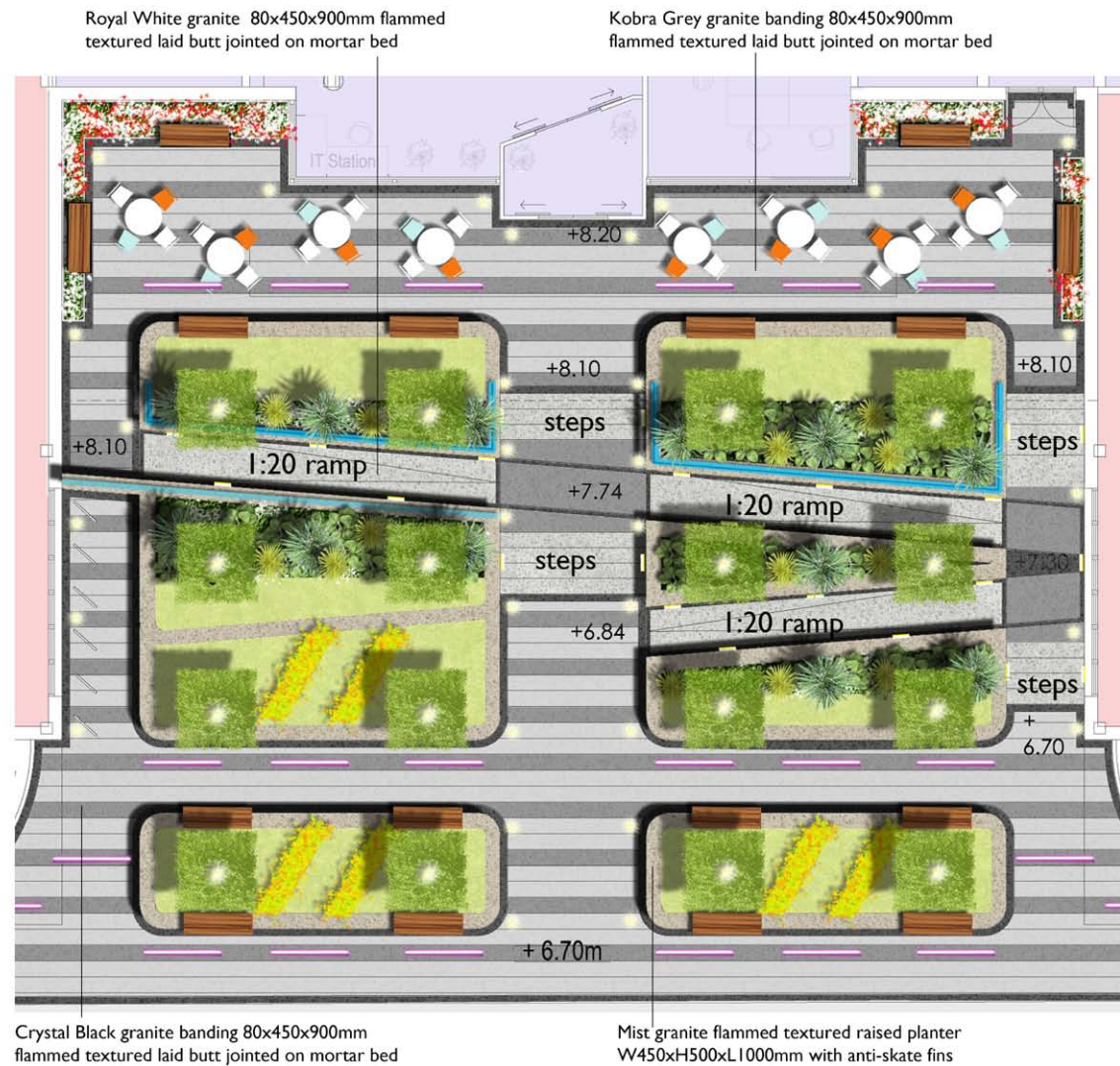
### 3.3 DETAIL PLANS: ROOF GARDEN



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## 4.0 LANDSCAPE MATERIALS

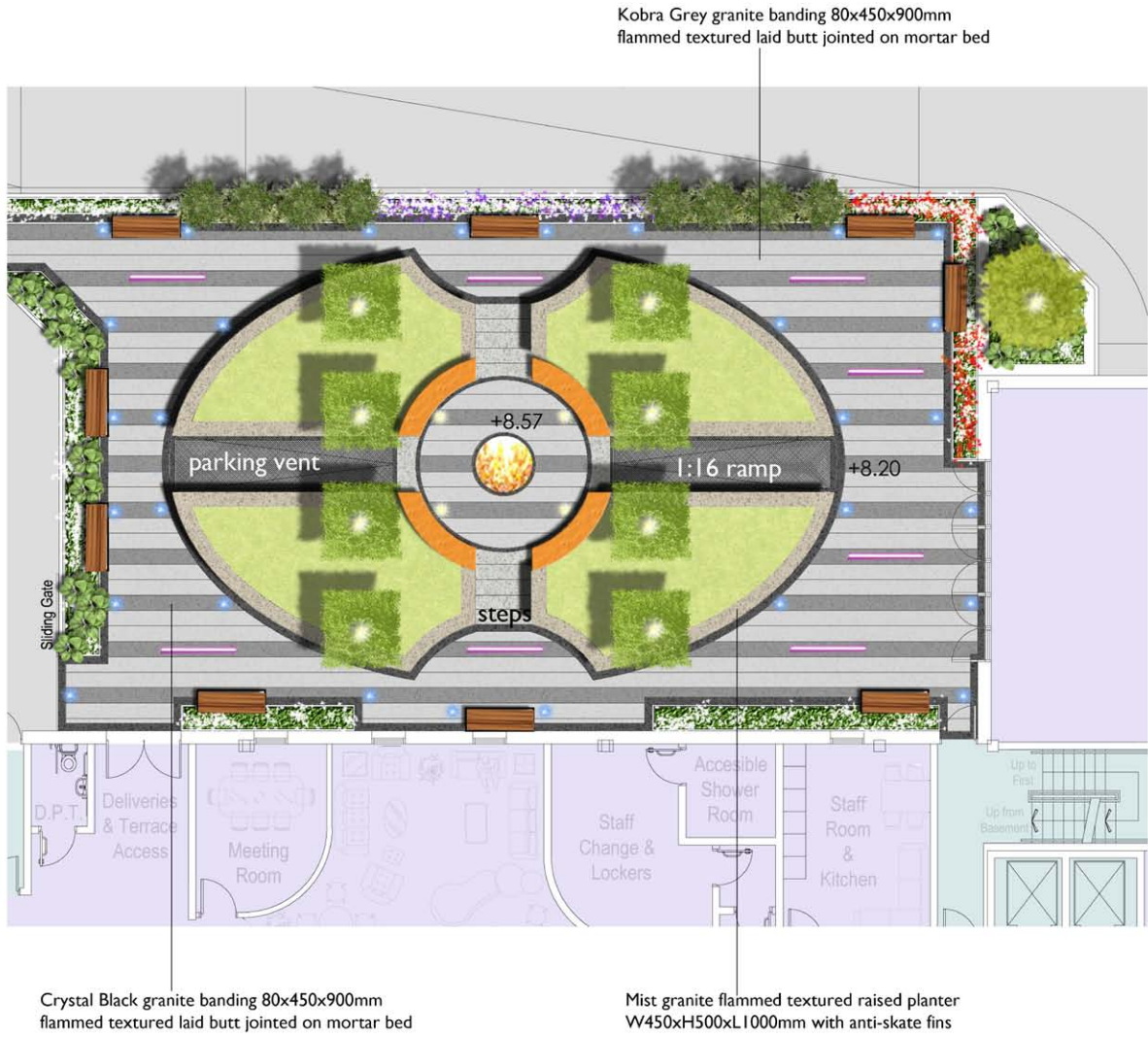
### 4.1 MAIN ENTRANCE



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**NB** These are examples of materials that could be used to implement the landscape

4.2 LANDSCAPE MATERIALS - PRIVATE PODIUM COURTYARD



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NB These are examples of materials that could be used to implement the landscape



### 4.3 LANDSCAPE MATERIALS - ROOF GARDEN



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**NB** These are examples of materials that could be used to implement the landscape

#### 4.4 LANDSCAPE MATERIALS - HARD WORKS



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**NB** These are examples of materials that could be used to implement the landscape

## 5.0 STREET FURNITURE

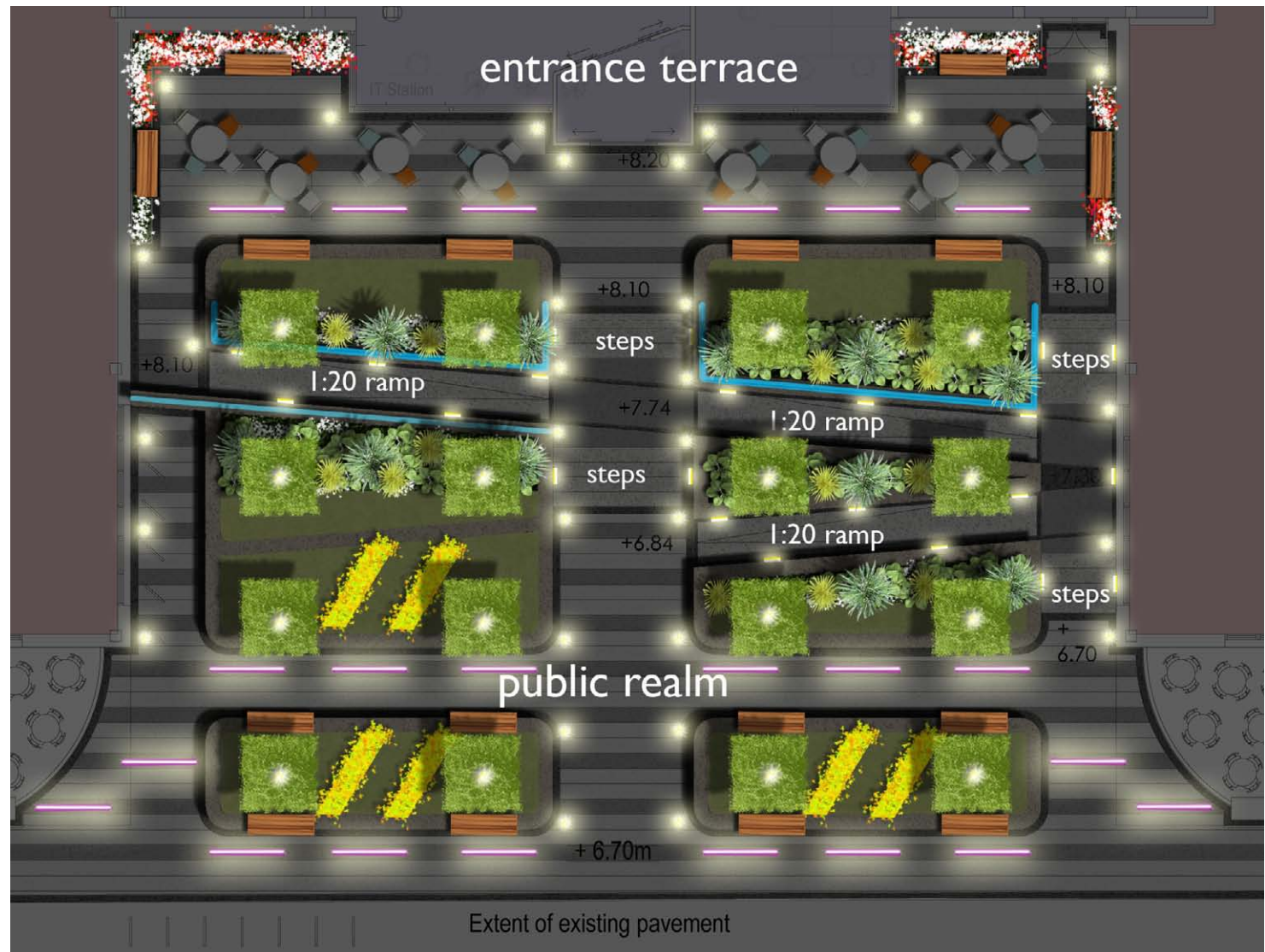
Fixtures and furniture to be used will be modern in style and will complement the architecture of the buildings to create a language and consistent theme across the site. Materials and colours will match those used for the modular structures and will be robust in design but distinct in style. Furniture will include, lighting, cycle stands, seating, litter bins and glazed guard rails. These will be used to provide a more coherent landscape and identity.

The street furniture will be architectural in style and will complement the clean linear pattern of the paving.

Lighting will comprise of bollards and uplighters which will be used to define pedestrian routes, highlight architectural features and trees and create a safe environment at night.



## 5.1 STREET FURNITURE: INDICATIVE LIGHTING STRATEGY- PUBLIC REALM



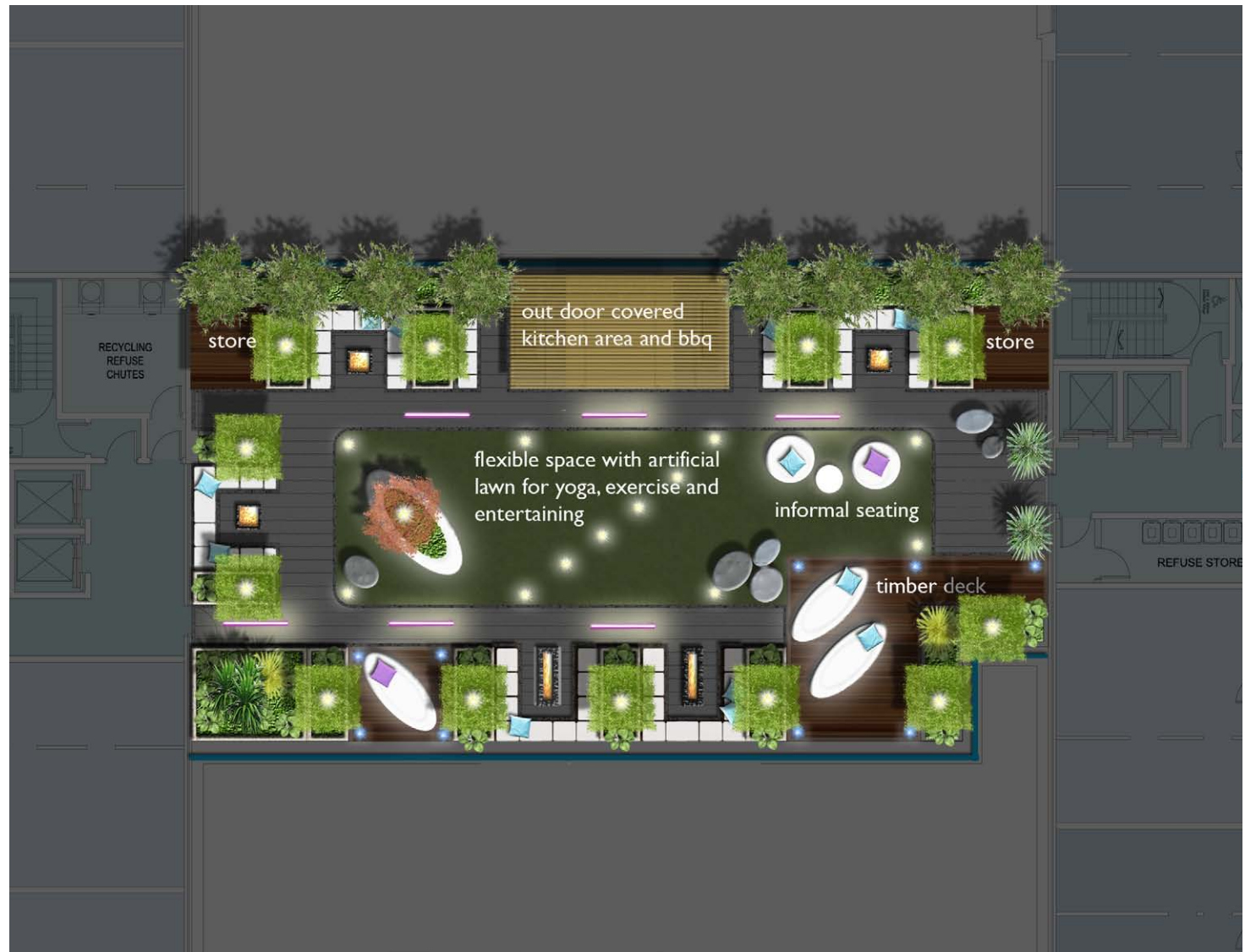
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## 5.2 STREET FURNITURE: INDICATIVE LIGHTING STRATEGY- PRIVATE PODIUM



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### 5.3 STREET FURNITURE: INDICATIVE LIGHTING STRATEGY- ROOF TERRACE



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## 6.0 PLANTING STRATEGY

Plant species have been chosen with regard to the following criteria:-

- Their contribution to the local amenity
- Their height and spread at maturity
- Their ease of maintenance
- Their contribution to habitat and biodiversity
- Their tolerance of local climatic conditions
- Their suitability for location (shade, coastal etc)

The planting strategy focuses on achieving early effect by the provision of semi-mature *Carpinus betulus* (20-25cm girth) pleached box headed trees. This responds to the recommendations made in the Wind Microclimate Assessment and this provision of semi-mature tree planting assist in mitigating the impact of predicted wind conditions.

A mixture of evergreen and flowering shrubs, robust grasses and perennial plants complete the compendium, making for seasonal variation within a basis of all-year-round green stability.

Some perimeter areas and communal spaces have been specified to include indigenous species within the planting, reflective of the local biodiversity of the Liverpool area.

- Grass areas:- Species rich lawn mix WFG20 to be laid on 150mm topsoil bed.
- Planting Beds:- Mixed decorative shrubs, grasses and perennial planting on 450mm topsoil to form feature planting areas with bark mulch finish.
- Tree planting pits:- With irrigation pipes to accommodate semi mature species with 2 metre clear stems 18-20cm and 20-25cm diameter girth, trees to be secured with an



## 7.0 ECOLOGICAL ENHANCEMENT

The main objective is to improve and enhance ecology within the site and in the wider locality. Provision has been made for the inclusion of native (and/ or wildlife beneficial) trees and shrub planting together with species rich lawn and bulb planting. This combined with the proposed use of a green roof system on the main buildings and the provision of bird, bat and invertebrate boxes will help in achieving this goal.

### 7.1 TREE, SHRUB AND SEASONAL BULB PLANTING

The proposed planting species include a significant proportion of native species. Where non native species have been included this is due to their contribution to or support of local wildlife.

Species rich lawns in the public realm raised planters will provide an on site haven enhancing local biodiversity.



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## 7.2 GREEN ROOF SYSTEM OPPORTUNITIES

It is suggested that a green roof system could be employed on the main building tops and podium landscapes.

Green roofs perform a vital role in helping cities adapt to the effects of climate change by reducing the need for artificial cooling in hot weather and attenuating or capturing rainwater runoff, as well as providing a range of habitats for urban wildlife.

### Extensive green roof

It is suggested that an 'extensive' green roof systems be used on the building tops. These are a lightweight, low-maintenance roof system, typically with succulents or other hardy plant species (often sedum) planted into a shallow substrate (typically less than 100 mm) that is low in nutrients. Irrigation is not normally required.

### Intensive green roof

The podium courtyard and roof garden can be described as being intensive green roofs. This is a type of a green roof, often referred to as a roof garden, that provides benefits akin to a small urban park. Designed primarily for recreational use, intensive roofs are typically configured with 200 mm+ of substrate and often require regular maintenance and irrigation.

### Benefits

Green roofs systems have a number of tangible benefits:

#### Sustainable Drainage

Retention of water, through storage in the growing medium and evapotranspiration from the roof's plants and substrate, reduces runoff volumes, reducing the burden on the sewer network and lowering water treatment costs.

Retention of water, due to the time for water to infiltrate and permeate the substrate, reduces peak rates of runoff, helping to reduce the risk of flooding.

The water quality is often improved through the filtration of pollutants during the process of water infiltration.

#### Biodiversity

Green roofs can replace habitat that has been lost as a result of urban development or create habitats for enhanced biodiversity to actively encourage flora and fauna into the area, for example, by providing food, habitat, nesting opportunities or resting places for creatures, such as spiders, beetles, butterflies, birds and other invertebrates.



Example of an Extensive roof system



Example of an Intensive roof system

21 Strand Street, Liverpool

## Benefits Cont'

### Countering Climate Change & the Urban Heat Island

Vegetation consumes carbon during photosynthesis, positively removing emissions and helping to arrest climate change. The evaporative cooling of green roof vegetation also reverses the heat-reflecting effect associated with non-greened, impermeable surfaces that contribute to higher urban temperatures (known as the urban heat island effect). By returning moisture to the environment through evapotranspiration, solar gain can be reduced. The trapping of particulates and capturing of gases, ensure that air pollution levels are also reduced by green roofs.

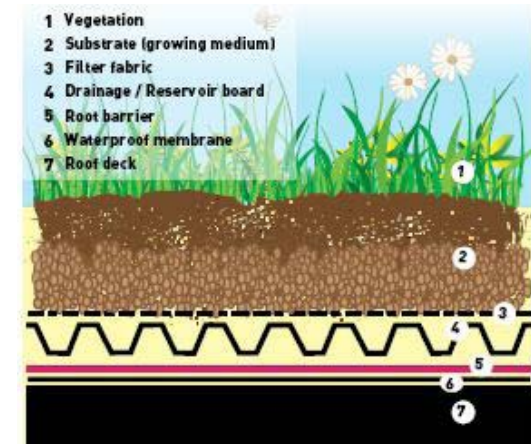
### Building Performance Enhancements

The evaporative cooling effect of green roofs, combined with the increased thermal mass of the build-up, can reduce the need for summer cooling (i.e. air conditioning), with a resultant reduction in carbon emissions. This additional mass also serves acoustic purposes, providing additional sound attenuation benefits.

### Financial

Whilst future government policy may further increase the financial benefit to owners of buildings with green roof installations, green roofs can be seen to payback the initial investment by:

1. Increasing the life of the roof covering due to the vegetation cover protecting the membrane, thereby lowering thermal stresses induced by UV rays
2. Reduced energy costs due to the lower energy consumption demands attributable to the insulating effect of the substrate, planting & drainage layer.



Typical section through an extensive roof system

### 7.3 ECOLOGICAL ENHANCEMENT- INVERTEBRATES

#### Invertebrate boxes

The installation of species specific invertebrate boxes will be incorporated into the scheme on wall or post mounted locations adjacent to planting areas of higher ecological value.

#### Wooden Insect Box:-

A good general insect habitat for beneficial insects in summer and, later, e.g. over wintering ladybirds and lacewings. Should be sited in a sheltered place near nectar/pollen plants.

#### Woodcrete Insect Nest:-

An insect nest made from woodcrete, with holes of different sizes providing homes for variety of beneficial insects such as bees and solitary wasps.

The erection of education panels may also help to inform and educate in relation to the habitats within the site grounds.



## 7.4 ECOLOGICAL ENHANCEMENT- BIRDS AND BATS

### Bird and Bat Boxes

The installation of species specific bat and bird boxes will be reviewed for potential incorporation into the scheme. On new structural elements or located onto existing walls or proposed trees.

#### Wooden Bat Box:-

A traditional softwood bat box with access slit at the base and access ladder. Wooden boxes are subject to fluctuating temperatures, so site three boxes around a tree facing different directions, in a fairly sheltered position, to provide the best choice of environments for the bats. Wooden boxes should not be painted or treated with any type of preservative, as these can harm the bats. The box can be expected to last 5-10 years

#### Woodcrete Bat Box:-

Brick boxes are designed for buildings, or underneath bridges, arches or tunnels, where conditions are relatively humid. They are particularly useful for new buildings or bridges to attract bats, or to provide new roost sites where existing buildings with bats are being renovated. This long box can be installed within brick masonry, beneath plaster work or wood panelling, or incorporated into concrete structures such as factory buildings or bridges.

#### Wooden Bird Box:-

An attractive, natural wooden bird box constructed from cedar for greater longevity and dependability. An attractive, natural wooden bird box constructed from cedar for outstanding performance and maximum dependability. Attracts a wide range of small birds, and available with either 32mm entrance hole, or 26mm for more species specific areas.

#### Woodcrete Bird Box:-

The box can be nailed to the trunk of a tree, or hung from a branch. Schwegler boxes have the highest occupation rates of all box types and appeal to a wide range of species. They are carefully designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance.



## 8.0 MAINTENANCE

Management and maintenance of the external areas, will be well designed so that they are able to be simply and sustainably managed.

The proposed landscape design aims to provide a setting for the development which contributes to local amenity. The site landscape aims to add to, and compliment, the existing landscape context in close proximity. It is also the intention of the design that the area is a safe and clean environment.

### 8.1 MAINTENANCE - HARD SURFACES

#### Generally:-

The following maintenance operations are a detailed guide for the upkeep of a good quality sustainable landscape scheme, and should be carried out in order to provide a clean and safe environment which encourages public use where possible. For the purposes of this report it is assumed that all the works required by the planning approval have been carried out in accordance with the approved drawings, and that they have achieved Final Completion and are no longer within the defects liability period (where the original contractor would be responsible for rectifying problems.)

#### Footpaths:-

Footpaths are to be maintained in a safe and clean condition.

#### Inspections:-

A visual inspection is to be carried out by the maintenance contractor at 6 monthly intervals or following reports from the general public or local authority that the footpaths require repairing. A report of the inspection should be logged.

#### Maintenance Operations:-

Footpath surfaces are to be kept free of litter, mud, arisings, deleterious material and hazardous obstructions. Surfaces are to be uniform in appearance and constructed from a homogenous material, free from ruts, grooves, hollows and pot-holes (i.e. holes greater than 75mm in diameter and 10mm depth). Footpaths are to be repaired within 1 month of a reported fault, unless the potential hazard is severe in which case the area is to be cordoned off and repaired at the earliest available opportunity. Footpath foundations and surfaces are to be repaired to the original specification.

#### Fencing, Gates, Balustrades and Railings:-

Maintenance objective

Gates, balustrades and railings are to be maintained in a safe and clean condition. Gates are to be in good working order.

#### Inspections:-

A visual inspection is to be carried out at 3 monthly intervals or following reports from the general public or local authority that a fault/ damage has occurred. A report of the inspection should be logged.

#### Maintenance Operations:-

Gates and railings are to be kept free of litter, deleterious material and hazardous protuberances. Surfaces are to be maintained uniform in appearance and coated in a homogenous paint, stain, enamel, or plastic coating in accordance with the original specification. Gates and railings are to be repaired within 1 month of a reported fault, unless the potential hazard is severe, in which case the area surrounding the fault should be cordoned off and the fault repaired at the earliest available opportunity. Faults/damage are to be rectified with the original materials and to form a homogenous surface appearance.

## **8.2 MAINTENANCE - SOFT LANDSCAPE**

### **8.2.1 PROPOSED TREES**

#### Objectives:-

Proposed tree planting reinforces the scale and structure of the overall development, defining the boundary of the scheme. Trees will become an important and highly valued feature of this development. Therefore it is important that they are given the best chance of successful establishment.

#### Inspections:-

Inspect on an annual basis when the trees are in full leaf to ensure that the trees are thriving, and record defects requiring remedial works.

#### Maintenance Operations:-

Newly planted trees take some time to establish, and until this occurs they are subject to competition from weeds. In the case of trees within short mown grass ornamental bark mulch should be maintained around the trunk of each tree. If the trees show signs of poor growth or reduced vigor an application of the appropriate fertiliser can be carried out. During establishment trees will require regular watering particularly during prolonged dry periods. If the trees do not respond to a treatment of fertiliser, further investigations should be carried out, including the ground conditions for signs of compaction, contamination, poor quality topsoil. Remediate any problems uncovered with the soil. Should the remediation works not resolve the problem a replacement tree may need to be planted.

Tree ties (where used) should be inspected and adjusted accordingly. Damaged ties or stakes should be replaced. When the trees are established and can support themselves the ties should be carefully removed and the stakes cut down to ground level. This operation is likely to be required after 2 to 5 years dependant on establishment rates, stability and growing conditions.

Pruning of young trees should not generally be required unless they have dead or diseased branches. In such cases the tree branch should be pruned back (using a sharp clean knife) to an outward facing bud whilst maintaining the natural shape of the tree. The box headed hornbeam trees will need to be allowed to establish before a regime of annual trimming is implemented to maintain shape and promote thickening of the crown.

Dead, dying or diseased trees should be replaced with similar species during the next planting season.

## 8.2.2 MAINTENANCE - PROPOSED SHRUBS

### Objectives:-

Planted borders provide strong visual interest at key points along the site frontage. The maintenance objective of the planting is to create ornamental planting bed areas with total vegetation cover and no gaps in order to minimise maintenance requirements and provide a neat and tidy appearance. The pruning/deadheading/dividing operations should be carried out by skilled operatives under guidance of a horticulturally qualified manager, with a view to allowing the shrubs to achieve their species potential in terms of form, flower and structure.

### Inspections:-

Inspect the shrub planting annually and record gaps which need filling with additional plants, areas thinned, or pruning operations to encourage growth to fill gaps. Where there has been a significant failure of plants to thrive, carry out investigations to locate the source of the problem prior to replacement planting.

### Maintenance Operations:-

Newly planted areas take some time to establish. Until this occurs, young plants are subject to competition in their root zone from any weeds. During this time weeds should be removed by hand and the bark mulch should be maintained to the original specified depth (75mm).

Once established much of the weed growth will be suppressed and as weed growth becomes more localised these should be hand weeded or receive spot treatment of herbicide.

Routine annual pruning should not be required within the first three years, except to the following species which should be reduced to 300mm each spring to encourage strong stem colour and vigor: Cornus. Shrubs which grow over paths or obscure sight lines should be pruned. Should individual species grow excessively during the first five years pruning should consist of the removal of individual branches to maintain the natural shape of the plant.

Leave seed heads and flowers on perennials and ornamental grasses for some winter effect and for the benefit of wildlife.

## 9.0 CONCLUSION

The proposals are very much in keeping with the redevelopment of the surrounding area and the vernacular of the locality.

A number of demonstrable improvements and enhancements have been incorporated including: provision of public open space and seating; improvements to the landscape fabric with tree and shrub planting and quality surfacing materials and street furniture; ecological diversification with the provision of bird, bat and invertebrate boxes; enhanced public realm and improved public access.

When combined with the social, economic and sustainability benefits of the development, the proposed landscape treatment will improve, enhance and compliment the local amenity and, as a whole, the scheme will be of significant benefit to the locality.