

Novers Hill

Feasibility Study

October 2019



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1.0 Introduction

1.1 Executive Summary

This report documents the feasibility study which has been undertaken for the development of Novers Hill (site allocation BSA1108) on behalf of Bristol City Council. The study explores the development of the site as a residential-led scheme in accordance with The Bristol Local Plan and supplementary regeneration plans for Knowle West and the wider context of South Bristol.

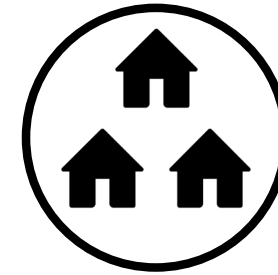
This document;

- Provides an overview of the initial client brief
- Provides a site appraisal of Novers Hill and the wider context
- Summarises key constraints and opportunities on and around the site
- Explores the councils emerging brief for a cohousing led scheme
- Demonstrates preliminary capacity studies for the site as a whole, and the smaller individual parcels
- Establishes a baseline masterplan for the site and identifies key urban design principles
- Provides a precedent study relevant to the site and design approach
- Demonstrates the number of homes that can be achieved on the site supported by a high-level accommodation schedule and a detailed plot study

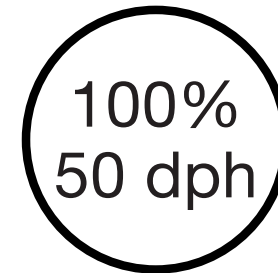


1.2 Summary of Strategic Brief

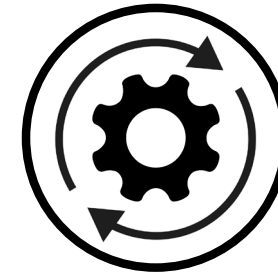
01. Produce residential development options for the Novers Hill site comprising the Hillside Parcel and Old School Site



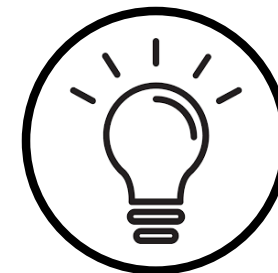
02. Confirm the residential development capacity for the individual land parcels and the site as a whole



03. Explore a range of design options for the site consulting with the wider project team



04. Develop final proposals and demonstrate compliance with BCC Planning policies



2.0 The Site

2.1 Location and Wider Context

The Novers Hill site is located in Knowle West, approximately 2 miles (3km) to the south of Bristol City Centre. Knowle West was part of a radical programme of house building by Bristol City Council which began in the 1920s under a national wave of council home construction during the inter-war period.

The Knowle West estate, which was built at a very low density of 25 dph, was founded on the ‘garden city’ principles of Ebenezer Howard and is characterised by semi-detached homes with generous garden plots.

Despite some of the areas positive advantages such as location and proximity to Bedminster and the City, and a relatively good and affordable housing stock; there are also a number of important challenges present within the area. These relate to a general lack of opportunity resulting from poor housing mix, a shortage of employment and a lack of vibrant shops and good quality public spaces.




2.1 Location and Wider Context

The site is located in the west of Knowle West on the Western Slopes, bound by Novers Hill and Novers Lane to the east and south respectively, with Hartcliffe Way to the west.


The immediate context to the site is predominately residential in character, however the site itself is characterised by open green space and sits within the 'Pigeonhouse Stream and Adjacent Meadows Site of Nature Conservation Interest (SNCI).

The area is served by good transport links, including the metro-bus and cycle routes into Bristol City Centre.


Key:




Bus Routes



Metro Bus (Bus Rapid Transit)



Cycle Route



Pedestrian Route



2.2 Site Photos

The site's immediate context is typified by two-storey, semi-detached homes within spacious plots and large gardens. Generally, the houses are set back from the road with front gardens enclosed by a mix of hedges, timber fencing & masonry walls or used for off-street parking.

Vehicular access to the site is currently limited to two points, both of which are located on the eastern boundary, from Novers Lane (see images A and B). There are a number of constraints associated to each access point, primarily related to site topography and traffic flow. A third access point may be achievable to the south of the site. Further details will be provided in the transport assessment.



A - Entrance to old school site



B - Entrance to currently tenanted BCC land



Key Plan



C - View down Novers Lane towards Hartcliffe Way



D - Hartcliffe way Junction

2.2 Site Photos

With the exception of a small area of tarmac on the Old School Site, the Novers Hill site is largely open grass and scrubland with pockets of dense vegetation and trees.

Directly to the west is Hartcliffe Way (see image E), a busy A-road and metrobus route which has the potential to present noise constraints for the site.

The site topography runs from a high point at the Old School Site and eastern edge, with a drop of approximately 25m across the site to the western site boundary.



E - View from site over Hartcliffe Way



F - Old School Site view towards Novers Lane



G - Old School Site view south to Greenfield Academy



H - View north towards Avon Gorge

2.3 Planning Policy

Core Strategy

The Bristol Local Plan's Core Strategy 2011 identifies South Bristol as a priority focus for mixed use development with a specific requirement for major regeneration activity on previously developed land in Knowle West and Hengrove.

Policy BCS 1 states that between 2006-2026, development in South Bristol will deliver:

- 8000 new homes of mixed type, size and tenure
- Up to 10 hectares of new industrial and warehousing land
- 60,000m² of net additional office space

Site Specific Information

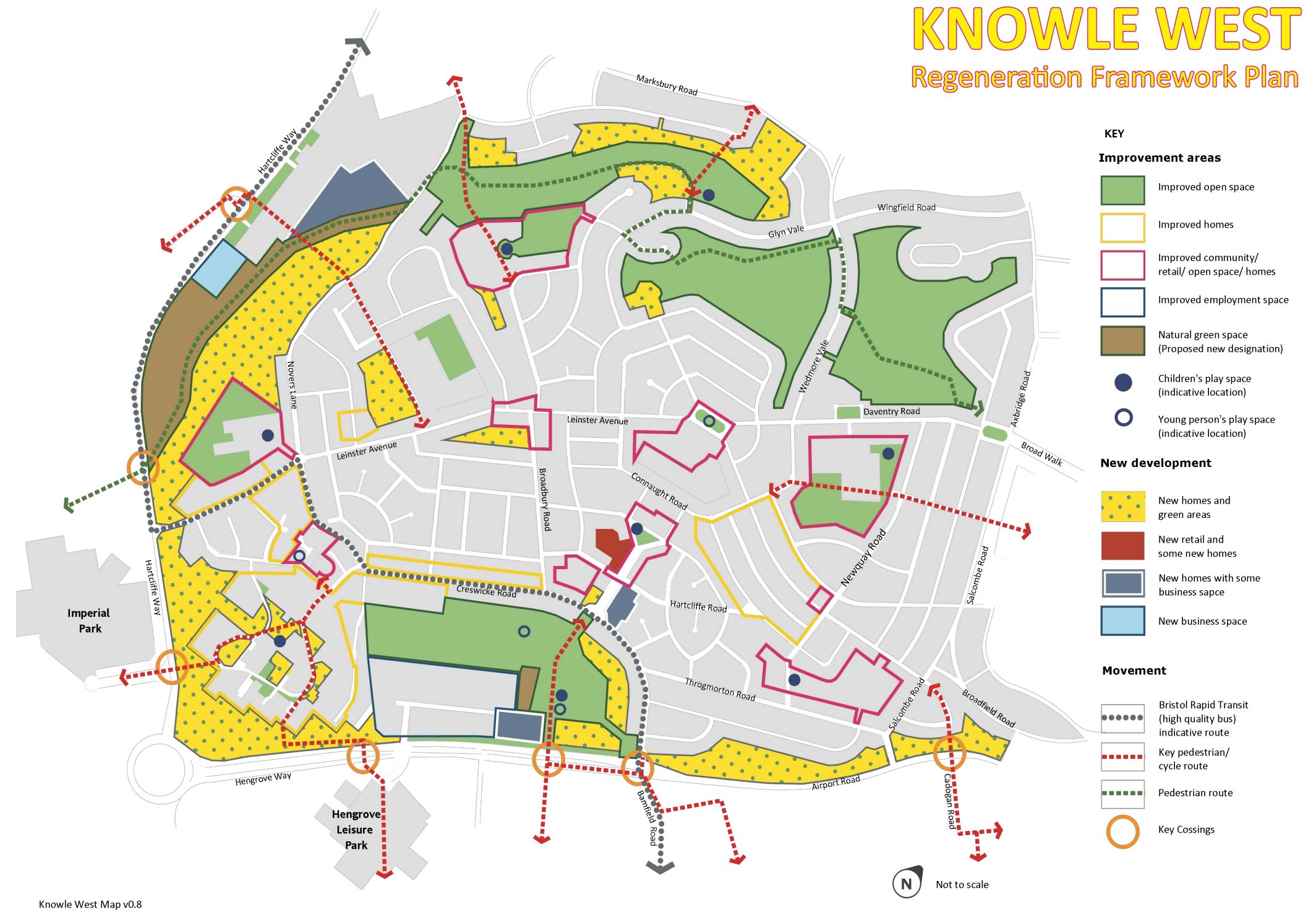
In 2014 the site was allocated within the Site Allocations Document (ref BSA1108) for a mix of housing, open space, children's playground and improvements to the surrounding highway/transport network. The policy estimates 440 new homes for the entire site allocation (as shown in section 2.4).

Knowle West Regeneration Framework

The Knowle West Regeneration Framework is a 20 year plan for meeting community aspirations for the area. This includes making improvements to:

- Housing
- Infrastructure
- Jobs
- Transport connections
- Community facilities
- Public open spaces

Novers Hill is allocated under the Framework for new homes and green areas.



2.4 Site Allocation

The site is allocated for a residential led development with high quality public open space. A total of 440 new homes is estimated for the site. The site comprises a number of land parcels which are described below.

Key Areas

A - Land in Private Ownership (AV11185)

Third party owned land to the north of BCC owned land. We understand that there is a residential scheme currently being developed for the site. There may therefore be potential to agree shared access and vehicular connections across sites. This is further discussed in section 6.2.

B - 100 Novers Hill

Recently completed development of 14 homes with access off of Novers Hill.

C - Land in Private Ownership

No information has been provided for this site.

D - Hillside Parcel North

BCC owned land currently tenanted and used for agricultural purposes. The northern section of the site is also occupied by single storey metal roofed agricultural buildings. Site is defined by significant topographical changes falling from east to west.

E - Hillside Parcel South

BCC owned land currently used for agricultural purposes. Site is defined by significant topographical changes falling from east to west.

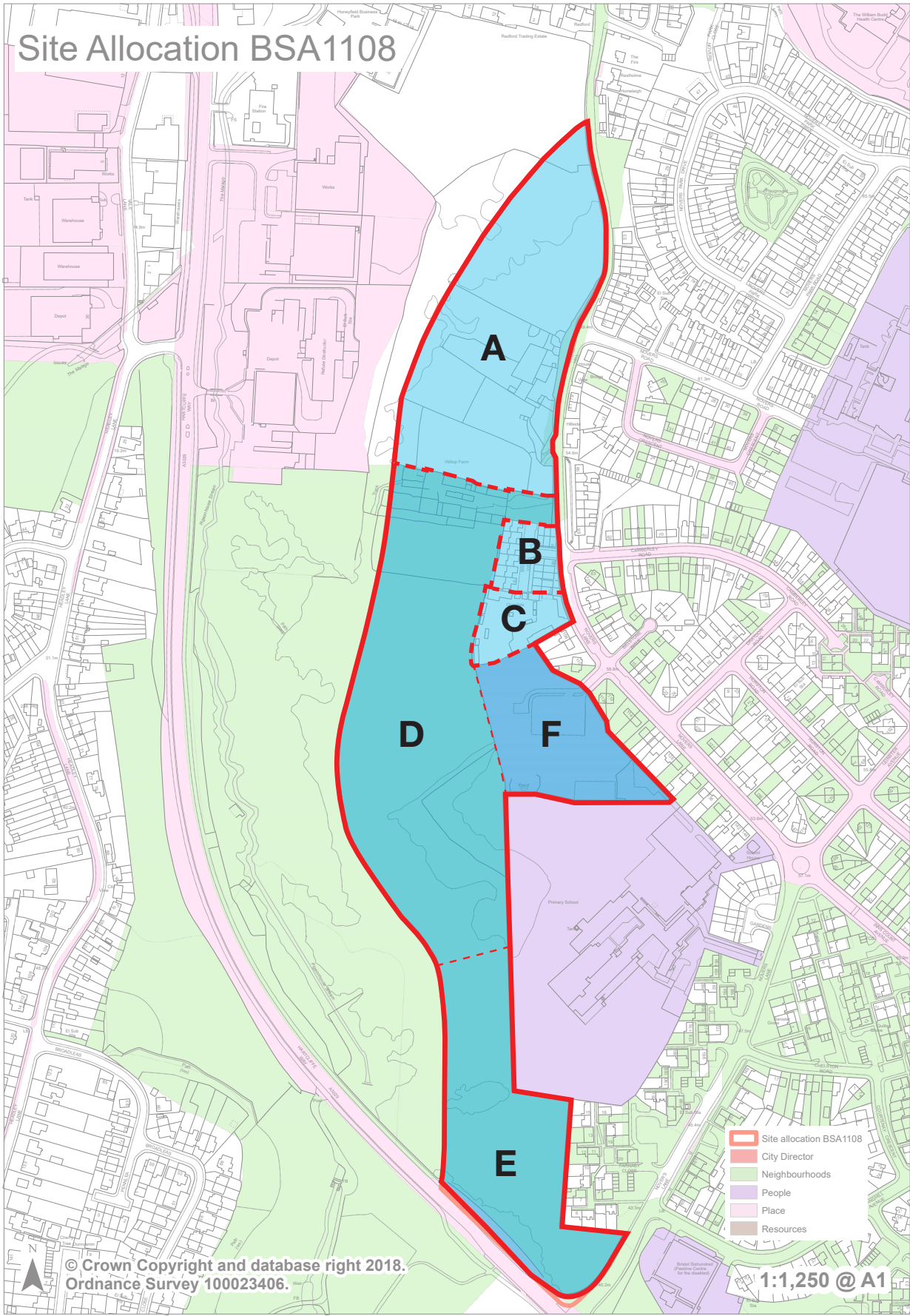
F - Old School Site (Priory Site)

BCC owned land formerly occupied by a primary school (demolished). Allocated for housing and green space.

— Site Allocation Boundary

■ Private Land

■ BCC Owned Land



2.5 Previous Schemes

A number of previous capacity studies have been completed for the Novers Hill sites.

In 2015 Nash Partnership completed a concept masterplan for the site which was included within the Design and Access statement for a development of 14 homes at 100 Novers Hill. This masterplan assumes street frontage overlooking a pedestrian route along the western green space and SNCI. Semi-detached and detached houses typologies are proposed as a way of softening the impact of density on the skyline and to accommodate the site levels.

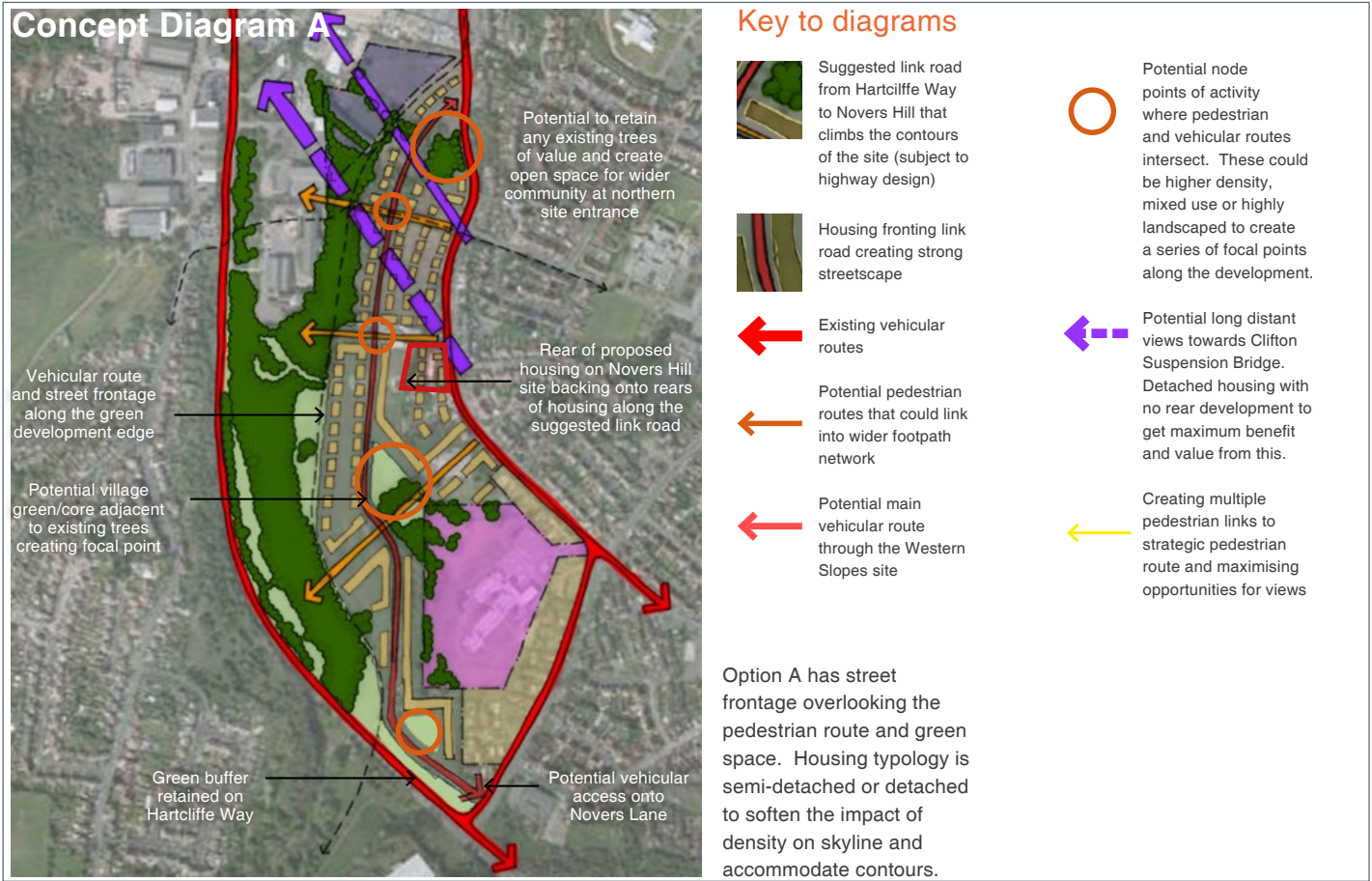
The Richards Partnership also completed a series of emerging sketch options for the site in October 2018.

The scheme shows the following;

- Density of 64dph which is above the required 50dph sought in BCS20
- Ratio of 73:27 flats to houses.
- Apartment mix is split 35:65 1 beds to 2 beds.
- Large proportion of 3 bedroom houses.



Old School Site Option - The Richardson Partnership



Concept masterplan by Nash Partnership submitted as part of DAS for 100 Novers Hill development



Emerging sketch layout for wider site - The Richardson Partnership

2.5 Previous Schemes

We Can Make

'We Can Make' is an initiative focussing on working with the residents and community of Knowle West and aims to create a citizen-led system and set of tools for delivering affordable housing.

By unlocking micro-sites such as gap spaces and gardens for development, We Can Make aims to enable residents to build homes at the point of need - where they live. It also creates an alternative approach to conventional "demolish and densify" top-down regeneration.

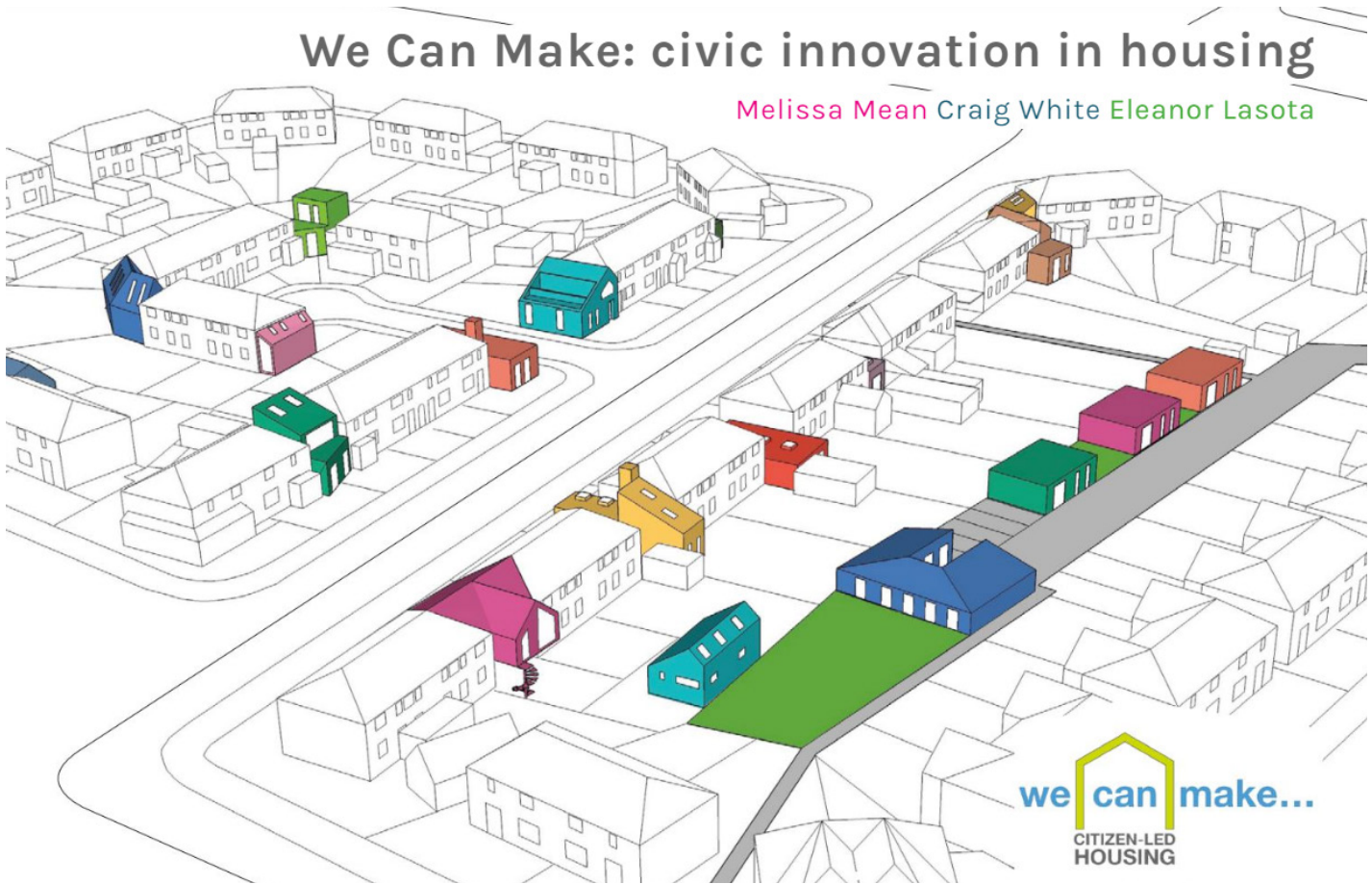
In the next five years, the initiative hopes to develop over 300 affordable homes in Knowle West - including setting up a neighbourhood housing factory to train local people to make the homes - with the

potential for this approach to be replicated in similar neighbourhoods in Bristol and across the UK.

As part of this initiative there are plans for a temporary MMC factory to be located on the Old School Site. A feasibility study by White Design shows an indicative size and location for this facility.



'Tam' We Can Make prototype

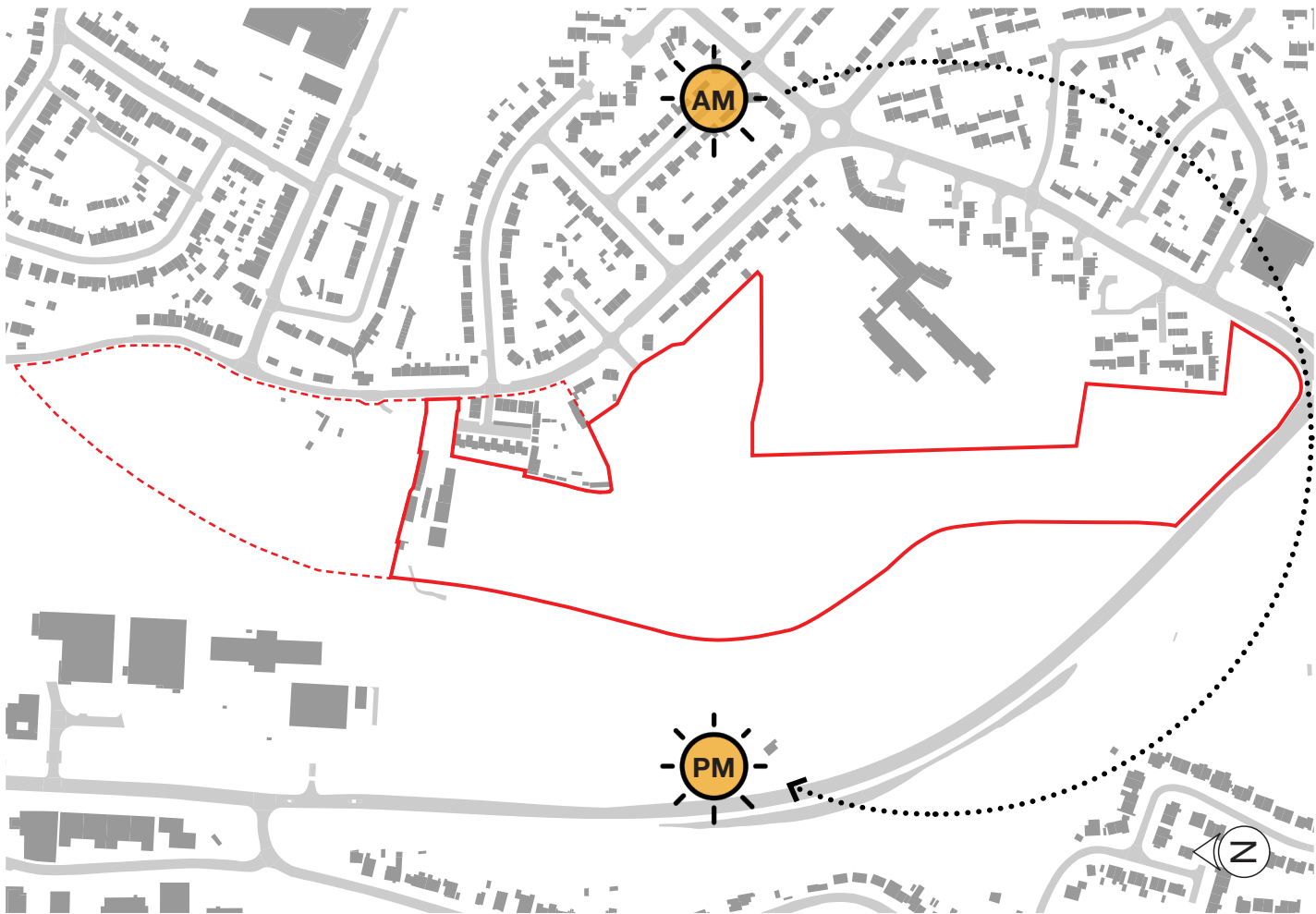


'We Can Make' report



Site proposals for MMC factory on Old School Site

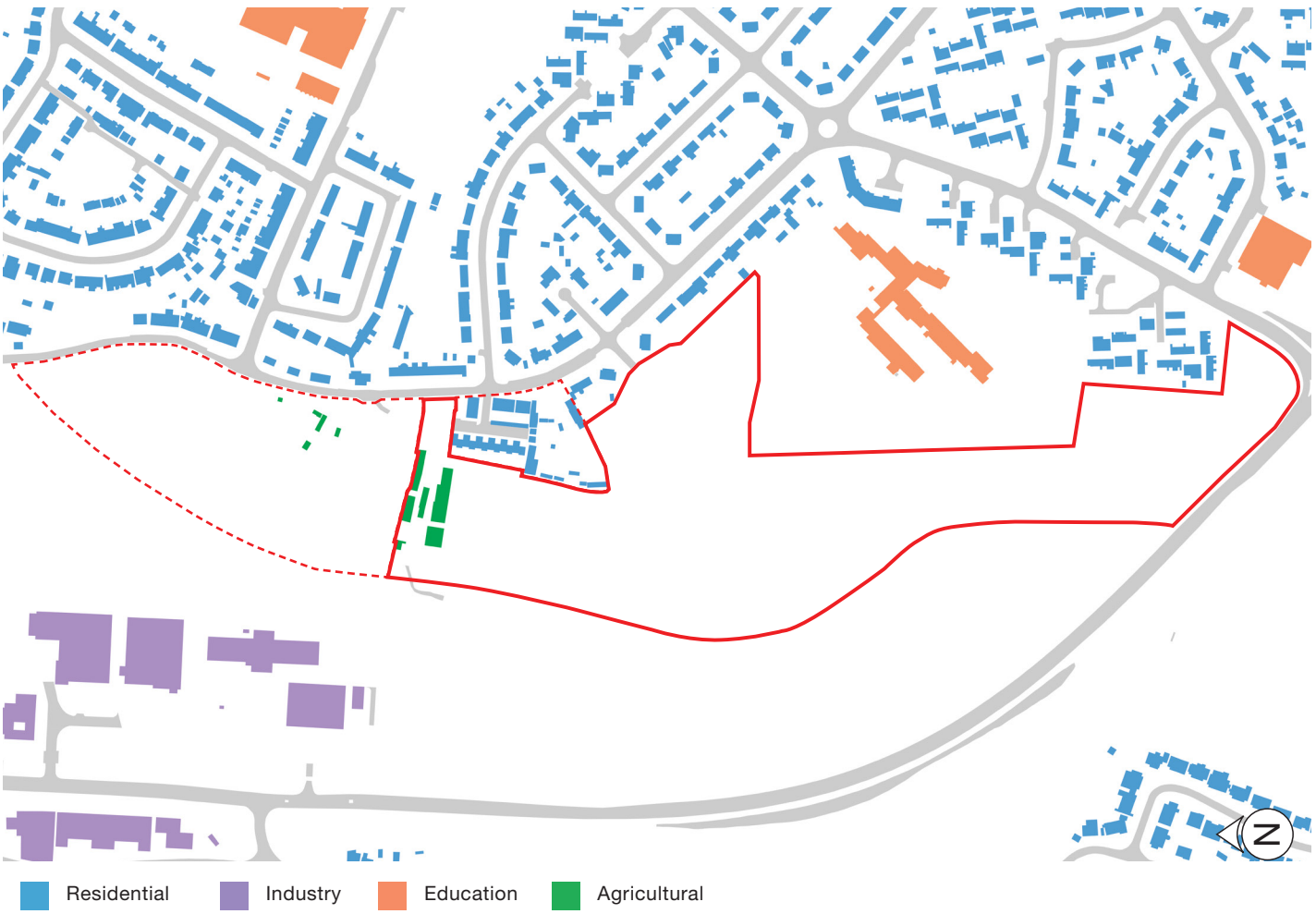
2.6 Site Context



Existing Urban Grain

The site is bordered to the east by a low-density residential area characterised by post-war semi-detached dwellings. To the west the site is bordered by Hartcliffe Way, a key transport artery. The site is predominately land-locked with limited vehicular access points.

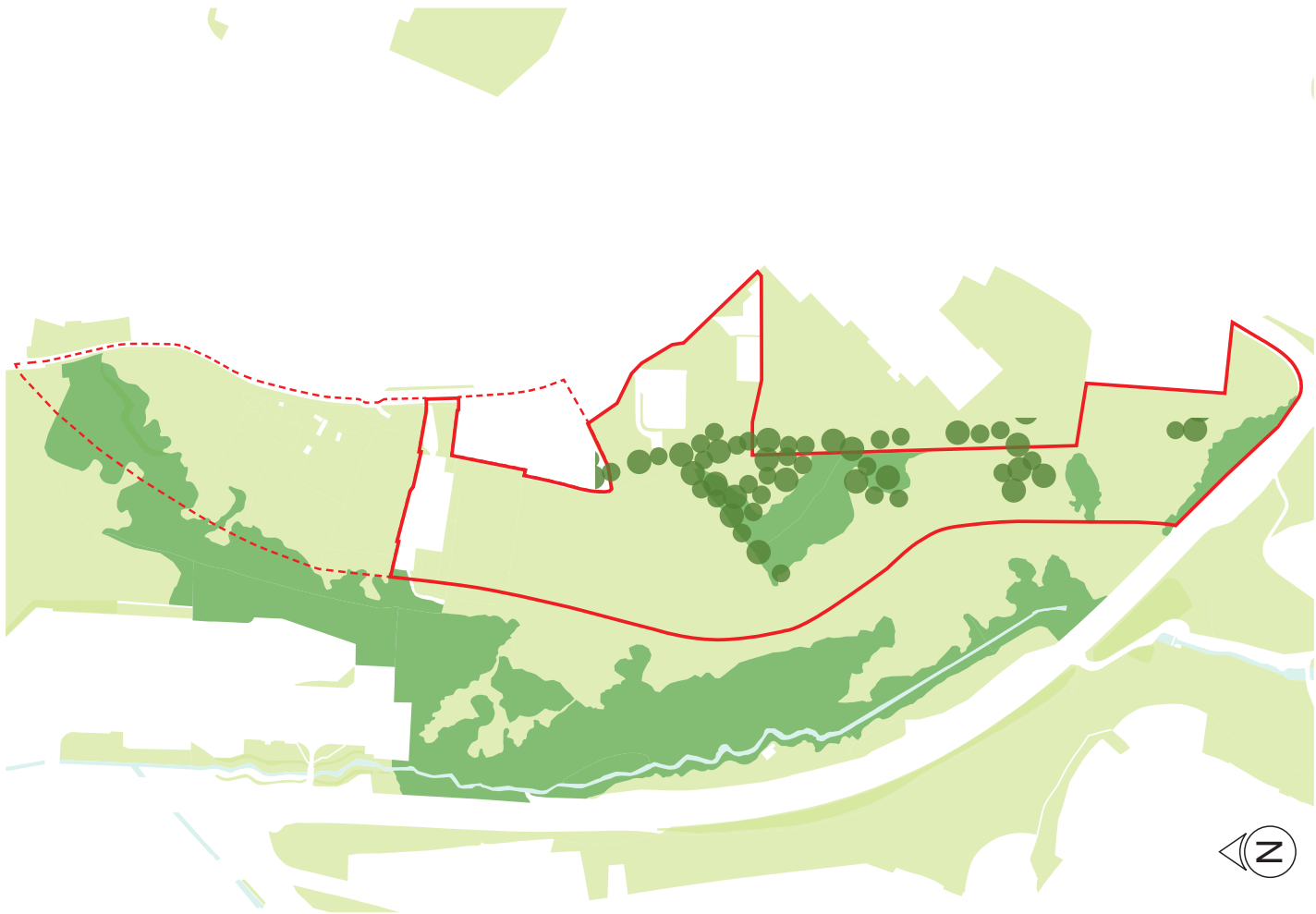
The site has good solar aspect with excellent views north towards the city and views west towards Manor Valley Woods.



Existing Building Use

Analysis of the wider context of the Novers Hill site shows mostly residential development with several educational buildings to the east. The area to the north west of the site is characterised by buildings of mixed and industrial use.

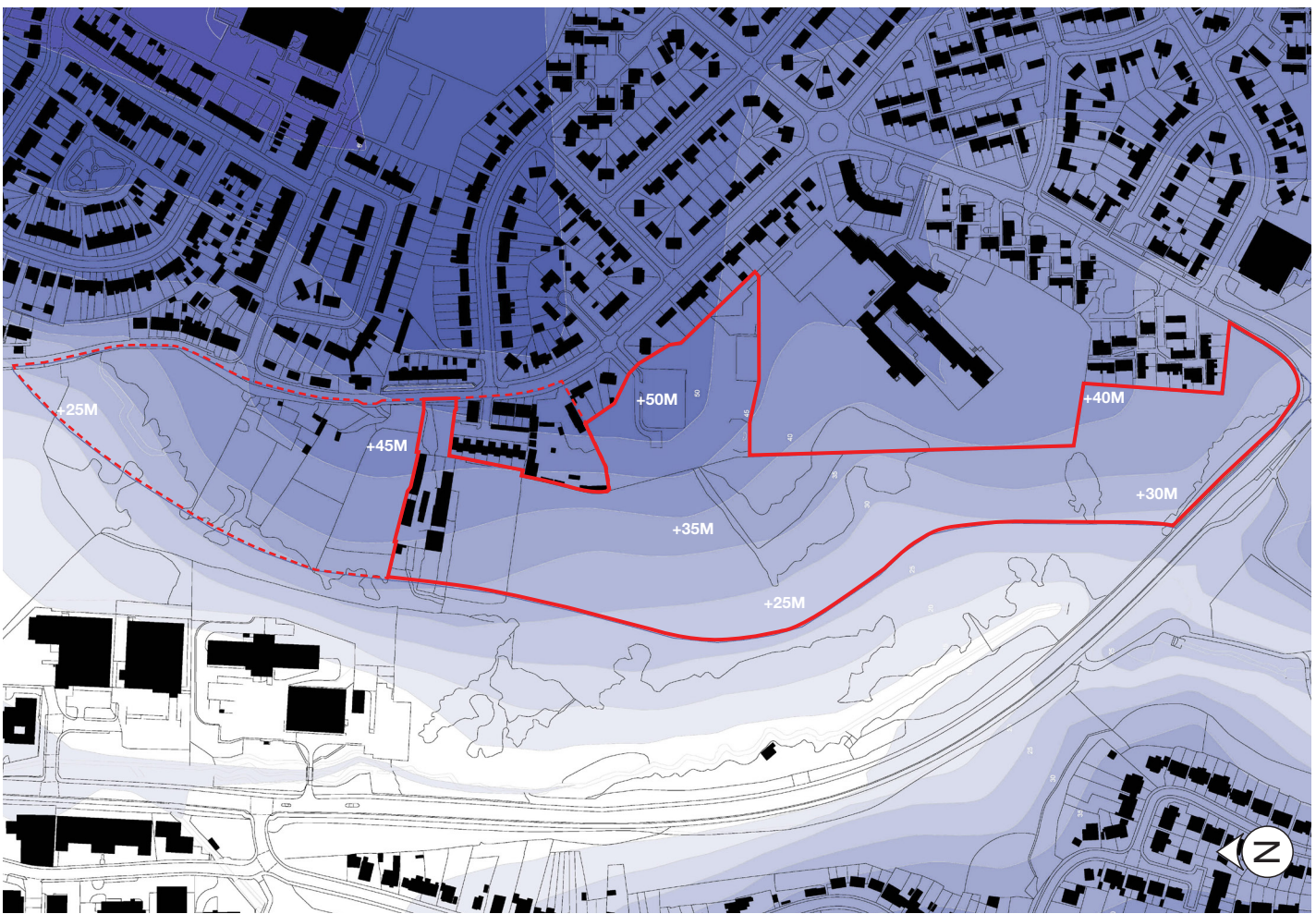
2.6 Site Context



Green Space and Trees

The majority of the site is characterised by undeveloped open green space. The site itself, and the green area to the west are included within the 'Pigeonhouse stream and adjacent meadows' SNCI.

There are dense areas of vegetation and trees across the site the majority of which appear to be of poor quality. Tree retention strategies will be reviewed in further detail following an arboricultural report and ecology survey.



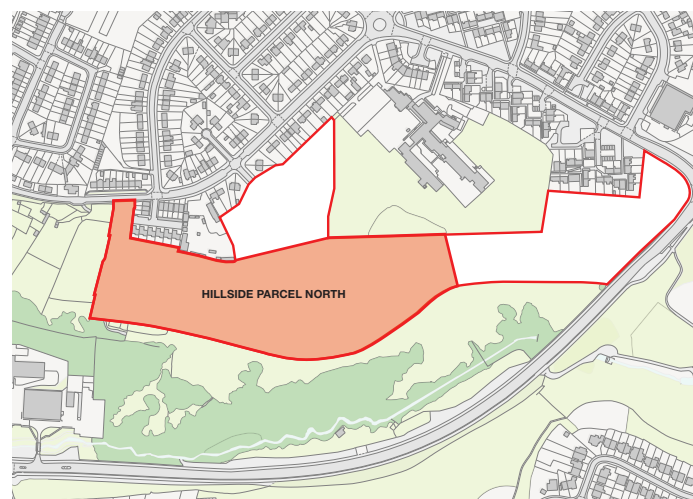
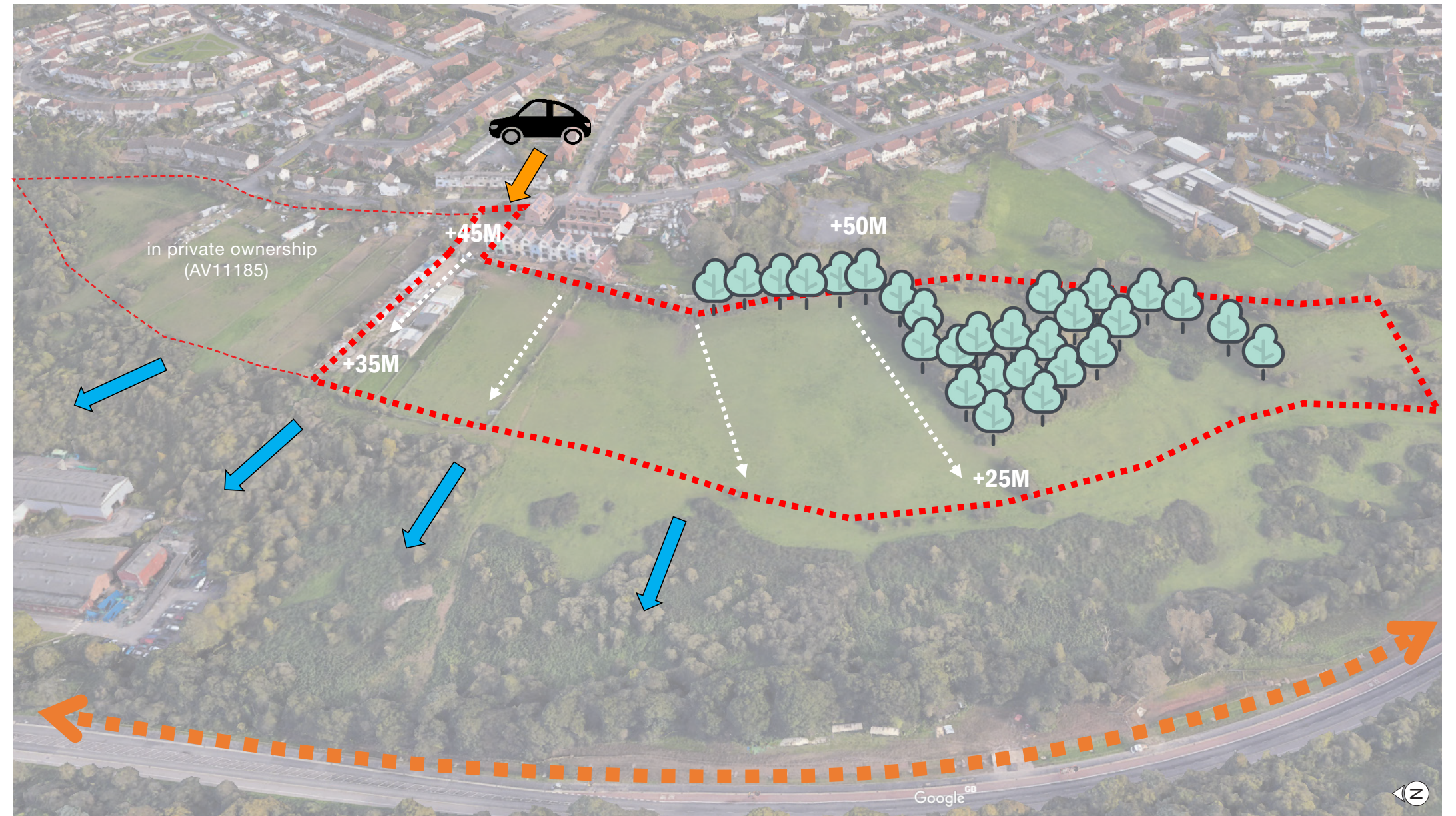
Topography

A topographical analysis of the site shows a consistent east to west slope across the site with level changes of ~25m between the highest and lowest points.

2.7 Hillside Parcel North - Constraints and Opportunities

The main constraints and opportunities related to the northern site are as follows;

- There is a single potential vehicular **access** point off of Novers Hill. There is also a considerable level change with a gradient of 1:12 minimum.
- Site **topography** generally is a key feature across most parts of the site with levels falling east to west.
- A large area of **vegetation and trees** occupies the central section of the site. Details of these trees will be confirmed by an arboricultural report.
- Proximity to Hartcliffe Way, the industrial zone to the north west and an adjacent proposed Household Waste Recycling Centre may be a source of **noise pollution**.
- Upper sections of the site benefit from excellent **views** across south Bristol towards the Avon Gorge



Site key plan



View to potential site entrance

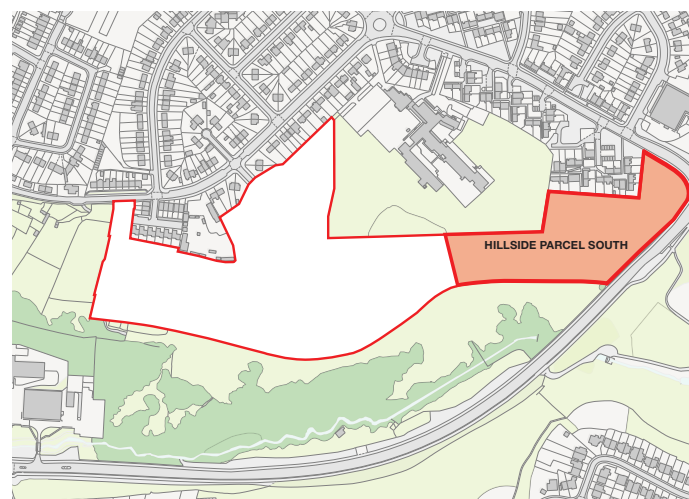
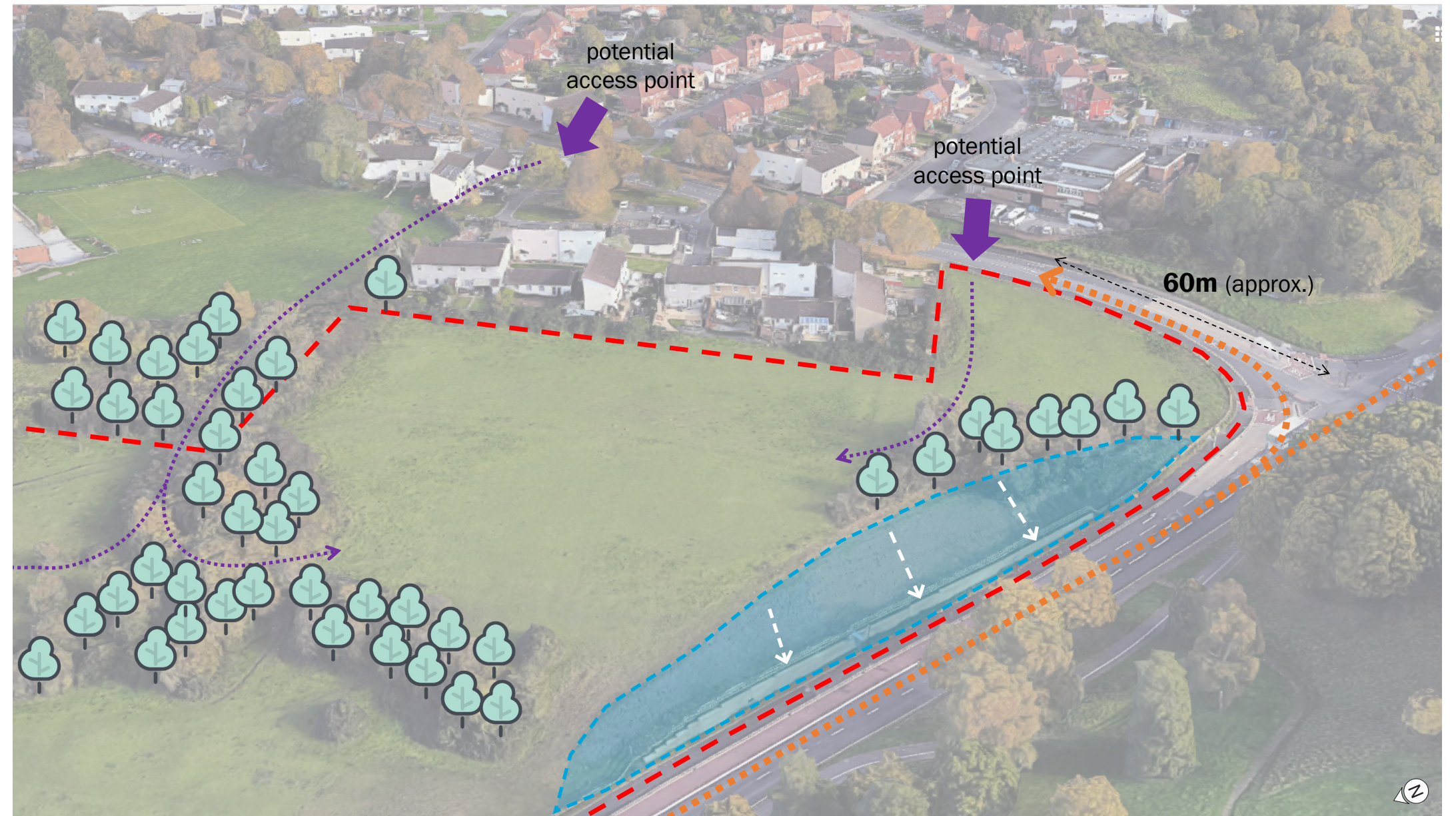


View north across site

2.8 Hillside Parcel South - Constraints and Opportunities

The main constraints and opportunities related to the southern site are as follows;

- There is limited potential for **access** to the southern part of the hillside site due to proximity to the Hartcliffe Way / Novers Hill junction. Any proposed access would need to be located as far from this as possible so as to minimise disruption to traffic.
- The preferred access point would be directly off of Novers Lane however it will be necessary to ensure that this does not have any negative impacts on traffic flow from the Hartcliffe Way junction.
- The second option would be further along Novers Lane away from the junction, however this is more complex due to it crossing part of an existing estate and requiring a potential land-swap with the adjacent school.
- While the topography on this portion of the site is gentler than elsewhere, there are areas of steep level changes towards the south-west site boundary where development will not be possible.
- Proximity to Hartcliffe Way may present issues relating to **traffic noise** and **pollution**.
- Dense areas of **vegetation** and **trees** occupy certain parts of the site.



Site key plan



View to potential site entrance

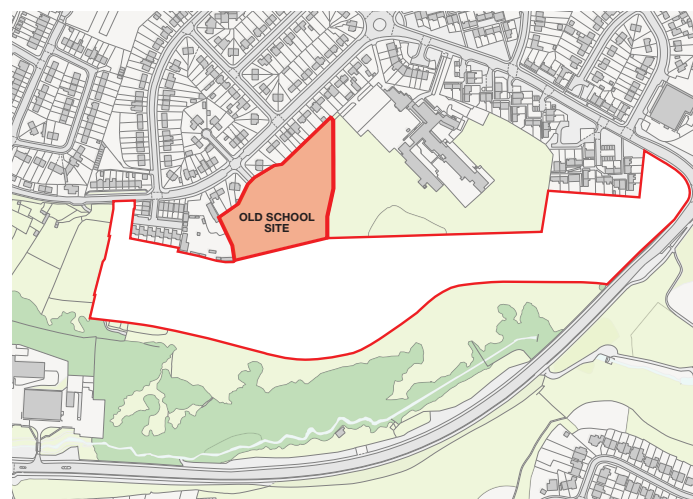
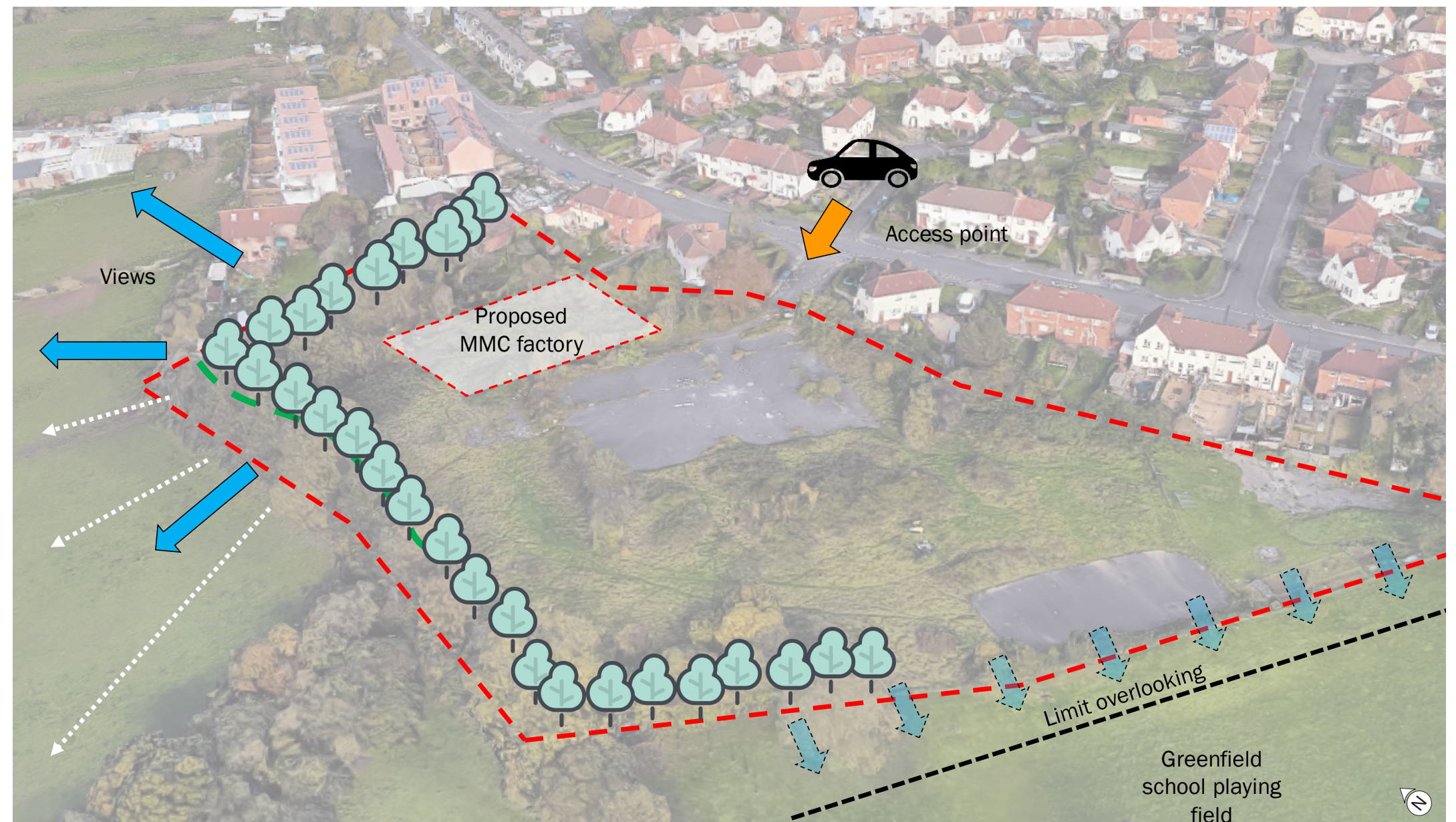


View to potential site entrance from Hartcliffe junction

2.9 Old School Site - Constraints and Opportunities

The main constraints and opportunities related to the Old School Site are as follows;

- There is a single existing vehicular **access** point to the site off of Novers Lane.
- A temporary **MMC factory** related to the 'We Can Make' initiative is proposed for the northern section of the site. This will have noise and traffic implications.
- The proximity to Greenfield Academy to the south will be a consideration in terms of privacy, security and overlooking.
- Though there is a slight change in **topography** falling to the west, the site is relatively level.
- There are a number of large and potentially significant **trees** along the north and western site boundary.
- Once above the line of existing trees, the site offers impressive **views** over the Hillside parcel and across south Bristol.



Site key plan



View to potential site entrance



Site of Old School

3.0 Masterplan

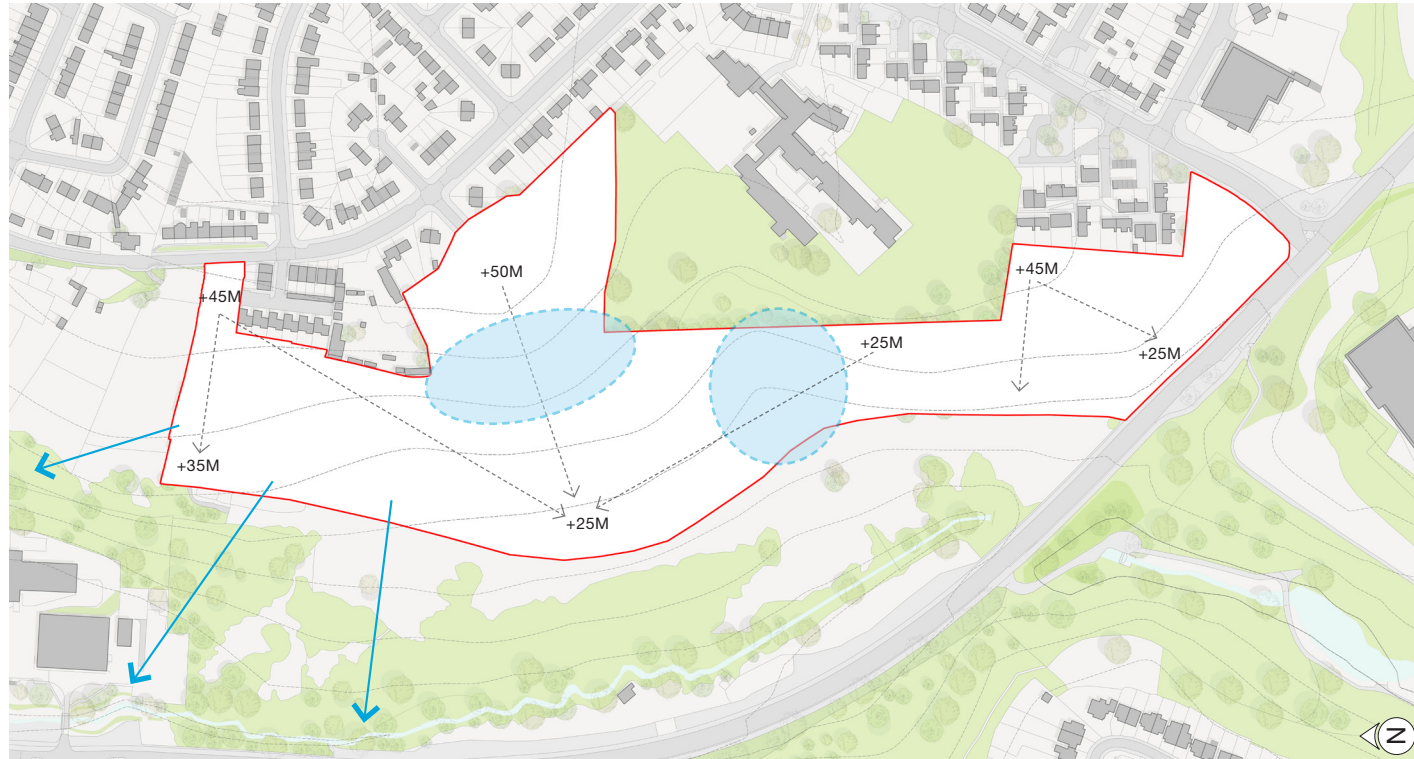
3.1 Establishing a Baseline

A baseline masterplan has been developed to define design principles for the site and determine scheme viability. Using a while-site area of 7.15 Ha, this study seeks to achieve Bristol City Council target density of 50 D/Ha.

For the purpose of this study, a 100% residential masterplan has been assumed. It is understood that some ancillary uses will be proposed for the site, further information on this can be found in Chapter 6.

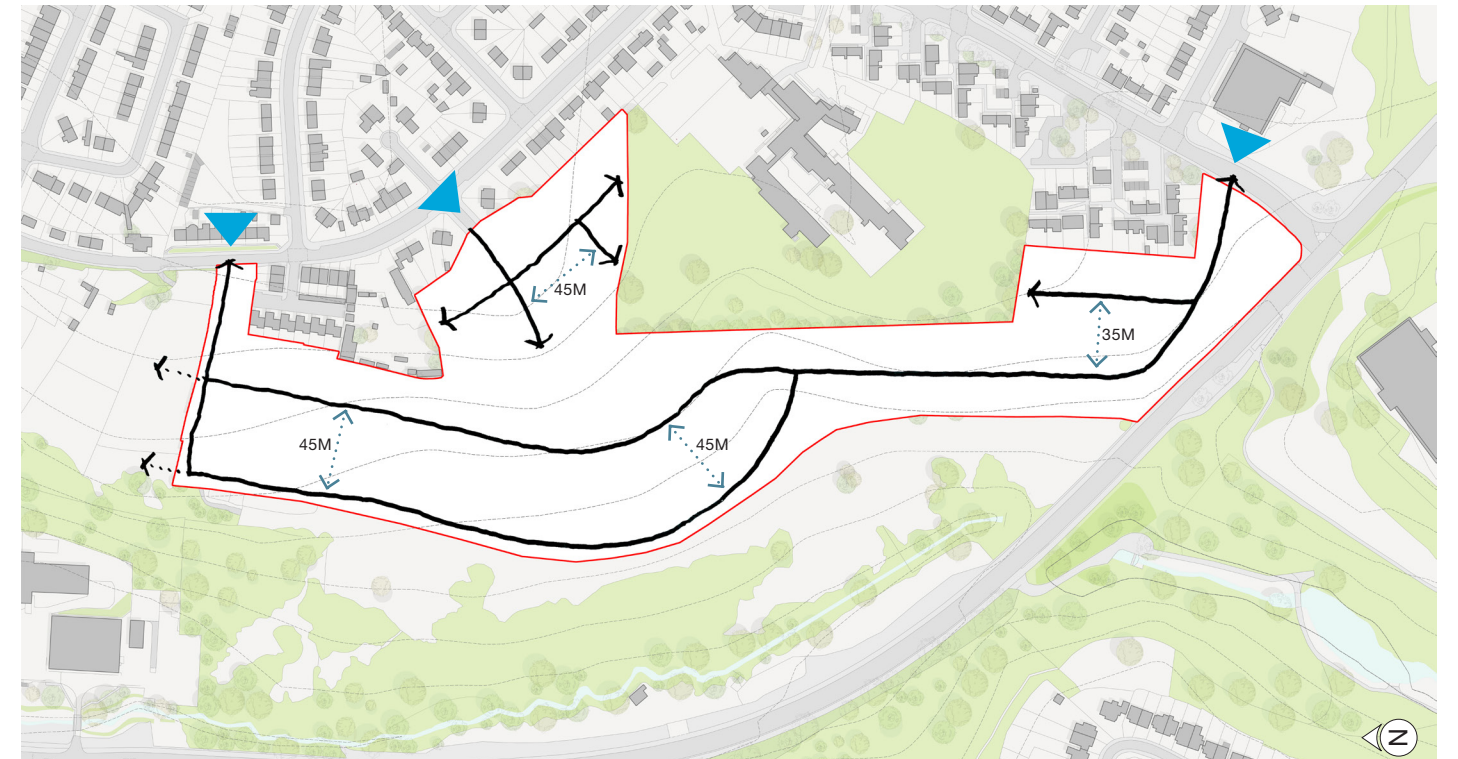


3.2 Masterplan Framework



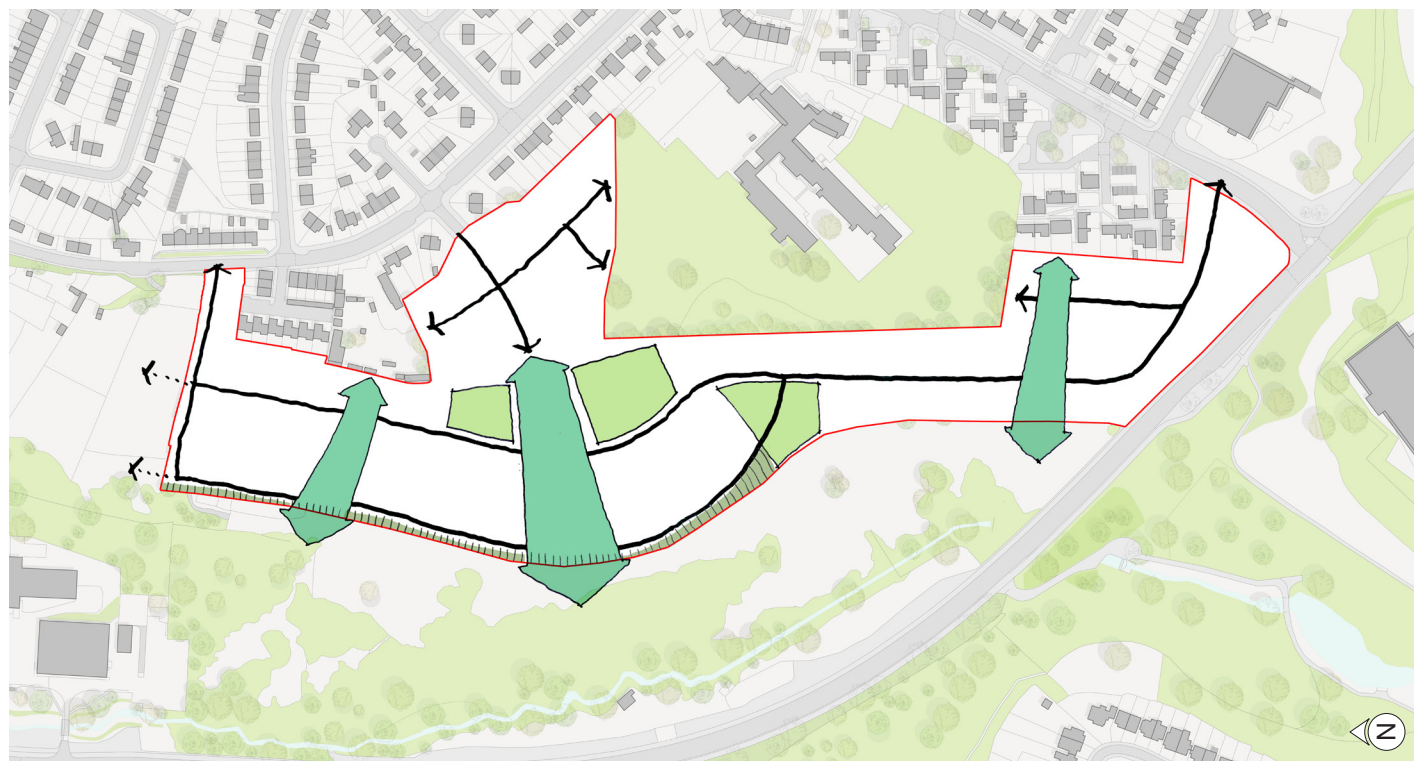
Topography

Steep topography falling east to west with significant level changes in areas denoted in blue. Civil assessments used to inform a suitable road network.



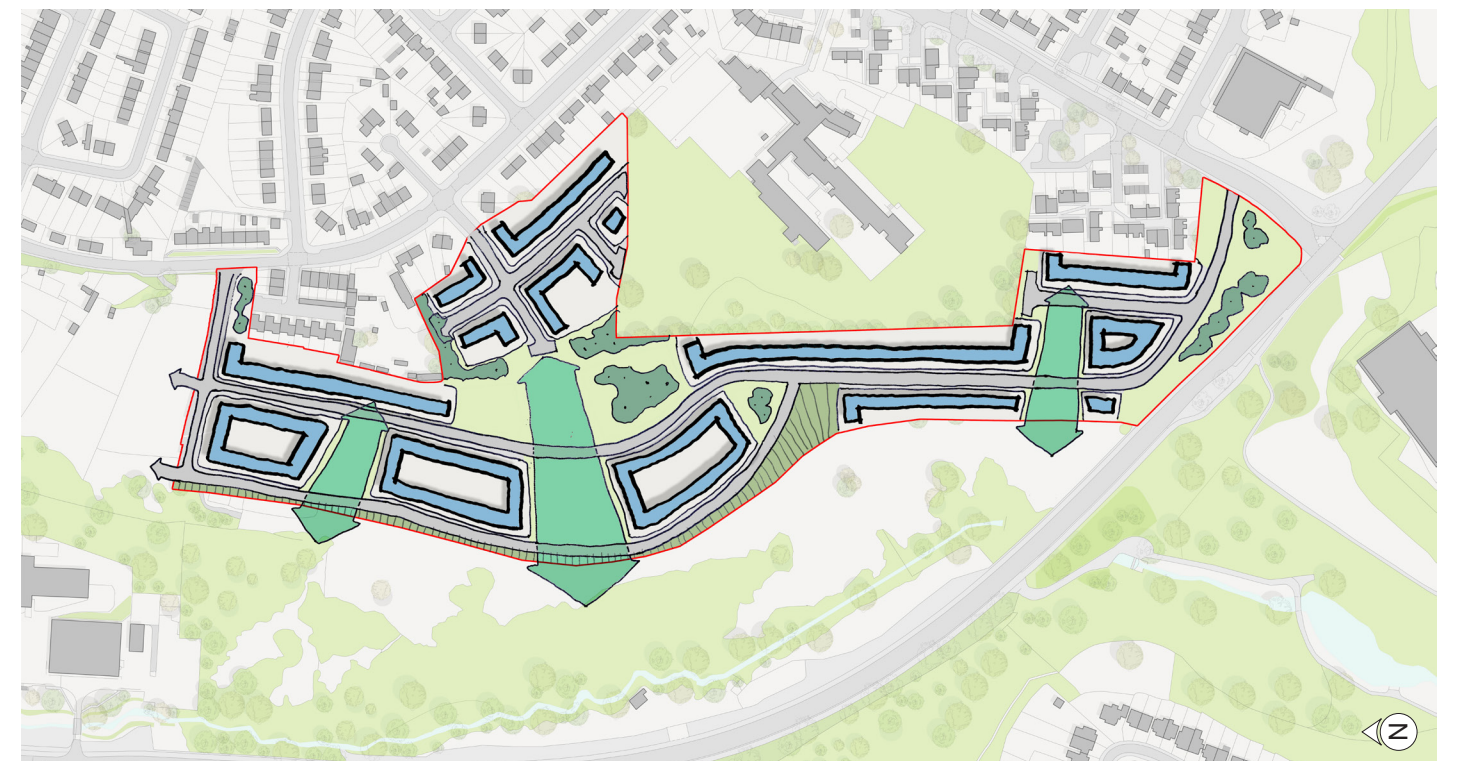
Access and Roads

The site is predominantly land-locked with limited vehicular access points. Roads across the site will follow the contours to avoid steep gradients. A 35-45m separation will be used to achieve a suitable back to back house condition.



Connections and Greenways

Green corridors laid out perpendicular to roadways to provide pedestrian connections across the site. The green links also help to break up the streetscape and define suitably sized urban blocks.



Masterplan Framework

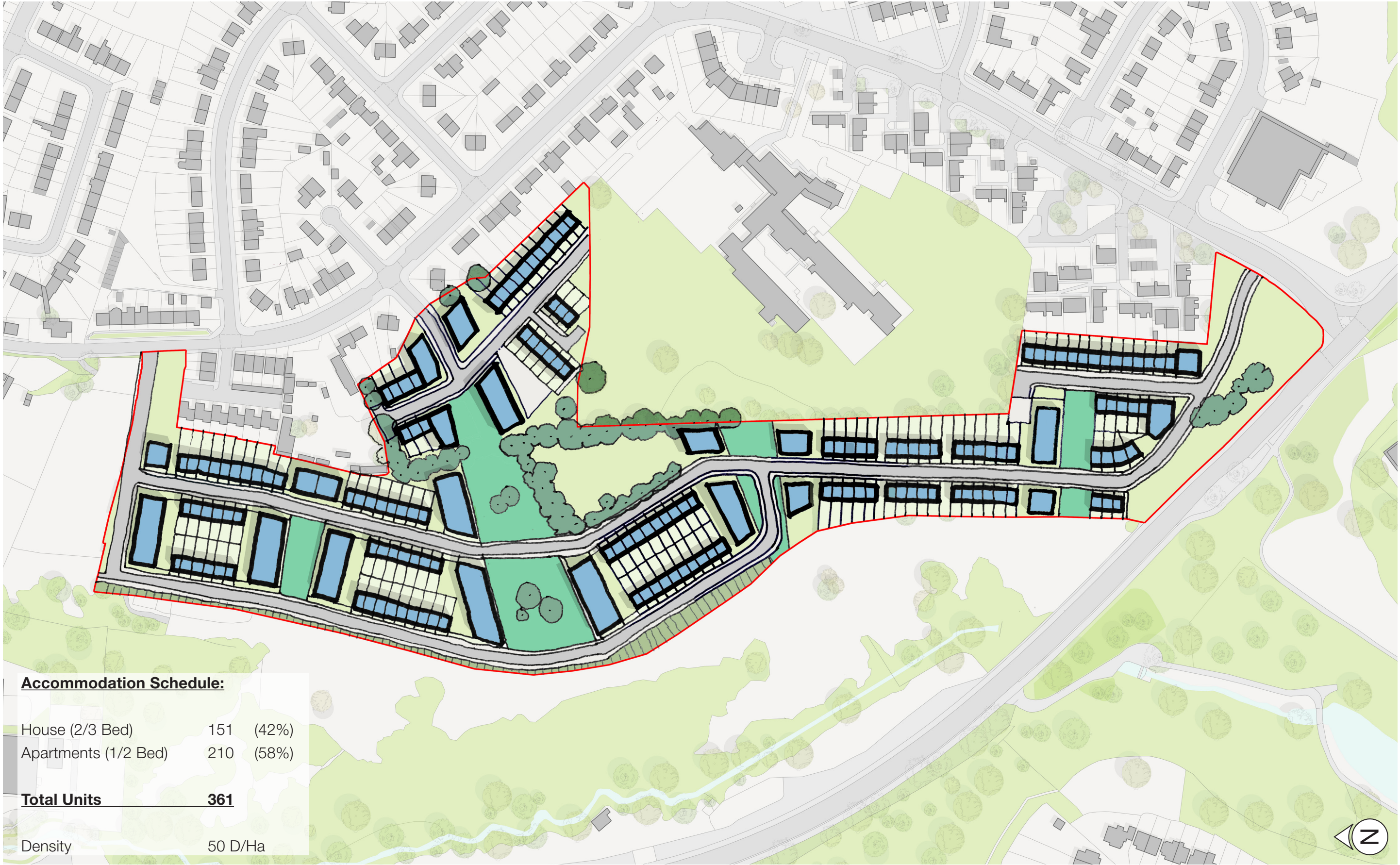
3.3 Structuring Diagram

The adjacent site structuring diagram illustrates the following:

- Public and private space
- The layout and form of the urban blocks
- Building frontages and street edges
- Possible locations of focal buildings
- Street hierarchy

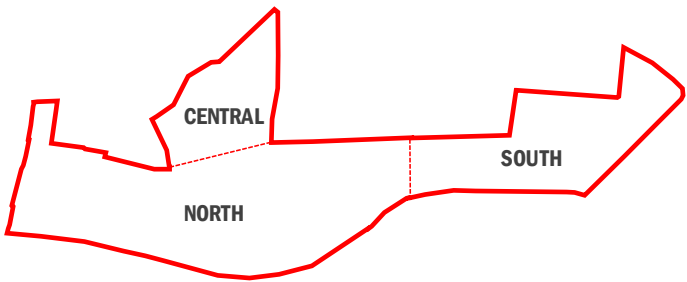


3.4 Proposed Baseline Scheme



3.5 Accommodation Schedule

A baseline accommodation schedule of total unit numbers and site densities is provided in the table adjacent. These figures are subject to change pending further development of the client brief and additional clarity on the required housing mix for each of the sites.



Site	Type	Units	%	Total Units	Total Site Area	Density: Total
North	Houses (2/3 Bed)	66	32%	205	4.13	50 d/Ha
	Apartments (1/2 Bed)	139	68%			
South	Houses (2/3 Bed)	58	63%	92	1.93	48 d/Ha
	Apartments (1/2 Bed)	34	37%			
Central	Houses (2/3 Bed)	27	42%	64	1.09	59 d/Ha
	Apartments (1/2 Bed)	37	58%			
TOTAL	Houses (2/3 Bed)	151	42%	361	7.15	50 d/Ha
	Apartments (1/2 Bed)	210	58%			

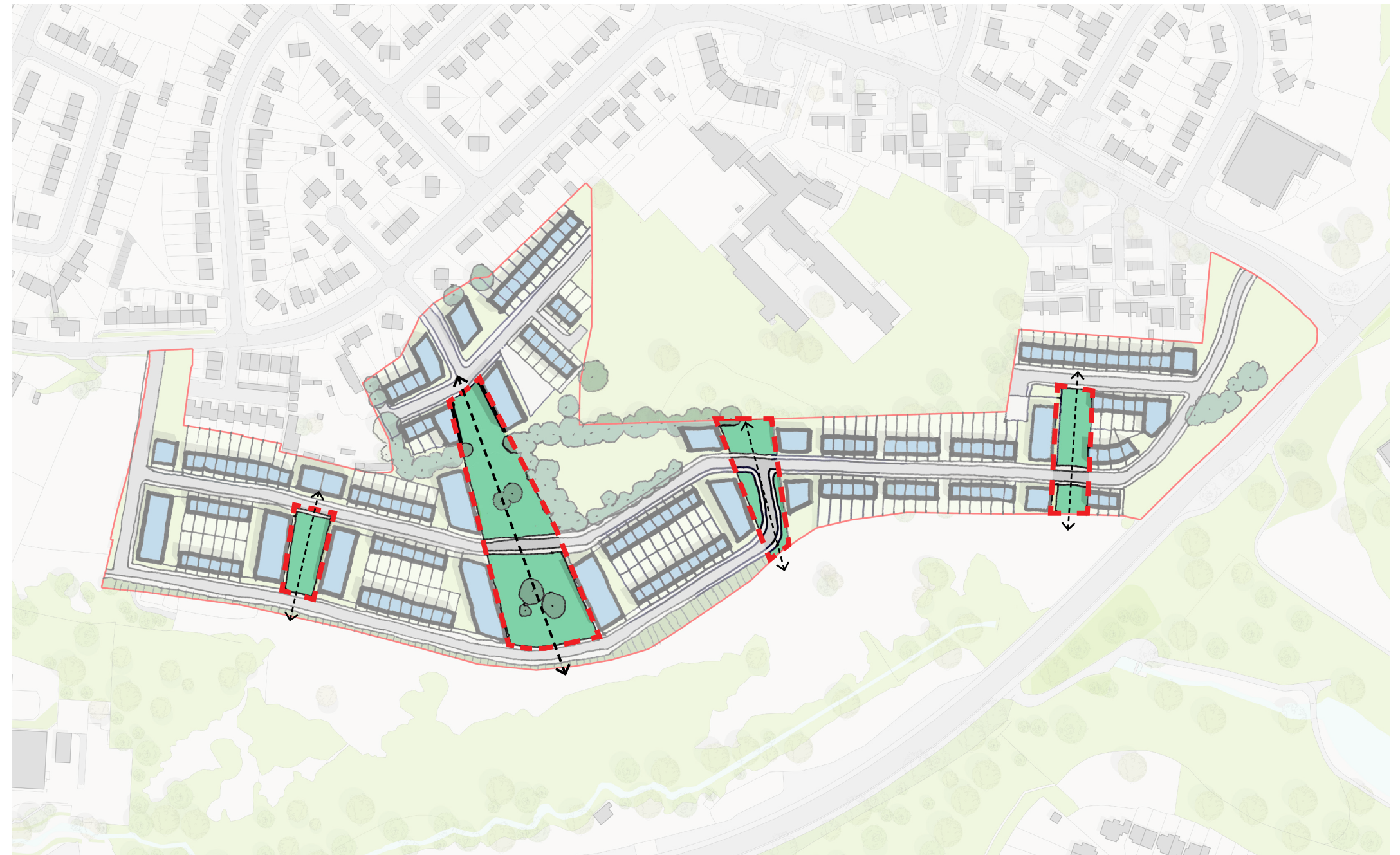
NOTE: The information shown relates to an initial site feasibility study for BCC and is subject to review and analysis from additional Consultants. The areas shown are approximate only and have been measured from concept plans. All the above should be considered before making any decisions on the basis of these predictions, and should include due allowance for the increases and decreases inherent in the design development and construction processes.

4.0 Design Principles

4.1 Green Routes

A series of green corridors are laid out perpendicular to the roadways to provide pedestrian connections across the site and down to the Pigeonhouse SNCI to the west. These landscaped spaces provide valuable amenity space for play and social activity. The layout of the green links across the site help to break up the streetscape and define suitably sized urban blocks.

There is also an opportunity to use the greenways within the drainage strategy for the site by incorporating swales, SUDs and rain gardens.

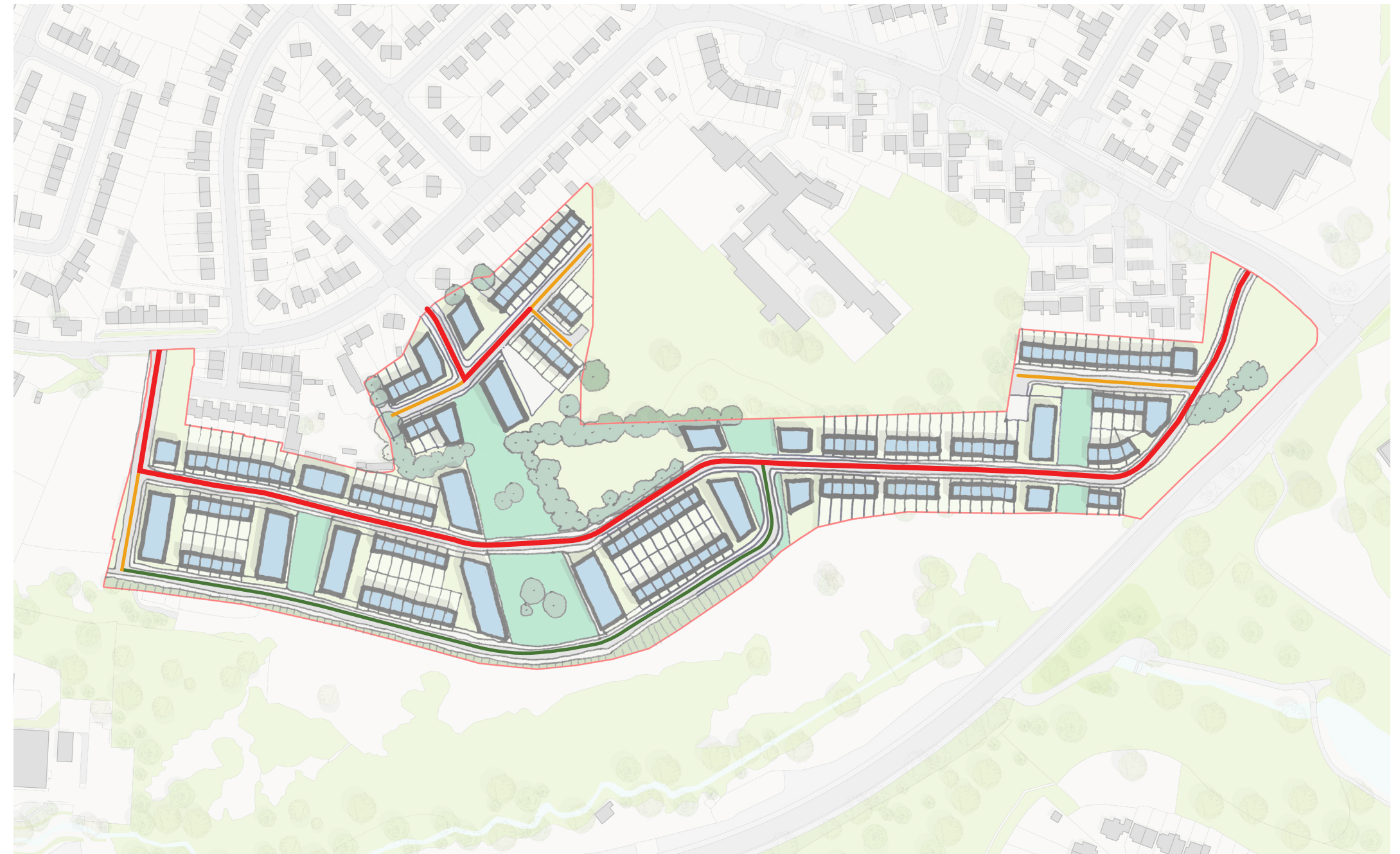


←-----> Pedestrian Link

4.2 Street Types and Parking

The masterplan will incorporate a variety of street types helping to create a varied streetscape and contributing to a successful public realm.

The masterplan aims to create high quality streets which are inclusive and accommodate a variety of competing requirements and users.



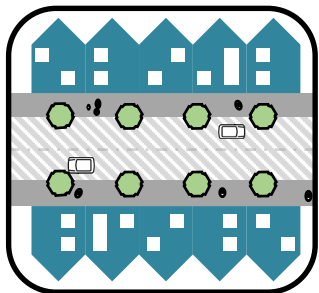
4.2 Street Types and Parking

Overview

The adjacent precedent study on a variety of street types has been used to further define certain urban principles and ideas relevant to the masterplan.

Traditional Traffic Separation

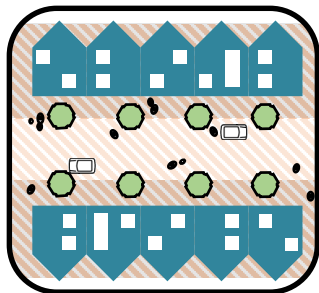
These roads are envisaged as being key arteries for movement in and around the site. The various street uses for vehicles, pedestrians and cycles etc. are clearly defined both spatially and materially.



Backhouse Westbury - AHMM

Shared Surface

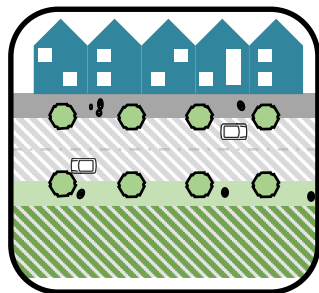
These roads are envisaged as having shared surface so as to encourage play and prioritise pedestrian movement. The streets are able to be broken up and spatially defined by pockets of soft landscaping and planting.



Anne Mews - AHMM / Maccreanor Lavington

Green Edge

These spaces are envisaged as park facing streets where houses will have direct views out over the landscape on the site boundary. The streets will therefore typically only have houses on a single side.



Backhouse Highgate - AHMM



Dora Carr - AHMM



Dunmail - AHMM



Backhouse Westbury - AHMM

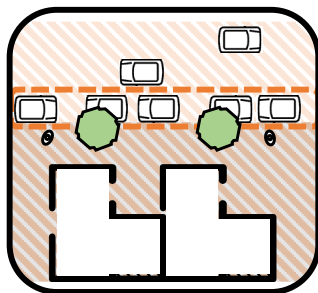
4.2 Street Types and Parking

Parking

The adjacent precedent study on parking conditions provides examples of several solutions for dealing with car parking which will be used around the site.

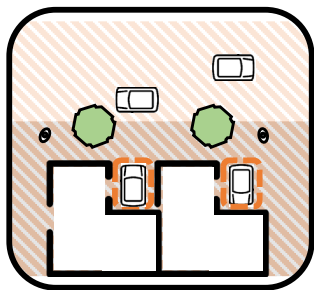
On-Street Parking

Soft landscaping and planting will be interwoven with on-street parking to minimise its visual impact whilst also contributing to a sustainable drainage strategy



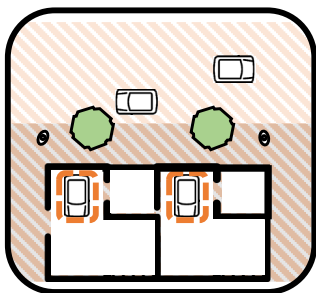
On-Plot Parking

On-plot parking enables reduced distances between buildings and the surrounding landscape thereby contributing to a more human-scale street condition.



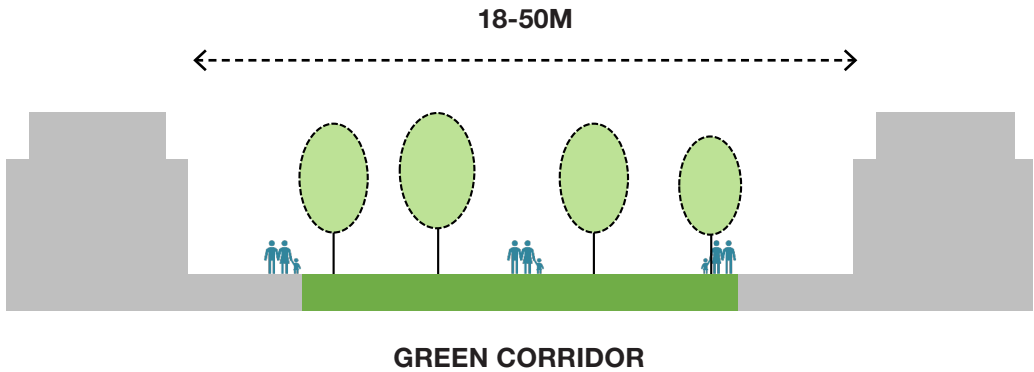
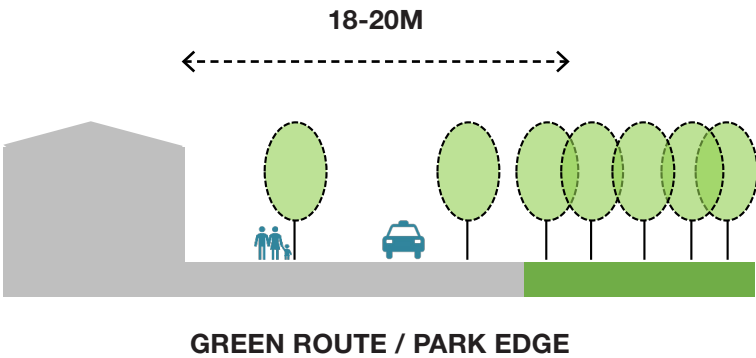
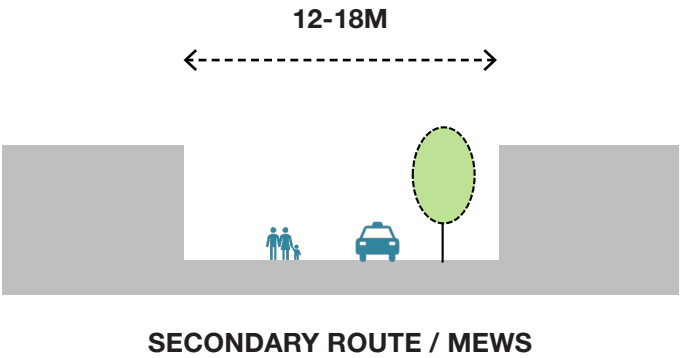
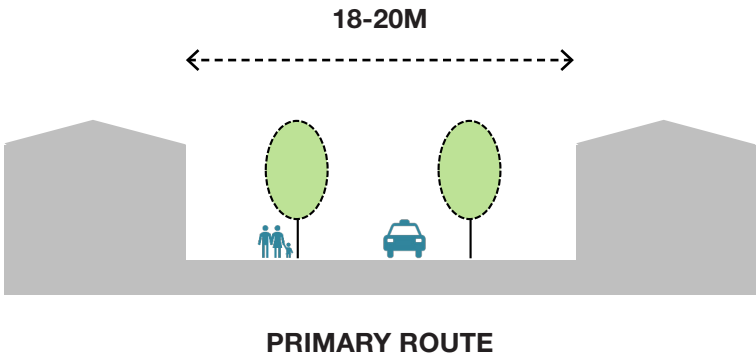
Integrated Garage Parking

Integrated parking garages will be incorporated into the design of some of the house types in an effort to minimise the visual impact of car parking and improve the visual amenity for residents.



4.3 Streetscape Proportions

The adjacent diagrams show indicative street sections and provide a diagrammatic overview of each of the previously defined street types across the masterplan.



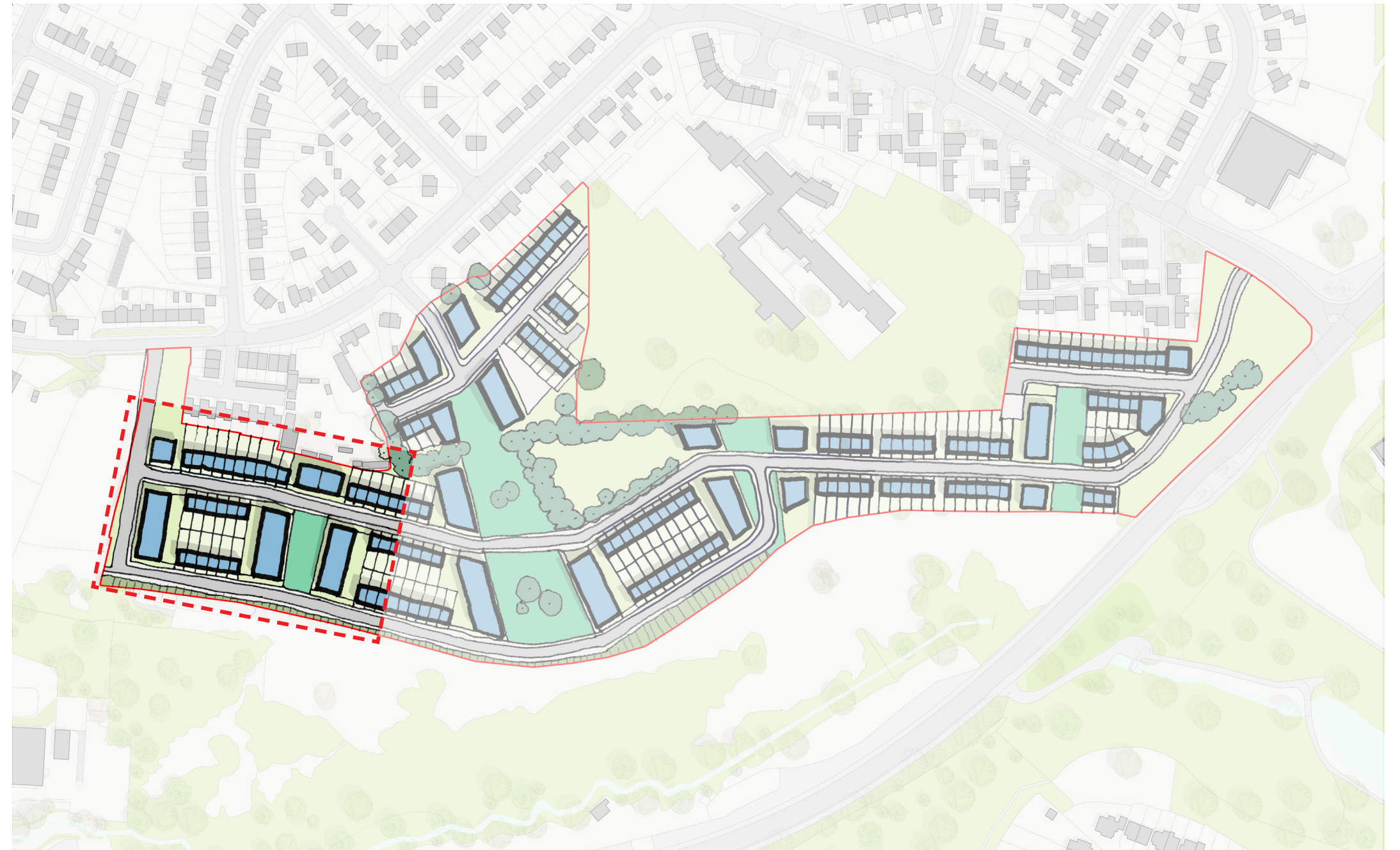
5.0 Detailed Study

5.1 Plot Selection

Overview

The following information comprises a more detailed study into a select portion of the site. The study area includes a range of different urban conditions and building typologies used across the masterplan and so offers a closer look at the layout and design principles envisaged for the site.

In particular the study provides more resolution on how the buildings respond to the topography of the site through the use of stepped house and linear apartment block typologies.



5.2 Lower Ground Floor Plan

The adjacent drawing illustrates a typical block condition at the lower road along the western boundary.

Undercroft parking accessed off of the lower road is provided at the lower ground floor of the linear blocks with access to the residential cores.

The lower tier of terraced houses front onto the lower road and park edge benefitting from highly desirable views out over the SNCI.

On street parking is a also provided along the park edge with regular pockets of soft landscaping and trees interspersed throughout. The green landscaping is brought into the site at strategic points between the linear blocks.

Key:

Apartments:

- 3 bed, 5 person
- 2 bed, 4 person
- 1 bed, 2 person

Housing:

- 2/3/4 Bedroom House
- Pedestrian entrance
- Vehicular entrance



5.3 Ground Floor Plan

Pedestrian access to the linear blocks is provided further up the Western Slopes at ground floor level. Active frontage to the blocks is maximised at ground floor with a mix of entrances to core lobbies and private front doors to the central dual aspect flats at ground floor.

Two further rows of terraced housing and several smaller apartment blocks are accessed off of the higher road where there is a mix of integrated, on-street and on-plot parking conditions.

Key:

Apartments:

3 bed, 5 person

2 bed, 4 person

1 bed, 2 person

Housing:

2/3/4 Bedroom House

Pedestrian entrance

Vehicular entrance

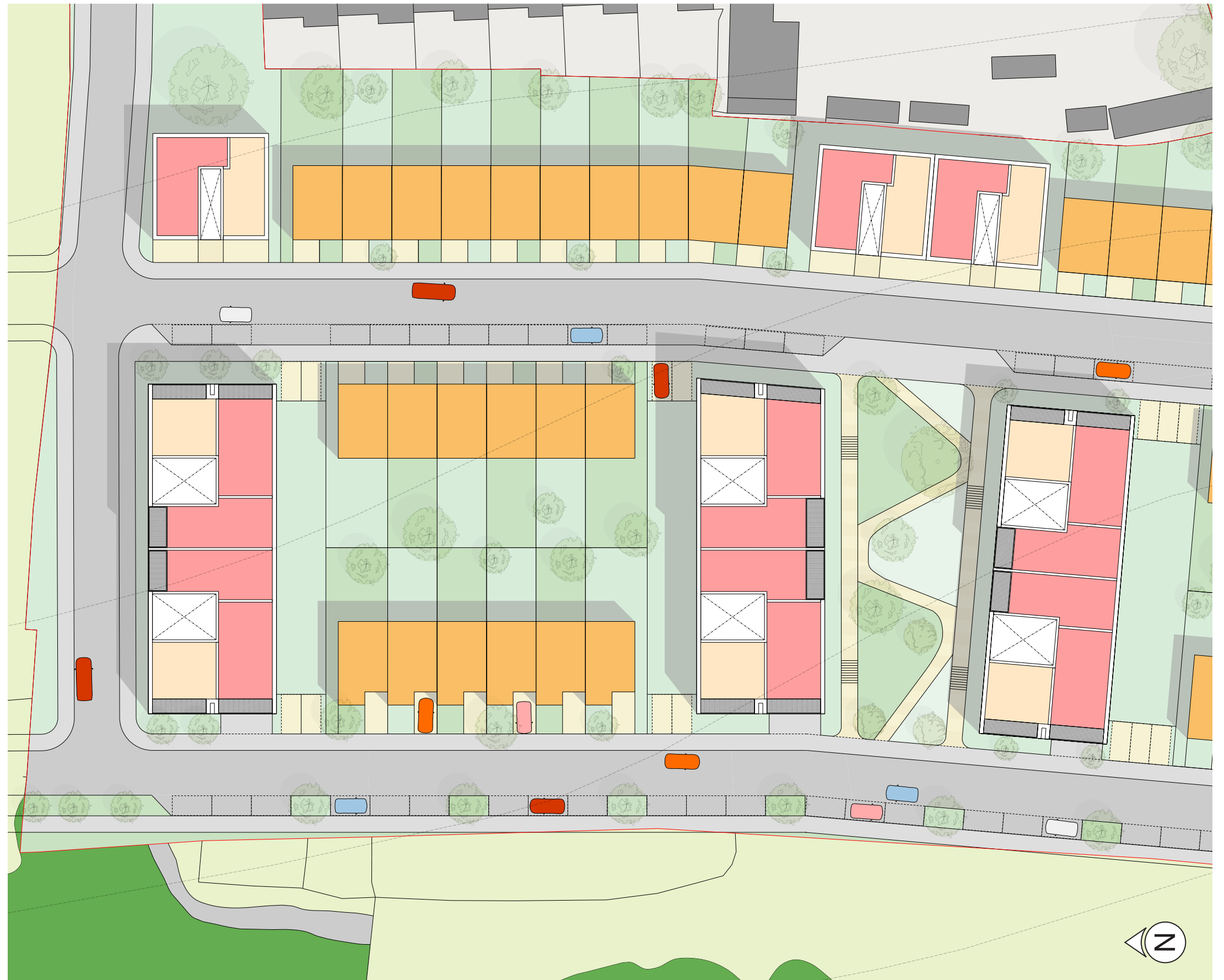
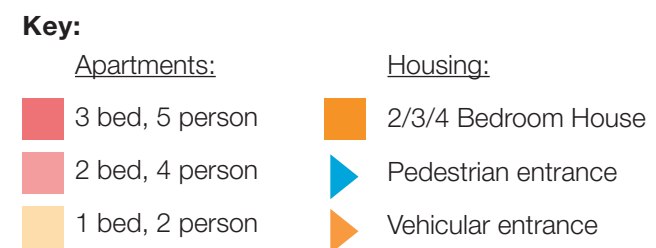


5.4 Typical Floor Plan

A typical floor layout demonstrates how the block configuration and the use of through apartments avoids single-aspect north facing units. As a result of this all apartments are dual aspect with provision for external balcony space oriented towards key views.

Minimum distances of 18m between linear blocks and 20m between houses are maintained throughout.

Alternative single core apartment configurations will be developed during the next work stage as part of the ongoing design work.



5.5 Upper Floor Plan

The linear blocks are all stepped at the top floor thus helping the massing to repond to the topography of the site. The stepped massing is therefore able to maintain a 4-storey height at both the upper and the lower roads. The stepped block also provides an opportunity for south facing amenity space at roof level to take advantage of the views.

Key:

Apartments:

3 bed, 5 person

2 bed, 4 person

1 bed, 2 person

Housing:

2/3/4 Bedroom House

Pedestrian entrance

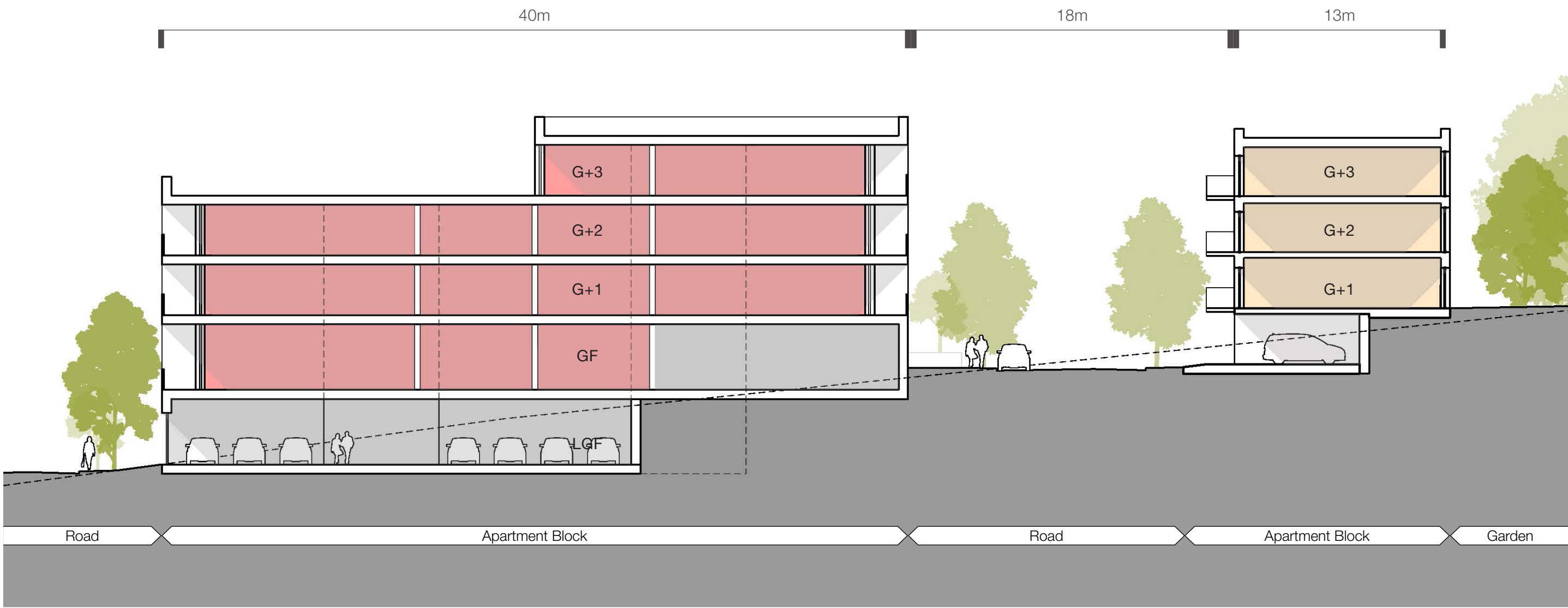
Vehicular entrance



5.6 Section 01

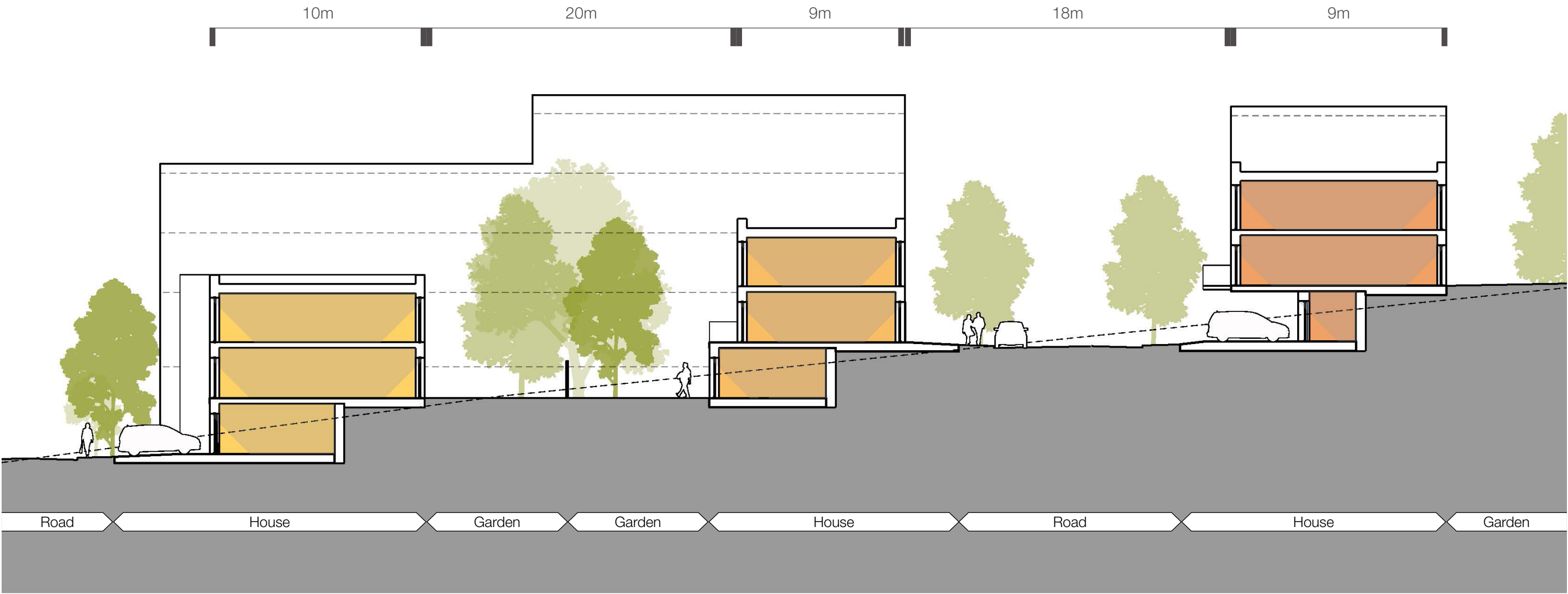
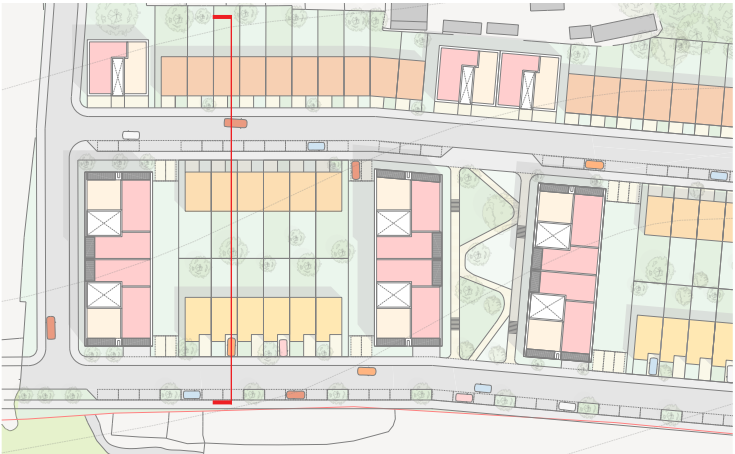
The linear blocks will be designed to step with the topography of the site with lower non-habitable space at the lower ground floor used for services and back of house areas.

The design of the smaller apartment blocks are also designed to work with the topography with provision for private garden space for the apartments at G+1.



5.7 Section 02

The adjacent section illustrates how the house types will be configured to work with the levels and step with the topography to minimise cost through the need for additional large retaining structures.



6.0 Further Development

6.1 Wider Site Masterplan

The following section is an initial look at possible next steps for the proposed masterplan and wider context. The following series of studies, while not absolute, offer some preliminary thoughts on certain areas of the masterplan requiring further development and resolution in the next work stage.

This following studies include the following:

Integration of Adjacent Sites

- Private land north of Old School Site
- Greenfield Academy Site
- Private land north of Hillside Parcel

Ongoing Design Studies

- Northern road layout
- Southern connection road

Ancillary Uses

- Community centre
- MMC Factory

6.2 Integration of Adjacent Sites

Overview

The wider context to the baseline masterplan presents three potential future developments sites which borders the main site. Two of these sites (the private land to the north and to the east) are shown within boundary on the site allocation plan (BSA1108) for the development of the site. The third site, currently occupied by Greenfield Academy, while not shown within the site allocation boundary has been included within the study so as to demonstrate the development potential of the site and to further validate the structuring of the baseline masterplan.

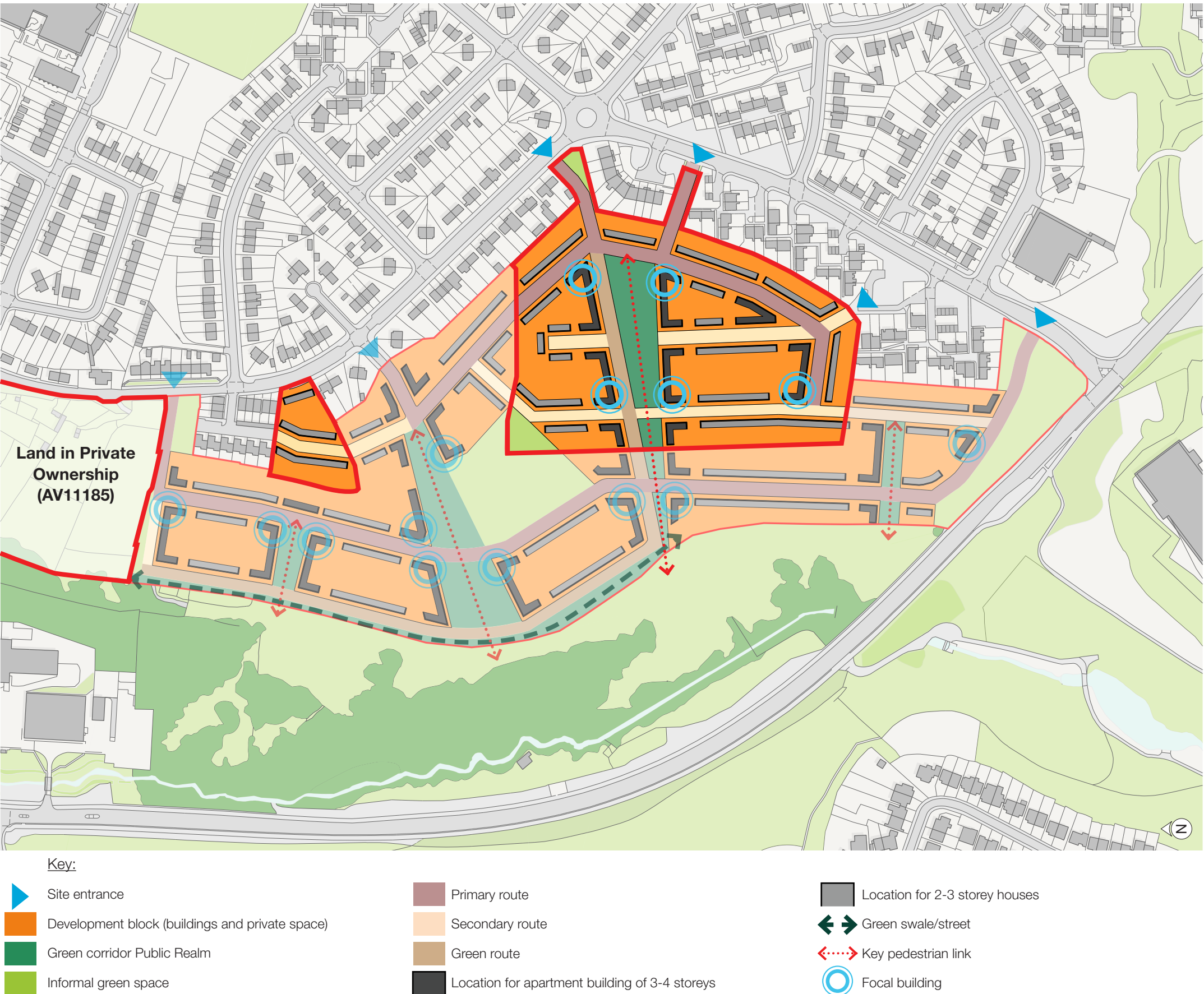
Private Land

Despite being a small land parcel, development of this site would offer an opportunity for the road in the baseline masterplan to naturally connect into the recent development at 100 Novers Hill. The north / south road through the site presents a condition for a row of terraces houses either side of the road and a back to back condition to the east with houses fronting onto Novers Lane.

Greenfield Academy Site

There are a two existing access points into the site directly off of Novers Lane to the east. In addition to these, there is also a potential access point off of Farnaby Close to the south.

Equally, there are a number of opportunities to connect into the baseline masterplan by extending some of the proposed roads into this site. Additional pedestrian and ecological connections are provided by also extending the green corridor into the site. 2/3 storey terraced houses are used to create back to back conditions around the perimeter of the site, while larger linear apartment blocks occupy the centre of the site flanking the green corridor.



6.2 Integration of Adjacent Sites

Overview

In considering the sale and eventual development of the private land to the north (AV11185), and in the absence of any design information for this area, wthis study considers possible boundary conditions that could be created by a neighbouring development and the implications for the baseline masterplan. These are explored in the adjacent diagrams.

It is not currently possible to begin coordination of the two masterplans, and specifically the northern boundary condition. However it is suggested that an integrated and coordinated proposal is established during future development work so as to achieve a successful and seamless boundary condition between the sites.

Back Garden Condition

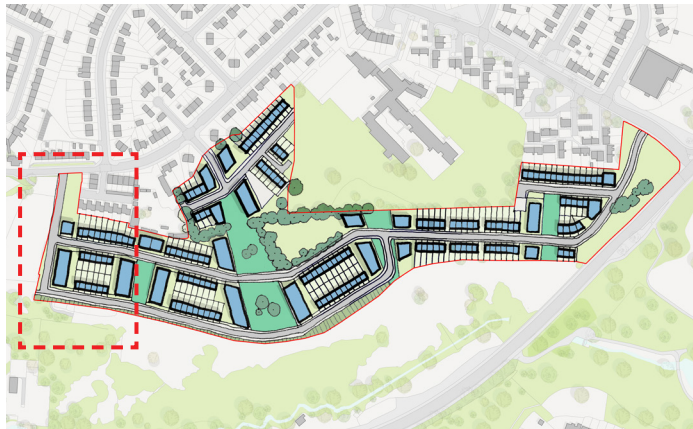
A terrace of houses along the boundary edge on the neighbouring site would create a ‘back garden to road’ condition between the two sites. This is not a desired urban condition and does not contribute to creating a positive active street.

Road Condition

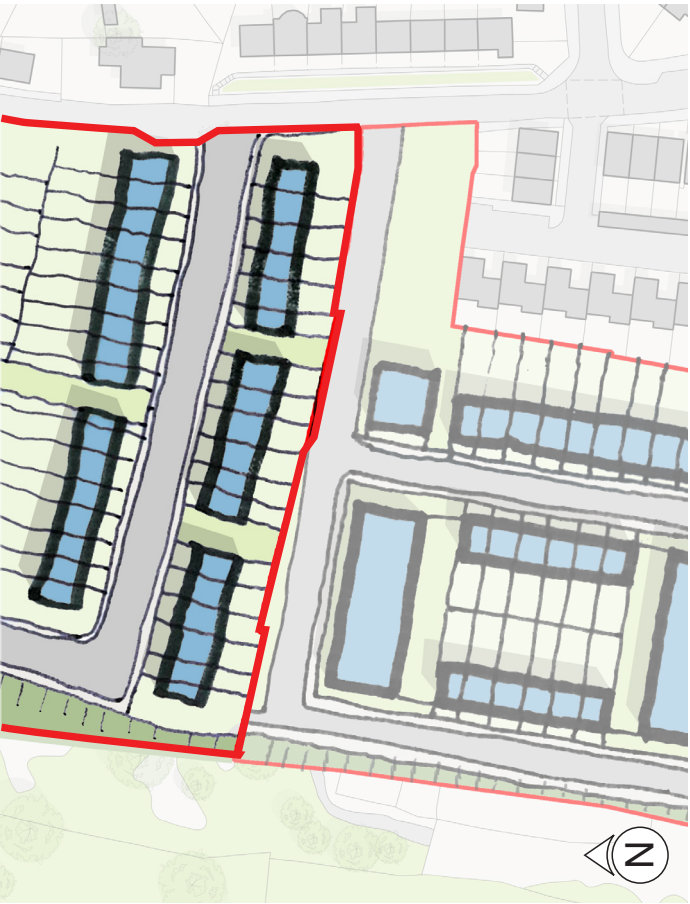
Another potential option is that the neighbouring development has housing fronting onto a north/south access road which borders the boundary. While an active frontage along the boundary edge is preferred, two separate roads would considered be inefficient and unnecessary.

Coordinated Design

Based on the previous two potential options, it would seem that the natural response to this boundary condition would be a shared road with active frontage along both sides and secondary connections north and south into the two sites. The adjacent sketch demonstrates how this might be done whilst also adopting a similar urban grain to the baseline masterplan.



Key Plan



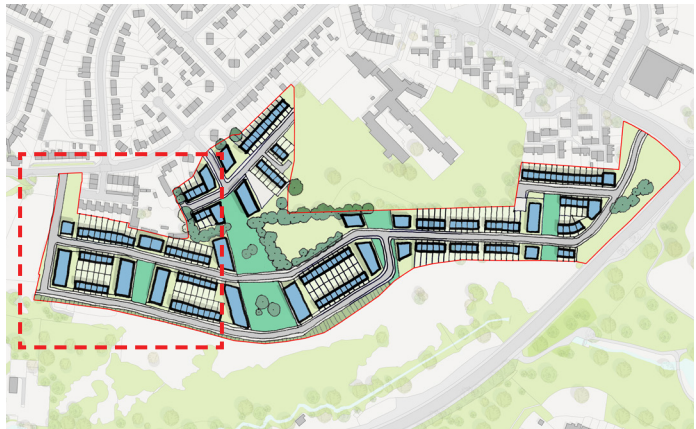
6.3 Ongoing Design Studies

Northern Access Road

The adjacent sketch outlines an alternative option for the northern road layout which responds to ongoing work by the civil engineers. The key change is the relocation of the east/west access road which is moved south. By doing this, it is possible to remove the need for retaining structures along the western boundary, improving the quality of amenity space and physical connection to the SNCI.

This change also presents an opportunity to create another green corridor along the northern site edge. In addition to softening the entrance and approach to the site via a landscaped northern access point, the green edge also adds flexibility within the masterplan and offers a strategic buffer for responding to any future development to the north.

Note: Refer to section 6.5 for accommodation schedule.



Key Plan



Northern Access Road - Baseline masterplan



Northern Access Road - Design study

6.3 Ongoing Design Studies

Southern Connection Road

The sketch above outlines an alternative option for the southern connecting road which seeks to improve the back garden boundary condition shown in the baseline masterplan. In this option the lower road continues along the western site to the southern access point on Novers Lane. This maintains an active boundary condition facing the SNCI thereby improving visual and physical connections to this valuable resource.

Note: Refer to section 6.5 for accommodation schedule.



Key Plan



Southern connection road - Baseline masterplan



Southern connection road - Design study

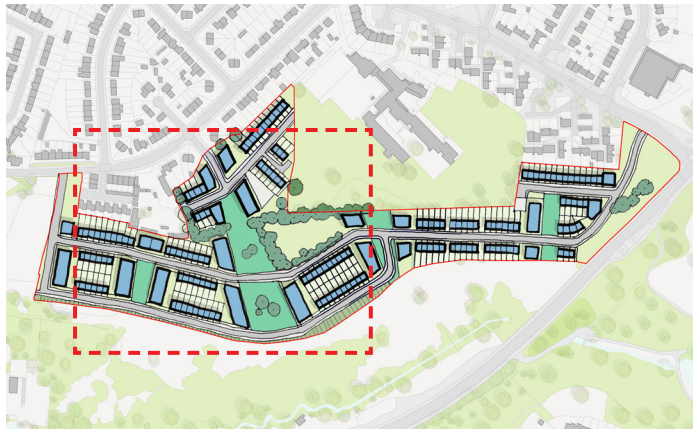
6.4 Ancillary Uses: Community Centre and MMC Factory

Community Centre

The sketch drawing above shows a potential location for a community facility/building for the site. In addition to its central position, this location offers the potential to utilise adjacent south facing green space with parking provided to the north.

Two additional options for potential locations of a community facility are provided through the later redevelopment of the temporary MMC factory. These two options are shown adjacent.

Note: Refer to section 6.5 for accommodation schedule.



Key Plan



Old School Site - Baseline masterplan



Old School Site with MMC Factory - Option 1

6.4 Ancillary Uses: Community Centre and MMC Factory

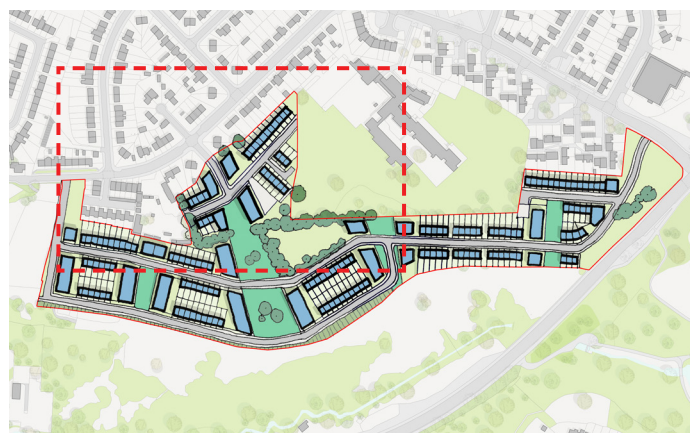
MMC Factory Option 1

Option 1 for the location of the proposed MMC factory is to the north of the Old School Site, similar to the location shown in a previous proposal by White Design. The main advantage of this location is the clear split on the site between residential and light industrial. While the additional volume of traffic generated by the factory is not expected to be great, the split helps to minimise any negative impacts on the residential area.

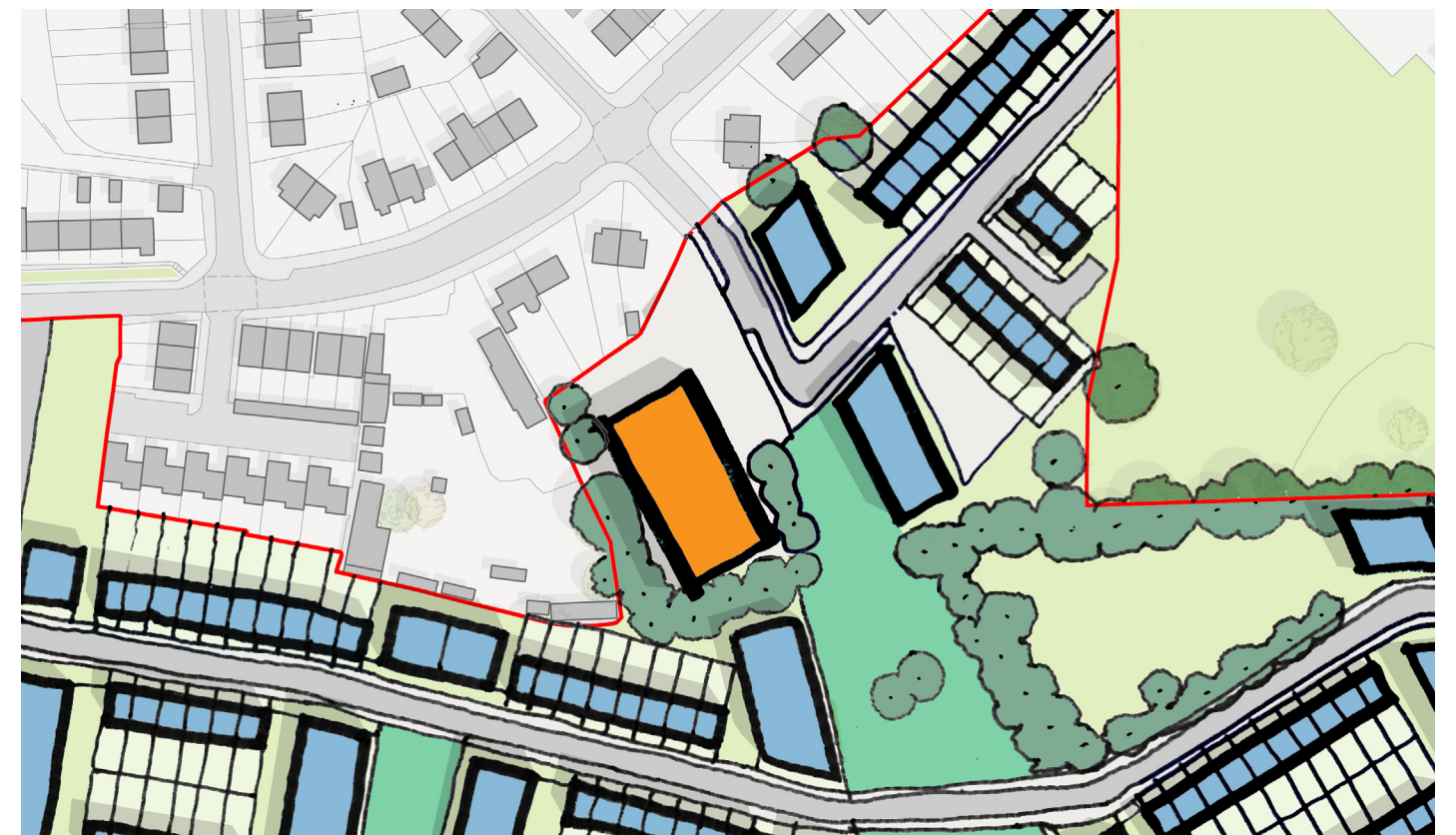
One possible draw back with locating the factory in this position is that it removes any possibility of connecting into the smaller sites to the north if these were eventually developed. In addition to the loss of physical connections, a large factory build could also obstruct the potential north-west views for the residential towards Avon Gorge and Manor Valley Woods.

Given that this is intended as a temporary facility, this location would also support the later redevelopment of the factory into a residential development or even community centre for the site.

Note: Refer to section 6.5 for accommodation schedule.



Old School Site - Baseline masterplan



Old School Site with MMC Factory - Option 1

6.4 Ancillary Uses: Community Centre and MMC Factory

MMC Factory Option 2

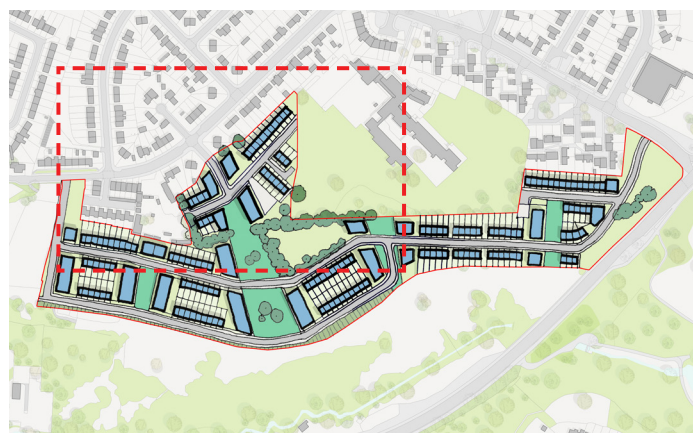
Option 2 shows an alternative location for the proposed MMC factory to that shown in the original proposal by White Design.

The main advantage of having the factory in this location is that it would not obstruct a potential connecting road into the smaller parcel of land to the north. It is also unlikely to obstruct potential north-west views for the residential towards Avon Gorge and Manor Valley Woods.

It is also considered that this would be a good site for a community centre if the factory was to be redeveloped in the future.

The disadvantage of locating the factory in this location is the potential impacts on both the residential units to the east and the school to the south caused by additional industrial traffic and noise.

Note: Refer to section 6.5 for accommodation schedule.



Old School Site - Baseline masterplan



Old School Site with MMC Factory - Option 2

6.5 Design Options Accommodation Schedule

The adjacent accommodation schedule provides the total unit number and site densities for each of the design options and offers a comparison against the original baseline masterplan figures.

These figures are subject to change pending further development of the client brief and additional clarity on the required housing mix for each of the sites.

Masterplan Option	Type	Units Lost	Units	%	Total Units	Total Site Area	Density: Total
Baseline Masterplan	Houses (2/3 Bed)	-	151	42%	361	7.15	50 d/Ha
	Apartments (1/2 Bed)	-	210	58%			
Northern Access Road	Houses (2/3 Bed)	-5	146	41%	356	7.15	50 d/Ha
	Apartments (1/2 Bed)	0	210	59%			
Southern Connection Road	Houses (2/3 Bed)	-20	131	39%	336	7.15	47 d/Ha
	Apartments (1/2 Bed)	-5	205	61%			
Community Centre	Houses (2/3 Bed)	-8	143	42%	340	7.15	48 d/Ha
	Apartments (1/2 Bed)	-13	197	58%			
MMC Factory Option1	Houses (2/3 Bed)	-7	144	42%	339	7.15	47 d/Ha
	Apartments (1/2 Bed)	-15	195	58%			
MMC Factory Option 2	Houses (2/3 Bed)	-9	142	42%	339	7.15	47 d/Ha
	Apartments (1/2 Bed)	-13	197	58%			

NOTE: The information shown relates to an initial site feasibility study for BCC and is subject to review and analysis from additional Consultants. The areas shown are approximate only and have been measured from concept plans. All the above should be considered before making any decisions on the basis of these predictions, and should include due allowance for the increases and decreases inherent in the design development and construction processes.

7.0 Cohousing Brief Development

7.1 BCC Brief

Overview

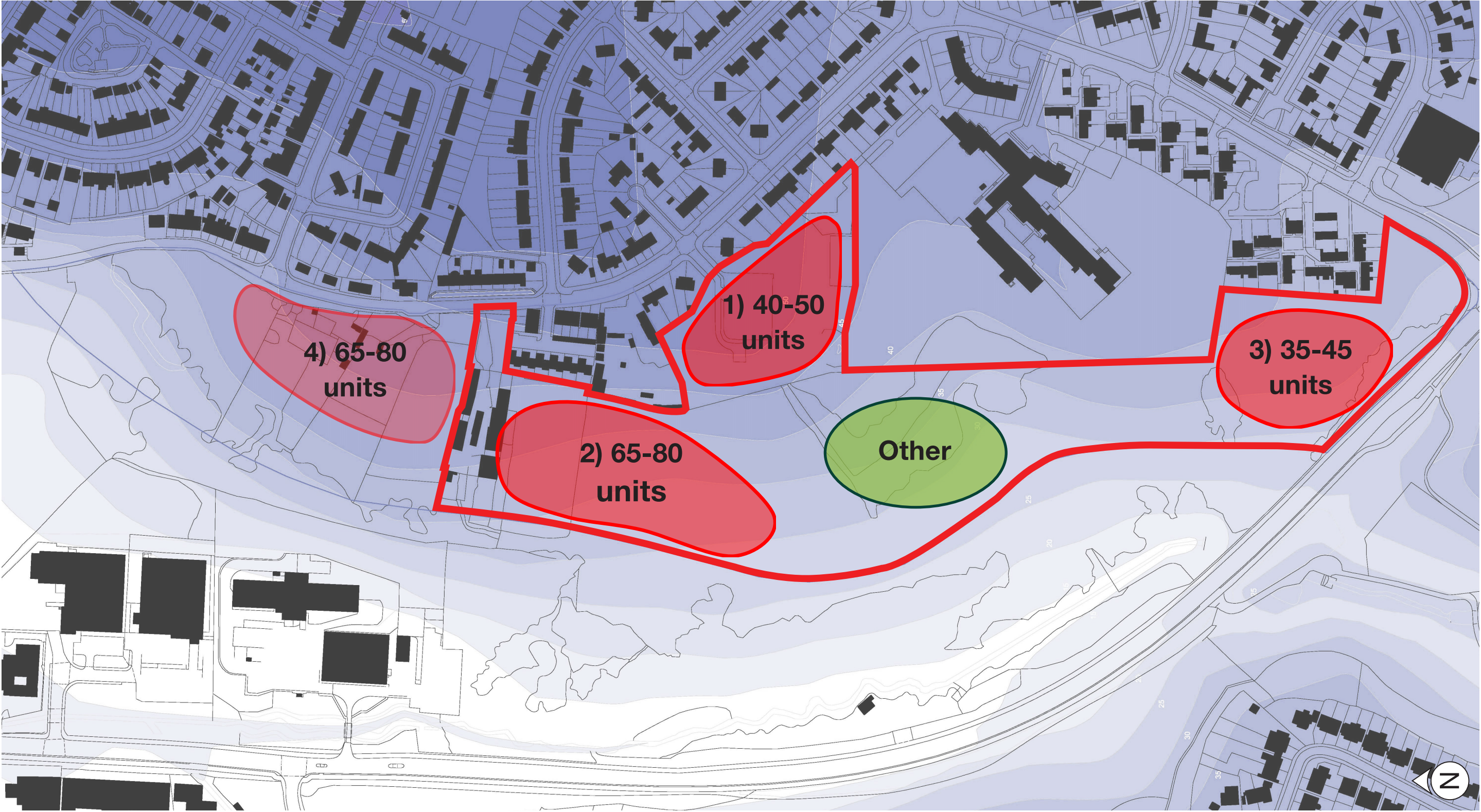
Following an initial presentation to the client of the indicative developable areas, AHMM were asked to explore the viability of a cohousing focussed brief for the site.

The adjacent spreadsheet and diagram overleaf provide an overview of the emerging client brief for each of the individual land parcels and the site as a whole.

The following chapter provides an overview of the research and preliminary options which were explored in relation to the emerging cohousing brief.

PLOT	NUMBER OF UNITS	DEVELOPMENT TYPE	DESCRIPTION	SAVILLS COMMENTS
01	40-50 units	Community Development	Site currently has road access and services in the road. Site can be sold in entirety to community group who are responsible for design, planning and build. BCC and the chosen community group (potentially the Knowle West Community Group) will develop an outline planning application together. The site will then be sold to the community group. The site would be build out under the community's control. The units would be sold at an affordable price to people in the community but the land would be retained by the community.	Capacity of in street services and local substation, possible ungraded required. Site could be disposed of fairly quickly to local community group with little work required. Site is earmarked for community factory, which once redundant could re developed into a community centre. Need to establish how BCC will ensure the land stays in the community's control.
02	65-80 units	Custom Build	BCC builds access and infrastructure for 'X' number of plots/ homes. People who are eligible to purchase a plot will be able to chose from 'x' number of house types. A contractor, employed by BCC, will then build the property. The level of custom build can vary from say 3 house types to multiple house types with multiple finishes.	Could include flats to increase number of homes and affordability. The option is very resource intensive. Who will be eligible to purchase a property? Will people be purchasing the unit and the land or just the unit. If they are just purchasing the unit, who will retain the land?
03	35-45 units	Self-Build	BCC will complete all of the enabling works, road access and infrastructure. Individual plots will then be sold with outline planning permission. The buyers will have to completed Reserved Matters themselves and build out each plot by a specific date. BCC will retain the right to buy back the land.	BCC right to buy back is controversial as people purchasing a plot may not be able to build out the property straight away. Unsure how mortgages will work - this needs to be considered.
04	65-80 units	Unknown	Currently on the market and it is likely that the chosen purchaser will not want to work with BCC to develop 'quirky' housing.	
Other		Community Centre	BCC would like there to be a community facility incorporated within the site.	
		Allotments	As much of the site is not suitable for houses some green space could be allocated for allotments	

7.1 BCC Brief



7.2 Cohousing Principles

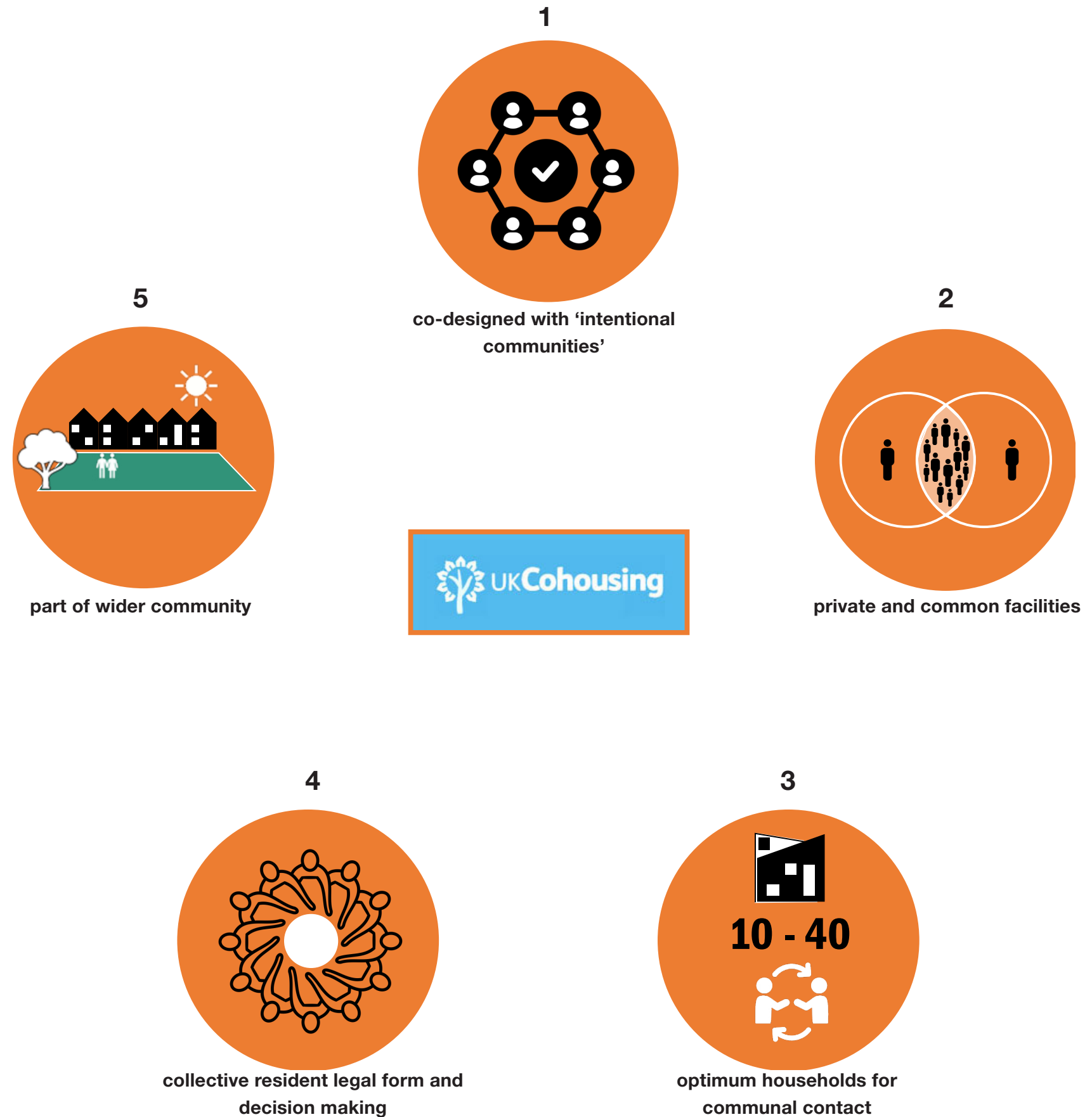
Cohousing communities are intentional communities, created and run by their residents. Each household has a self-contained, private home as well as shared community space. Cohousing communities can be inter-generational, welcoming anyone of any age and family structure, or specifically cater for people who are older or are communities of common interest.

UK Cohousing Trust

The UK Cohousing trust was set up in 2013 as a charitable trust and was established for several reasons including to;

- Educate the public
- Undertake research
- Develop best-practice

According to the UK Cohousing network, cohousing communities are formed on the basis of a set of five primary principles which are outlined in the diagrams adjacent.



7.3 Cohousing Procurement and Delivery Routes

In considering the client brief and the definition provided by the UK Cohousing Network, several different configurations of cohousing can be defined.

Below is a spectrum of the most common configurations which are explored through the following precedent study.



mutual / collective



serviced plots / self build



shell



layout options



- Client body created from community group
- Mutual Home Ownership Society (MHOS)

- Individually designed layouts
- Can allow for individual autonomy within design of each unit
- Can be self-build and finished

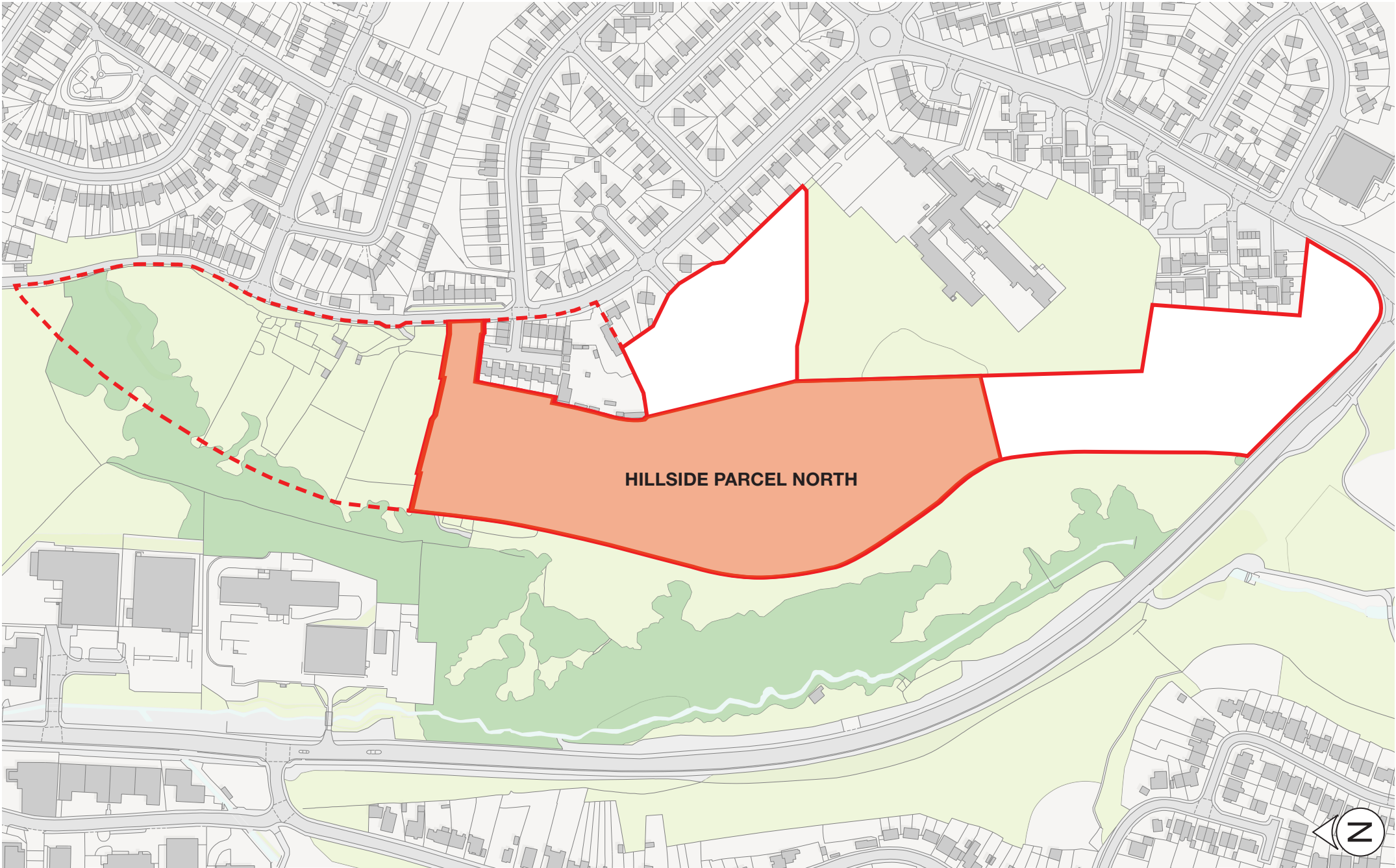
- Internal layouts choices / individually designed
- Choices available in external design (e.g. choice of brick types)
- Internal layouts choices / individually designed
- External design choices more fixed

7.4 Hillside Parcel North - Cohousing Brief

Custom Build

In BCCs Cohousing brief the northern Hillside Parcel was proposed for custom build. The key aspects of this development would be;

- BCC to complete all enabling works, roadways and infrastructure
- Contractor employed by BCC to build properties
- Buyers offered design options to customise houses and apartments from a 'catalogue' of designs.



shell



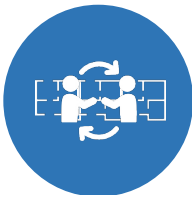
layout options



modular/prefab



eco friendly



shared facilities

7.5 Hillside Parcel North - Cohousing Precedents



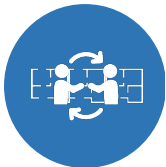
Marmalade Lane - TOWN and Mole

Cambridge, 2018

- 42 homes (mix of houses and apartments)
- Developer-led scheme designed in collaboration with resident group
- 5 ‘shell’ house or flat types for configuration
- Choices of brick types and internal layouts
- The common house provides a place for residents to socialise, host guests and eat together



shell



shared facilities



House - Urban Splash and ShedKM

Manchester, 2016

- 43 homes (1-5 bed mix houses)
- Developer-led scheme designed in collaboration with individual residents
- Individual design of internal layouts from 72 options
- Pre-fabricated off-site



layout options

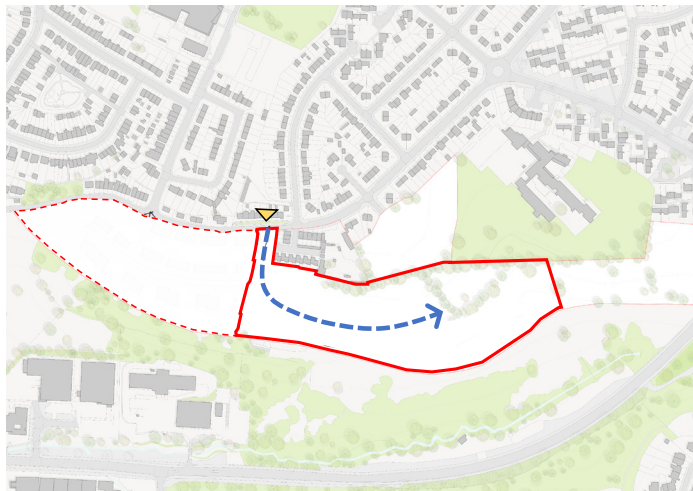


**modular/
prefab**

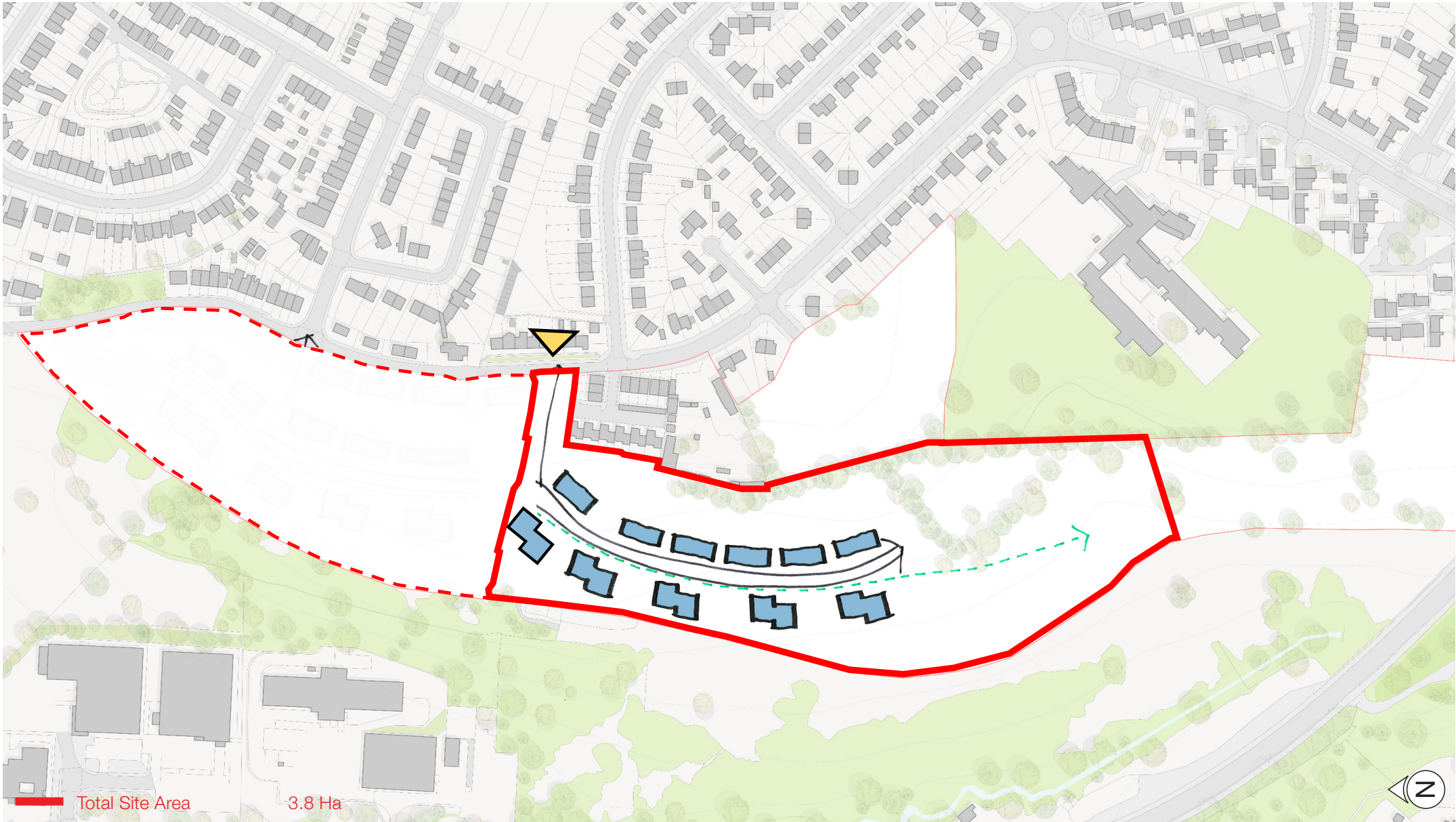
7.6 Hillside Parcel North - Cohousing Capacity Study

Hillside Parcel North - Single Road

Due to initial access assumptions relating to topographical site constraints, the initial site layouts proposed a single access road along the contours of the site. In this option 2/3 storey houses were proposed to the east of the road higher up the site, with 3 storey apartment buildings to the west.



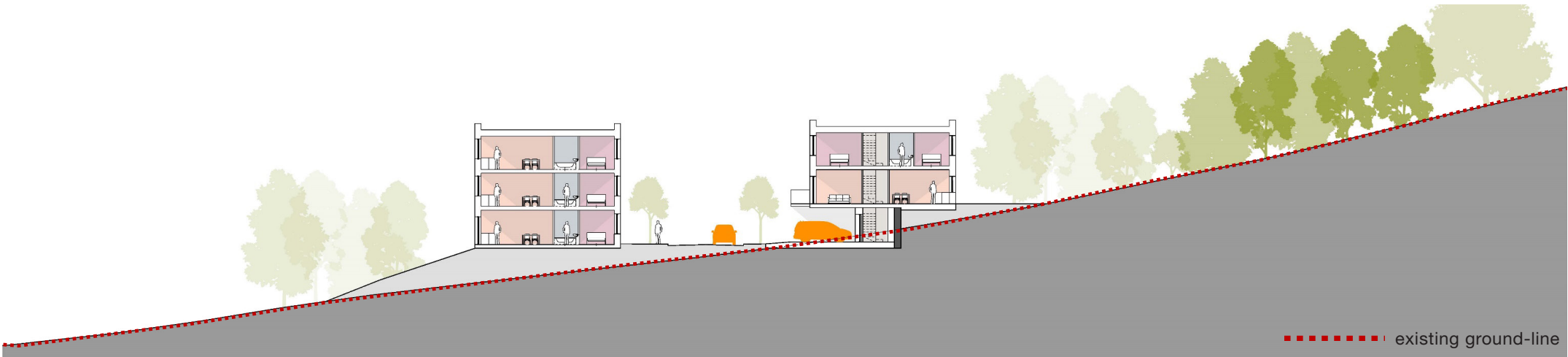
Single road diagram



Option 1 sketch plan

Accommodation Schedule

Houses (2/3 bed)	24	29%
Apartments (1/2 Bed)	60	71%
Total Dwellings	84	
Density (Total)	22 D/Ha	



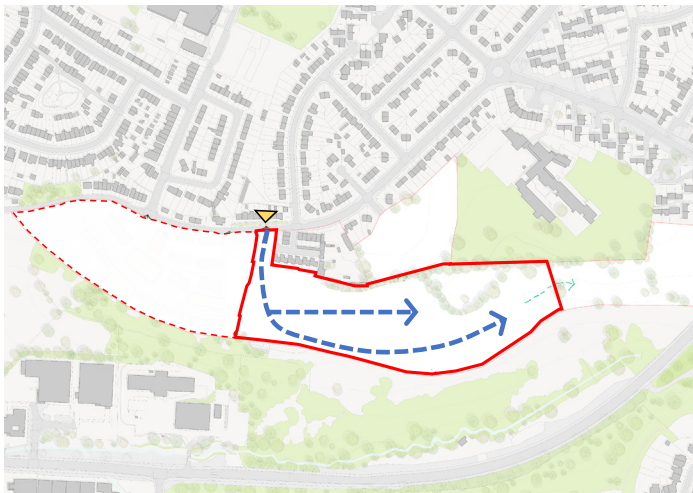
Sketch section

7.6 Hillside Parcel North - Cohousing Capacity Study

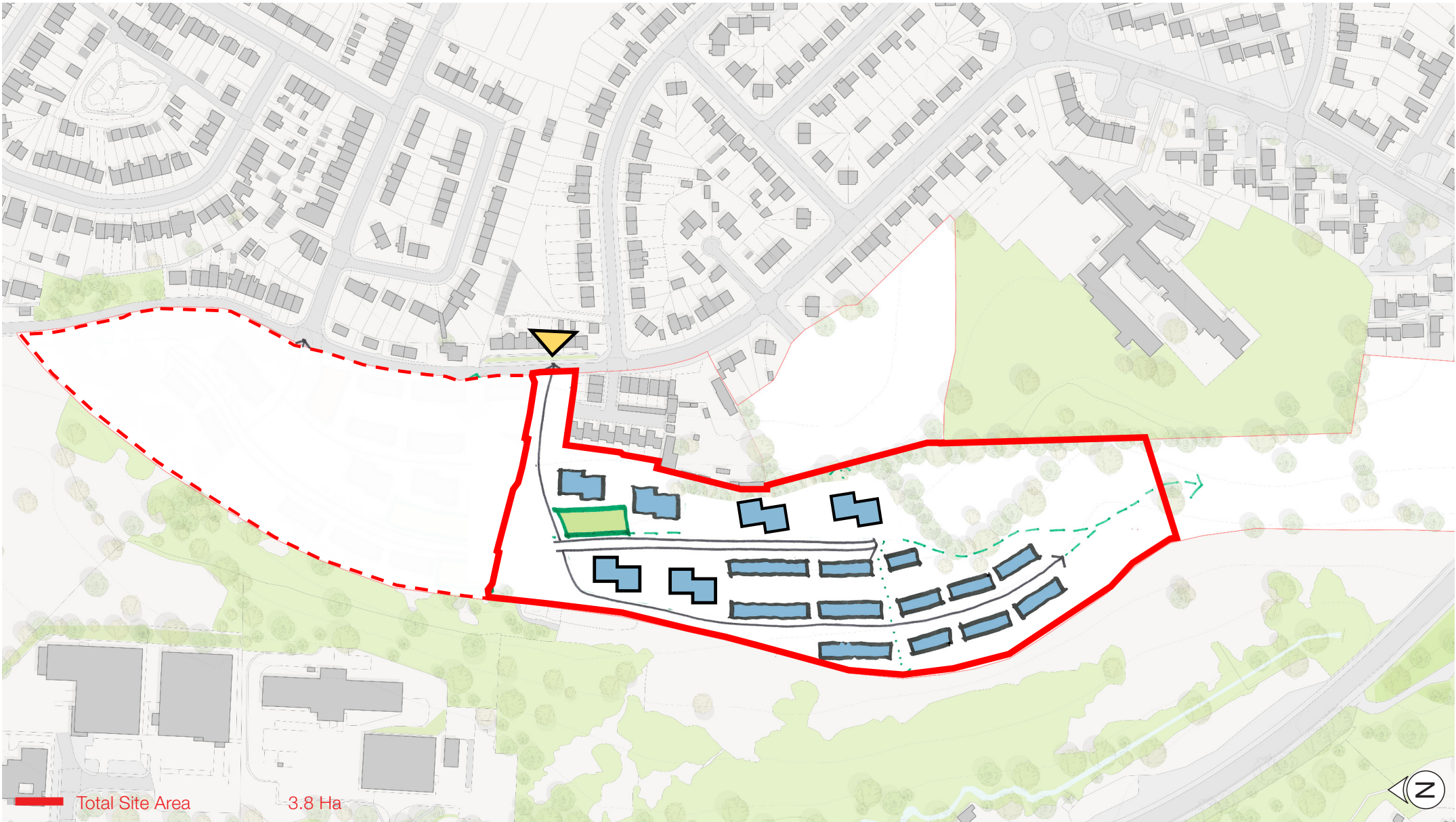
Hillside Parcel North - Double Road

A second option for the north hillside parcel explored the possibility of two parallel roads both running along the site contours. This option explored a series of tiered housing around a higher and a lower road.

At this point, the possibility of a north, south connecting road had not been confirmed.



Double road diagram



Option 2 sketch plan

Accommodation Schedule

Houses (2/3 bed)	61	46%
Apartments (1/2 Bed)	72	54%
Total Dwellings	133	
Density (Total)	35 D/Ha	



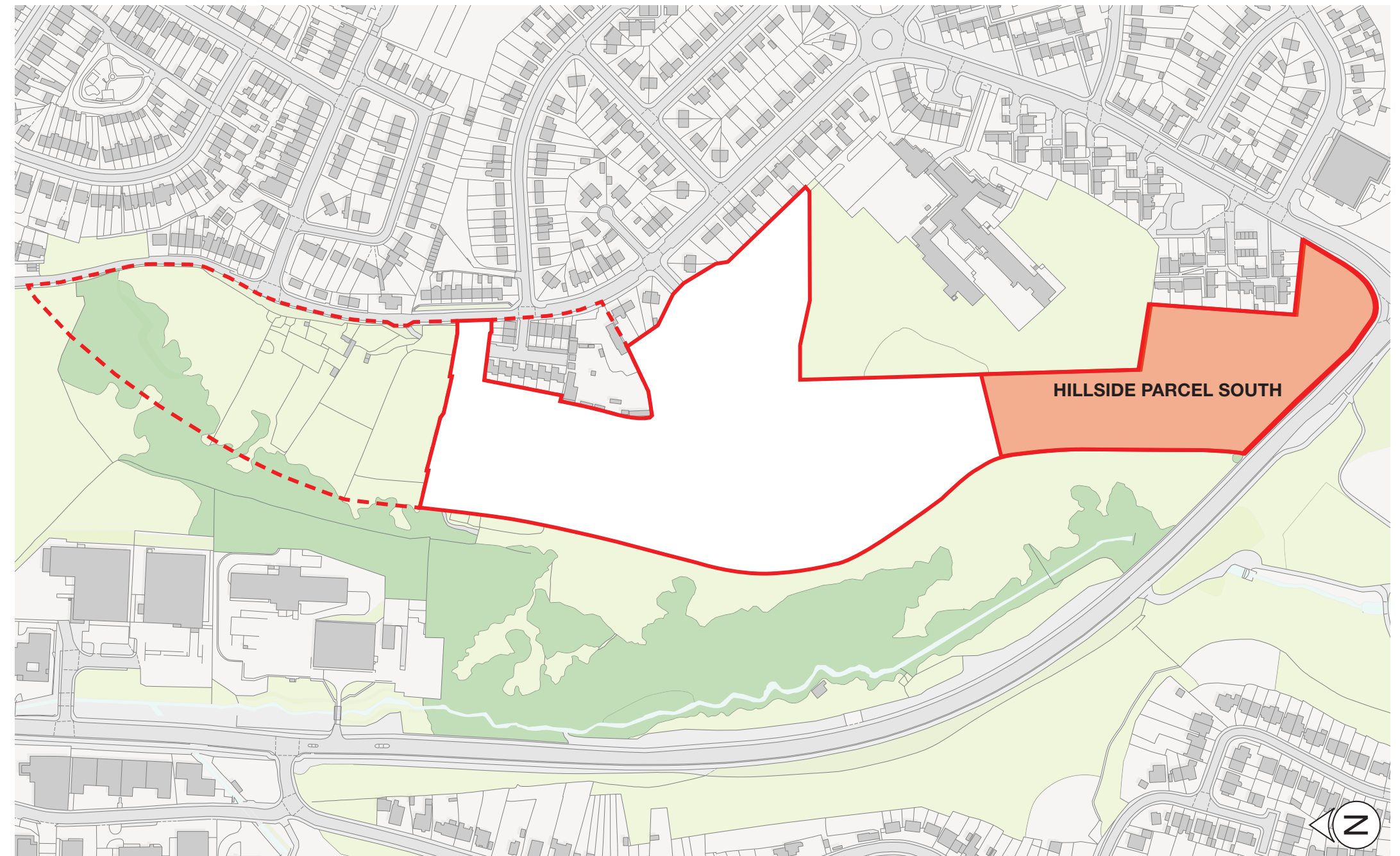
Sketch section

7.7 Hillside Parcel South - Cohousing Brief

Self Build

In BCCs Cohousing brief the southern Hillside Parcel was proposed for self-build. The key aspects of this development would be;

- BCC to complete all enabling works, roadways & infrastructure
- Individual plots sold with Outline Planning Permission
- Buyers to complete Reserved Matters Application
- Buyers required to build home before specified date



serviced plots /
self-build



modular/prefab



eco friendly

7.8 Hillside Parcel South - Cohousing Precedents



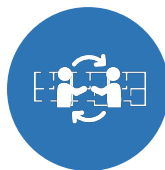
Copper Lane - Henley Halebrown

High Barnet, 2014

- 6 homes
- Community-led, architect designed
- Shared open spaces, a laundry and a communal room for parties, music and games, which have to be collectively managed and maintained
- Individual layouts and unique units made possible by smaller size of development



**serviced plot /
self-build**



**shared
facilities**



'Tam' (We Can Make) - White Design

Knowle West, 2018

- Community-led, architect designed
- 'Garden infill house' prototype
- Self-build intent - varying fit-out options / modular variations
- 'MODCELL' timber/bale building system



**mutual/
collective**



**modular/
prefab**



eco friendly

7.9 Hillside Parcel South - Cohousing Capacity Studies

Capacity studies for the southern hillside parcel designated for self-build plots, were based on access being provided from Novers Lane.

Despite this being the preferred access point, transport surveys are yet to confirm the viability of creating a additional junction in this location due to its proximity to Hartcliffe Way.

The layout of the site is based upon providing two connected roads parallel to the contours with detached plots oriented on an east, west axis.



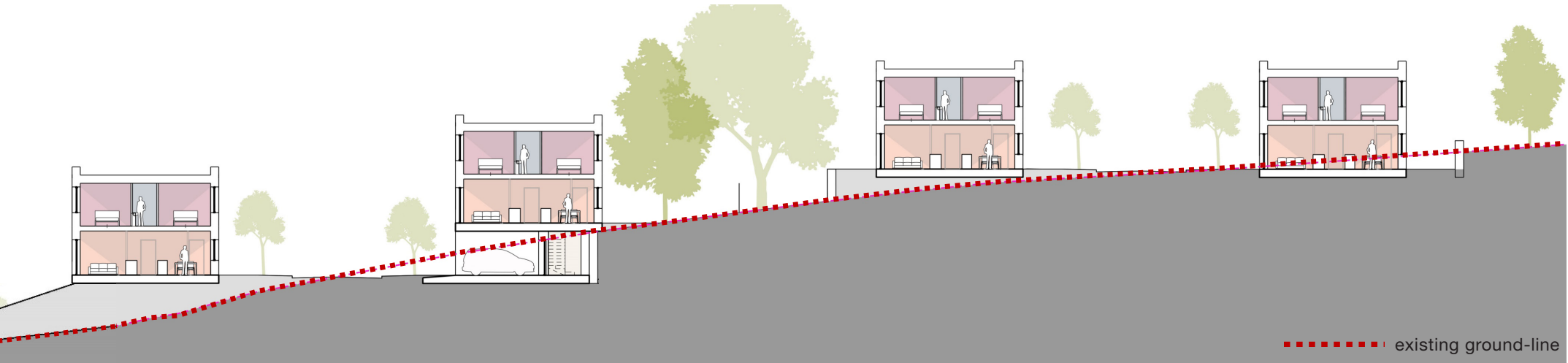
Hillside Parcel South Unit Numbers

Self-Build Plots (3 bed) **46** **100%**

Density (Total) **24 D/Ha**

Density (Developable) **32 D/Ha**

Note: Terraced typology could deliver up to 75 units

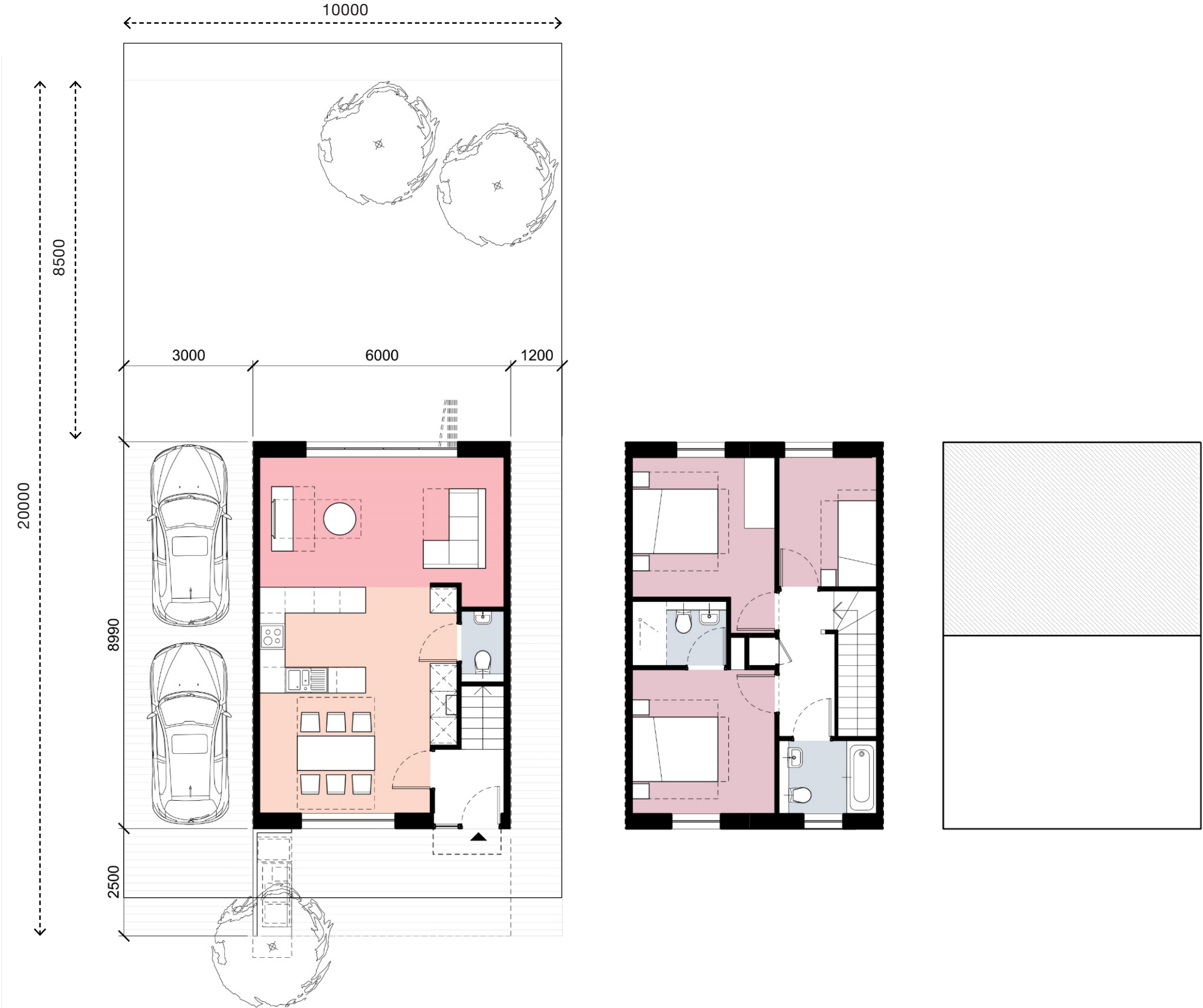


7.10 Hillside Parcel South - Self-Build Plots

The initial capacity studies for the southern site and the self-build brief were based on an high level study of a typical self-build plot as shown adjacent.

The study assumed a detached build and was used to verify dimensions for each plot, including width, depth, building footprint and garden length.

It is anticipated that additional research into plot sizes and configurations would be undertaken in the next work stage and that any self build development on the site would be subject to an pre-determined design code.

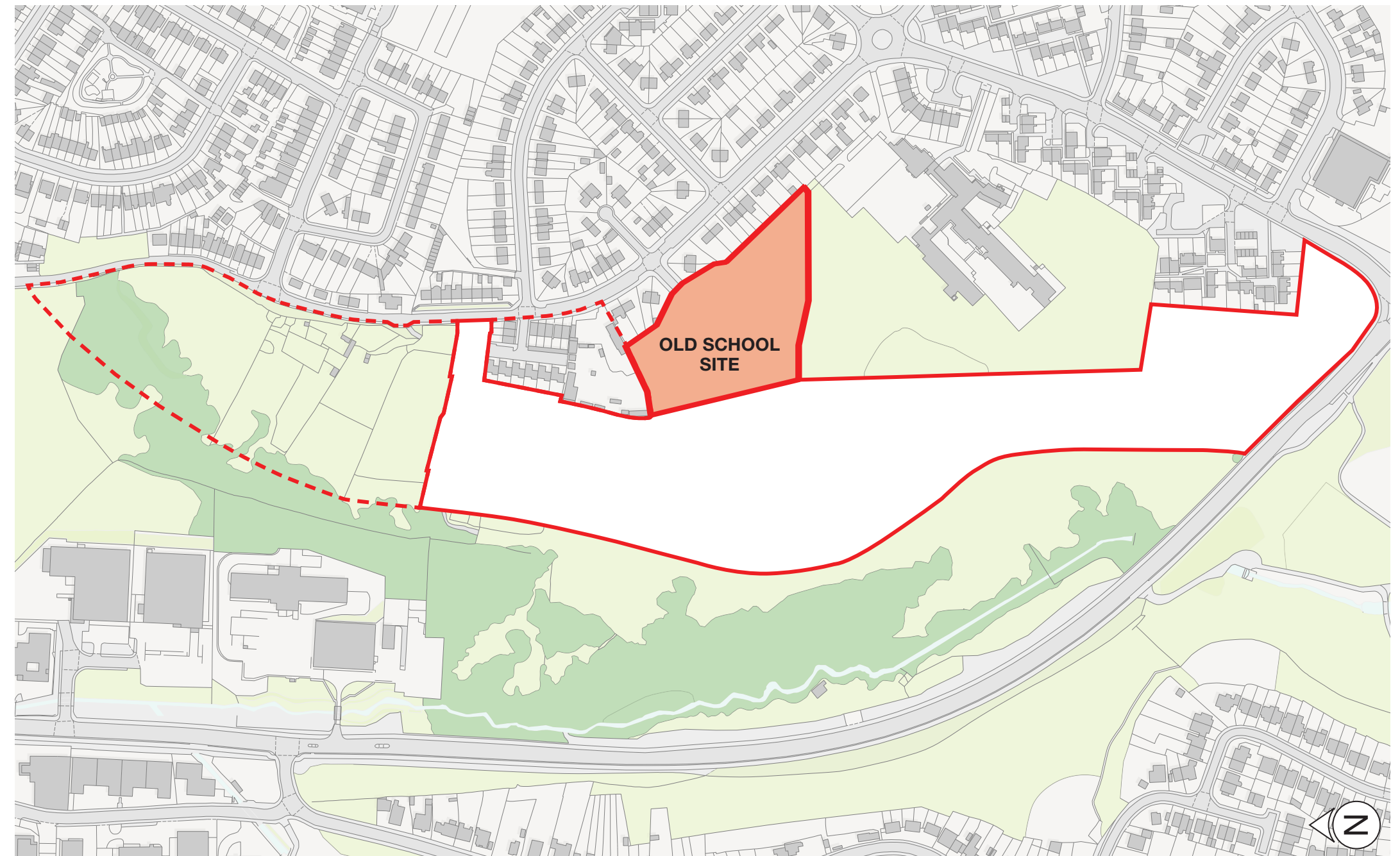


7.11 Old School Site - Cohousing Brief

Community Development

In BCCs Cohousing brief the Old School Site was proposed for a community development. The key aspects of this development would be;

- BCC & community group develop Outline Planning Application
- Site sold to community group
- Community group responsible for design, planning and build
- Dwellings sold at affordable price to local residents
- Land retained by the community



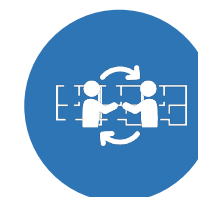
mutual/collective



modular/prefab



eco friendly



shared facilities

7.12 Old School Site - Cohousing Precedents



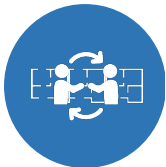
Lilac MHOS - White Design

Leeds, 2013

- 20 homes (mix houses and apartments)
- Community-led scheme initiated by organisation of a co-operative society
- The common house is at the heart of the community
- ‘MODCELL’ timber/bale building system
- The homes and land are managed by residents through a ‘Mutual Home Ownership Society’



**mutual/
collective**



**shared
facilities**



eco friendly



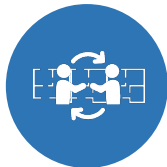
OWCH - Pollard Thomas Edwards

High Barnet, 2016

- 25 homes (mix houses and apartments)
- Non-profit developer-led scheme designed in collaboration with resident group
- Each household has its own private homes, but communities share
- Housing for older-age living. Costs of future care to be spread between residents



**mutual/
collective**



**shared
facilities**

7.13 Old School Site - Capacity Studies

Both initial capacity studies for the Old School site included the proposals for an MMC factory on the site.

Option 1 shows the site split with the MMC factory to the north and a residential community-led development to the south. In this option the residential development favours a larger proportion of 2/3 bed houses to apartments.

Old School Site - Option 01

Houses (2/3 bed)	24	67%
Apartments (1/2 Bed)	12	33%
Total Dwellings	36	
Density (Total)	33 D/Ha	
Density (Developable)	50 D/Ha	



7.13 Old School Site - Capacity Studies

Option 2 also shows the site split with the MMC factory to the north and a residential community-led development to the south. In this option the residential development favours a high proportion of apartment blocks comprising 1/2 bed units and is able to surpass the councils density target of 50 dph.

The two options demonstrate that a community development on the Old School Site could, depending on need, be either housing or apartment-led.

Old School Site - Option 02

Houses (2/3 bed)	8	13%
Apartments (1/2 Bed)	54	87%
Total Dwellings	62	
Density (Total)	57 D/Ha	
Density (Developable)	86 D/Ha	



7.14 Application of Cohousing Brief

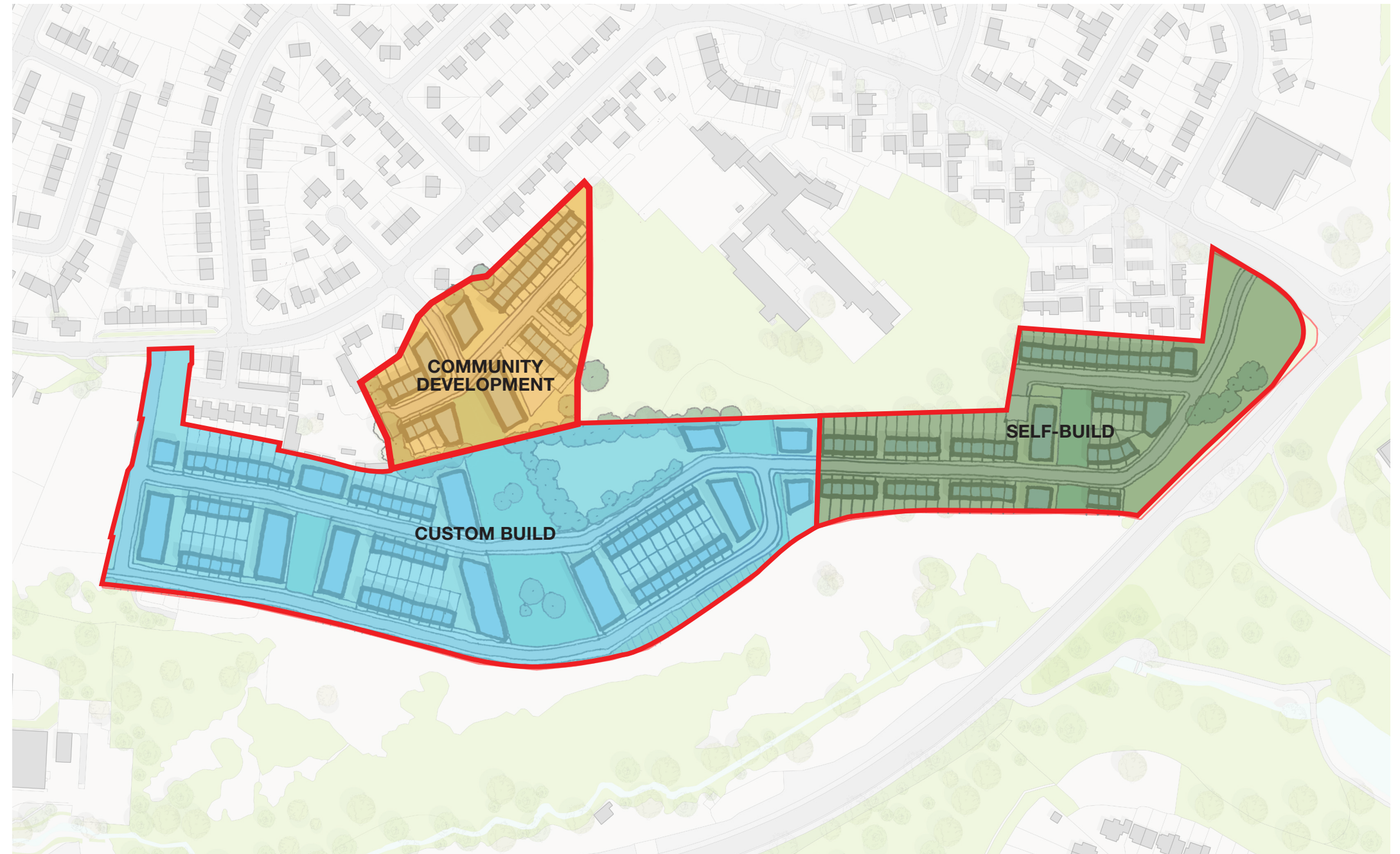
Cohousing Overlay

The preceding co-housing capacity studies were targeted to comply with the initial briefing schedule shown in section 1.2. These were undertaken early in the process of the wider feasibility study.

Future development of the co-housing brief should respond to the baseline masterplan. This layout defines key urban design principles which should be adhered to during design development. The masterplan can be subdivided to accommodate multiple phasing or cohousing procurement strategies.

The adjacent diagram gives an indication of how the various forms of cohousing could be applied to the baseline masterplan outlined earlier in the report.

It is suggested that this is explored in more detail with the client during the next work stage.



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