

## 6. Phase 1 master plan

A vibrant, viable and sustainable new community.







This chapter explains and illustrates the Phase 1 master plan.

### Scheme overview

Phase 1 of Northstowe comprises:

- Up to 1,500 dwellings
- A primary school
- A mixed-use local centre
- Leisure and community uses
- Cultural, health, and employment provision
- A household recycling centre and foul water pumping station
- Significant formal and informal recreational space and landscaped areas
- Infrastructure works including site re-profiling and associated drainage works
- Two flood attenuation ponds on land east of Hatton's Road
- Associated works including the demolition of existing buildings.

### Design approach

The master plan for Phase 1 has been designed to create a strong sense of place and responds to the site and the surrounding context, with particular regard to the village of Longstanton to the west. The design and layout embrace sustainability principles of inclusive design and promote more sustainable lifestyles. The master plan aims to create a permeable street network that establishes a clear and easy to understand street hierarchy.

A strong framework of public squares, open water and areas of informal open space will be defining features of the public realm. Building heights, densities and the social infrastructure are concentrated on key routes, which mirrors the natural growth of towns, helps provide a legible townscape and focuses activity into a limited number of defined centres that will become the community heart.

Perimeter blocks will consistently define the public realm but vary in terms of enclosure, height and density, generally being more dense in the centre and less so towards the development edge. Housing typologies change accordingly, with a concentration of terrace housing and semi-detached housing in the centre, and predominately detached housing on the development edge. At an average density of 37.5/ha, Phase 1 will be developed at the lower range of the densities envisaged for Northstowe, with densities, building heights and the provision of apartments increasing towards the town centre.

A strong network of multi-functional landscape spaces will provide opportunities for a wide variety of uses including walking, running, natural play, formal sports or simply sitting and enjoying the green amenity, and it will bring the 'countryside' into the development via linear greenways.

The block structure, based upon a loose grid, provides direct walking and cycling routes. These routes are overlooked and at key public spaces the concept of shared spaces will help prioritise these modes of travel rather than the car.

The dedicated busway will be a unique feature of the development, which in the future can accommodate the CGB services through the centre of the development providing accessible 'green travel' for all residents.

A mixed use local centre, community buildings, primary school and 5 hectares of employment land integrated into the urban form, will provide the social infrastructure essential for community interaction and social cohesion.

The key features of the Phase 1 master plan are annotated on figure 6.1 opposite.

Rampton Drift

Linear water park

Southern greenway

Dedicated busway

Community park

Primary school

Sports hub

Cambridgeshire Guided Busway

Local centre

Employment

Household waste recycling centre

Figure 6.1 3D model illustrating view from the north







## Uses and quantum of development

The proposals have responded to the social and economic context of the locality. The development includes a diverse range of house types for different household types and sizes, a comprehensive range of sport and recreational facilities benefiting existing communities and a complementary mix of uses (including employment, education and community uses).

In the early years of Phase 1, healthcare at Magdalene Close, Longstanton will be used by new residents, although flexibility within the local centre design allows for future on site provision as and when appropriate.

The proposed land uses and amount of development is set out in table 6.1 and illustrated on figures 6.2.1 and 6.2.2.



Figure 6.2.1 Attenuation ponds, land use, open space and landscape (plan 1b of parameter ES)

- Planning application boundary
- Attenuation area
- Attenuation ponds
- Emergent vegetation
- Species rich grassland
- Marshy grassland
- Structural planting
- Areas of scrub
- ↗ Manangement access
- Mounding
- Overhead cables

Table 6.1 Schedule of land use and development quantum

Land use	Description	Amount
Residential	<ul style="list-style-type: none"> <li>Up to 1,500 residential dwellings</li> <li>Area includes infrastructure elements such as sub-stations and LAPs. Net residential area is 40ha.</li> <li>Residential care homes for elderly persons (residential institution(s))</li> </ul>	42.0ha
Affordable housing	A maximum of 35% subject to viability assessment during the application process	-
Primary school	3FE (630 pupils) Community facilities (potentially interim arrangements)	3.0ha
Mixed use local centre	Community building of approx. 900sqm (net floorspace) and associated car park spaces (number not defined) <ul style="list-style-type: none"> <li>Ground floor retail covering approx. 1,500sqm (net floorspace) and associated dedicated car park spaces (number not defined)</li> <li>Additional on-street parking</li> <li>Other commercial / retail / food &amp; drink / community &amp; other appropriate uses (approx. 450sqm net floorspace)</li> <li>Residential units (included within the 1,500 units)</li> </ul>	1.22ha
Employment	B1, B2 and B8. The estimated split of employment is: <ul style="list-style-type: none"> <li>B1 offices</li> <li>B2 general industrial</li> <li>B8 storage and distribution</li> <li>Household recycling centre</li> <li>Foul water pumping station</li> </ul>	5.00 ha  1.82ha 1.46ha 0.36ha 1.25ha 0.12ha
Sports hub	Formal sports provision	6.17ha
Public open space / parks / play space	Public open space / parks / play space excluding water bodies (23ha) (including water bodies = 28.2ha)	23ha
Allotments	Community orchard and allotments for Northstowe residents	1.57 ha
Other land within red line boundary	Other land within red line boundary (including streets and water bodies). Other works include: <ul style="list-style-type: none"> <li>Internal road, cycle and footpath network.</li> <li>Improvements to the B1050 Safeguarded</li> <li>Land for the first length of the CGB busway</li> <li>Attenuation ponds</li> <li>Earthworks and cut and fill to enable land raising and re-profiling for natural drainage.</li> </ul>	40.04 ha
<b>Total</b>		<b>122 ha</b>

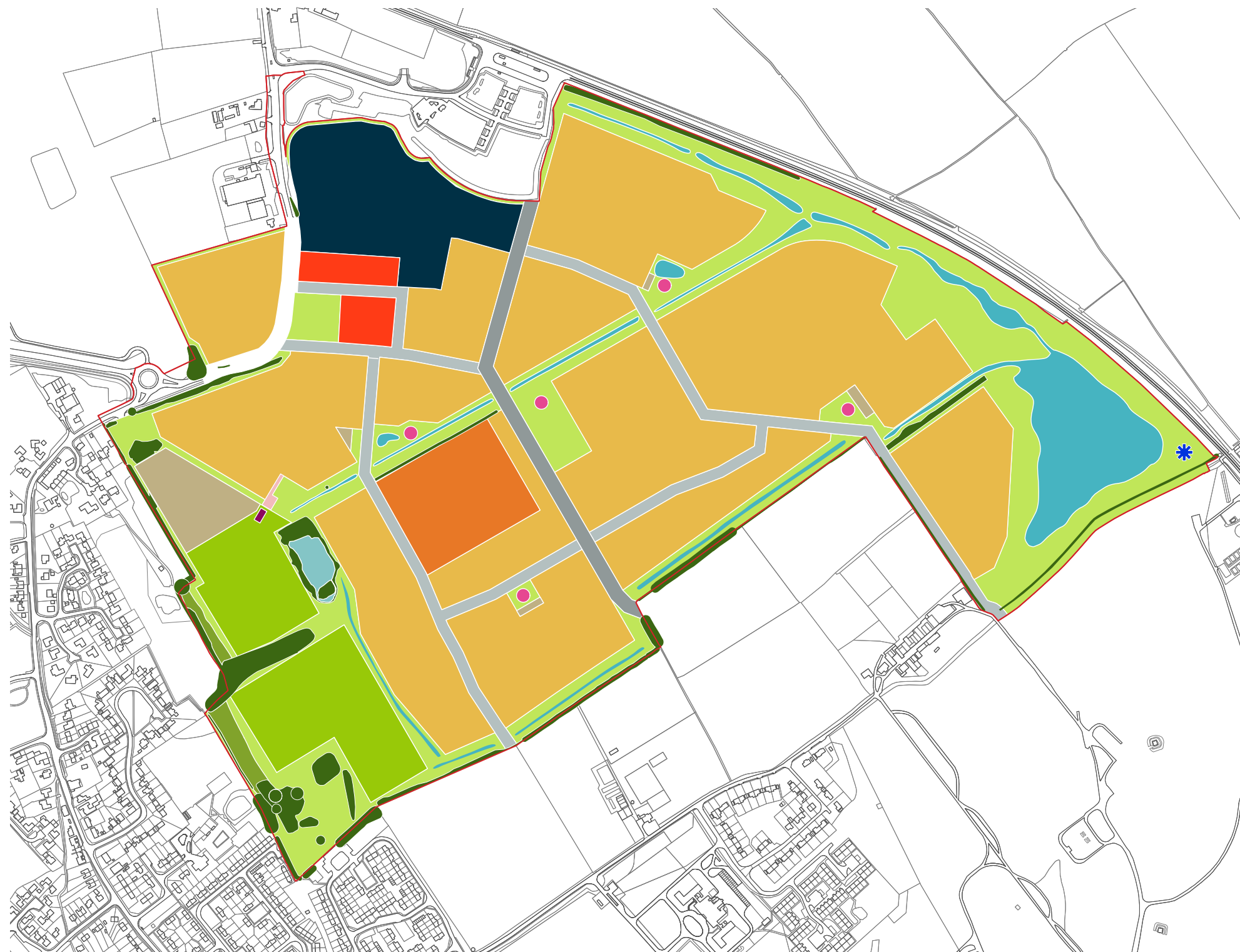


Figure 6.2.2 Land use, open space and landscape (plan 1a of parameter ES)



### Dwelling types and mix

The proposal provides for a range of housing types and sizes including terraced, semi-detached and detached houses, town houses and flats / apartments. There is also potential for provision of retirement accommodation for the elderly or other supported housing.

The indicative housing mix comprises:

- 25% 2 bed
- 46% 3 bed
- 22% 4 bed
- 7% 5+ bed

### Parameter master plans

A series of parameter plans have been prepared for which planning permission is sought. The plans form the basis of the environmental impact assessment (EIA).

These comprise:

- Plan 1a: Land use, open space and landscape
- Plan 1b: Land use, open space and landscape attenuation ponds
- Plan 2: Movement and access
- Plan 3: Building heights
- Plan 4: Density

These plans are contained in the relevant sections of this chapter, and referenced using the above titles.

As explained in Circular 01/2006, parameter plans for Design and Access Statements are intended to provide an indication of the design principles, which will inform detailed design proposals.

There may be some variation in the precise location of land uses and road layouts in the subsequent submission of reserved matters. Where this occurs however, it is anticipated that the overall concept of the outline application development proposal will be maintained, and this will be demonstrated in the reserved matters submissions.







Figure 6.3  
Illustrative Phase 1 master plan

Structuring principles

- 1 Local centre on B1050
- 2 Community park / pocket parks
- 3 Dense urban core along 'high street'
- 4 Strong urban edge overlooking eastern water park / countryside
- 5 Fractured edge fronting sports hub – replicate edge of Longstanton
- 6 Strong urban edge to Park & Ride
- 7 Sports hub with all-weather pitch
- 8 Linear park
- 9 Allotments / community orchards
- 10 Structure planting / soft landscape

- Residential
- Employment
- Household recycling centre / pumping station
- Primary school
- Local centre to include: commercial uses / retail / food and drink / community / residential and similar
- Sports hub building
- Play space (LEAP)
- Play space (NEAP)
- Surface water pumping station

## Layout and appearance

The illustrative master plan for Phase 1 aims to create an inspiring place to live, that is in harmony with its surroundings and that is flexible enough to accommodate both the present and future needs of the community. The key elements of the illustrative layout are set below:

### Residential

The proposal provides for a range of housing types and sizes including terraced, semi-detached and detached houses, town houses and flats / apartments. A significant proportion of the housing provided will be designated for affordable housing provision incorporating both intermediate and low cost housing, affordable rent and social rented accommodation.

### Mixed-use local centre

The mixed-use local centre is located adjacent to the B1050. This location is ideal both for ensuring that it becomes a successful community hub and to maximise the opportunity for passing trade and visibility from the B1050 (which will aid its viability). In addition to retail provision, the local centre will include a community building and associated car parking.

### Employment

Five hectares of employment land is proposed on the northern edge of the site, adjacent to the B1050 and Longstanton. Its location adjacent to the B1050 will facilitate early delivery. The area will provide a mix of employment (within use classes B1, B2 and B8) for the existing community and residents of the new development. The area will include provision of a household recycling centre (1.25 ha) and the foul water pumping station, which will serve the needs of Northstowe and its immediate hinterland.

The location of the employment area, directly adjacent to the Longstanton P&R and CGB will ensure that employees travelling to the site from the surrounding area have the opportunity to utilise this highly sustainable form of transport.

### Primary school

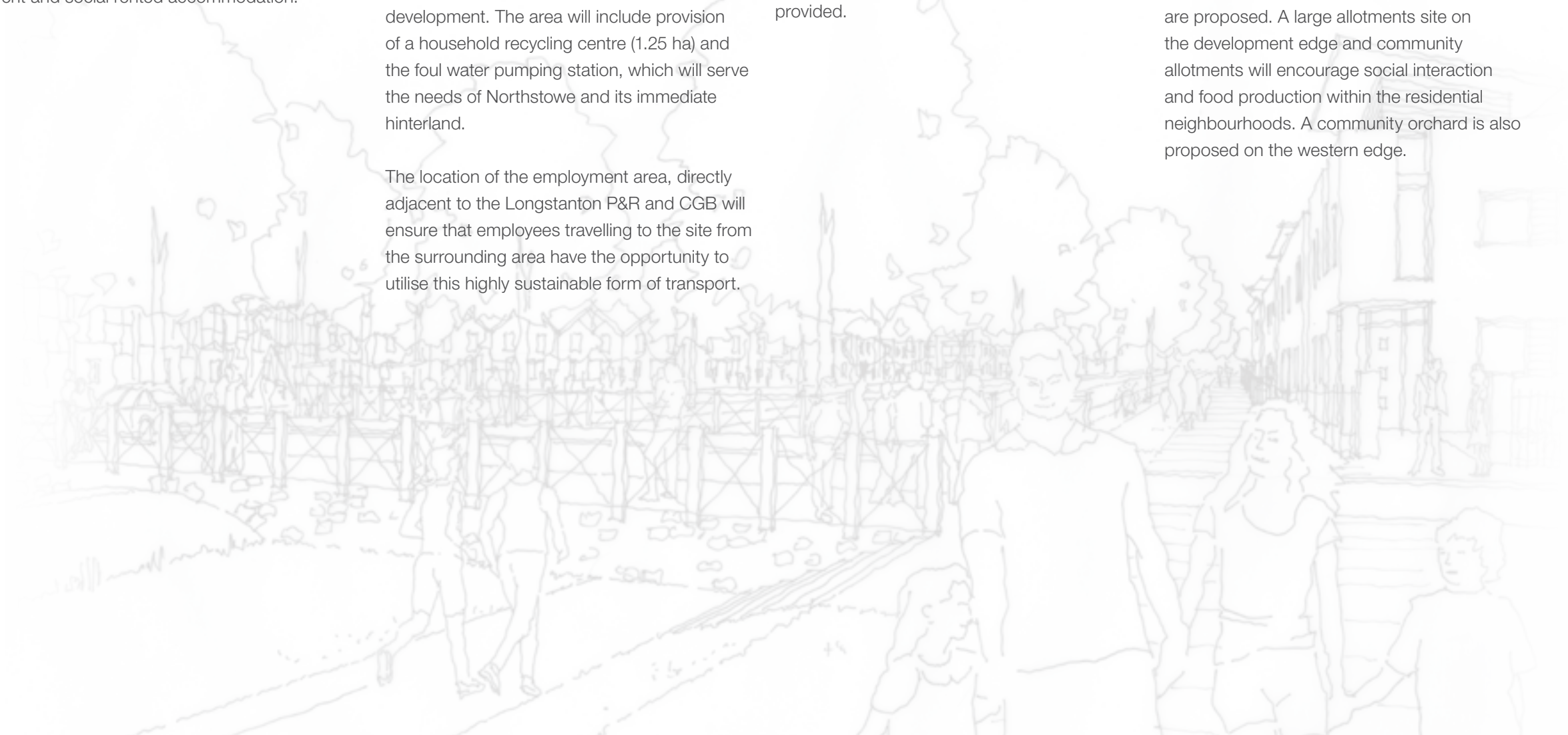
A three-form entry primary school will meet the primary school needs of the population within Phase 1. The site will also be used for community uses and secondary schooling for a period of time. The school building is located on the southern edge of a greenway, which as well as providing an attractive outlook for the school, will also provide direct and safe pedestrian and cycle links to the school. School children will also be able to walk along the same greenway to the sports hub, avoiding traffic altogether. To the north of the school, a civic square is proposed that will help create a traffic calmed environment outside the school building, a drop off area for children and a limited amount of public parking for the school. From the school, a direct walking and cycle link of approximately 250m to the local centre is provided.

### Sports hub

The sports hub has the potential to be a vibrant landscape space serving both existing and new residents. The formal sports pitches will be framed by attractive parkland and extensive tree planting will create a sympathetic green framework to the urban edge. The final provision of pitches has yet to be determined but is likely to include football pitches for all age groups, a senior rugby pitch, an outdoor bowls green, an artificial turf pitch and a multi use games area.

### Informal open space, play areas and allotments

Extensive provision of informal open space significantly greater than planning policy requires will permeate the built form. Formal play areas including a NEAP and four LEAPs are proposed. A large allotments site on the development edge and community allotments will encourage social interaction and food production within the residential neighbourhoods. A community orchard is also proposed on the western edge.





### Block structure and urban grain

The master plan aims to establish a very legible urban form that is structured around a series of streets, avenues, greenways and public squares. Typical block sizes are 50-85m long and wide, although blocks are larger where courtyard parking is proposed, principally along the dedicated busway. The key features are:

- Massing and building heights are concentrated in the centre, reducing towards the development edge
- A highly permeable structure
- A series of east-west greenways and north-south linear parks form the backbone to the development
- Distinct and recognisable streets are based on a deformed grid, with the dedicated busway and primary streets flanked by key facilities and landmark buildings
- Axial views along principal streets contrast with truncated views along gently curving lower order streets
- High levels of enclosure, based on grid within core of scheme
- Deformed and broken block structure towards western edge

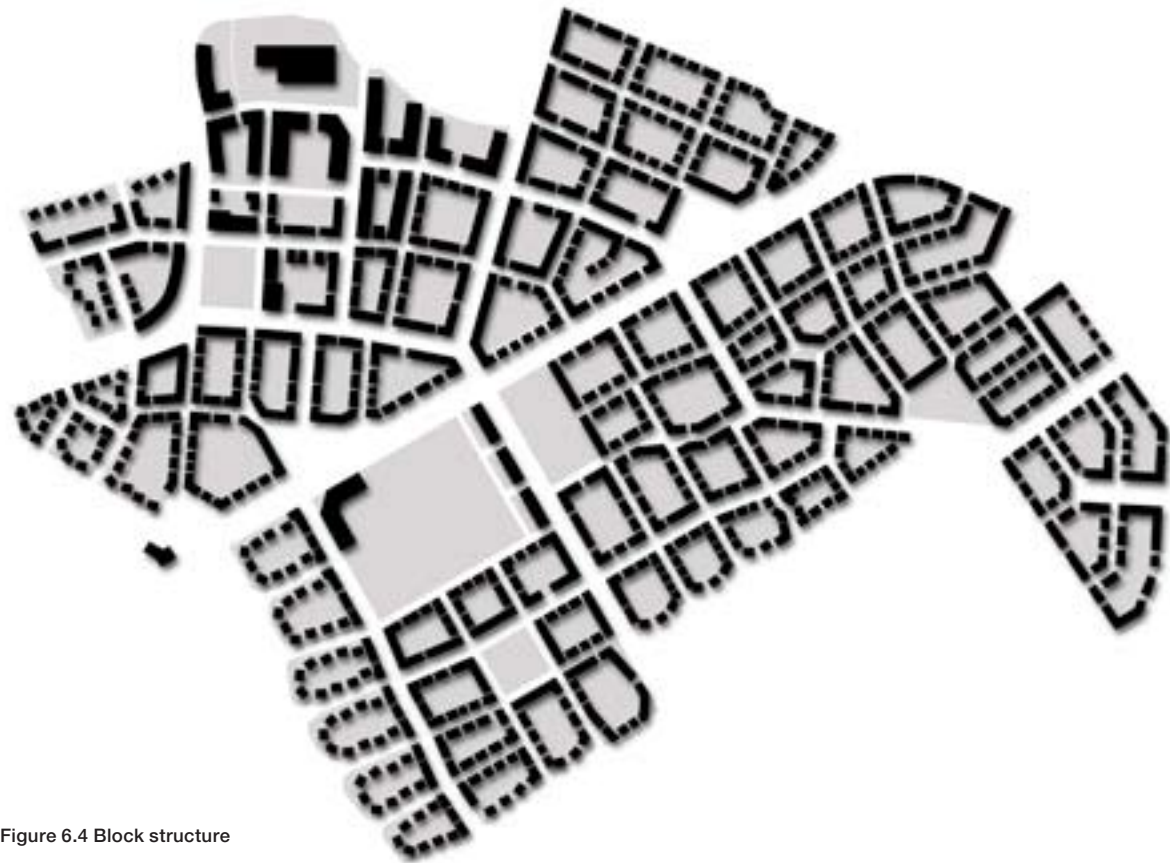


Figure 6.4 Block structure

### Development edges

Building edges that are immediately next to primary routes will have more continuous and even building lines, creating a stronger sense of enclosure. Residential streets will have a more discontinuous frontage, with detached and semi-detached housing (and occasional sides of properties) fronting the street. Importantly, the perimeter block structure is retained in the employment area so that a sense of enclosure is retained along important routes such as the pedestrian connection to the Park & Ride from the northern development edge.

Along the eastern edge, significant opportunities exist to create an exemplar housing edge when viewed across the water park from the GCB.

Illustrative views of the eastern and western development edge are provided in figures 6.6 and 6.7, respectively.



Figure 6.5 Development edges

Green separation is achieved between the development and Longstanton through provision of an area of open land between 70m wide at the northern end, adjacent the B1050 roundabout and 290m wide at the southern end to be used as strategic open space, including formal recreation and sports provision and allotments / community gardens.







Figure 6.6 Illustrative sketch of eastern development edge





Figure 6.7 Illustrative sketch of the western development edge across sports hub





Figure 6.8 Illustrative sketch of mixed use local centre

### Mixed-use local centre

The centre is located on the B1050 to maximise passing trade and help ensure that it stands the best chance of becoming established early on in the life of the new town. Along with the primary school it will be the social hub of Phase 1. It will provide an important meeting place framed by an attractive civic green. It will principally provide for the day to day needs of local residents (both existing and new) for convenience shopping and services. Opportunities for a landmark structure, possibly a clock tower associated with the community building, will help emphasise the local centre as a new urban gateway into the new town. The community building will be a distinctive building adding to the vibrancy of the

local centre. Shops fronting the northern edge comprise a ground floor retail area of up to 1,500sqm (net floor space) which will be visible from the B1050. In addition, there is potential for the provision of a further 450sqm (net floor space) for other commercial / retail / leisure / food and drink / community / health and other appropriate uses. On street parking around the public square is intended to replicate traditional centres, although there may also be a small car park associated with the largest of the retail stores.

The layout of the local centre and its possible appearance are illustrated on figures 6.9 and 6.10.



Figure 6.9 Mixed use local centre, primary school and sports hub



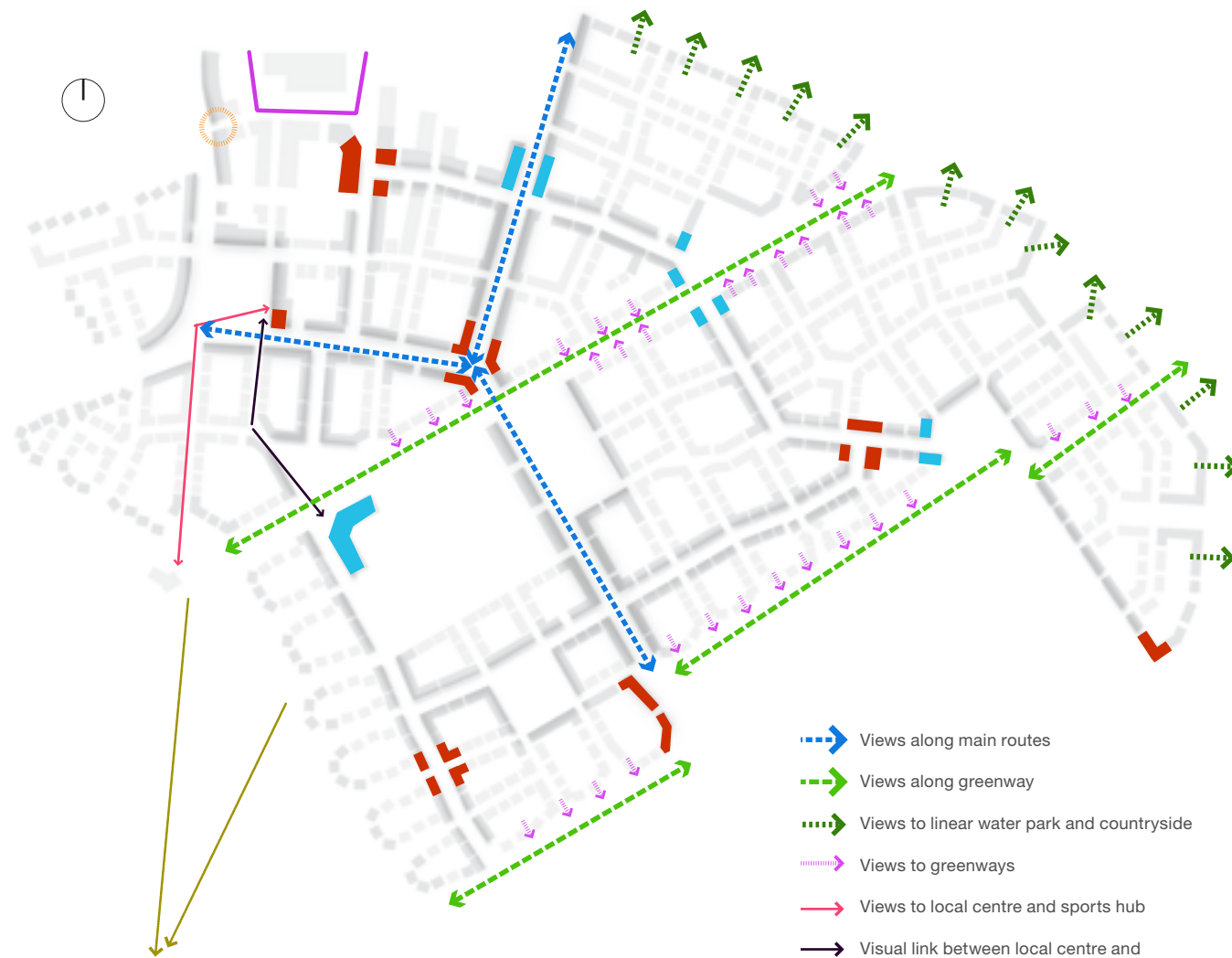


Figure 6.10 Views and landmarks

### Views and landmarks

To aid with legibility, the master plan has been designed to create a series of landmark spaces and buildings throughout the public realm. Equally, a defining feature of the new settlement will be long axial views along greenway or across public open space often glimpsed from and contrasting strongly with the tight urban form. Existing landmarks, such as views towards All Saints church in Longstanton have been acknowledged and retained.



### Employment

In order to create a balanced and sustainable community, 5 hectares of employment land is provided on the northern edge of Phase 1. A number of locations were considered and discussed as part of the master plan evolution to test how the employment area could best become a positive and attractive northern commercial 'gateway' to the future town. Its interface with residential areas has been carefully planned so that the objectives of creating a vibrant and exciting street scene and a mixed use urban core active both during the day and at night-time remain true.



Figure 6.11 Employment land

### Primary school

The primary school has been located in the centre of the Phase 1 scheme to maximise the opportunities for parents and children to walk or cycle to school. The proposed indicative layout of the primary school site is set out in figure 6.12.



Figure 6.12 Illustrative sketch of primary school

### Drainage and earthworks

The drainage strategy for the site proposes to bring forward early flood attenuation ponds to help alleviate existing flooding issues in Longstanton. The excavated material associated with the creation of these ponds is to be used to re-profile the main development site as part of the wider drainage strategy for the whole of Northstowe. This involves raising land on the eastern edge of the site to protect the new community from the potential of future flooding from the east. The development level along the eastern edge will be 7.3m AOD, which is up to 2m above existing levels. The re-profiling of the land also allows a gravity-fed outfall of water toward the ditches, swales and attenuation ponds. Along the western edge of the development, re-profiling is limited to ensure a good marry with existing levels where most of the existing vegetation is retained. The proposed strategy has been prepared in liaison with the Environment Agency.

In addition the Phase 1 development includes the incorporation of existing drainage features throughout the main development site and the creation of a number of ditches, swales and a large flood attenuation pond (the eastern water park) to ensure that the development itself does not lead to any adverse impact on surface water drainage either on site and in the surrounding area.

The proposed foul water pumping station will be the principal facility for the whole of Northstowe.



## Scale

### Building heights

Building heights on figure 6.13 indicate the maximum within a development zone. For the most part building heights are largely at two to three storeys with some higher buildings in key locations and along the dedicated busway or primary streets. A landmark structure (up to 25m) within the local centre, such as a clock tower at the community centre is proposed within the local centre to aid legibility and create a varied skyline. Two-storey development is proposed along the western edge of the site adjacent to Longstanton.

Within the employment zone, which includes the household recycling centre, a maximum height of 13m is proposed. B1 (office / light industry), B2 (general industry) and B8 (storage and distribution) are proposed. Office uses would comprise a mix of two and three storey buildings, with general industrial, storage and distribution warehouses likely to be at the higher end of the range.

The design of the primary school has yet to be established, but provision exists for a two-storey building, which is considered desirable given the importance of the school as a key civic and landmark building. The sport hub building is envisaged as an attractive pavilion sitting in the landscape, and will be up to two storeys in height.

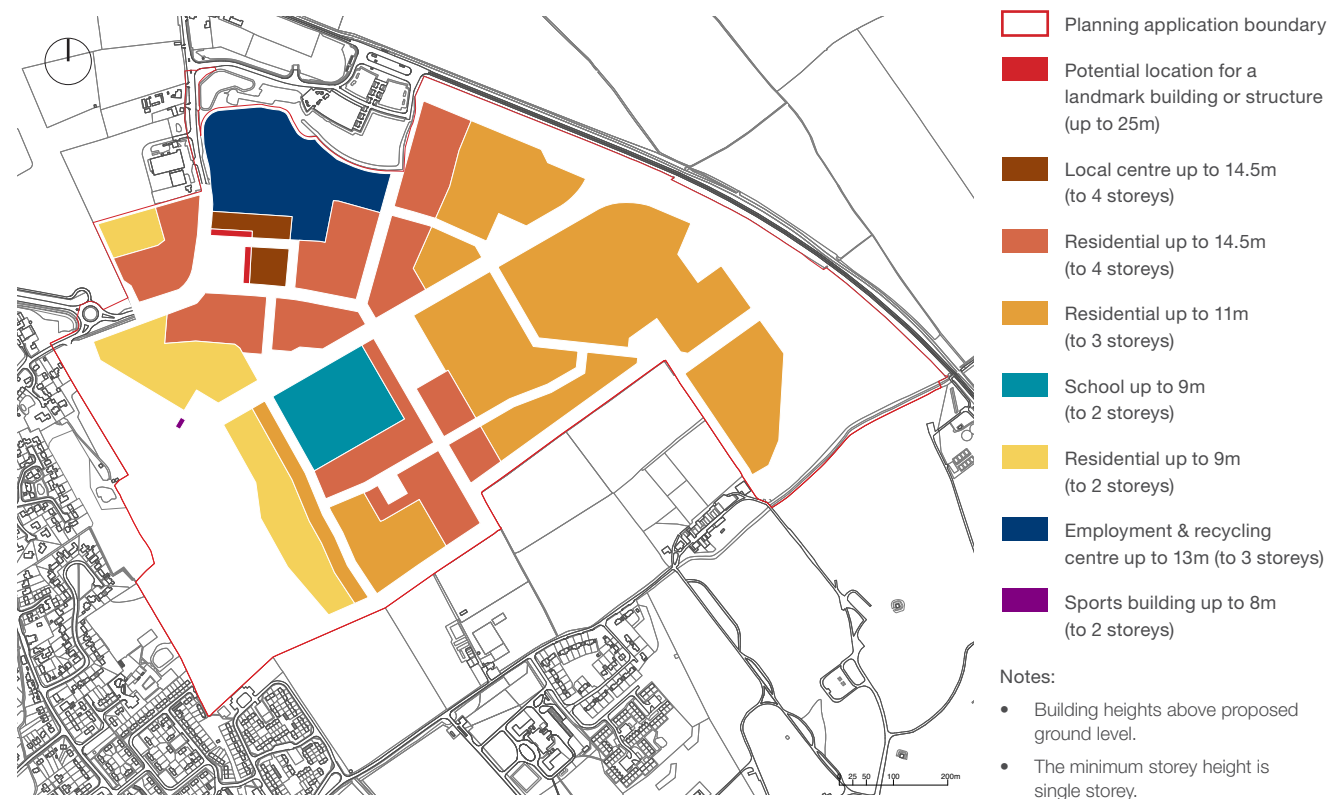


Figure 6.13 Building heights (plan 3 of parameter ES)

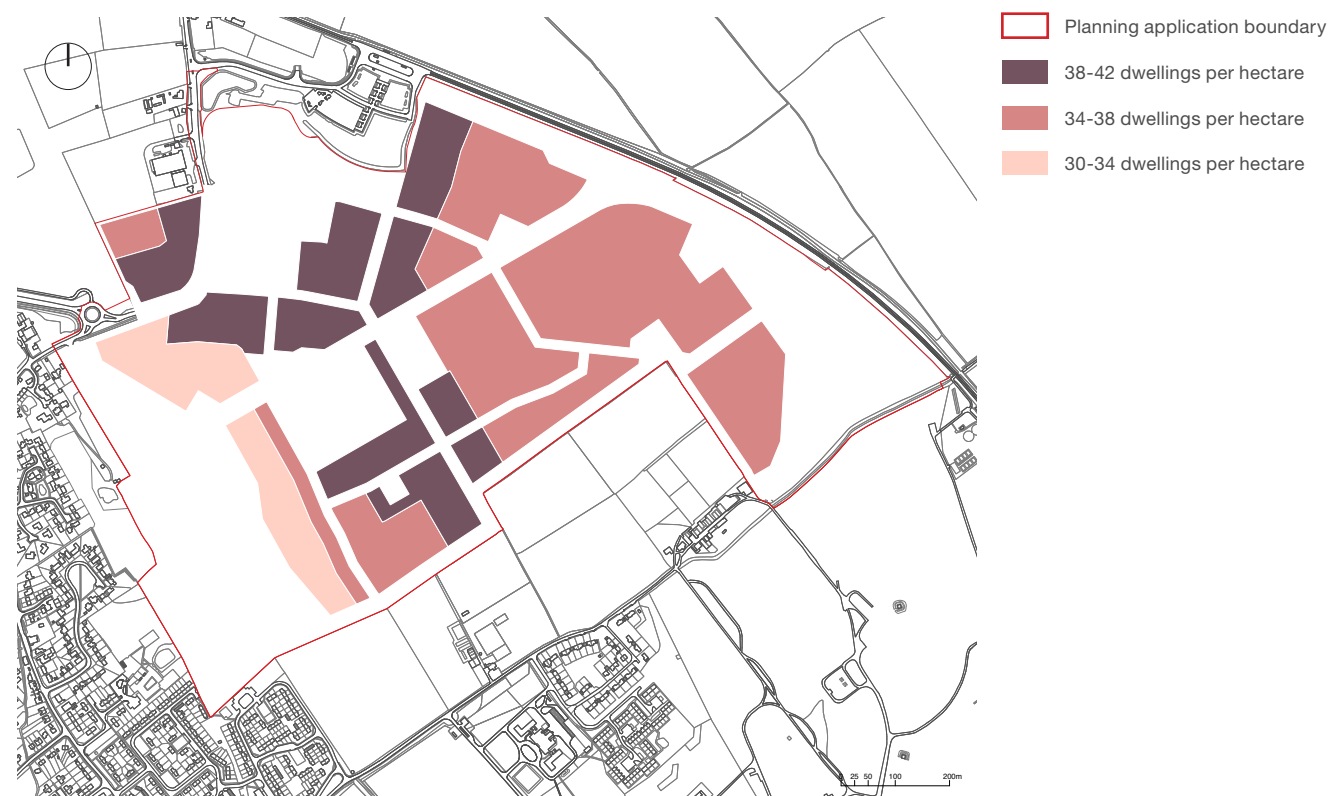


Figure 6.14 Density plan (plan 4 of parameter ES)

## Density

Phase 1 will be developed to an average density of approximately 37.5 dwellings per hectare. Densities will be greater within the urban core, around the local centre and along the dedicated busway and primary street. Lower density development will be focused on the western edge of the site, to take account of the relatively low density existing development on the eastern edge of Longstanton.

The variation of densities across the site is shown on figure 6.14. Higher densities ranging between 38 to 42 dph will be provided in more sustainable locations, such as the local centre or along main public transport routes, most noticeably the dedicated busway. Terrace housing together with some limited apartment dwellings will be concentrated in this zone. Elsewhere, including the majority of the eastern portion of the development, densities will drop to between 34 to 38 dph. Within these areas, denser parts of the scheme will be focused along key routes, around key public spaces and where development fronts on to the water park where apartments could be located.

Along the western edge, densities reduce further to between 30 to 34 dph, and it is envisaged that within this zone two storey detached housing will prevail.



### Massing

The strategy for distribution of land uses building heights and densities were tested as the master plan evolved through the continual refinement of 3D massing models. The final urban massing, based on the illustrative master plan, is illustrated in figure 6.15

Heights, massing and building enclosure are concentrated along the dedicated busway, primary streets and local centre

Blocks become fragmented at the development edges with building heights and massing reducing

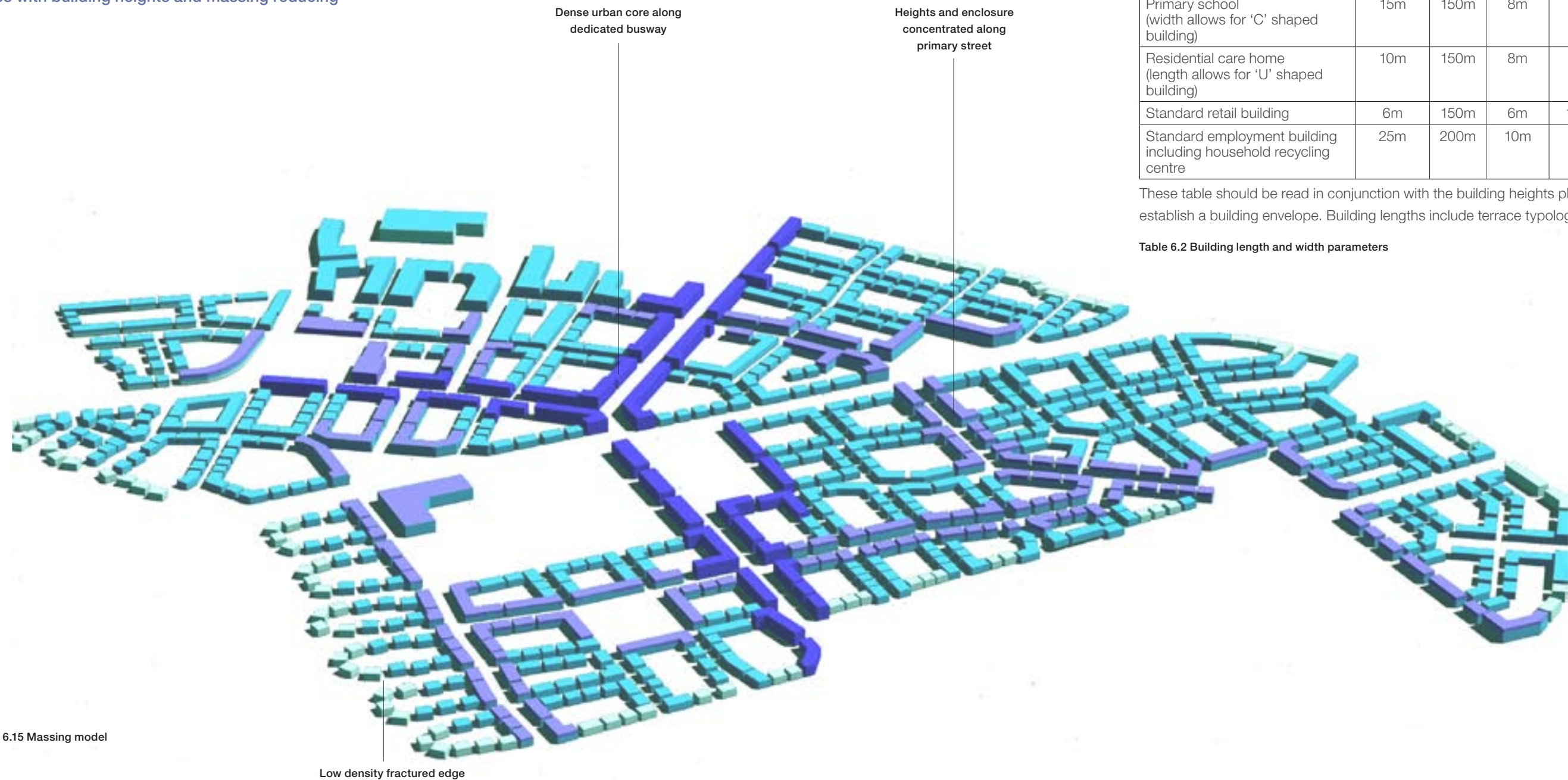


Figure 6.15 Massing model

### Building footprint

In addition to building height a minimum and maximum size for the length and width of buildings across the site (residential and non-residential) is set out in table 6.2.

#### Residential building footprint schedule

	Length (x)		Width (y)	
	Min	Max	Min	Max
Standard residential building	4m	100m	7m	20m
Corner residential building	4m	125m	7m	20m

#### Non Residential building footprint schedule

	Length (x)		Width (y)	
	Min	Max	Min	Max
Primary school (width allows for 'C' shaped building)	15m	150m	8m	50m
Residential care home (length allows for 'U' shaped building)	10m	150m	8m	25m
Standard retail building	6m	150m	6m	150m
Standard employment building including household recycling centre	25m	200m	10m	50m

These table should be read in conjunction with the building heights plan to establish a building envelope. Building lengths include terrace typology.

Table 6.2 Building length and width parameters