

4.6 Final Design: Sustainability



HAM LANDS HARE

4.6.1 Sustainability Strategy

Scheme Overview



Water use reduction

- > A minimum 40% water use reduction
- > Rainwater harvesting fed to balconies for irrigation
- > Landscaped sustainable drainage systems and blue roofs
- > Ensuring efficient water consumption through monitoring stations and efficient sanitary ware systems.

Travel and transport

- > Inclusion of secure cycle storage for residents to encourage an increase in cycling at Ham Close
- > EV charging points across all parking spaces
- > Basement parking creating streets not dominated by cars.

Health and happiness

- > Provision of new and enhanced green spaces and community facilities
- > Improved spaces to socialise and opportunities for community group activities.

Culture and community

- > Flagship new Community Centre and MakerLabs facilities
- > New Linear Park
- > Formal and informal play through the site.

Ecology and Biodiversity

- > Over 120 new trees
- > Biodiverse roofs
- > Bird boxes, bat boxes and bug hotels
- > Increase in native planting
- > 10%+ Biodiversity Net Gain.

Low carbon materials and products

- > A 'fabric first' approach
- > Use of sustainable materials across the Community Centre and Richmond MakerLabs including timber
- > Locally sourced materials.

Equity and local economy

- > Employment of local people for construction workforce and apprenticeship opportunities.

Local and sustainable food

- > Growing areas for residents to grow food and herbs locally.

Reuse and Recycle

- > Recycle through the Circular Economy with a minimum 95% diversion from landfill for construction, demolition and excavation waste
- > At least 20% of all materials used on site will be recycled.

Renewable energy

- > Photovoltaic solar panels assist Air Source Heat Pump systems
- > Modern construction creating buildings with a low heat demand reducing the need to use energy to heat homes
- > Design measures to address and successfully mitigate for the risk of overheating.

Zero Carbon Target

- > It is estimated that the proposals will achieve a total reduction in regulated CO2 emissions that is 66% over and above the target emissions rate in Approved Document Part L 2013 (building regulations). This means the proposals will comfortably exceed the emerging Part L 2021 requirements (which come into force in June 2022)
- > The regeneration will achieve a zero-carbon target through a carbon-offset payment which offsets the shortfall in regulated CO2-emissions (payable to London Borough Richmond upon Thames).

4.6.2 Energy and Sustainability Strategies

Overview

The proposal at Ham Close will look to exceed current policy and regulatory requirements and future proof the development to meet future standards in relation to energy efficiency and overheating mitigation.

Fabric First Approach

- > Suitably designed and specified thermal envelope.
- > Target Fabric Energy Efficiency requirements set out in Approved Document L and LETI Guidance. (U-Values which target 'ultra-low' heat demands).

Renewables strategy

- > 100% Air Source Heat Pumps to maximise carbon savings, and helping to decarbonise the National Grid.
- > Roof space allocated for PV array. In line with Future Homes Standard.

Circular Economy

- > Minimising and designing out waste. 95% diversion of waste from landfill target.
- > Min. 20% recycled or reused material target for major building elements.
- > Disassembly and end of life strategy to be developed.

Whole Life Carbon Assessment

- > An embodied carbon calculation benchmarked against GLA targets.

Natural Ventilation Strategy

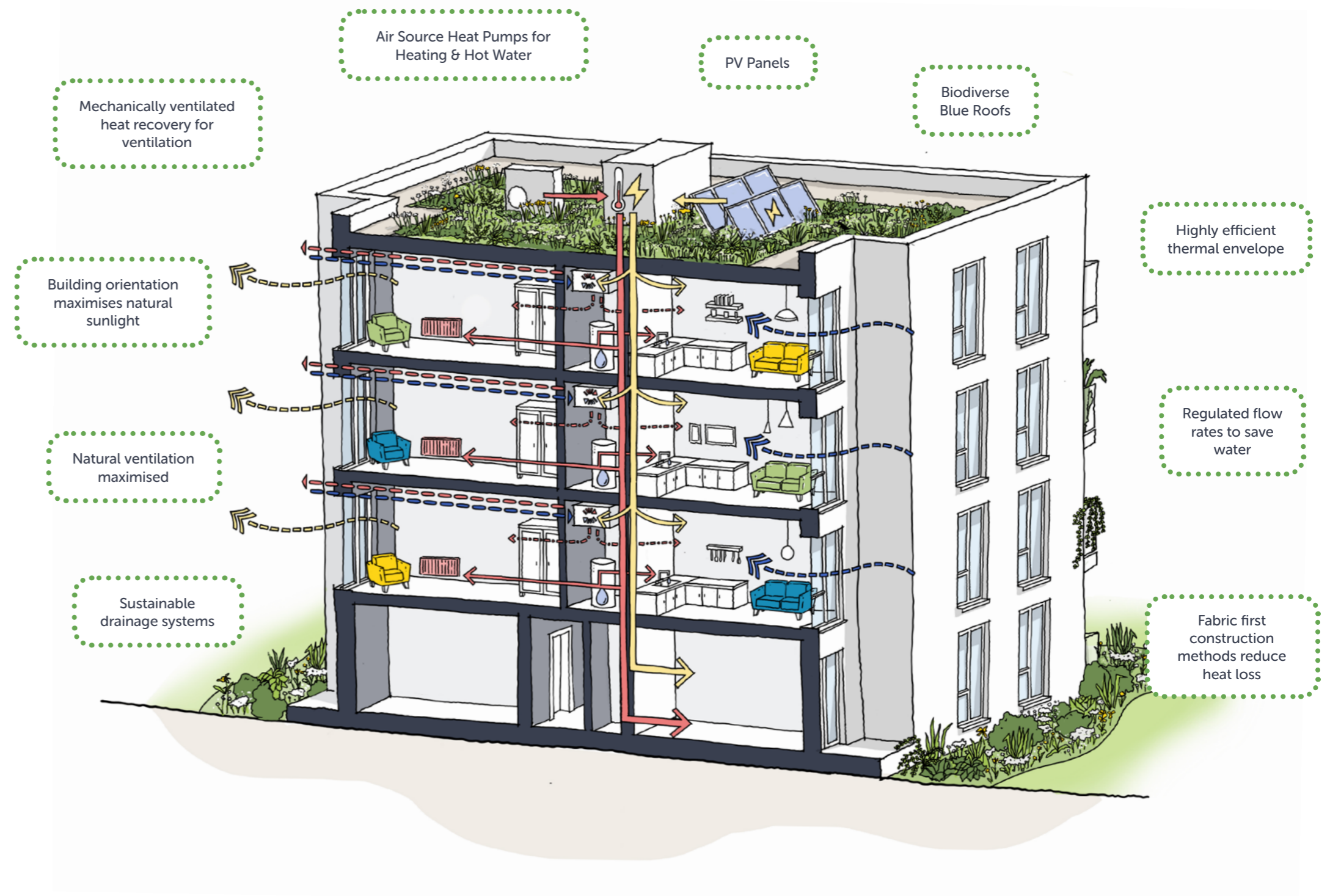
- > Openable areas of windows maximised - 60% of glazing within each room to be openable allowing purge ventilation.

Overheating Strategy

- > Window design which considers new Part O.

Water Consumption

- > The development shall target the improved standard of 105 litres/person/day outlined within the London Plan S15 and Richmond Local Plan Policy LP22.



4.7 Final Design: Access Statement



HAM LANDS HARE

4.7.1 Access Strategy

Masterplan Overview

General vehicle access does not connect through the centre of the site, however de-mountable bollards allow refuse and fire vehicles access through the Linear park. This allows safe pedestrian and cycle only spaces to take priority over the scheme, whilst minimising the impact on the landscaping from large turning heads or an access road through the centre of the masterplan.

Pedestrians are separated from vehicle traffic on the 4 main roads into the site. The street for terraces H & J from Ashburnham road is designed as a shared surface mews street to allow more landscaping and street trees in this intimate space.

Small turning heads are provided at ends of streets for public traffic and light service vehicles. Large vehicles can request access through the linear park from the caretakers office on site.

Primary entrances to flat blocks are either from the Linear Park or existing/proposed streets with secondary access from communal courtyards. Separate private access is provided for select ground floor flats and all bin/bike stores are accessed at convenient and accessible locations across the flat blocks.

Pedestrian basement access is provided through the stair cores in blocks over the basement as well as by an additional lift next to Block R.

Key

- Planning red line boundary
- Proposed buildings
- Lift for cycle access to basement
- Vehicle access route
- Pedestrian access route
- Linear Park access route
- Shared surface
- ▲ Primary entrance
- ◁ Secondary entrance
- ▲ Bin / bike store entrance
- ▲ Private entrance
- ◁ Private secondary entrance
- ▲ Service entrance / substation
- ▲ Service entrance / substation
- ⤴ Gate
- De-mountable bollard



4.7.2 Cycle Strategy

Masterplan Overview

Cycle Storage allocation across the scheme seeks to exceed the London Plan requirements, noting both LBRuT standards, and the desirability of cycling in this location and encouraging sustainable travel behaviours.







Cycle storage for private houses is located in their respective back gardens, each store accommodating 3 bikes. Flat blocks either have secure, fob accessed, long stay cycle stores at ground floor or secure spaces located within the basement to reduce the impact on the active frontage at ground floor. There is a larger cycle accessible lift provided to access the bike stands in the basement.

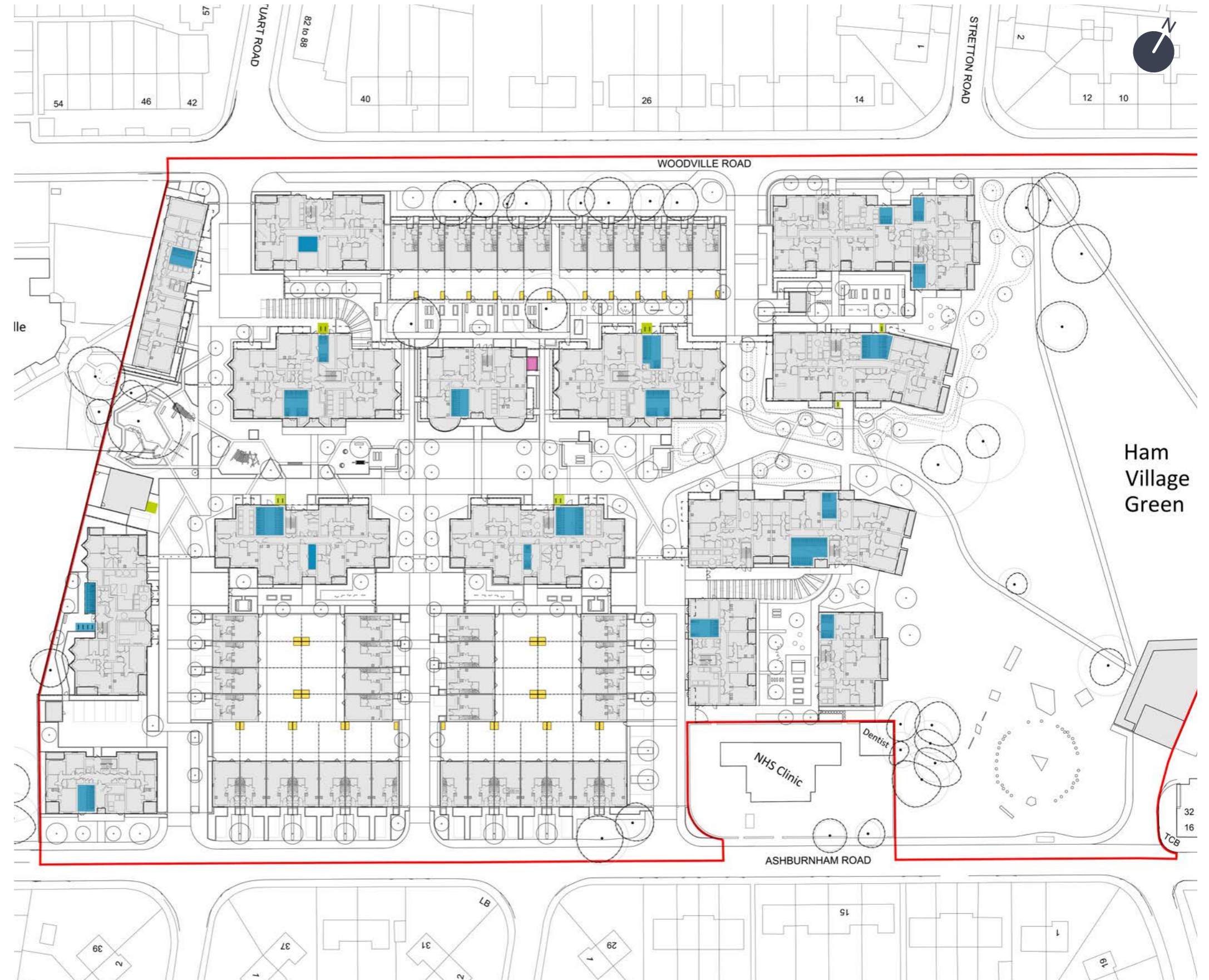
The total provision of 796 spaces for flat blocks includes 40 larger Sheffield stand cycle spaces. An additional 13 short stay spaces are provided in the public realm for visitors.

Long Stay Cycle Storage Provision

Block	Cycle Spaces Required	Spaces Achieved
A	29	30
B	42.5	44
C	85.5	68
D	40.5	16
E	78	78
I	78	78
M	92	92
N	27	28
O	26	28
R	39	30
S	89.5	86
TU	70	40
V	75	56
W	23	26
Basement	0	96
TOTAL	795	796
of which are:		
Large Cycle Spaces	39.75	40

Key

- Planning red line boundary
-  Trees to be retained & RPA
-  Proposed buildings
-  Lift for cycle access to basement
-  Flat block cycle store
-  House cycle store
-  Short stay Sheffield stands



4.7.3 Servicing, Refuse and Deliveries Strategy

Masterplan Overview

The refuse and recycling strategy has been developed in accordance with the LBRuT 'Refuse and recycling storage requirements supplementary planning document - Adopted April 2015' capacity and is as follows:

For Houses

- Refuse 360 litres per household over 3 bed
- Dry Recycling Two 55 litre recycling boxes
- Food Recycling One 23 litre food waste container

For Flats

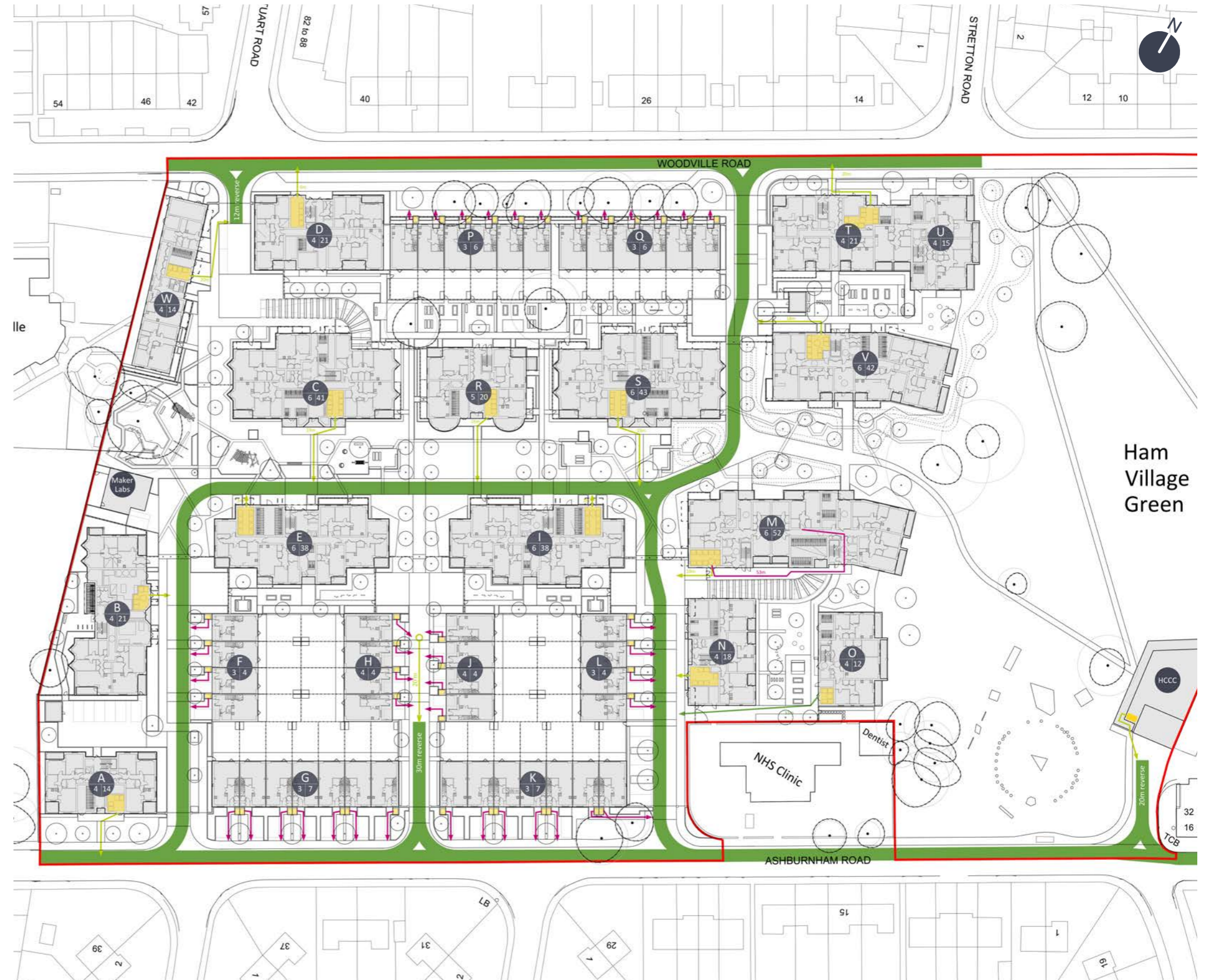
- Refuse 70 litres per bedroom. This relates to all communal waste containers.
- Dry Recycling 12 to 17 flats - 4x 360L
18 to 25 flats - 2x 1100L
26 to 45 flats - 4x 1100L
- Food Recycling No communal collection provided.

In accordance with Approved Document H6 of the building regulations, residents' carry distances should not exceed 30 meters from an external door and waste collection operatives carry or push distance should not be over 20 meters.

A route through the linear park is provided for the refuse collection vehicle. Where a permeable route is not possible British Standard (BS 5906: 2005) recommends a reversing distance of 12m and if this cannot be achieved a managed refuse presentation is provided.

Key

- Planning red line boundary
- Trees to be retained & RPA
- ▭ Proposed buildings
- ▭ Proposed bin stores
- ➔ Residents drag route
- ➔ Operatives drag route up to 20m
- ➔ Managed presentation for collection
- ➔ Refuse vehicle route
- ➔ Refuse vehicle route extra reverse distance



4.7.4 Typical Refuse Storage Provision

The refuse and recycling strategy has been developed in accordance with the LBRuT 'Refuse and recycling storage requirements supplementary planning document - Adopted April 2015' capacity and is as follows:

Houses

Each house is to be provided with a brick-built, covered external bin store at the front of the property. This is sized to accommodate the required bins listed below:

Refuse	360 litres per household over 3 bed - 60 x 90 x 110cm (w x d x h)
Dry Recycling	Two 55 litre recycling boxes - 59 x 39 x 35cm (w x d x h)
Food Recycling	One 23 litre food waste container - 32 x 41 x 42cm (w x d x h)

Flats

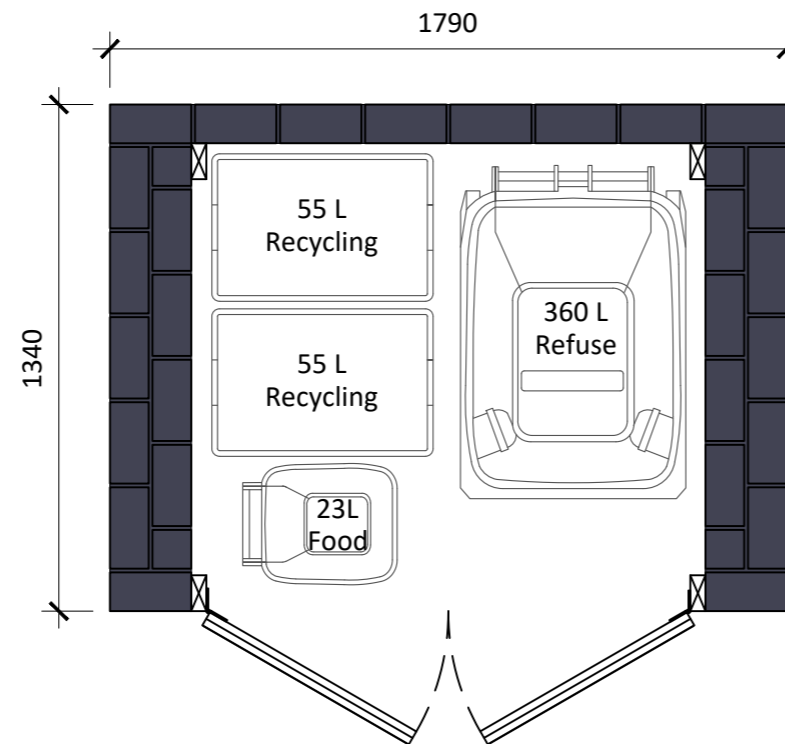
Each block of flats is provided with a ground floor refuse store with level, step free access and space for manoeuvring and turning wheelchairs where required.

Storage provision is calculated as per the below requirements, from the Refuse and Recycling Storage Requirements SPD:

Refuse	70 litres per bedroom. This relates to all communal waste containers. 110 litre euro bin - 127 x 100 x 138cm (w x d x h)
Dry Recycling	12 to 17 flats - 4x 360L 18 to 25 flats - 2x 1100L 26 to 45 flats - 4x 1100L 110 litre euro bin - 127 x 100 x 138cm (w x d x h)
Food Recycling	No communal collection provided. Allowance made for one 240 litre bin per block for future collections. - 59 x 74 x 106cm (w x d x h)
Bulky items	Additional storage space considered in each flat block refuse store for redundant bulky household goods.

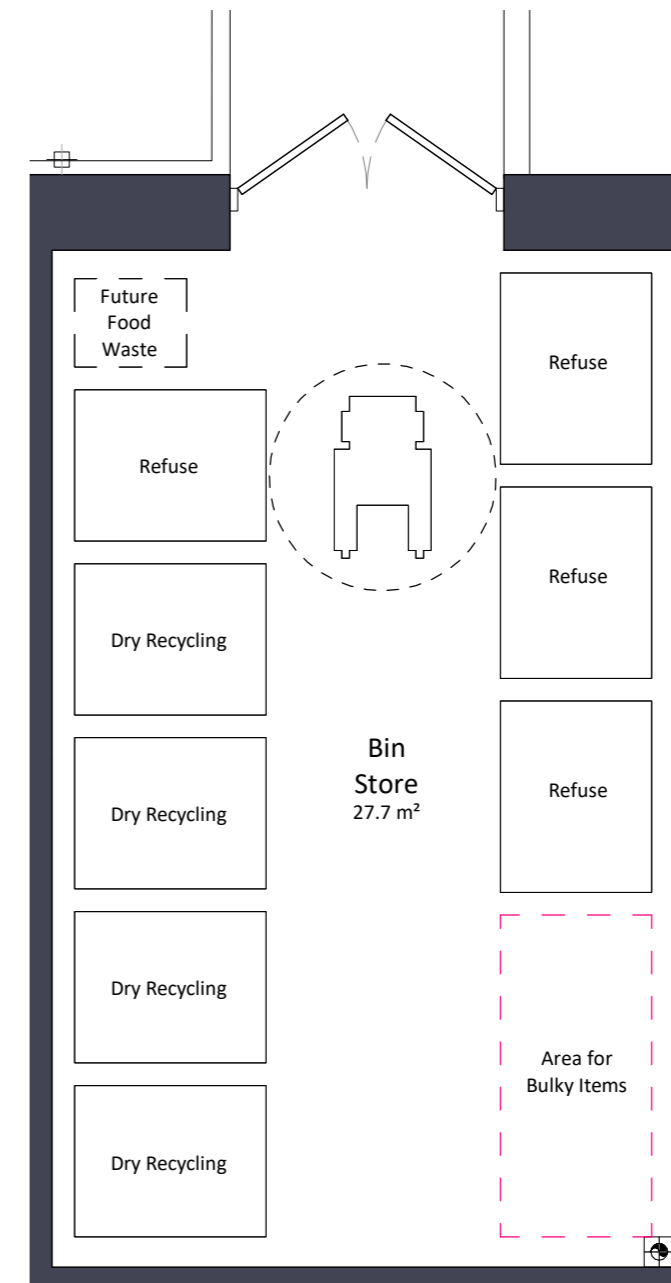
Illustrative house bin store plan

Scale 1:20



Illustrative flat block bin store plan

Scale 1:50



4.7.5 Parking Strategy

Masterplan Overview

The parking strategy aims to reduce the impact of cars on the urban realm as much as possible by providing the majority of parking within the basement. On plot parking is provided where possible for the houses. As a result there is a high amount of landscaped green space provided across the urban realm including the Linear Park.

The Car Parking Strategy has been developed in accordance with the London Borough of Richmond upon Thames Local Plan and The London Plan (2021) to provide 284 residential parking spaces 3% of which are blue badge spaces from the outset.

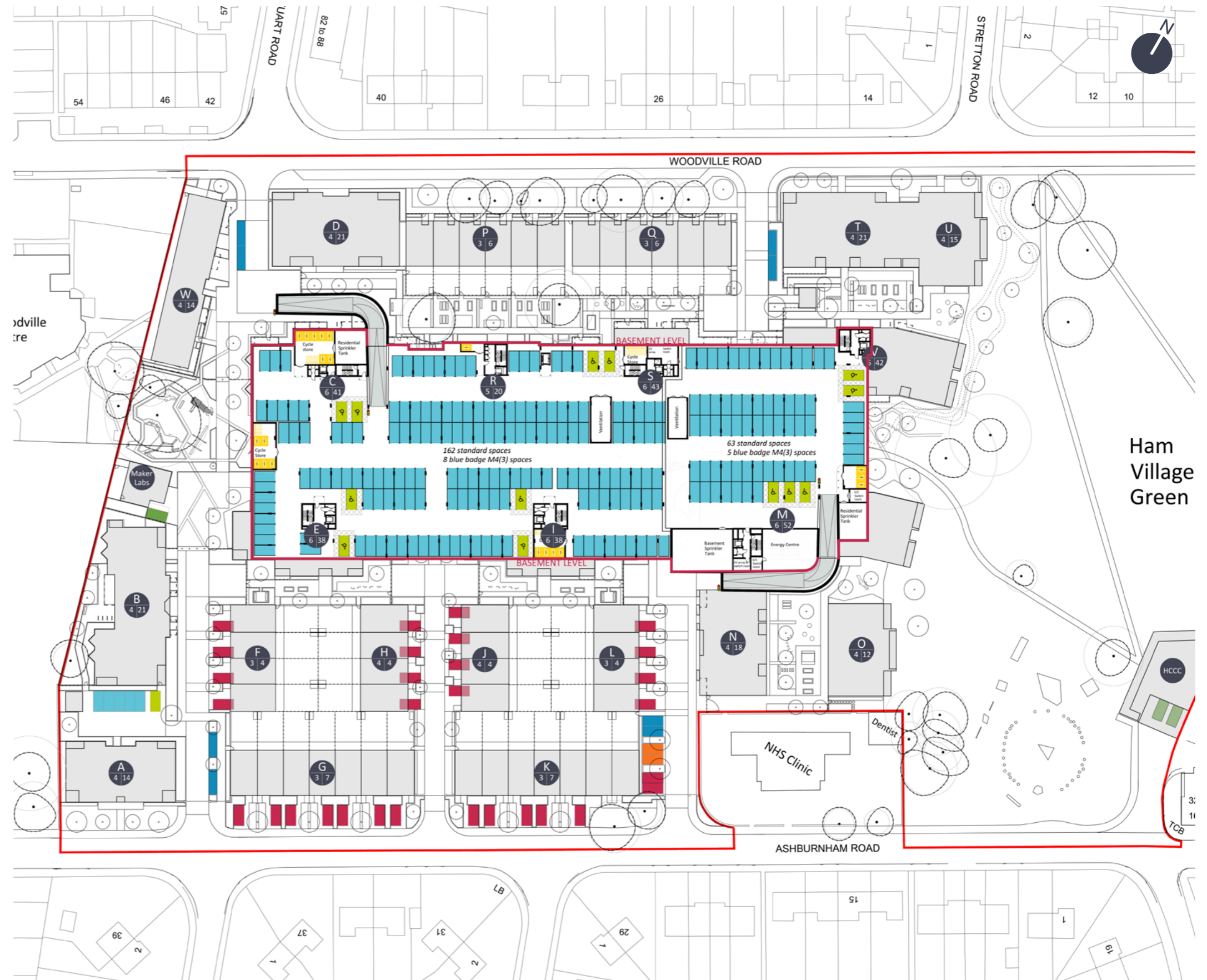
EV charging points provided for all parking spaces.

The total spaces proposed are broken down into the following categories:

- 230 Standard parking spaces
- 30 On plot parking spaces for houses
- 14 M4(3) blue badge parking spaces
- 8 Visitor parking spaces
- 2 Car club spaces
- 3 M4(3) blue badge parking spaces for community facilities

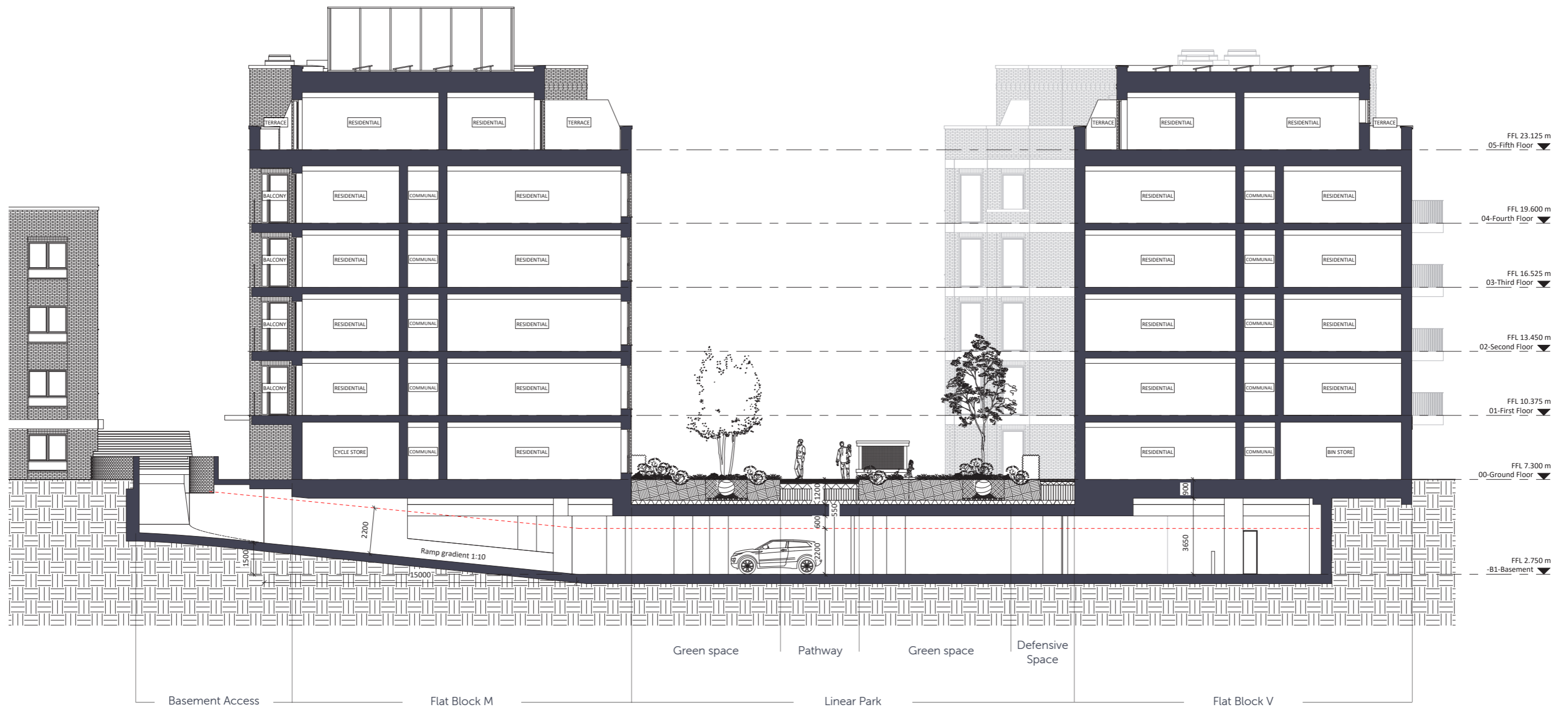
Key

- Planning red line boundary
-  Trees to be retained & RPA
-  Proposed buildings
-  Proposed basement level overlay
-  Sheffield stand for large cycles
-  Parking space
-  On plot/house parking space
-  M4(3) parking space
-  Visitor parking space
-  Car club parking space
-  M4(3) Community facilities space








4.7.6 Basement Strategy

Phase 2 Basement Section



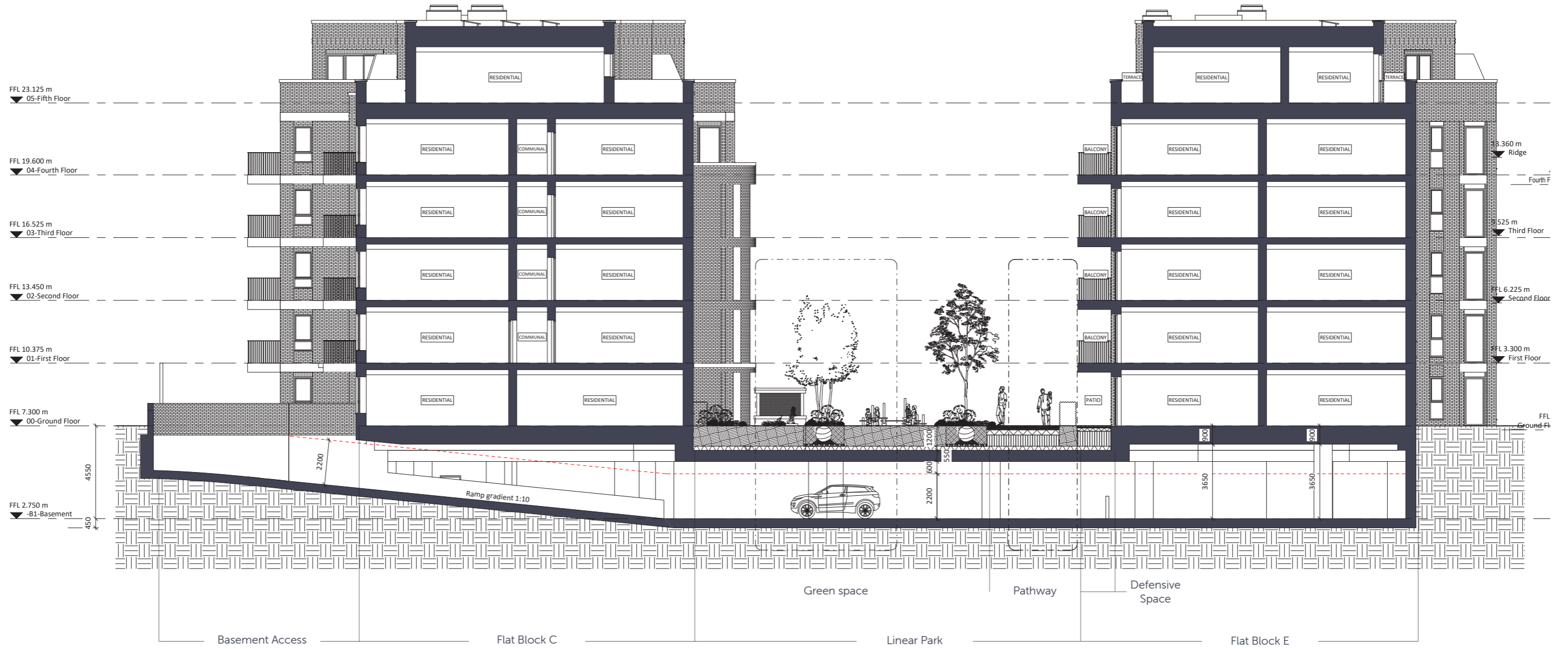
Key

-  1000mm soil depth
-  Drainage layer
-  Root ball for proposed trees
-  Proposed planting
-  Indicative pathway build-ups








4.7.6 Basement Strategy

Phase 3 Basement Section



Key

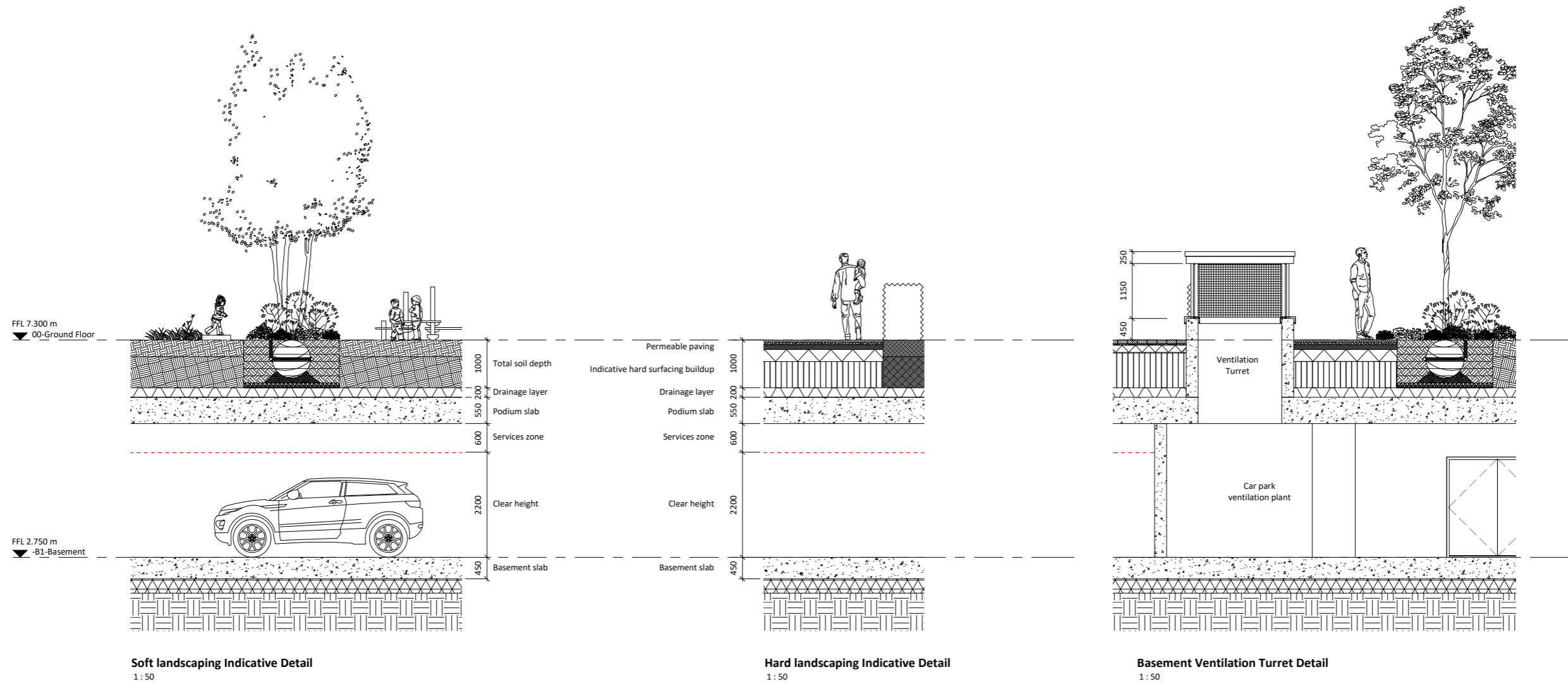
-  1000mm soil depth
-  Drainage layer
-  Root ball for proposed trees
-  Proposed planting
-  Indicative pathway build-ups



4.7.6 Basement Strategy

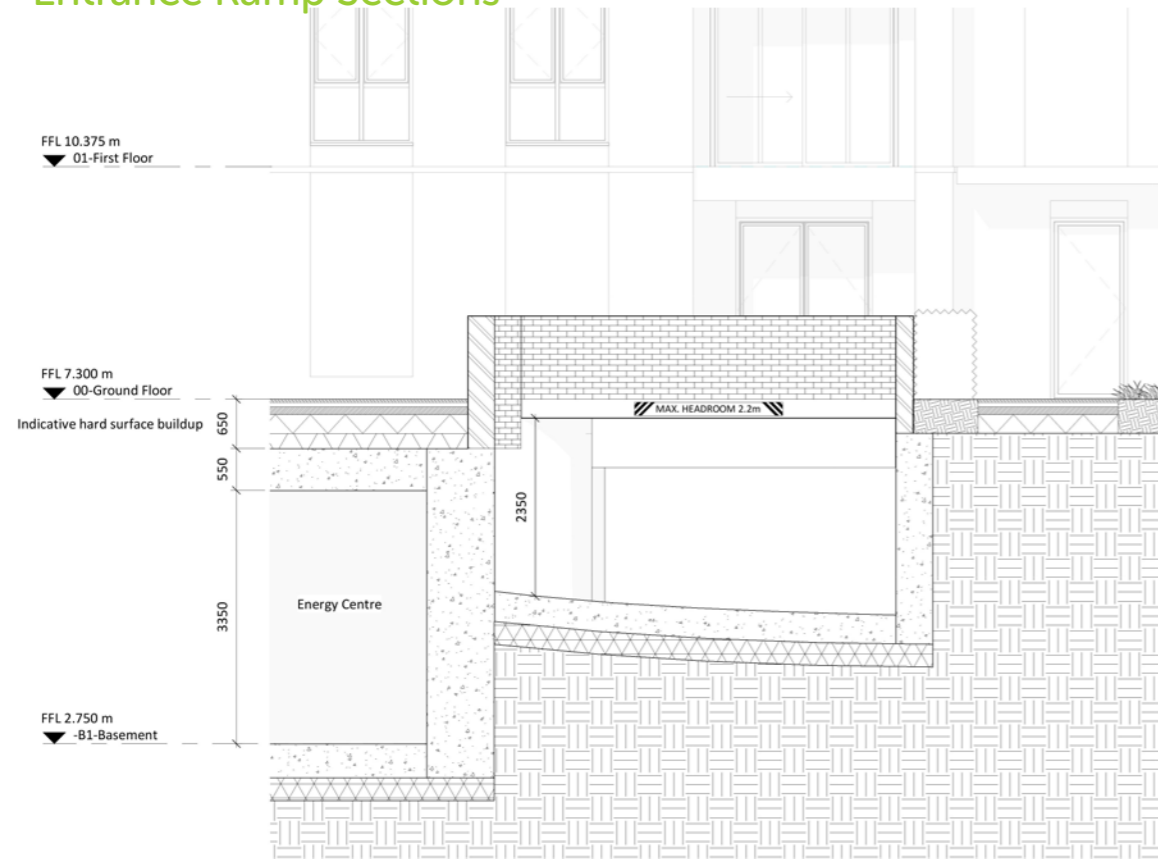
Detailed Sections

These indicative sections detail the depth of the basement construction and different build-ups above. Please refer to the page on Linear Park Soil Volume within the Landscape section of this document for further details.

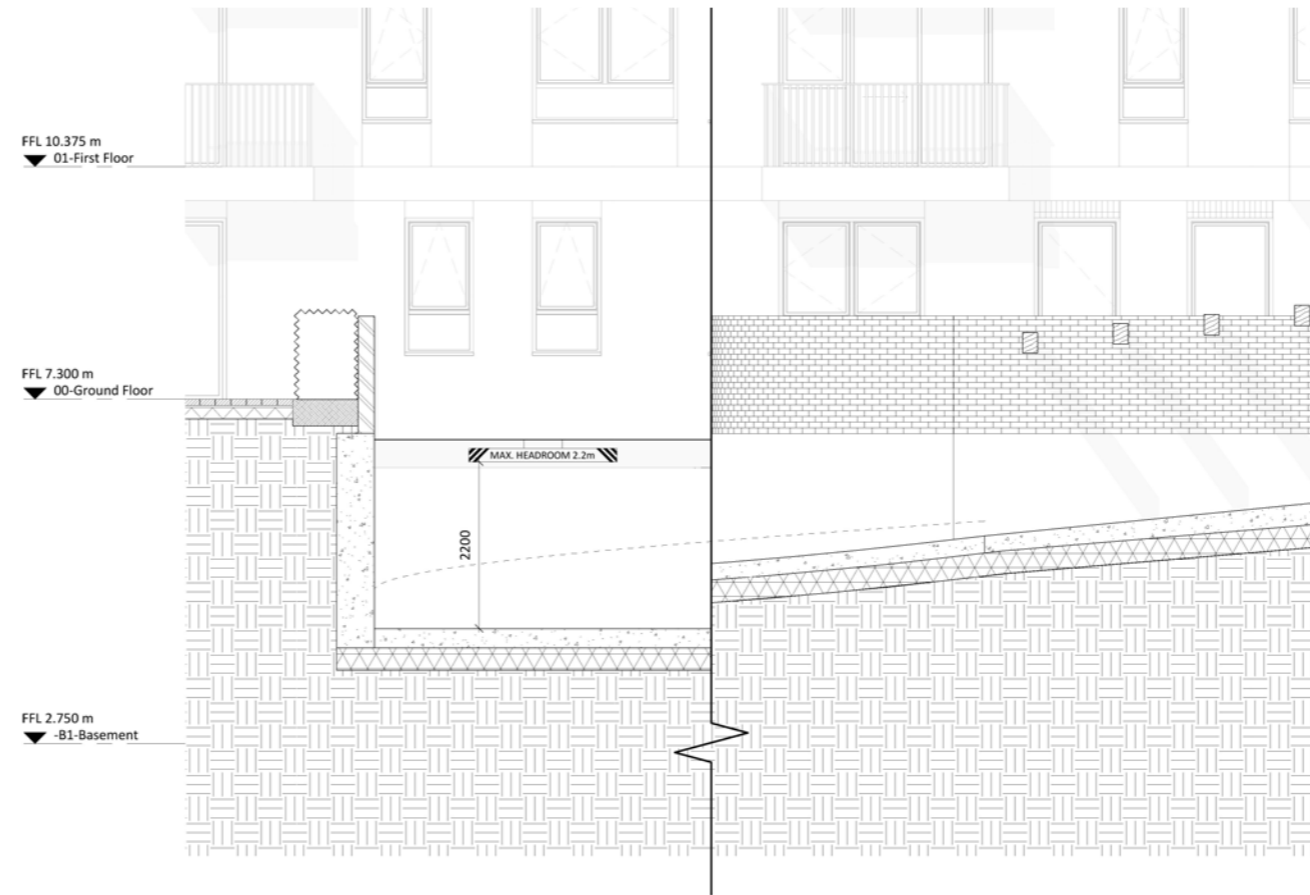


4.7.6 Basement Strategy

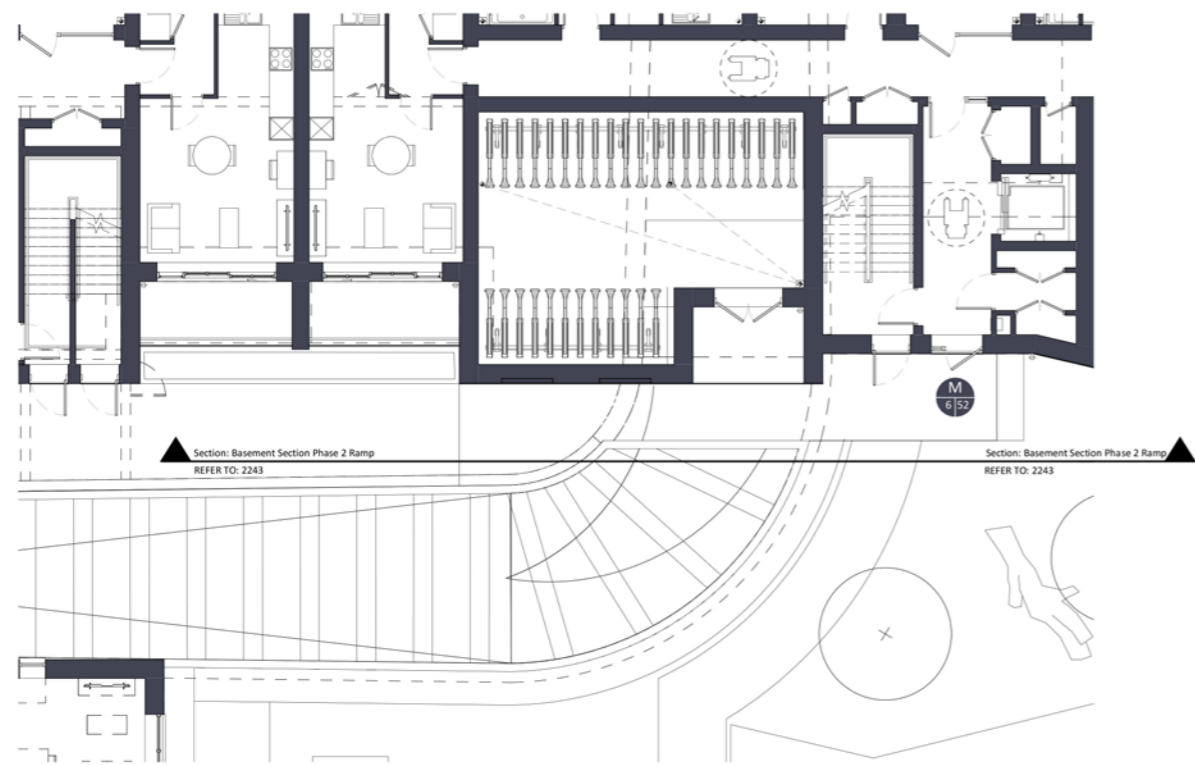
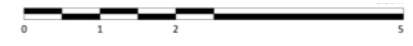
Entrance Ramp Sections



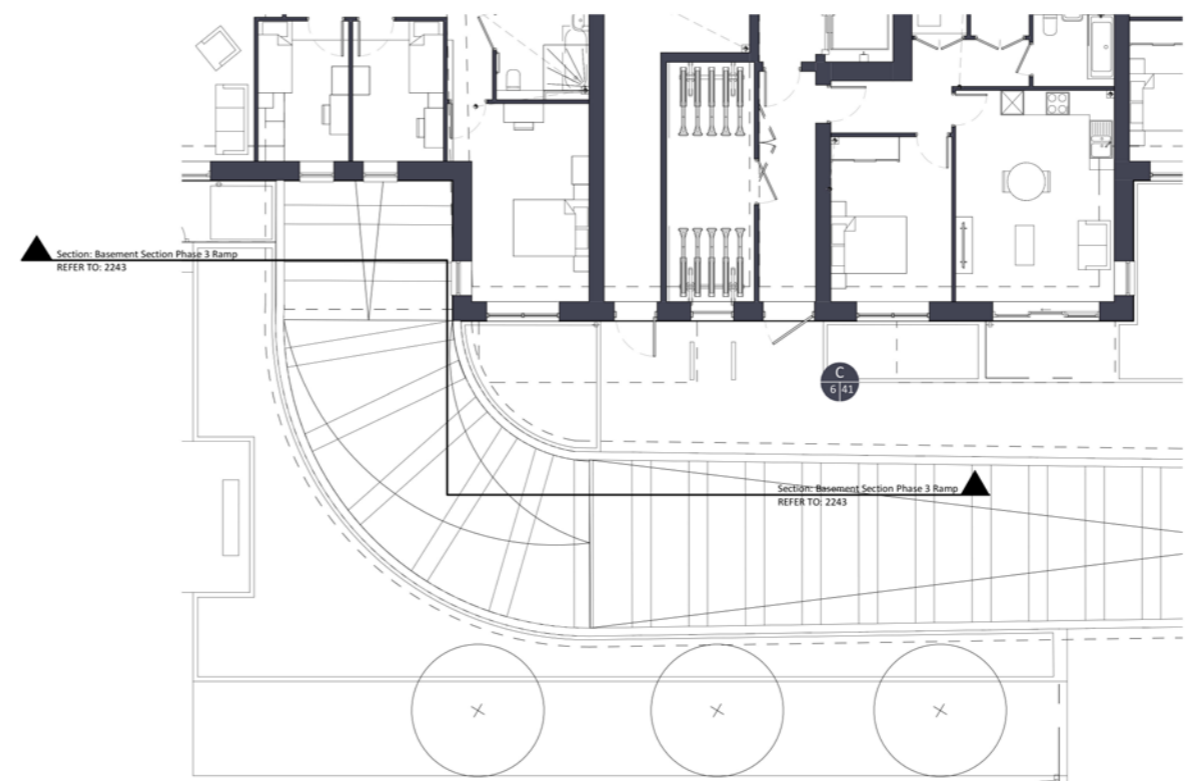
1 Basement Section Phase 2 Ramp



2 Basement Section Phase 3 Ramp



Phase 2 Basement Entrance Ramp Plan



Phase 3 Basement Entrance Ramp Plan



4.7.7 Fire Strategy

Masterplan Overview












Fire strategy has been developed in compliance with Fire safety: Approved Document B. All flat blocks and houses over 4 storeys have sprinklers throughout. Fire appliances have an access route through the Linear Park and have a maximum reverse distance of 20m up dead end streets. Distances to dry riser inlets are under 18m from the fire appliance route and the fire fighting access distance to the furthest point in the houses does not exceed 45m.

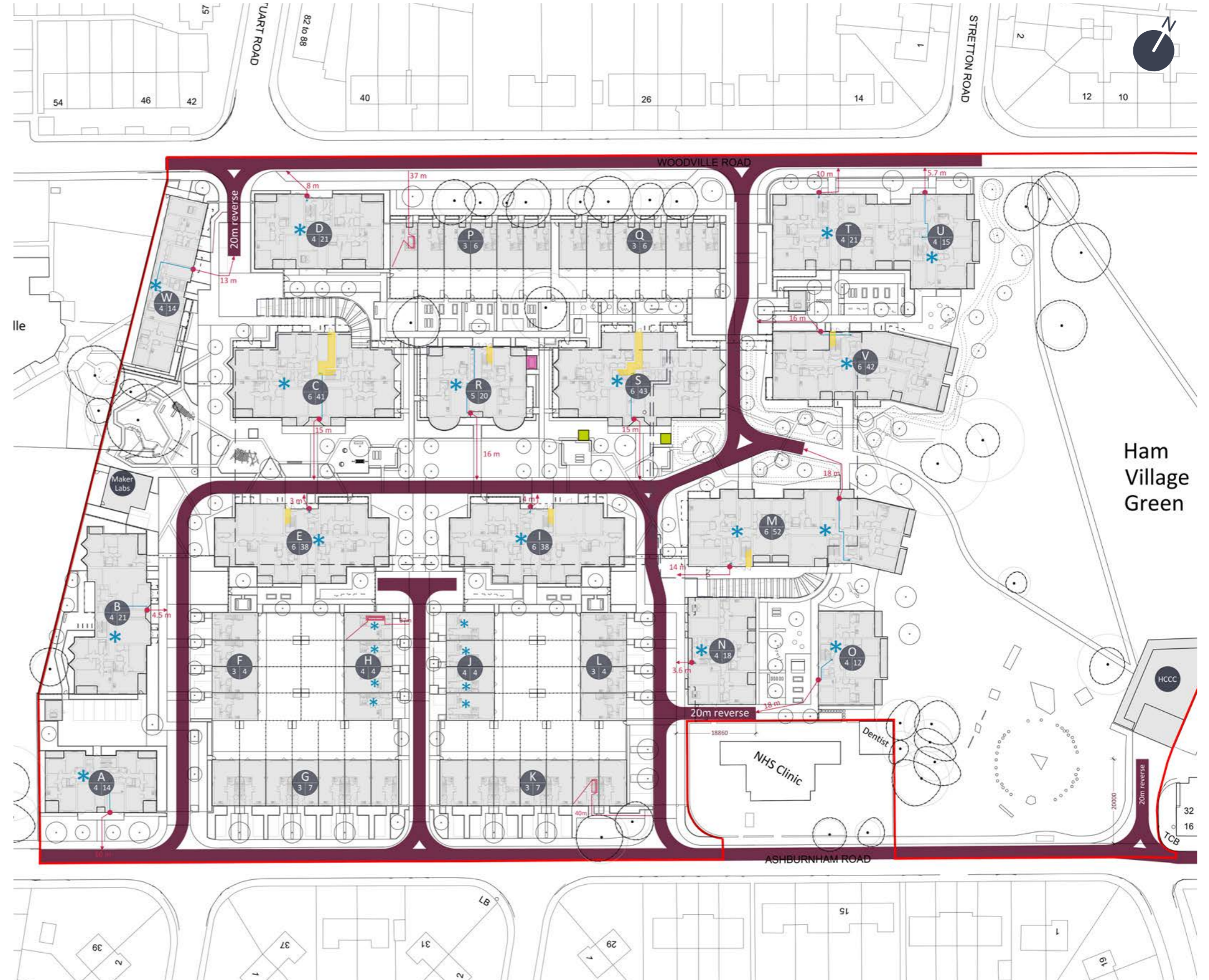
The basement car park is fully mechanically ventilated by 4 main extract fans situated in the ventilation plant rooms in the basement. These discharge through the ventilation shafts which pop up in the Linear Park. Under regular conditions these are either off or operate on a timer at a low speed to provide a slight dilution effect to the car park based on day to day ventilation at 1.5 air changes per hour (ac/hr). The fanspeed will increase upon detection of higher carbon monoxide levels to achieve up to 6 ac/hr. Upon detection of a fire the system will provide 10 ac/hr for smoke control assisted by induction thrust fans throughout the basement.

Basement escape stairs are provided in cores which access the basement. These are separated from the main staircases within the blocks by fire resisting construction and lead directly outside. Evacuation lifts connect to the basement and will be operated in the event of fire.

For further information please see the included fire strategy statement prepared by Affinity Fire Engineering.

Key

- Planning red line boundary
-  Trees to be retained & RPA
-  Proposed buildings
-  Proposed basement outline
-  Fire Appliance access route
-  Distance to dry riser inlet
-  Internal dry risers
-  Blocks with sprinklers
-  Basement escape stairs
-  Basement lift
-  Basement ventilation
-  Firefighting access distance



4.7.8 Energy Centre and Sub-Stations Locations

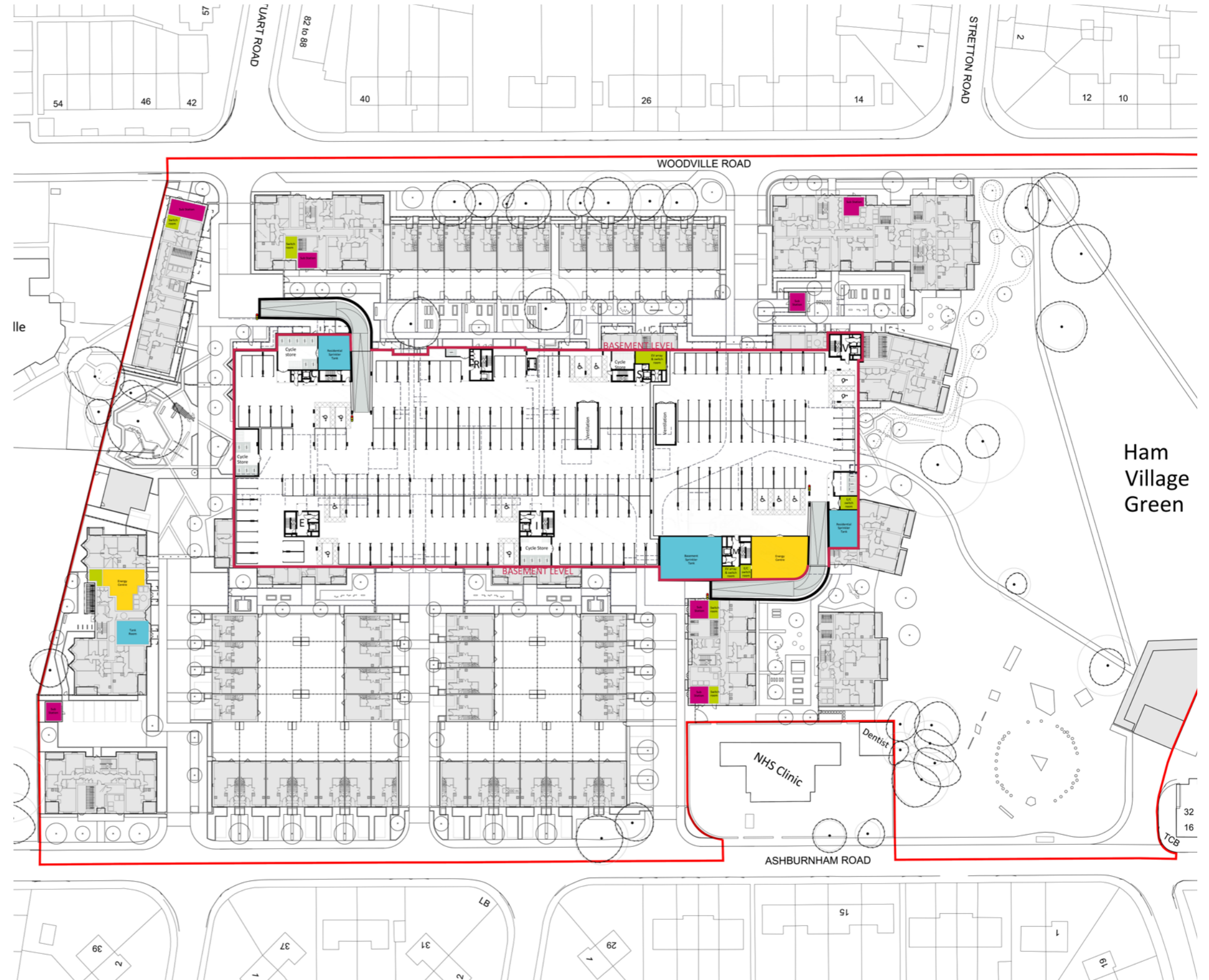
Masterplan Overview

The site is located outside of a Heat Network Priority Area and there are no existing or proposed heat networks within the vicinity of the site. The site has not been identified in the Heat Mapping Study – London Borough of Richmond upon Thames (Policy LP 22).

In order to future proof the development, a phased site-wide communal network comprised of 1 no. energy centre serving apartments in Phase 1, and 1 no. energy centre serving Phase 2 & 3 apartments is proposed, capable of connecting to any future District Heat Network should one become available. The communal network is an all-electric air-source heat pump led system serving the heating and hot water demands for each of the apartment blocks. It is proposed to serve the houses with individual ASHPs.

The majority of plant space is located, where possible, in the basement car park. This maximises the active frontage available on the ground floor for phases 2 & 3.

Substations are required throughout the proposed phases to replace the existing substations, and serve the increased demand from the new development. These are carefully sited to minimise impact on the landscape and residential accommodation.



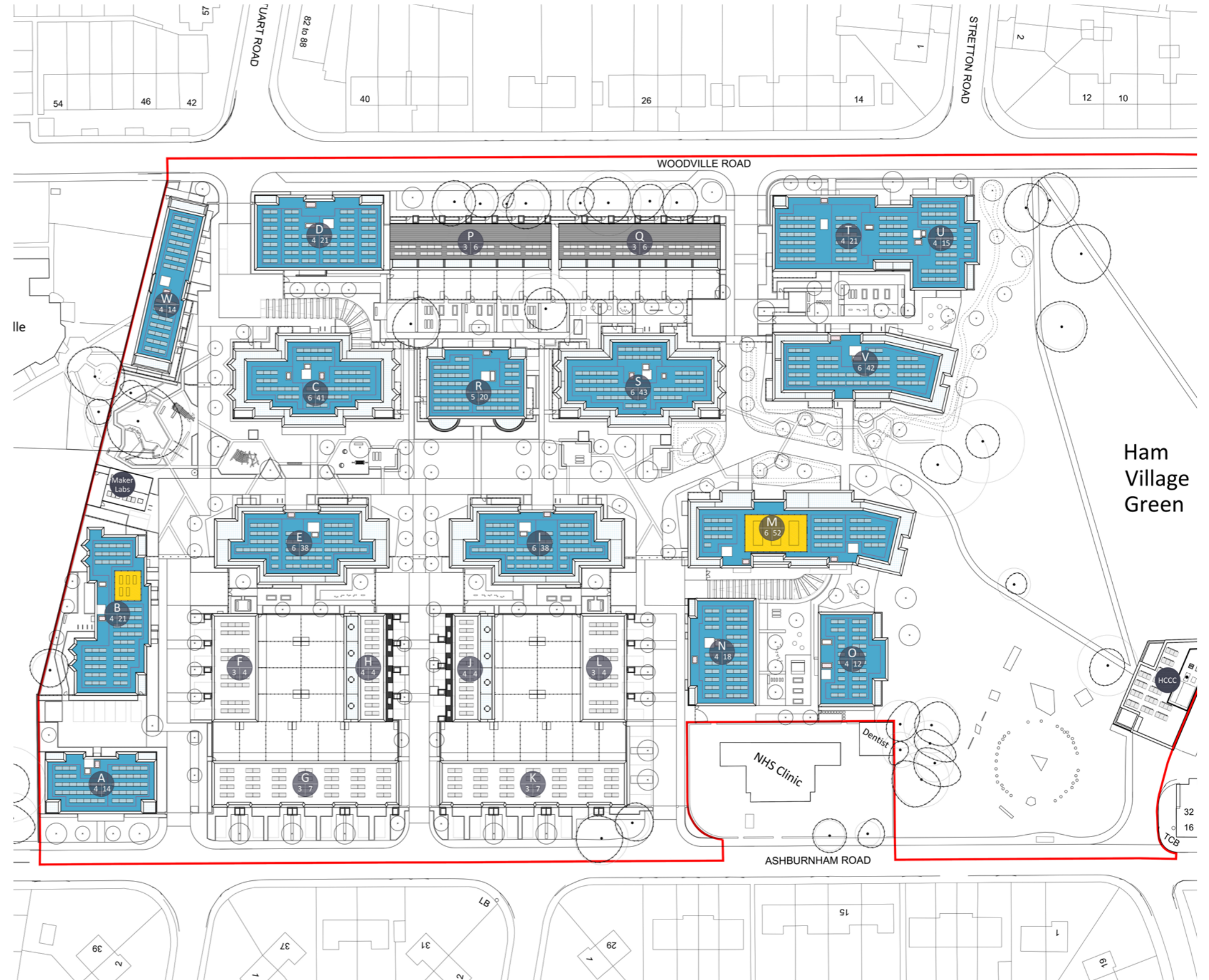
- Key**
- Planning red line boundary
 - Trees to be retained & RPA
 - Proposed buildings
 - Proposed basement level overlay
 - Sub Station
 - Energy Centre
 - Tank Room
 - Switch Room

4.7.9 Roof Strategy

All flat blocks in the scheme have Biodiverse Green Roofs over Blue Roof Systems and on each is an array of PV panels. Roofs are accessed for maintenance only by AOV access hatches with Man Safe Systems to allow safe movement.

Air Source Heat Pumps are located out of the way of community and public spaces on the roofs of blocks B and M.

The houses have single ply membrane where they are flat and slate where they are pitched.



Key

- Planning red line boundary
- Trees to be retained & RPA
- Biodiverse green roof over blue roof system
- Plant on roof with ASHP
- AOV access hatch
- Man Safe system
- Terraces
- PV pannels
- Lift overuns

Ham Village Green

NHS Clinic

Dentist

ASHBURNHAM ROAD

WOODVILLE ROAD

QUART ROAD

STRETTON ROAD