

5.4 Landscape Character

Boundary Treatments

Mixed Native Hedge

A native hedge to define property boundaries, requiring one cut a year to retain shape. The hedge would be maintained at a height of 110cm and a width of circa 80cm. See previous page for details.

Brick Walls to Rear Gardens

Brick walls 2.1m height are proposed to the southern side of the site to enclose the rear gardens. A section of wall is also proposed to the north of the turning head which is situated outside of the RPA of existing trees. Bricks to match primary and secondary brick types.

Brick Walls to Front Gardens

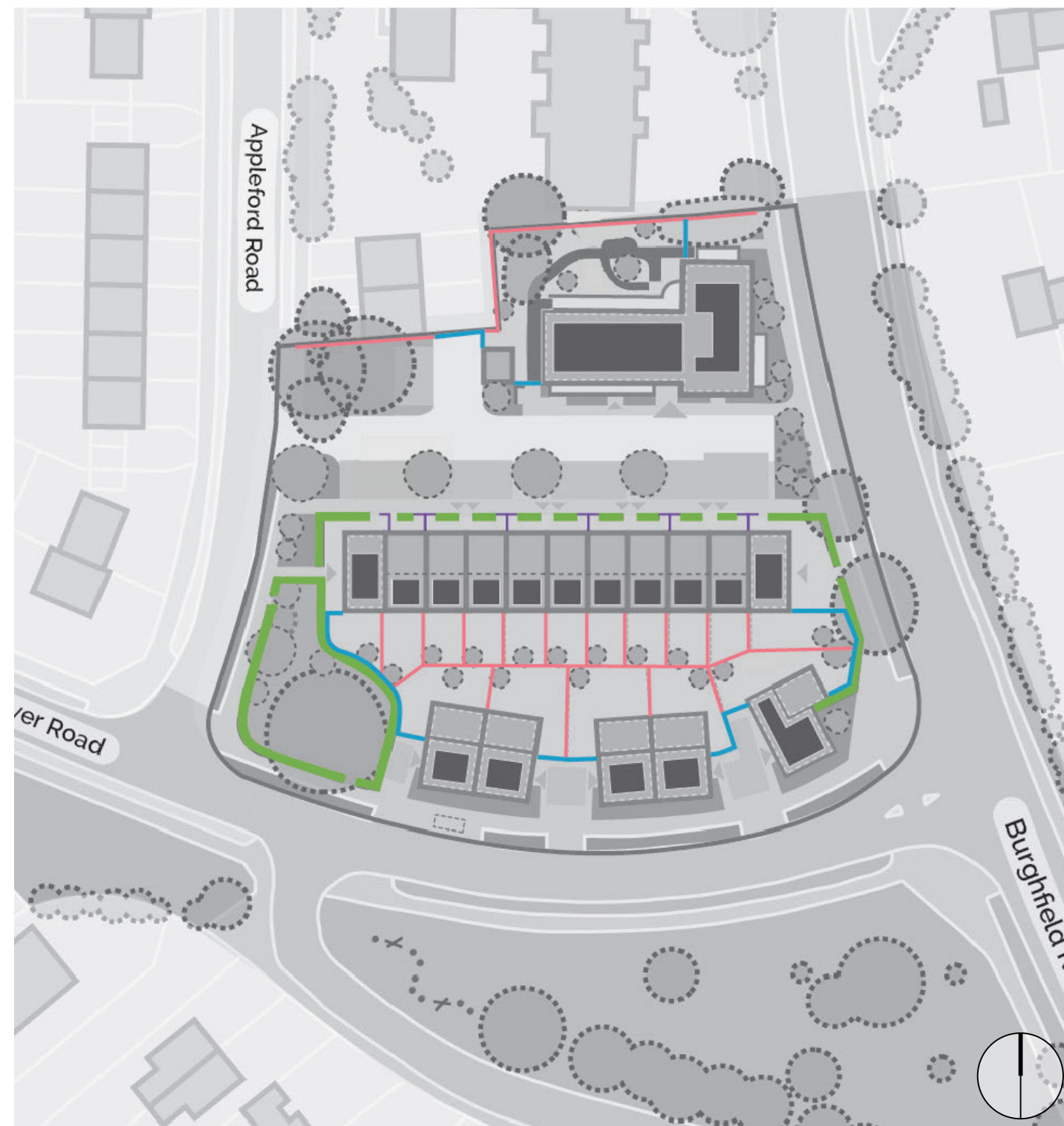
Low walls of 1.1m height are proposed to the front of the terraces to provide separation of property boundaries. Bricks to match primary and secondary brick types.

Timber Fence

Close board timber fences, 1.8m high, are proposed to the rear gardens and along the northern boundary where we are required to minimise disturbance to existing tree roots.

Where walls and fences are to be constructed within the RPAs of existing trees, specialist construction methods will be required. Refer to the Arboricultural Method Statement for more details.

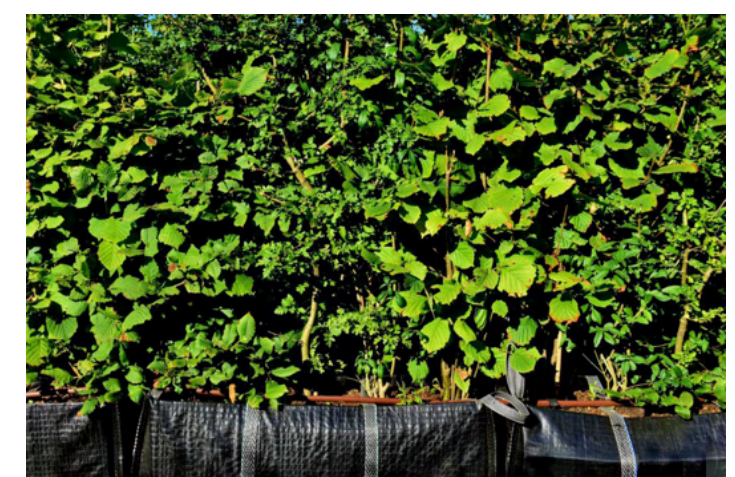
Hedgehog gaps are proposed within the walls and fences to facilitate movement across the site (refer to the Hard Landscape General Arrangement drawing for locations).



Plan of proposed boundary treatment locations



Mixed native hedge



Instant mixed native hedge supplied in troughs - image by 'Practicality Brown'

5.4 Landscape Character

Material Types

A selection of material choices are proposed within the development that are compliant with RBC Standards ' Specification for Estate Streets' and Employers requirements:

Tarmac to vehicle carriageway

The vehicle carriageways are proposed to be laid with tarmac specified by the project engineers.

Tarmac to pedestrian footpaths

Tarmac and chip is proposed to the pedestrian footpaths to differentiate them from the road.

Permeable block paving

Permeable block paving 200 x 100mm laid in a herringbone formation will be used for the parking bays, the parking court for the respite centre and the loading bay to the north of the respite centre.

Concrete flag paving

To rear patios and paved areas to front of houses.

Concrete setts to crossings

Concrete setts 100 x 100mm are used to highlight the pedestrian crossings and slow traffic.

Clay brick paving

Clay brick paving is used to demarcate the entrances to the houses.

Resin-bound gravel

Resin bound gravel is proposed to the flat block garden which has a smooth surface facilitating ease of movement for all. Paths will be edged with metal edging.



Plan of proposed material types



Resin-bound gravel used in 'Project Light' - HTA Design LLP.



Brick pavers at driveway entrances in 'Officers' Field' - HTA Design LLP

5.4 Landscape Character

Flat Block Garden

The flat block is designed for those who may wish to downsize, and as such the residents are likely to have moved from somewhere with their own garden to a shared garden. The residents will have their own private balconies and the proposed communal garden is policy compliant at 288.7sqm.

Creating a wide range of external spaces - shaded seating areas, sensory planting, wildflower planting with seasonal bulbs etc. enhances the amenity value of the gardens.

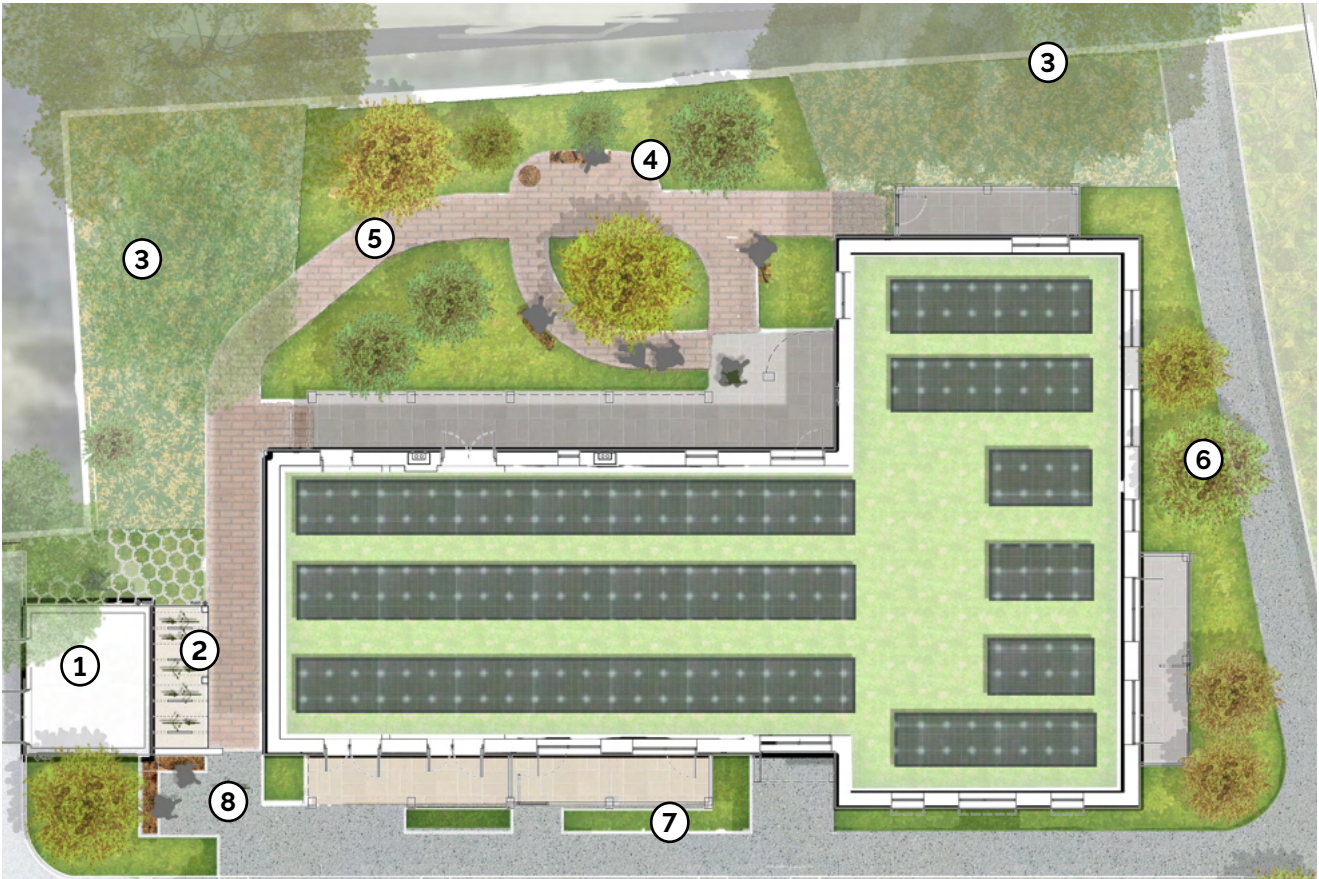
Planting to provide a variety of nectar, pollen and fruit resources throughout the seasons, a variety of structural diversity and larval food plants will attract wildlife to the garden which in turn enriches the space for residents.

The garden will contain herbaceous perennials, shrubs, and some ornamental multi-stem trees situated within borders or raised beds. Low maintenance planting will be prioritised.

The garden will also contain seating areas and looped circulation trails.

Key:

- ① Substation
- ② Covered secure cycle parking
- ③ Retained trees
- ④ Seating area
- ⑤ Accessible path
- ⑥ Privacy planting with feature shrubs
- ⑦ Privacy planting with scented species
- ⑧ Communal seating area



Concept plan for Flat Block Garden



Low level lighting along pathways facilitates use through all seasons



Shade tolerant woodland planting beneath existing trees



Evergreen planting creates structure within the garden and interest all year round



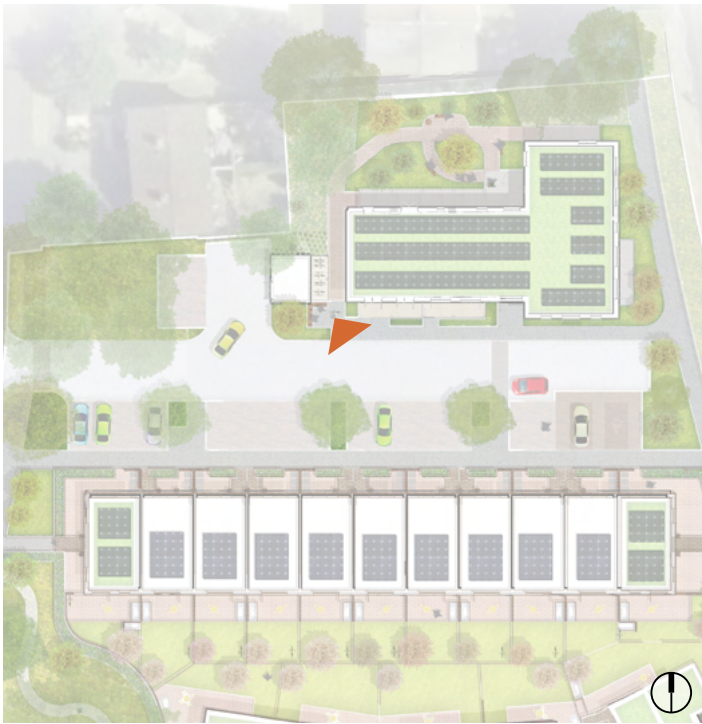
Multi-stem Malus 'Evereste' proposed to the flat block garden provides beautiful spring blossom and fruits in the autumn - good for both people and wildlife.

5.4 Landscape Character

Flat Block Garden

A communal seating area is proposed to the south west corner of the flat block. This area is south facing and sheltered by the garden wall and would provide a welcome space for residents of the flat block to enjoy some sunshine. The gate in the image to the right provides access to the garden and the covered bike store behind the wall.

The images to the far right illustrate the proposed character of the private garden to the rear of the flat block. This garden would have a woodland character working with the existing setting of mature trees to the garden perimeter. Shade tolerant wildflower seed and seasonal bulbs will enhance areas beneath existing trees, whilst new feature trees and shrubs add accents. Low maintenance ground cover planting will be prioritised with an emphasis on evergreen structure and seasonal interest. A seating area provides a destination within the garden.



Location of image (right)



Illustrative view of seating area to south west corner of flat block along mews street



A bird bath helps wildlife and creates a calming focal point within the garden



Quiet seating areas beneath existing trees

5.4 Landscape Character

Wildflowers and native hedge species

The site presents a number of opportunities to create spaces that primarily make reference to biodiversity. Focus for these spaces will be on the provision of key habitat features to both attract and provide a home for wildlife.

As such, the planting palette would benefit from a native wildflower turf of predominantly shade-tolerant species (given that the key areas are beneath the canopies of existing trees), composed of a rich and varied species mix with broad biodiversity value to nature. **Wildflower Turf supply WFT-Shade-41, a shade tolerant wildflower turf that would meet this brief.**

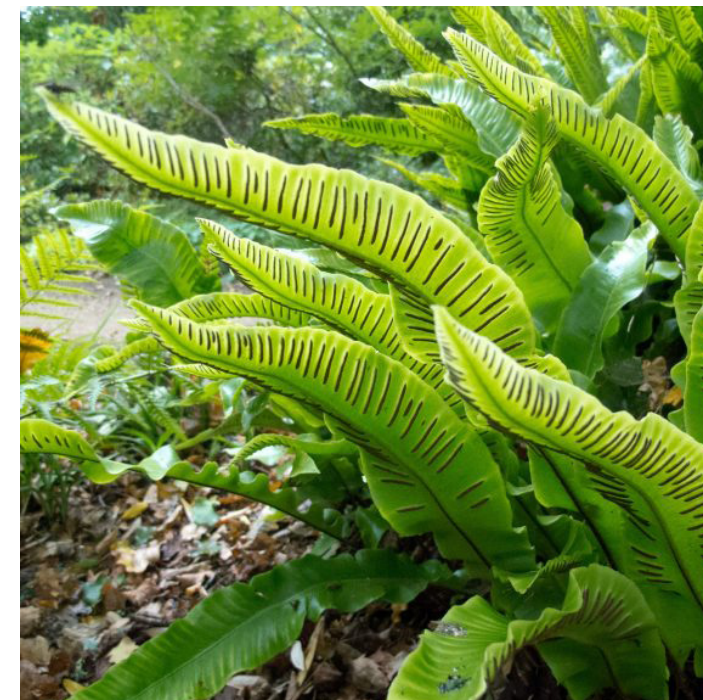
This species mix would provide a reliable nectar source for a range of pollinators, and also help to support smaller mammals in the form of shelter close to the ground.

Likewise, native hedging can often create a natural boundary condition which is accessible to garden birds like the Blackbird, Robin, Chaffinch, and Dunnock for food, shelter, and nesting, as well as other mammals.

In addition, constructed landscape features can also aid in habitat provision - bug and insect hotels, and even bird boxes can give a little extra support to wildlife settled within urban or sub-urban settings.



Location of wildflower turf and native species hedges



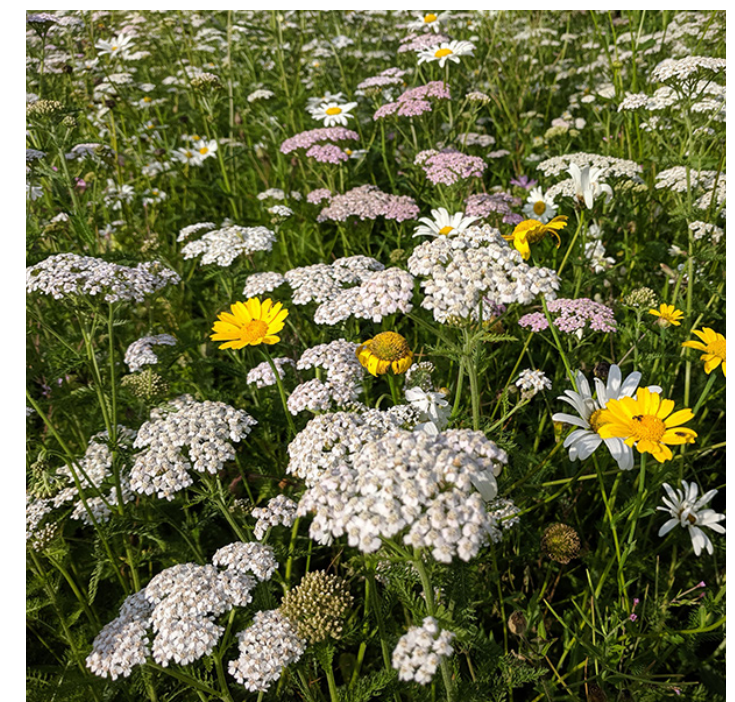
Harts tongue fern (native species)



Shade tolerant wildflower turf



Illustrative view of wildlife area to south-west corner



Wildflowers

5.4 Landscape Character

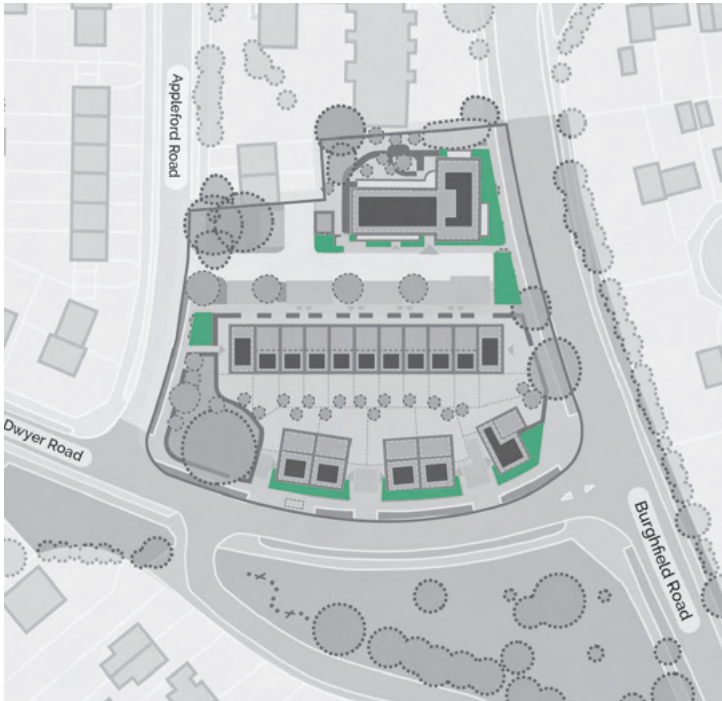
Privacy planting

A mix of hardy low growing structure planting and herbaceous perennials to attract pollinating insects will be used within the areas indicated in the plan to the right.

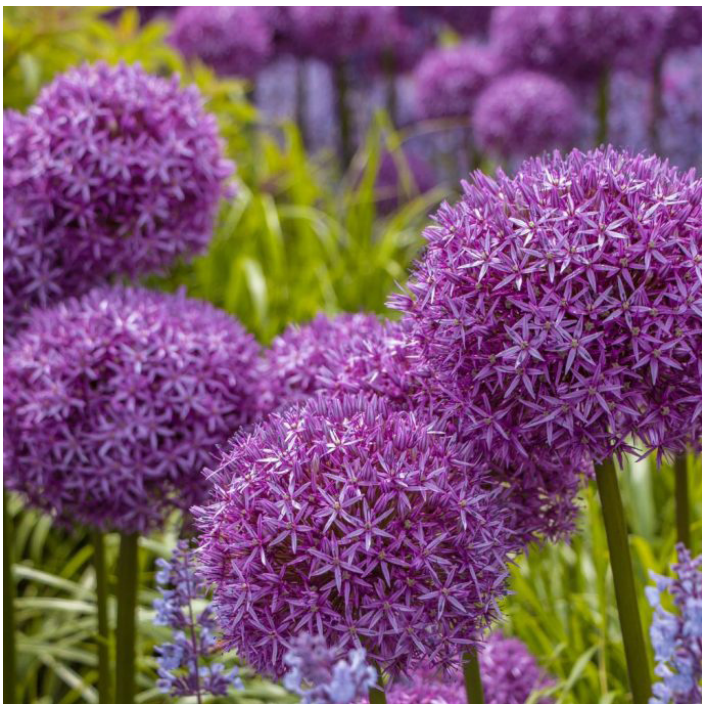
Plants will be chosen to suit their aspect and low maintenance plants will be prioritised.

Mediterranean plants such as rosemary, sage and lavender will thrive with a sunny aspect and tolerate drought conditions, with the added benefit of being disliked by rats which can be a problem within Reading. These herbs, supplemented by ornamental grasses and sun-loving verbena will provide an attractive and scented buffer between the houses proposed along Dwyer Road and the footpath.

To the ends of the mews street the planting will need to be robust and provide interest year round, with consideration given to planting height where planting is proposed to create a privacy buffer against the building (such as to the south and eastern sides of the flat block).



Location of understory and privacy planting



Highly scented plants (such as members of the allium family) deter rats



View looking west along Dwyer Road towards Burghfield Road with privacy planting to the building frontages. Note tree planting along Dwyer Road is subject to discussions with service providers (due to proximity of existing services within footpath).

5.5 Ecology & Biodiversity Net Gain

Enriching biodiversity

Adopting a planting strategy that aims to maximise diversity of planting across the site would provide a variety of nectar, pollen and fruit resources throughout the seasons, a variety of structural diversity and larval food plants.

Habitat features, such as Integrated and tree mounted bird and bat boxes, Insect hotels, loggers (made from site won timber) and bee bricks, provide important homes for insects.

Preliminary Ecological Appraisal

The Preliminary Ecological Appraisal made the following recommendations:

- Native tree planting should be incorporated as part of the landscaping of the site to replace any trees removed on a 1:1 basis – where not possible, offsite planting opportunities to be explored
- Scrub – where not possible to retain, compensation should involve planting a variety of native trees and shrubs, including fruiting vegetation such as cherry, rose, hawthorn and blackthorn
- Poor semi-improved grassland – any loss of grassland should be compensated with areas of species-rich grassland retained/ created within the site by wildflower planting and selective management scheme of new or existing areas of grassland
- Badgers – surveys now completed.
- Bats – surveys now completed. Ground-level tree assessments are recommended, and follow on work may include emergence/ re-entry

surveys between May and August. Assessments are recommended for any trees that are likely to be impacted by new light sources, and a detailed lighting plan produced.

- Birds – avoid works within nesting season (March to August inclusive)
- Reptiles – further reptile surveys may be required
- Other amphibians – if impacts to habitat cannot be avoided, compensatory measures such as creating hibernacula around the site should be undertaken
- Other terrestrial invertebrates - if impacts to habitat cannot be avoided, compensatory measures should be implemented, such as planting of native wildflowers and shrubs

Other enhancement opportunities:

- To enhance the potential for biodiversity gain across the site, it is recommended that native trees and shrubs are planted where possible within the development site to enhance habitat for bats, birds, invertebrates, and other wildlife. The planting strategy should create or strengthen wildlife corridors both within the site and the local environment, and use native species of local provenance including oak, Beech, Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), bramble and Dog Rose (*Rosa canina*);
- The creation of log piles following any vegetation clearance resulting from possible development, to be installed within suitable retained habitat. Such log piles can act as valuable refugia for reptiles, small mammals, amphibians and invertebrates;

- Bird and bat boxes could also be installed within existing mature trees onsite, and incorporated into the development of buildings on site (including features such as swift bricks) to increase habitat suitability and capacity for these species at the site. Numbers and types of boxes to be confirmed once design is finalised.
- Native hedgerows and/or installation of Hedgehog highways at site boundaries and across the site would increase the amount of safe connected corridors for commuting urban Hedgehogs within the local area.
- Further enhancement for common amphibian species at the site could involve creation of additional hibernacula to encourage amphibians at all life stages to be present at the site.
- Further enhancement for terrestrial invertebrates could involve the creation of 'insect hotels' around the site, which are constructed using planks of wood interspaced with bricks (with holes) and terracotta pots, and natural materials including bark, moss and soil. In addition, wildflower planting post construction would encourage greater assemblages of invertebrates, such as bees and butterflies.



5.5 Ecology & Biodiversity Net Gain

Site Context

The proposals for Dwyer Road result in a loss of Biodiversity. In order to achieve a net gain, off-site mitigation will be required.

Paragraph 1.65 and 1.66, page 25 of the Reading 'Tree Strategy 2021' states that 'It would be appropriate for Green Links, as identified in the Local Plan, to be identified as 'treed corridors' in order to help link and strengthen these.'

Street tree planting is proposed outside of the site boundary as part of the landscape and ecology mitigation strategy, with a focus on planting trees along the Green Links where possible. The applicant will discuss and agree the strategy with Reading Borough Council.

The green spaces to the south of the site sit along the 'green link' and could be enhanced to increase biodiversity. The two spaces to the west of the site are proposed to be enhanced to 'neutral grassland', with the larger space to the south created as 'lowland deciduous woodland'. These enhancements, along with the planting of **65** urban street trees - 20 small (<300mm dbh) and 45 medium (300-900mm dbh), would result in a gain of **11.36%**. The proposals provide a +395.65% gain in linear features.

Key:



Green link



Area enhanced to 'neutral grassland'



Area created as 'lowland deciduous woodland'



Potential for street tree planting





SUSTAINABILITY

6

6.1 Sustainability Strategy Summary

Summary

The sustainability strategy for the new development of the Dwyer Road is to meet or exceed the highest quality standards including national, regional and local RBC sustainability targets.

The vision for the proposals is a 'triple bottom line' approach which integrates environmental, social and economic sustainability. The proposed development will provide all residents with an opportunity to live a healthy, secure and affordable life. The approach puts people at the centre creating a local area with a distinctive character with communal green spaces. The homes, internal and external spaces and the other facilities will support residents in improving their quality of life and creating a sustainable lifestyle.

The proposals aim to provide residents with warm, sustainable homes with manageable energy costs. This will be achieved through a holistic sustainability framework comprising;

- Achieving Net Zero carbon in operation
- Incorporating Passivhaus design principles: where possible;
 - Building orientation,
 - High fabric performance
 - Low air tightness targets
- Renewable energy sources
- Reduction of the energy use intensity
 - Highly performing systems for heating and hot water
 - On-site renewable energy generation
- Reduced potable water use

Full details of the proposals can be found in the separate submitted reports by HTA;

- Sustainability Statement
- Energy and Overheating Statement

Zero Carbon

The climate emergency demands urgent action to ensure that new buildings deliver net zero whole life carbon. The RIBA 2030 Climate Challenge is used as a best practice guide, and sets additional targets which take into account the latest recommendations from the Green Construction Board for including the following metrics: operational energy, embodied carbons, potable water use, and best practice health metrics such as overheating, daylight and air quality.

- RIBA 2030 Climate Challenge
- LETI Climate Emergency Design Guide
- UKGBC Net Zero Carbon buildings

Operational energy

The operational carbon is arguably the most direct consistent environmental impact that a building has throughout its life cycle. The operational energy and the associated CO2 emissions are directly related to the ways in which we occupy and interact with buildings. In the context of the climate emergency, there is an urgent need to limit these ongoing impacts. The buildings need to be designed to be highly efficient and to meet the zero carbon standard.

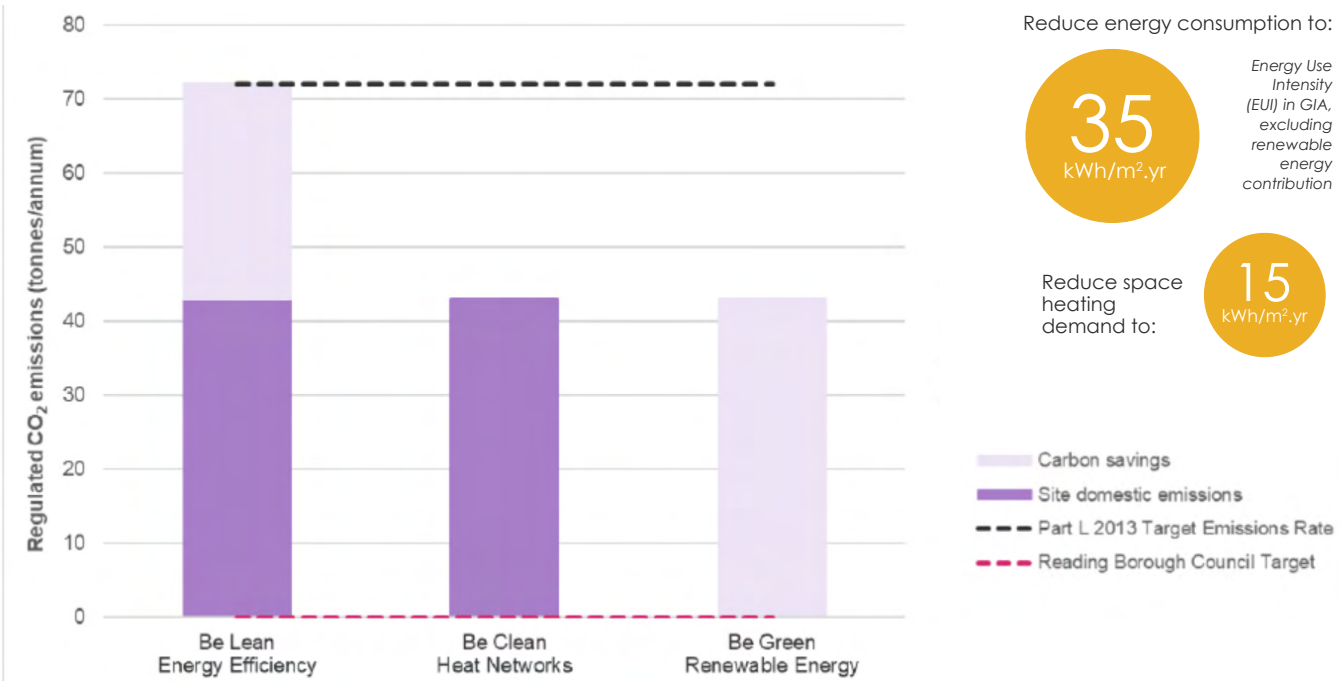
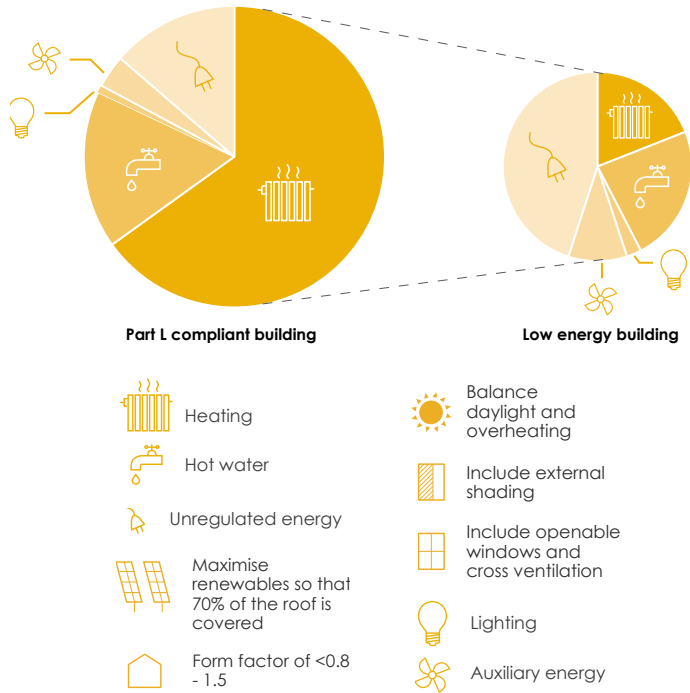
- Orientation
- Passive measures
- Enhance U-values
- Highly performing glazing
- Low air tightness
- Reduction of the energy use intensity

Passivhaus principles

The proposals have followed PassivHaus principles where possible as a best practice guide to achieving net zero. Much of these are addressed in wider targets to achieve net zero but

considerations include;

- Buildings oriented to maximise free heat in winter from solar gains with predominant façades facing south and limited overshadowing
- Create simple building forms for the warm spaces with a low exposed surface area
- High levels of insulation
- An extremely airtight building fabric
- Significantly reduced thermal bridges
- High performance triple glazed windows with window proportions that are based on orientation (to reduce heat loss and maximise solar gain)
- Opening windows for natural purge ventilation, with the ability to cross ventilate
- Efficient background mechanical ventilation with heat recovery (MVHR)



The Energy Hierarchy
Image reference: LETI climate emergency design guide