

ARCHITECTURE

STEPPING STONES

CONTEXT

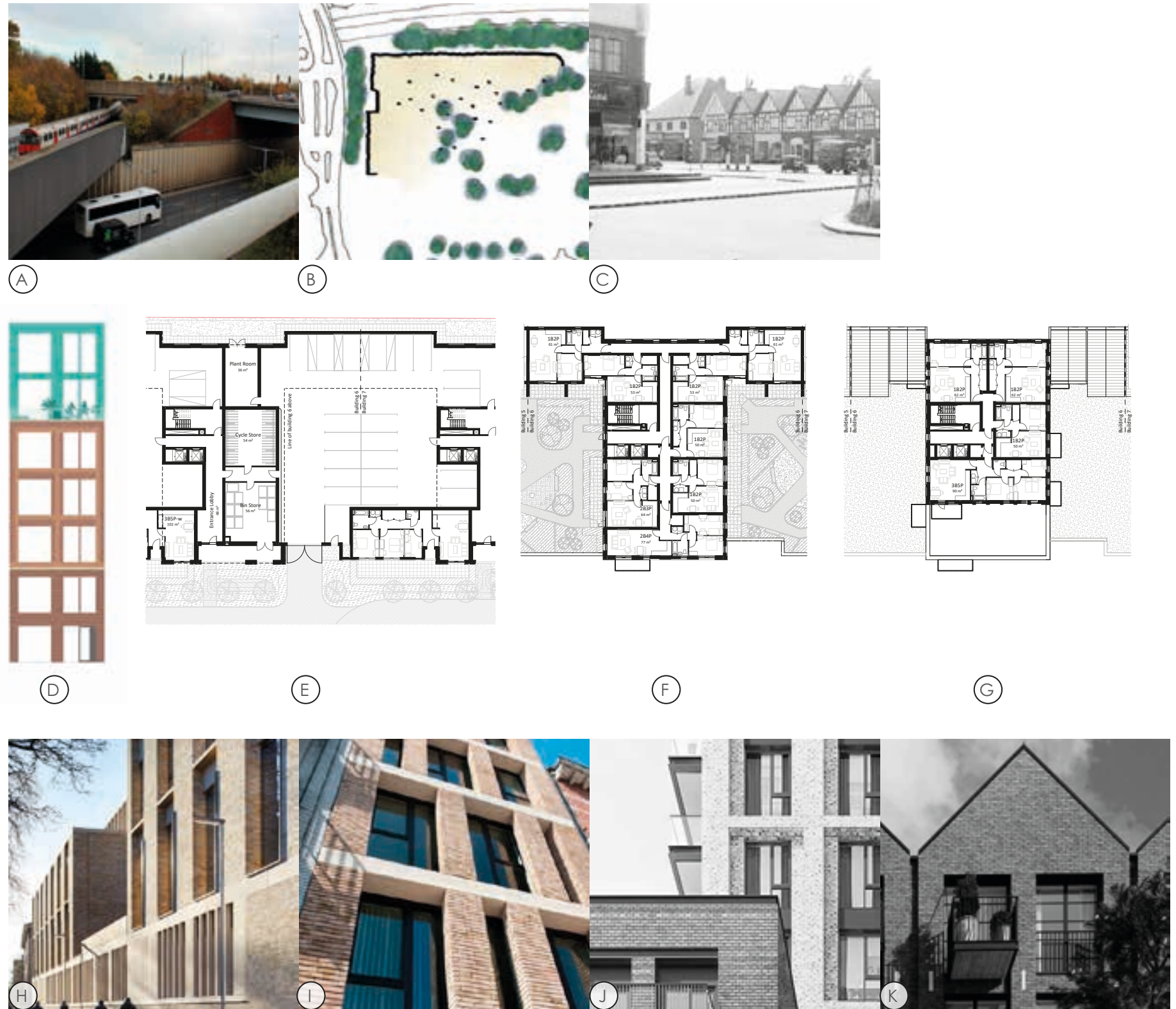
The site is affected by noise and air pollution from the A40. The nearby London Underground trains and frequent traffic congestion on Long Lane add to the constant highway noise (A). In order to improve environmental comfort, the concept masterplan relies on a barrier along the A40 and the Long Lane overpass (B). This barrier must be continuous to have the desired effect. And it must stretch over a long distance. In order to avoid a uniform or monotonous "wall of buildings", the concept masterplan takes clues from the local townscape – for instance on Long Lane, where pitched roofs alternate with other roof forms and provide a varied townscape (C).

DESIGN PRINCIPLES

The Stepping Stones are divided vertically into three parts (D). At ground level, the street frontage is lined with entrance lobbies, ground floor dwelling, ancillary spaces, and entrances to the car parks that fill the space in between the buildings (E). Landscaped decks cover the car parks and provide semi-private amenity for residents. The upper storeys overlook the decks. The floor plans of the main volumes are oriented North-South, and connected on the north side by the linking buildings, thus forming U-shaped courtyards closed to the motorway and open to the central landscape on the south (F). The top storeys rise above the linking elements and are set back, opening roof terraces onto the central landscape (G).

MATERIALS AND DETAILS

The main volumes will be clad in buff brick (H), with white bands accentuating different facade parts (I). The linking elements will be clad in a contrasting dark brick (J) and feature pitched roofs (K).



ARCHITECTURE STEPPING STONES

MAIN FEATURES

(A) (B)

Different buildings are joined together to form a protective barrier against motorway noise and pollution.

(C)

A varied townscape is achieved by alternating different building footprints and roof forms.

(D)

The main volumes are divided vertically into three parts.

(E)

Ground floor with active street frontage.

(F)

Upper storeys form U-shaped courtyards overlooking landscaped decks.

(G)

Top storeys set back, with roof terraces over the central landscape.



ARCHITECTURE

PARK PAVILIONS

CONTEXT

The Park Pavilions are embedded in the Green Belt land (A) and the naturalistic landscape that extends into the site (B).

DESIGN PRINCIPLES

Whereas the other building types are defined by their relationship to other buildings and to contained spaces, the Park Pavilions are defined by their proximity to open land, and were conceived as objects on a landscape. Accordingly, the buildings were designed to be distinctly different from the other building types, with a strong emphasis on features that connect the interior space to the exterior, such as an external frame (C) – a kind of pergola and also a support for generous projecting balconies (D). Roof terraces and large windows (E) provide further opportunities to enjoy outside space and distant vistas of the green surroundings.

The Park Pavilions have small footprints, with the majority of dwellings benefitting from dual aspect (F).

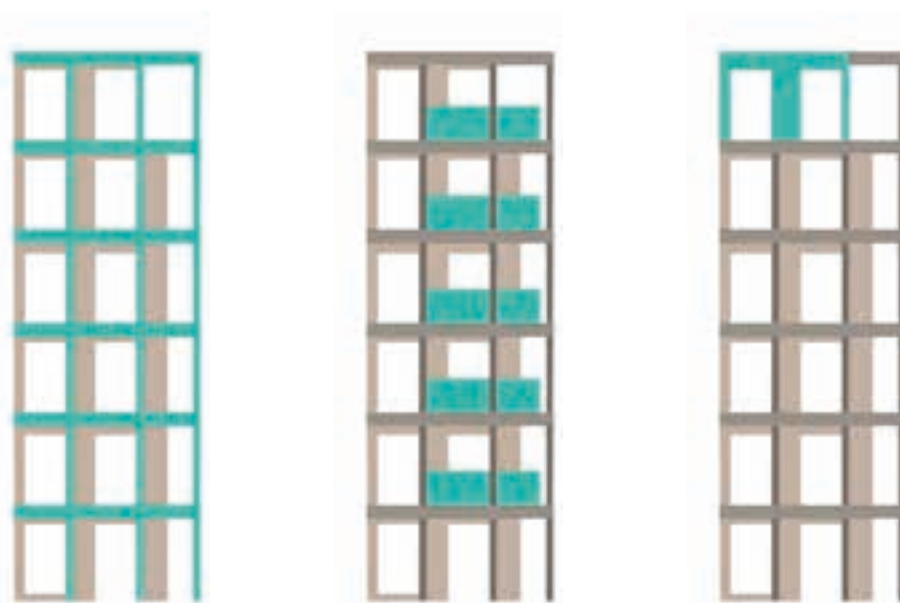
MATERIALS AND DETAILS

The main cladding material, green-coloured brick (G), will complement the surrounding landscape, while the external elements – frame and balconies – will be arranged playfully as a lightweight construction (H).



(A)

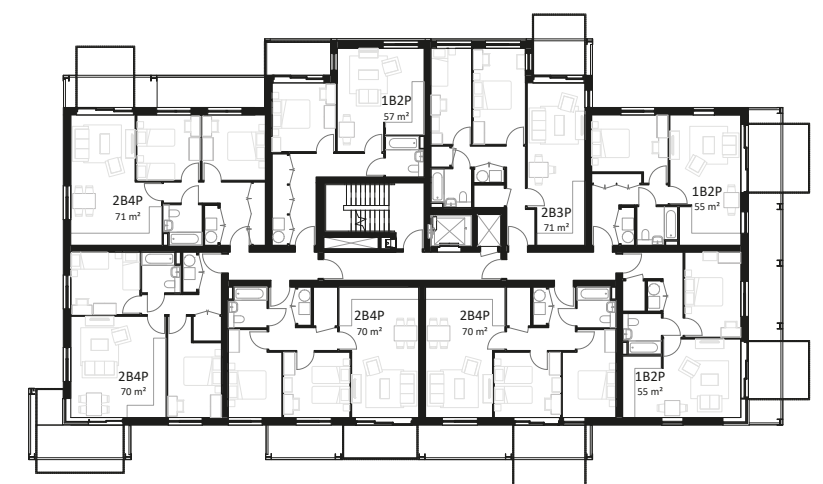
(B)



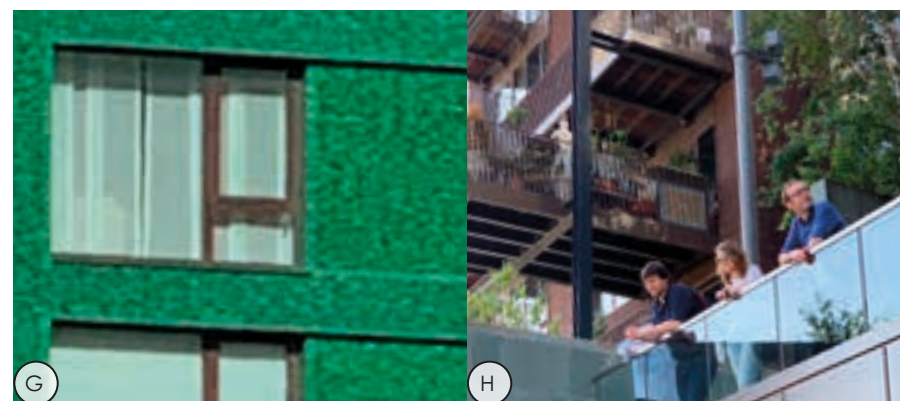
(C)

(D)

(E)



(F)



(G)

(H)

ARCHITECTURE

PARK PAVILIONS

MAIN FEATURES



The Green Belt landscape extends into the site and provides the setting for the Park Pavilions.



The external frame is reminiscent of a pergola.



Projecting balconies accentuate the openness to the exterior.



Roof terraces and large windows allow for enjoyment of the green surroundings.



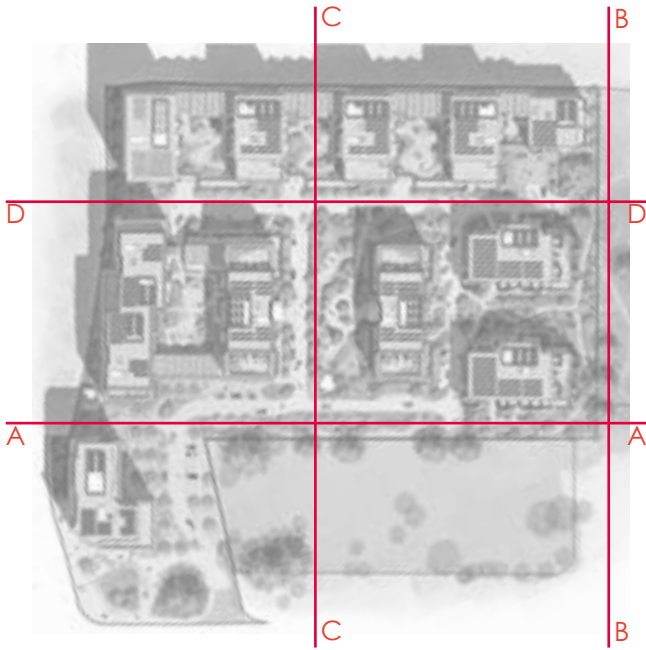
The Park Pavilions have a small footprint and are designed as freestanding objects on a landscape



ARCHITECTURE
STREET SCENES



Long Lane Building 2 The Approach Building 4 Brewery Gardens Building 10 The Wanders Building 12 The Meadow



Building 1 The Wanders Building 12 The Wanders Building 11 The Wanders Building 9

ARCHITECTURE STREET SCENES



Elevation C-C

Building 1 The Wanders Building 4 The Wanders Building 7

Brewrey Gardens



Elevation D-D

Building 5 Building 6 Building 7 Building 8 Building 9 The Meadow



An architectural sketch of a modern, multi-story building with a focus on sustainability. The building features several balconies, each with a lush green planter box. People are depicted on these balconies, engaged in various activities like sitting, standing, and walking. To the left of the building is a garden area with trees, shrubs, and a path where a few more people are walking. The overall style is a light, hand-drawn sketch with a warm, muted color palette of greens, browns, and oranges. The text '9. SUSTAINABILITY' is overlaid on the right side of the image.

9.

SUSTAINABILITY

SUSTAINABILITY

ENERGY STRATEGY

Energy Strategy



- Both the residential and commercial elements of the development will comply with Part L1A and L2A of the Building Regulations (2013).
- They will also be in compliance with the baseline energy and carbon emission requirements outlined in The London Plan.
- The energy strategy will follow a Be Lean, Be Clean, Be Green hierarchy in order to minimise the development's initial energy consumption using a fabric first approach.



Be Green



- The current London Plan outlines a target of a 40% reduction in carbon emissions beyond Part L of the Building Regulations
- The following low and zero carbon technologies are being considered to achieve this reduction in carbon emissions:
 - Bio fuel boilers;
 - Ground source heat pumps;
 - Solar water heating;
 - Air source heat pumps;
 - Photovoltaic panels.

Be Lean



- To provide energy and carbon saving beyond the Part L 2013 Building Regulations a number of passive design and energy efficiency measures have been recommended including:
 - The use of building fabrics which exceed the Part L1A and L2A thermal performance threshold requirements;
 - The provision of energy efficient lighting;
 - 100% energy efficient light fittings to the residential units;
 - The use of energy efficient mechanical ventilation with heat recovery;
 - Water consumption limited to a target of 105 litres/ person/day for the residential units.

Waste Strategy



- All new development should seek to address waste management at all stages of a development's life, from design and construction through to the end use and activity on site
- The waste management hierarchy recognises the need for waste to be considered for a variety of waste streams before being sent to land fill as a last resort
- The hierarchy is as follows:
 - Waste minimisation;
 - Reusing or waste or upcycling;
 - Recycling of all applicable materials;
 - Recovery of energy from waste (anaerobic digestion plants);
 - Waste is sent to landfill.



Be Clean



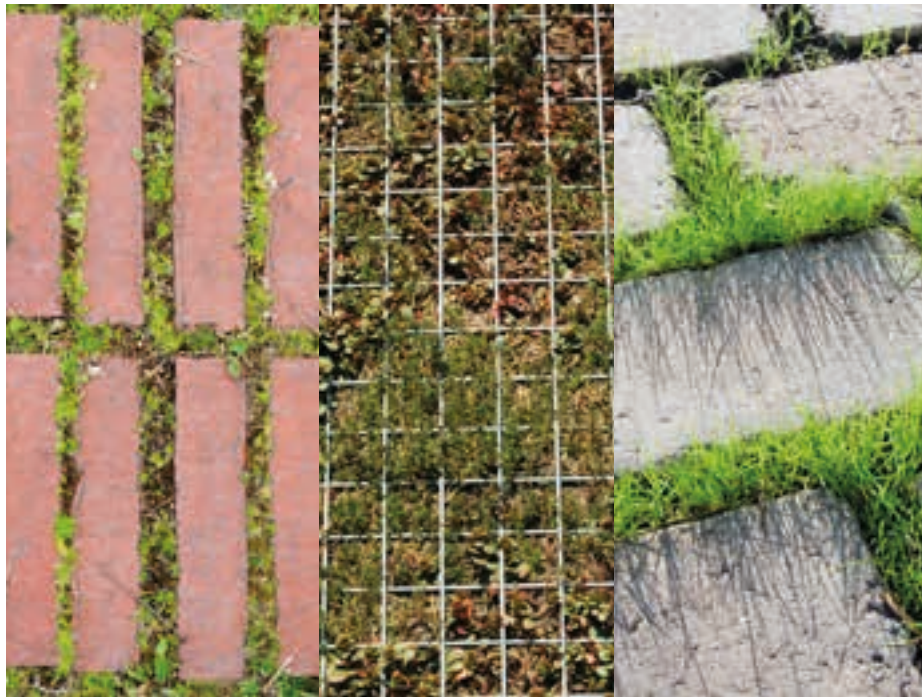
- The Draft London Plan Policy SI3 states that developments should identify existing heating and cooling networks and identify proposed locations for future heating and cooling networks
- Using the Department of Energy and Climate Change CHP database, it has been concluded that there is no suitable existing nearby CHP system to which a connection may be possible



Efficient Use of Resources



- The London Plan (2016) Policy 5.3- Sustainable Design and Construction, sets out that development proposals should include:
 - Efficient use of natural resources (including water);
 - Minimising the generation of waste and maximising reuse or recycling;
 - Ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions;
 - Securing sustainable procurement of materials, using local supplies where feasible;
 - Promoting and protecting biodiversity and green infrastructure.



SUSTAINABILITY

SUSTAINBILITY MATRIX

Methodology

JTP utilise their own knowledge and experience in assessing each project for potential environmental design opportunities. These measures may range from the integration of passive solar design to the use of active energy saving technologies.

At the outset of a project we discuss with our clients what is feasible and where there are cost constraints. We will advise on the most cost effective methods of achieving an environmentally responsive scheme. Some solutions are extremely simple, for example changing the orientation of a scheme to embed passive design principles. Other solutions may require rounds of testing to ascertain that they have the desired and anticipated impact.

We have developed an in-house environmental assessment matrix whereby projects are reviewed under the following categories:

- Efficient use of resources
- Energy strategy
- Waste strategy
- Green infrastructure
- Blue infrastructure
- Movement strategy
- Social infrastructure

This assessment tool enables us to capture the degree to which our projects are embedding the principles of sustainable design.

Hillingdon Gardens has integrated a high number of sustainable design measures. The chart opposite captures these and illustrates that in particular, the scheme prioritises social and green infrastructure, by providing an extensive number of new green spaces which integrate in to a wider network. This in turn encourages plenty of opportunities to meet neighbours, lead an active lifestyle and create a strong community. The matrix identifies which measures are relevant for different scales of project from 1:1 to 1:5,000 and above. Arthur Street

EFFICIENT USE OF RESOURCES
Currently a vacant brownfield site. Previously contained a hotel building but has since been removed.
Site PTAL rating is 3, indicating that there is a moderate level of accessibility to public transport, which includes the adjacent underground station. We have therefore proposed a higher density with ground floor mixed uses.
The layout takes in to account the future expansion with the potential for the adjacent council owned site to come forward for development.
All non-developed land is proposed to be used as open space.
Durable, high quality materials have been used to minimise maintenance and the need for replacement.
Brick is the primary external finish material which is widely available in the local area.
MOVEMENT STRATEGY
All roads are proposed to be shared surface to promote pedestrian priority and reduce traffic speed.
Proposed parking numbers are reduced to 0.3 spaces per dwelling to promote other methods of transportation. This is below the local authority requirement.
The majority of proposed parking is hidden from the public realm in podium car parks.
10% of parking spaces have electronic charging points, the rest are all able to be adapted.
The site is located near to an underground station and there are a number of close bus stops.
Project will be contributing to a new bus route which runs directly to the site along Long Lane.

GREEN INFRASTRUCTURE
The proposal respects the sensitive edge adjacent to the green belt.
The site was previously a vacant brownfield site, covered in hard standing and compacted ground. Ur proposal creates massive biodiversity gain with an abundance of new green spaces which are integrated in to the wider green network.
This proposal seeks to encourage the use of the country park by creating a pedestrian focused connection between that and Hillingdon Circus.
Working with London Wildlife Trust, the aim has been to embed biodiversity in to the design and connect to the wider green network of adjacent natural habitats. We have created a series of principles that will help promote the right kind of habitats for local species.
Key willow tree by the entrance has been retained and used as a gateway feature to the site. All other A-grade trees and the majority of B-grade have been retained.
The proposal includes and abundance of new trees and other natural planting.
A new green square is proposed along with two key green routes which run east-west across the site.
The 'play on the way' strategy has been used to integrate children's play areas within the biodiverse landscape design.
BLUE INFRASTRUCTURE
Swales are integrated in to the street design to help with floor maintenance and water storage. Some ponds are proposed which will permanently hold water creating more habitats for wildlife species.
There is no flood risk across this site.
An underground water storage tank is proposed to hold water when the SuDS ponds reach full capacity.

WASTE STRATEGY
Refuse stores and collection points have been designed into the layout and conveniently located for both residents for refuse vehicles on bin collection day.
Refuse swept path analysis has been checked to ensure the development is accessible to refuse vehicles.
SOCIAL INFRASTRUCTURE
There are a number of new mix-used units proposed on the ground floor around Hillingdon Circus.
The new mixed uses have the potential to contain community facilities like doctors surgery, creche, dentist etc. This will be led by the council and the local community.
Provision for a range of homes from 1 bedroom apartments to 3 bedroom apartments will allow for a mix of residents whom will have the opportunity to downsize or upsize within their neighbourhood. All houses meet the M4(2) (Accessible and adaptable dwellings) of the Part M Building Regulations and comply with the Nationally Described Space Standards (NDSS). The majority of apartments are designed as dual-aspect (no single aspect north facing units).
The proposal provides a number of opportunities to meet neighbours through the use of the green space and children's play areas.
The proposal provides 35% affordable housing. All the homes are designed to be tenure blind.
ENERGY STRATEGY
Buildings have been orientated north-south, to avoid any single aspect north facing units and to assist with natural heating through solar gain.
PV's have been proposed on the roofs of some blocks.
Buildings have been efficiently designed to reduce internal circulation areas and therefore reduce the overall size of the building and external envelopes.
Water consumption limited to a target of 105 litres/ person/day for the residential units.
The use of energy efficient mechanical ventilation with heat recovery has been proposed.

SUSTAINABILITY

HEALTHY PLACEMAKING

In recent years, public health has been rising up the agendas of local, national and international policy makers in parallel with an increasing realisation that the way settlements of all sizes are planned and connected has a major part to play in alleviating a wide range of 'avoidable' health problems.

Research shows that well-designed places that encourage regular exercise in daily life reduce our susceptibility to a wide range of diseases including heart problems, type 2 diabetes and cancers, whilst good air quality limits asthma and other respiratory illnesses. Providing community facilities and a safe, sociable and productive public environment helps to combat a range of mental illnesses. None of these represent the whole solution but the detailed design of our urban environments has the potential to make a significant positive impact on our health and consequently our quality of life.

The proposals for Hillingdon Gardens demonstrate how Healthy Placemaking has been at the heart of the design process. First and foremost, it will be a well-connected and walkable new neighbourhood which not only focuses on improving the quality of the streets within the development, but beyond the application site boundary connecting in with wider networks and public transport. The streets have been carefully designed with limited vehicular access and traffic calming measures to help reduce car speeds and the potential for accidents.

Walking and cycling for exercise and / or local journeys will be encouraged by a network of well-lit and overlooked footpaths. Walking routes will connect to wider networks to encourage people to exercise and opt to walk instead of using public transport / cars by providing high quality, pleasant routes in their local area.

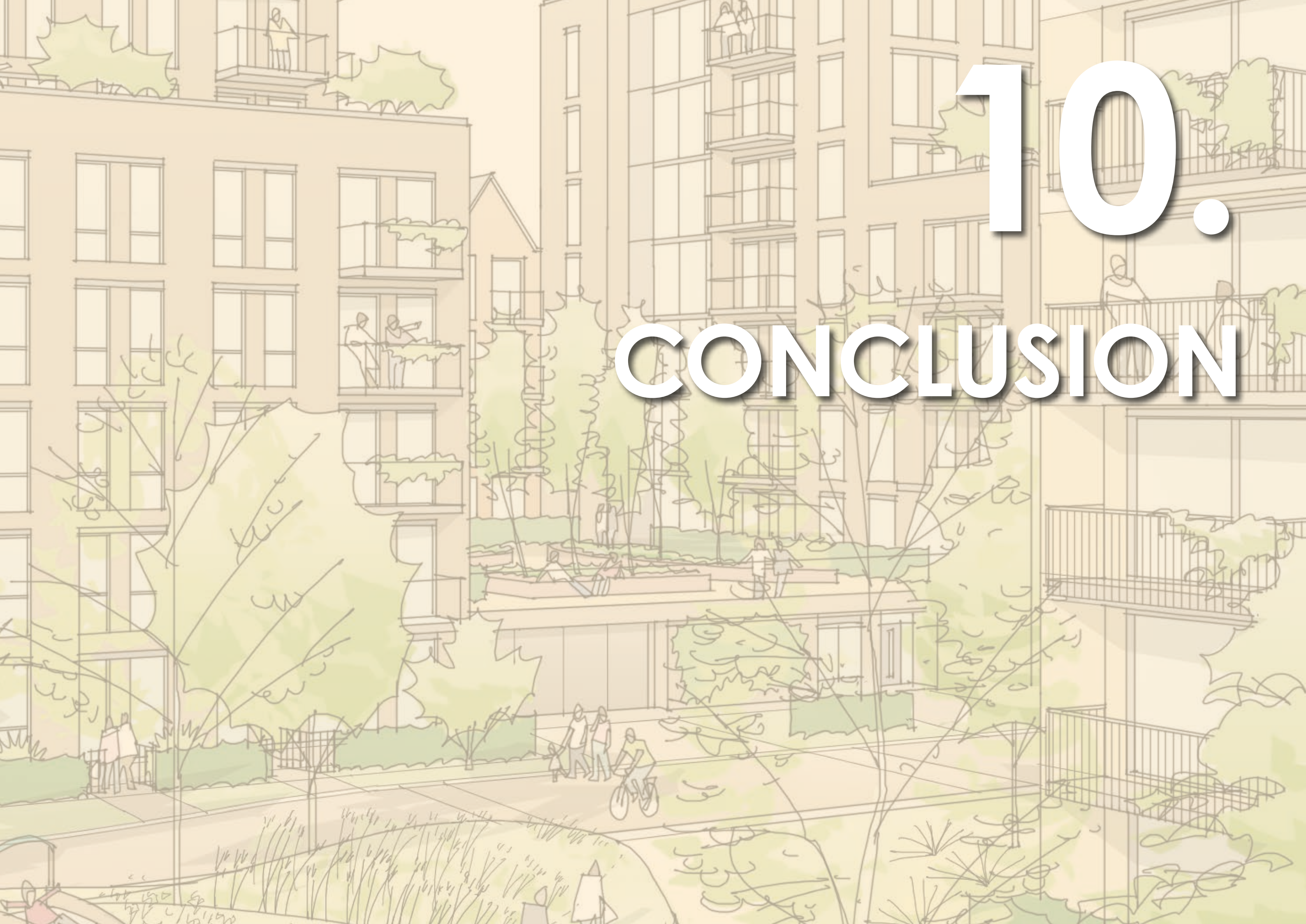
A variety of landscape spaces are proposed which will provide for everyday activities as well as offer a chance for a range of more formal social events for locals and the wider community.

Main health Problems	Cardio-vascular disease and Type 2 Diabetes, often referred to as 'avoidable diseases'. Several forms of cancer		Respiratory illnesses including asthma	Mental health problem	Transport related incidents
Causes	Obesity caused by sedentary lifestyles and lack of exercise	Obesity caused by poor diet and food poverty	Poor air quality	Loneliness and isolation through limited social interaction and fear of crime	Integration of vehicles, cycles, pedestrians
Active ways to address causes	Enable exercise in normal patterns of daily life	Provide education, accessible facilities and available green spaces	Limit the causes and effects of vehicular emissions	Provide community facilities and safe, sociable and productive environments	Good urban and transport design

Measure included at Arthur street					
Walkable neighbourhood through 'Active Travel' initiative - walking, cycling and use of public transport have priority over the car.	✓	✓	✓	✓	✓
Public transport links.	✓	✓	✓	✓	✓
Secure bike storage provided.	✓	✓	✓		✓
'Play on the way' in landscape design and play area in the central space.	✓	✓		✓	
Areas of soft landscape and significant number of new trees to absorb / cleanse air pollutants.	✓	✓	✓		
Encourage community stability and diversity through a range of tenure and size of homes.				✓	
Attractive walking routes and green spaces.	✓	✓	✓	✓	✓
Well lit and overlooked pedestrian routes.	✓	✓		✓	✓
Slow speed street design and shared spaces provided.	✓			✓	✓
Through route designed to discourage wider vehicle movement and H.G.V's.			✓		✓
Communal podium gardens and central green space	✓	✓		✓	
Ramped access and improved public realm to Northend Road bus stop.	✓	✓			✓



10. CONCLUSION



CONCLUSION

SUMMARY OF OPPORTUNITIES



PLACEMAKING

A landscape-led focus on a new neighbourhood for Hillingdon.



NATURE

Improving wildlife habitats and ensuring a net biodiversity gain.



THRIVING COMMUNITY

Ensuring long-term stewardship, taking an active role in ensuring the management and placekeeping.



HOMES FOR EVERYONE

Properties designed and built with attention to detail, including family and affordable homes.



IMPROVED LINKS

New pedestrian access routes and improved links with the local centre.



HIGH QUALITY ARCHITECTURE

High quality architecture to create a neighbourhood with its own distinctive character.



FLEXIBLE COMMERCIAL SPACE

Sustainable flexible commercial spaces at ground floor, offering retail/leisure opportunities to match local needs.



CREATING EMPLOYMENT

New employment and training opportunities for local people.



TRANSPORT

Excellent existing public transport connections.

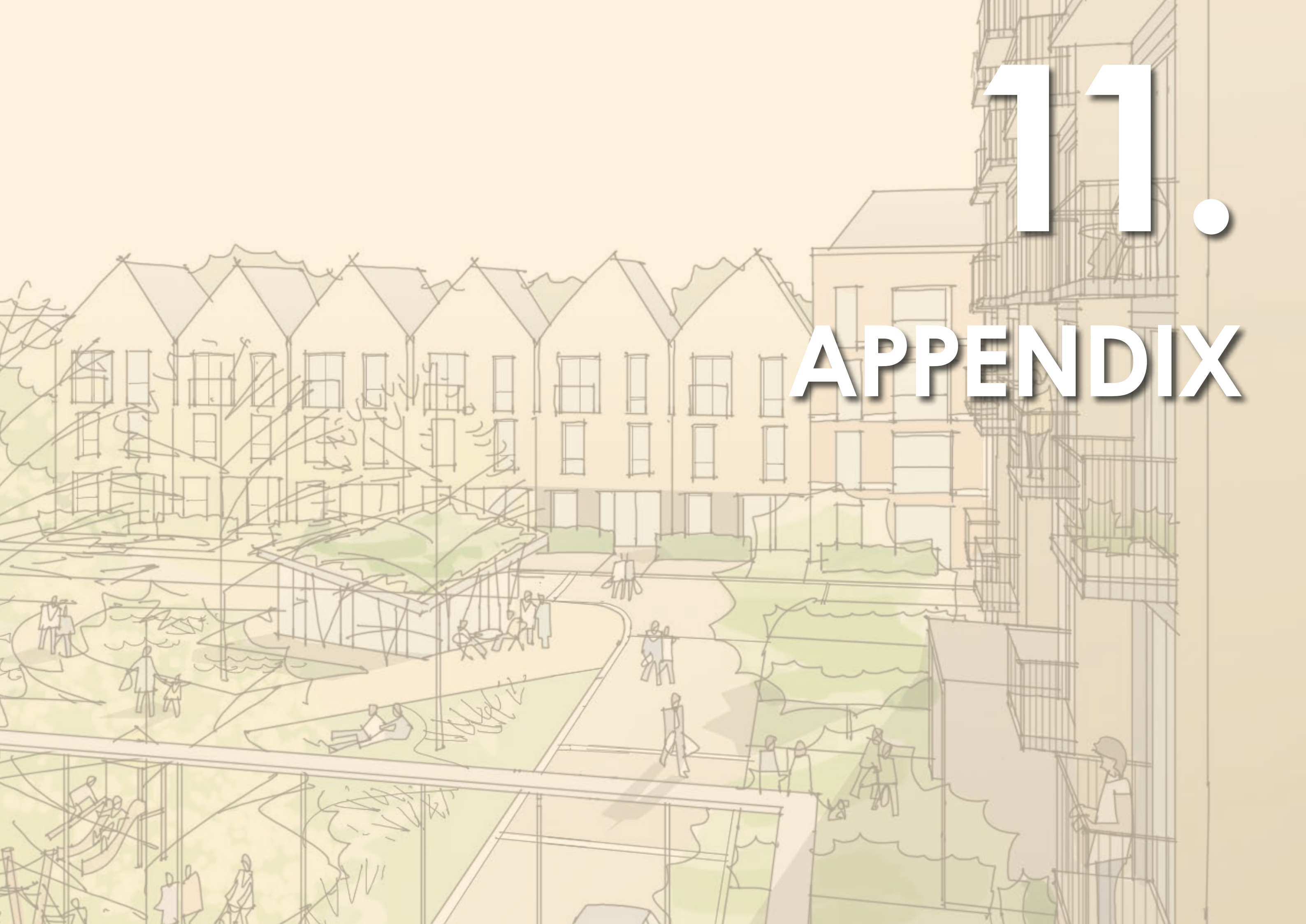






11.

APPENDIX



CONCLUSION

CAR PARKING

Car Parking & Cycling

- Circa 164 parking spaces on site for the residential units (ratio of 0.3 spaces per dwelling).
- Circa 10 additional parking spaces dedicated to commercial, visitor and car club use, located on-street.
- This provision for car parking is consistent with established trends across London, where demand for car use and car ownership is falling.
- Blue Badge parking to be provided for accessible units in line with Draft London Plan standards.
- 20% of parking spaces to have active electric vehicle charging points. The remaining 80% to have passive electric charging capabilities.
- Approximately 900 cycle parking spaces will be provided, in line with Draft London Plan standards or the current Housing SPG.

Impact on Hillingdon Circus Junction

Extensive highway modelling analysis has been undertaken and validated by TfL. This shows that the impact of the proposed development on the local highway network would be negligible. The reason for this is that a large proportion of the trips associated with the proposed development will be taken by public transport or active modes. The reduced provision of car parking also ensures that there is not an adverse impact on the Hillingdon Circus junction and local network.

Key

