

INTRODUCTION

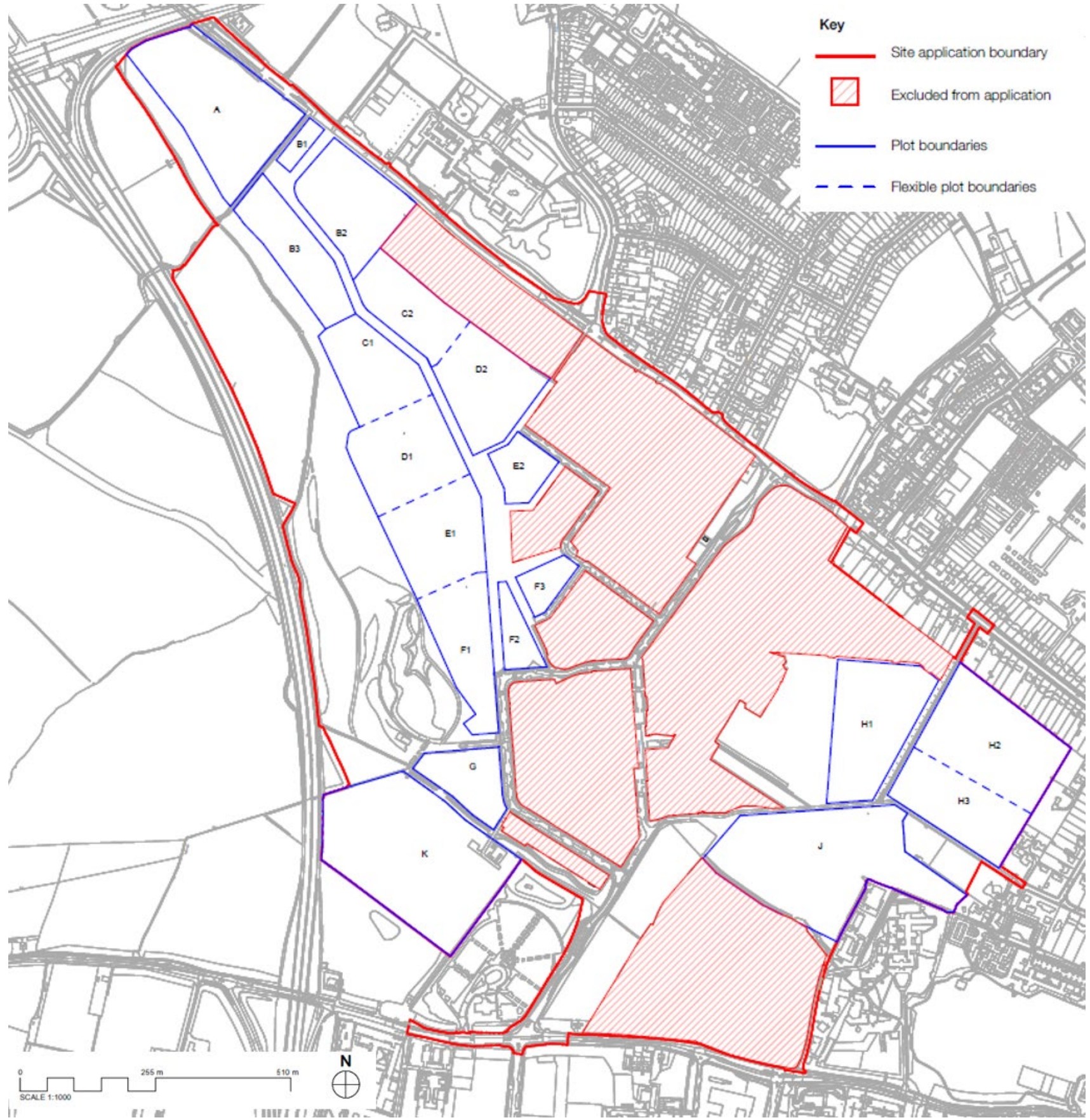
- 4.1** This chapter of the Environmental Statement (ES) presents a description of the Proposed Development sought for approval under the Outline Planning Application (OPA). This ES chapter provides the relevant and sufficient information on the Proposed Development to aid the identification and assessment of potential impacts and likely effects across the technical topic areas addressed in the EIA, as presented in **ES Volume 1, Chapters 6 to 15** and **ES Volume 2, Landscape and Visual Impact Assessment (LVIA)**.
- 4.2** Further details on the Proposed Development can be found within the Design and Access Statement (DAS), Parameter Plans, Design Code, Development Specification and the Planning Statement that have been submitted in support of the outline planning application. However, the information presented within this ES chapter is sufficient to understand the site and Proposed Development sought for approval, and the basis of the EIA.

OVERVIEW OF THE PLANNING APPLICATION

- 4.3** The Proposed Development seeks outline planning permission (all matters reserved except for means of access to the public highway) for a phased mixed-use development, including demolition of existing buildings and structures, such development comprising:
- Living uses, comprising residential (Use Class C3 / C4, up to 3,800 dwellings), student accommodation (Sui Generis), Co-living (Sui Generis) and senior living (Use Class C2);
 - Flexible Employment Floorspace (Class E(g) / Sui Generis research uses);
 - Academic Floorspace (Use Class F1);
 - Supporting retail, nursery, health and indoor sports and recreation uses (Class E (a) – E (f)); and
 - Public open space, public realm, sports facilities, amenity space, outdoor play, allotments and hard and soft landscaping works alongside supporting facilities;
 - Car and cycle parking, formation of new pedestrian, cyclist and vehicular accesses and means of access and circulation routes within the site;
 - Highway works;
 - Site clearance, preparation and enabling works;
 - Supporting infrastructure, plant, drainage, utility, earthworks and engineering works.
- 4.4** Detailed planning permission is sought for the primary means of access to the site. The access arrangements which are sought for approval in detail are described further below in '*Means of Access*'.
- 4.5** As discussed in **ES Volume 1, Chapter 1: Introduction**, and **ES Volume 1, Chapter 2: EIA Methodology** Control Documents are documents and plans which describe the principal components of the Proposed Development, provide parameters that guide future Reserved Matters Applications (RMAs), and act as controls to limit development within the parameters set. These documents create a framework which sets out the information required to allow the impacts of the Proposed Development to be identified and assessed.
- 4.6** The Control Documents provide a number of development controls, including the maximum building and land use floorspace limits, and a 3-dimensional (3D) building envelope within which the detailed design of buildings can come forward through the submission of RMAs. The range of land use classes and amount of floorspace which could be brought forward (Figure 4.2) has also been specified.

- 4.7** The OPA comprises the following Control Documents, which in combination with this ES chapter form the basis of assessment for the EIA:
- Parameter Plans:
 - Demolition Plan (PP2-10001);
 - Green Infrastructure, Play and Open Space Parameter Plan (PP3-10002);
 - Access and Movement Parameter Plan (PP4-10003);
 - Land Use Parameter Plan (PP5-10004);
 - Existing Levels Parameter Plan (PP6-10005);
 - Proposed Maximum Heights Parameter Plan (PP7-10006); and
 - Urban Design Parameter Plan (PP8-10007).
 - **Design Code** – a document which provides a set of rules and codes which establish the design principles and sets out the way in which future RMAs can be brought forward.; and
 - **Development Specification** – a document which defines and describes the principal components of the Proposed Development, including the form and content of the OPA as well as the parameters for future RMAs. The Development Specification outlines the maximum amount of development that could come forward across the site. The Development Specification provides information on the land use class floorspace for each of the use classes which are being sought for approval and could be brought forward across the site.
- 4.8** The controls in the Parameter Plans primarily deal with 'Access', 'Layout', 'Scale' and 'Use', where the Development Specification relates to 'Amount', and the Design Code relates to all aspects of design, including 'Scale' and 'Appearance'. It is through the Parameter Plans that the Development Zone locations, open space and green infrastructure, and key road, pedestrian and cycle routes are laid out and controlled.
- 4.9** The Parameter Plans, Design Specification and Design Code submitted as part of the OPA set out the information required to allow the environmental and socio-economic impacts and effects of the Proposed Development to be identified with sufficient certainty at the OPA stage. The assessments contained within **ES Volume 1, Chapters 6 to 15** and in **ES Volume 2, Landscape and Visual Impact** are based on the Proposed Development, as defined and described by the Control Documents.
- 4.10** An Illustrative Masterplan representing one possible way the principles as defined in the above listed Control Documents could be interpreted/achieved and developed into a design, is also described in the DAS and set out within this ES chapter.

Figure 4.1 Proposed Development Plot Locations (Illustrative)¹



¹ This plan is not sought for approval and is purely for illustrative purposes to present site layout.

DESCRIPTION OF THE PROPOSED DEVELOPMENT

Site Layout and General Arrangement

- 4.11** The site is roughly triangular in shape and is bound by Huntingdon Road (A3107) to the north and north-east, Madingley Road (A1303) to the south and the M11 motorway to the west.
- 4.12** The Proposed Development is to be delivered across three key phases. For the purposes of assessment, it is assumed that the Proposed Development will be brought forward as follows:
- Phase 2 – located to the north-west of the site;
 - Phase 3 – located in the centre of the site; and
 - Phase 4 – located to the east of the site.
- 4.13** In the Illustrative Masterplan, the Proposed Development is divided into 19 indicative plots, as shown in Figure 4.1.

Amount of Development

- 4.14** The OPA seeks approval for a maximum amount of development for residential and non-residential uses proposed. The maximum amount of development is secured through the Parameter Plans and via the Development Specification with the design guided by the Design Code submitted for planning approval. This builds in a degree of flexibility for the future detailed design of the Proposed Development within a site wide maximum amount of development.
- 4.15** The maximum amount of development for each land use proposed is shown in Table 4.1.
- 4.16** To enable a reasonable assessment across the various technical disciplines considered within this ES, a breakdown of the likely amount of floorspaces that could come forward within this maximum area being applied for have been considered. As discussed in **ES Volume 1, Chapter 2: EIA Methodology**, each technical discipline has individually applied reasonable worst-case assumptions when considering potential effects.
- 4.17** Figure 4.1 illustrates the indicative land use plot arrangement across the site, which is not sought for approval as part of the OPA and is presented for illustrative purposes only. Figure 4.2 presents the Land Use Parameter Plan, which together with Table 4.1 shows the proposed plots and their respective uses.

Table 4.1 Maximum Development Area

Land Use		Amount (GEA) (m ²)
Residential	Residential (Use Class C3 / C4)	Up to 365,000*
	Student Accommodation (Sui Generis)	Up to 52,000*
	Co-living (Sui Generis)	Up to 52,000*
	Senior Living (Use Class C2)	Up to 6,500
Non-Residential	Flexible Employment Floorspace (Use Class E(g) / Sui Generis)	Up to 40,000
	Academic Floorspace (Use Class F1)	Up to 60,000
	Supporting retail, nursery, health and indoor sports and recreation uses (Use Class E (a) – E (f)).	Up to 3,500
	Ancillary floorspace comprising Back of House, Enclosed Plant, Storage, Servicing, Car and Cycle Parking Areas, development infrastructure required to support the development	No Maximum

* Total maximum floorspace of Residential (Use Class C3 / C4) + Co-living (Sui Generis) + Student Accommodation (Sui Generis) is up to 417,000m² GEA.

Residential Land Uses

- 4.18** The individual floorspaces set out in Table 4.2 could accommodate up to 3,800 residential dwellings (Use Class C3 / C4), up to 1,800 student accommodation units (Sui Generis) and up to 1,800 co-living units (Sui Generis).
- 4.19** However, all of these units could not come forward at the same time due to the maximum floorspace amount of 417,000m² Gross External Area (GEA) allocated to these uses. Therefore, as described in paragraph 4.16, each technical discipline has considered this and applied worse case assumptions where relevant.
- 4.20** 50% of the residential dwellings (Use Class C3 / C4) will be Key Worker Housing (KWH) for University of Cambridge (UoC) and College staff. The final tenure and number of residential dwellings will be defined and evolve through the future RMA process
- 4.21** Table 4.2 presents the site wide unit mix ranges for the market housing provision, and Table 4.3 presents the site wide unit mix ranges for the KWH provision.

Table 4.2 Site Wide Unit Mix Ranges – Market Housing

Residential Dwelling Type ²	Market	
	Minimum	Maximum
Single Person Unit	N/A	7.5%
One Bed Unit	10%	30%
Two Bed Unit	25%	45%
Three Bed Unit	10%	35%
Four+ Bed Unit	20%	45%

² Including both flats and houses

Table 4.3 Site Wide Unit Mix Ranges – Key Worker Housing

Residential Dwelling Type ³	Key Worker Housing	
	Minimum	Maximum
Single Person Unit	30%	55%
One Bed Unit	15%	35%
Two Bed Unit	10%	35%
Three + Bed Unit	2%	5%

Non-Residential Land Uses

4.22 As set out above in Table 4.1, the Proposed Development is seeking approval for up to 103,500m² GEA of non-residential floorspace comprising of the following:

- Up to 40,000m² (GEA) of employment floorspace (Use Class E (g) / Sui Generis). This will be located in the north-west corner of the site, within Plots A, B1 and B2;
- Up to 60,000m² (GEA) of academic floorspace (Use Class F1). This will be located in the east of the site, within Plots H1 and J; and
- Up to 3,500m² (GEA) of supporting retail, nursery, health and indoor sports and recreation uses (Use Class E (a) – E (g)). These uses will be located across the site within local hubs. Indicative locations for these uses are shown in Figure 4.2.

Maximum Heights and Scale

4.23 The maximum footprints (layout and scale), heights across development zones (scale) and land use distribution are defined on the Parameter Plans and further explained within the Design Code and Development Specification as these are the controlling documents submitted for approval under the OPA.

4.24 By defining the location and maximum extents of each Building Development Zone, the overall composition and massing is defined. All buildings that come forward within each Building Development Zone must comply with the maximum heights for that zone defined in the Proposed Maximum Heights Parameter Plan (Figure 4.3). No development shall be permitted beyond these vertical limits. Heights given are mAOD (metres Above Ordnance Datum) and number of storeys. The maximum mAOD heights include roof plant, parapets and lift overruns.

4.25 Buildings across the Proposed Development will generally range from up to 28.5mAOD to up to 49.5mAOD (from up to 2 to up to 7 storeys). There are some locations in the centre of the site (as shown in Figure 4.3) where buildings up to 52mAOD (up to 8 storeys) may be located.

³ Including both flats and houses

Figure 4.2 Land Use Parameter Plan

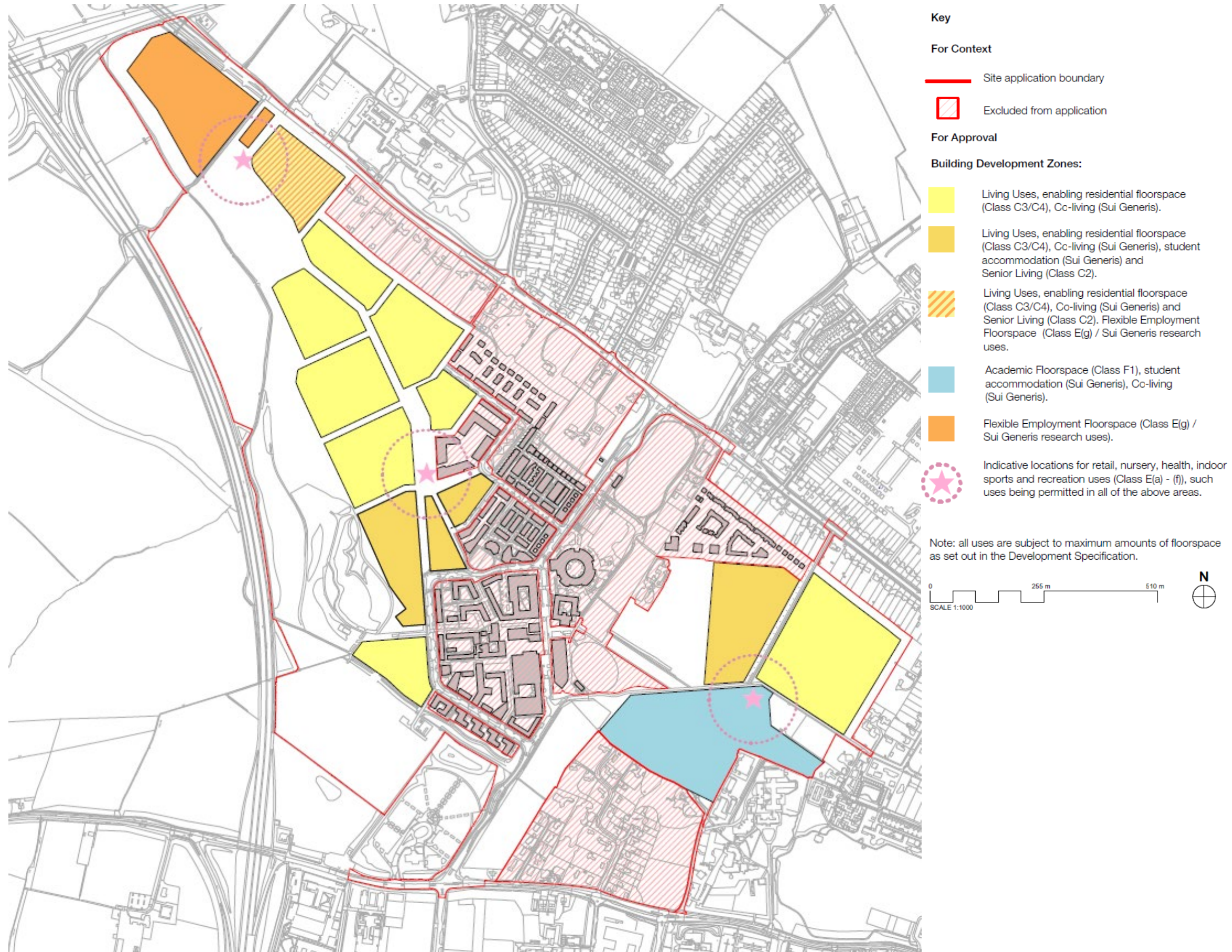
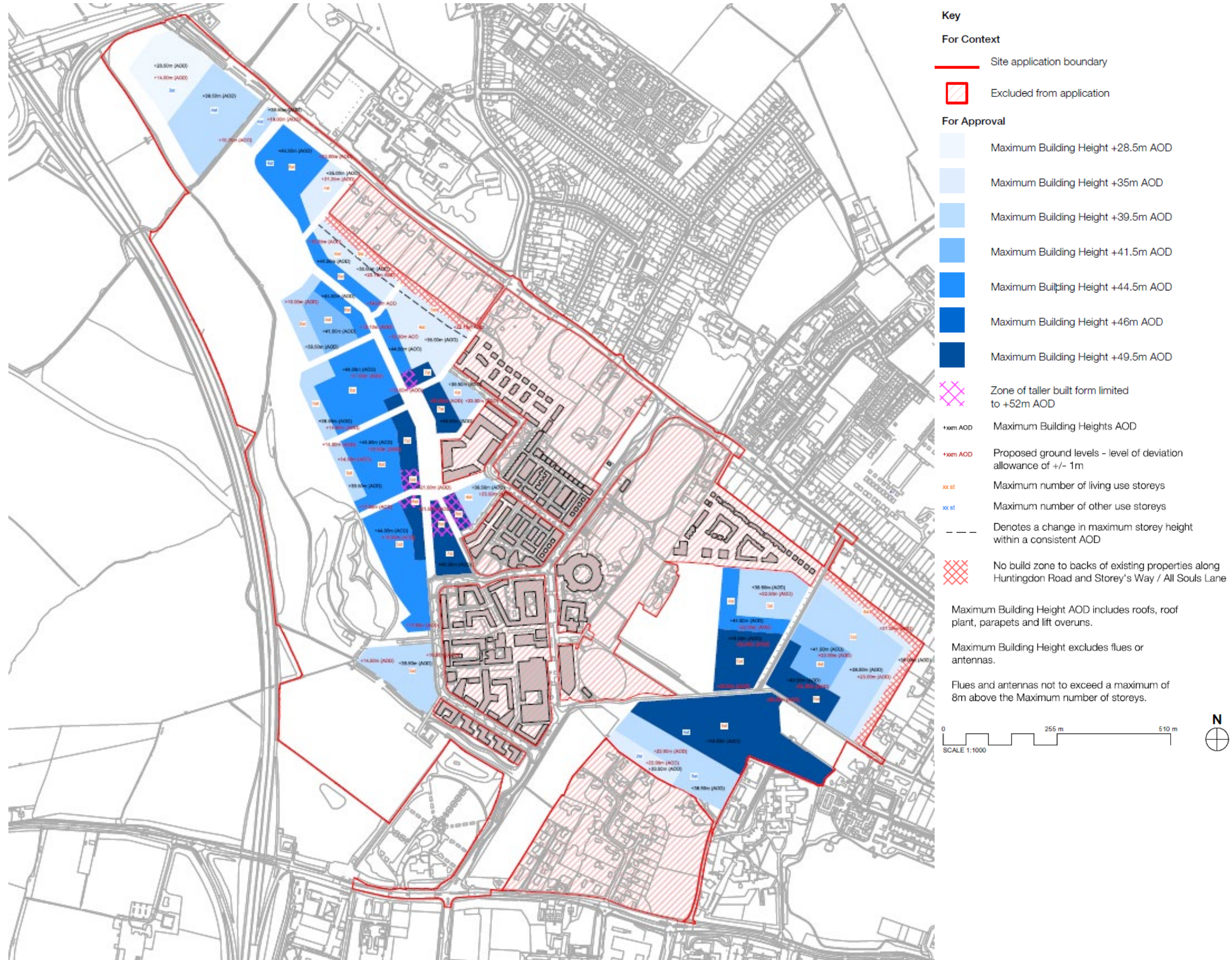


Figure 4.3 Proposed Maximum Heights Parameter Plan



MEANS OF ACCESS AND MOVEMENT

- 4.26** The means of access and circulation are set out on the Access and Movement Parameter Plan including vehicle access, segregated cycle access and shared pedestrian access routes, shown in Figure 4.7.
- 4.27** The main access route through the site will be a new primary road known as Cartwright Avenue, which will connect Huntingdon Road at the north-west of the site to Turing Way (located within Phase 1 of the 2013 OPP).
- 4.28** Vehicle access to the site will be provided by six primary access points, three of which are existing:
- North-East Huntingdon Road Access – existing access located to the north-east of the site, along Huntingdon Road joining Eddington Avenue. This was approved and implemented as part of the 2013 OPP;
 - Madingley Road Access – existing access located to the south of the site, along Madingley Road (A1303) joining Eddington Avenue. This was approved and implemented as part of the 2013 OPP; and
 - Madingley Rise Access – existing access located to the south-east of the site along Madingley Rise.
- 4.29** New vehicular access to the site is proposed at the following locations:
- North-West Huntingdon Road Access – a new signalised junction on Huntingdon Road joining the proposed Cartwright Avenue;
 - New vehicular access located to the north-west of the site from Huntingdon Road into the area of Plot A of the Illustrative Masterplan; and
 - New vehicular access located to the north-west of the site from Huntingdon Road into the area of Plot B2 of the Illustrative Masterplan.

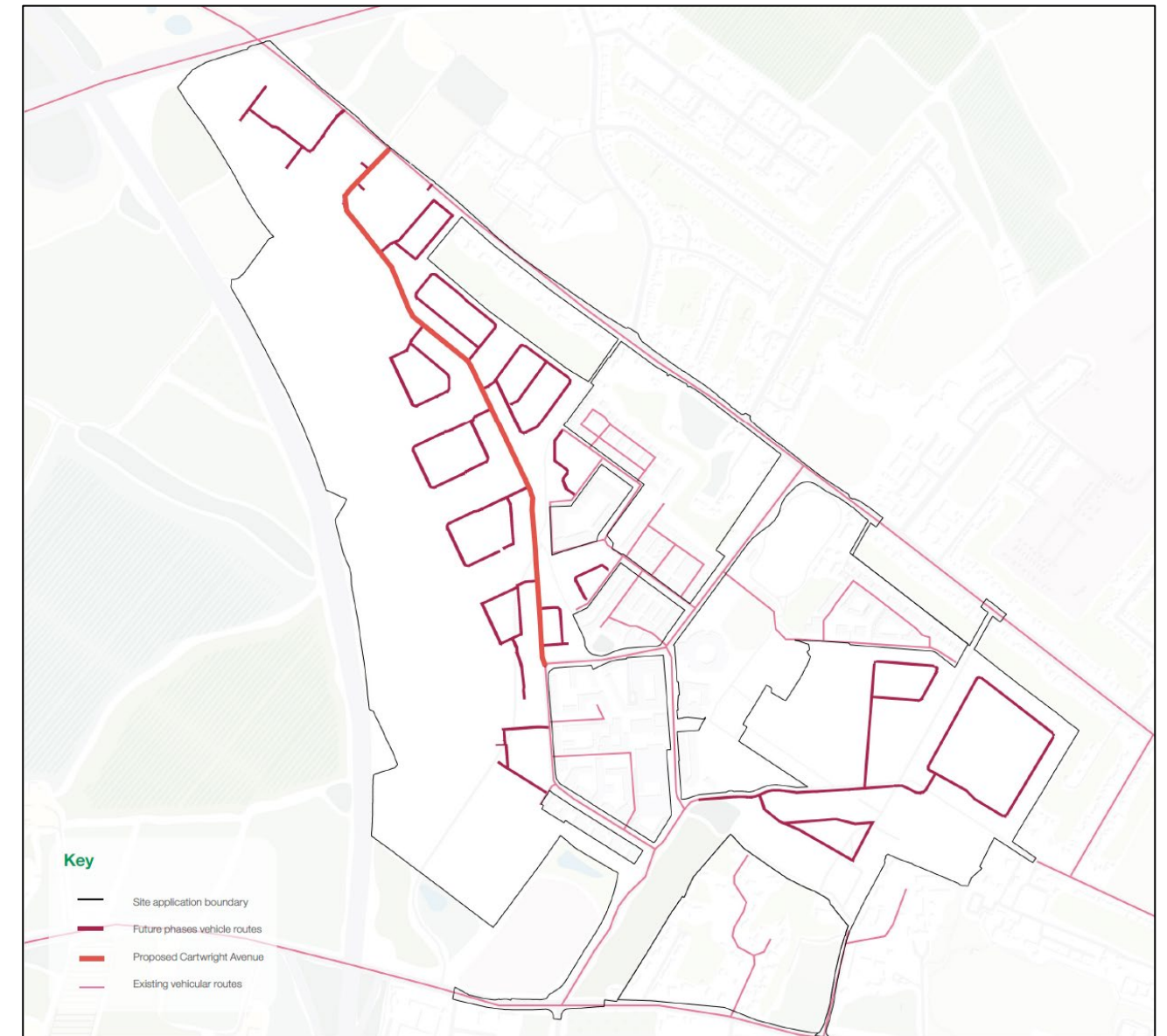
Detailed Access

- 4.30** The North-West Huntingdon Road access is proposed as one of the primary means of access to the site and will provide vehicular access to the proposed Cartwright Avenue. The detail of this new primary means of access is shown in Figure 4.8.
- 4.31** This access point will comprise the following:
- Signalised junction between Cartwright Avenue and Huntingdon Road (Location 1 in Figure 4.8). This signalised arrangement will include:
 - One large approach on each arm plus right turn lane into the site from the north-west and retention of the bus lane across the site frontage;
 - No right turn from Cartwright Avenue with physical restriction, staggered controlled crossing over Cartwright Avenue;
 - A staggered crossing over Cartwright Avenue arm;
 - No crossing facilities over Huntingdon Road to reduce impact on capacity and account for crossing facilities provided north and south;
 - Two additional priority-controlled accesses off Huntingdon Road into the two main northern employment plots (Locations 2 and 3 in Figure 4.8) ;
 - Uncontrolled crossing points over each priority access set back from main carriageway with drop kerbs, tactiles, appropriate visibility, and kerb radius to accommodate vehicles expected at each; and
 - Shared pedestrian and cycle infrastructure on Huntingdon Road.

Secondary and Tertiary Street Network

- 4.32** A network of secondary streets will provide access to, and movement through, building development zones, creating links between the main route through the site, Cartwright Avenue, and the residential and non-residential uses within the site. The position and alignment of secondary, tertiary and ancillary access (shown in Figure 4.4) have been designed in outline at this stage, and will be developed as part of future RMAs.

Figure 4.4 Vehicle Routes (Illustrative)

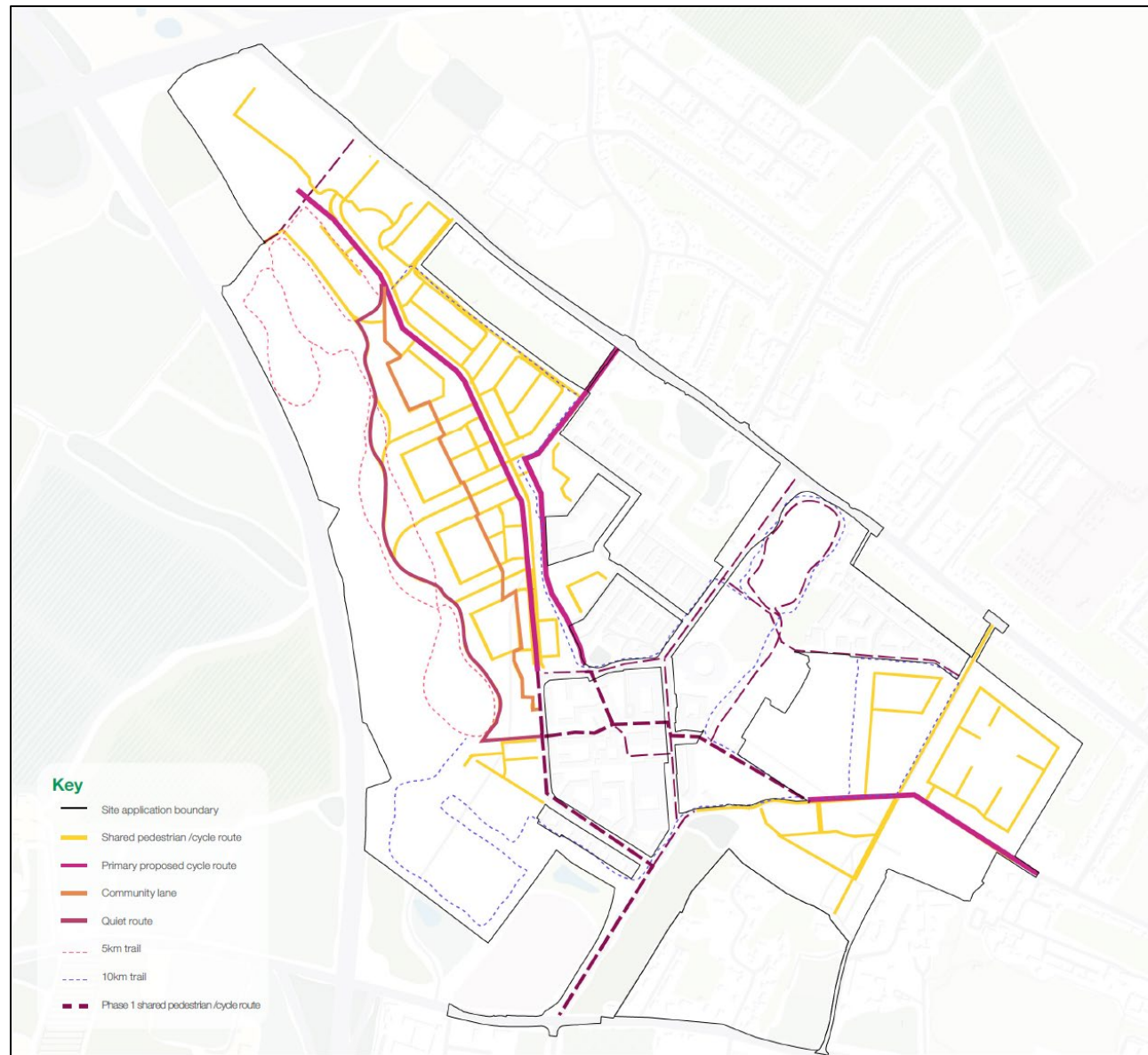


Pedestrian and Cycle Access

- 4.33** Pedestrian corridors along the Public Right of Way (PRoW) (Footpath 99/5) and footpaths which cross the site are to be retained and the network is extended with new footpaths and cycleways. Accessible and safe routes will encourage walking and cycling as the primary modes of transport within the site and the adjoining surrounding area.
- 4.34** New pedestrian and cycle routes both on and off street are proposed to provide connections to essential facilities, services and amenities and open space.

4.35 Pedestrian and cycle routes across the Proposed Development are shown on Figure 4.5. The detail with regard to these pedestrian and cycle links has been designed in outline at this stage will be developed as part of future RMAs.

Figure 4.5 Pedestrian and Cycle Routes (Illustrative)



Car and Cycle Parking

- 4.36 Car and cycle parking will be provided in line with the North West Cambridge Area Action Plan (AAP)⁴.
- 4.37 The number of car parking spaces will be sufficient to meet the needs of the Proposed Development while avoiding an over-reliance on private vehicles. In accordance with the North West Cambridge AAP, at least 5% of the total number of car parking spaces will be disabled spaces. Electric vehicle charging provision will be provided in accordance with the Greater Cambridge Sustainable Design and Construction SPD (2020).

4.38 Details on car and cycle parking will be established as part of future RMAs.

Public Transport

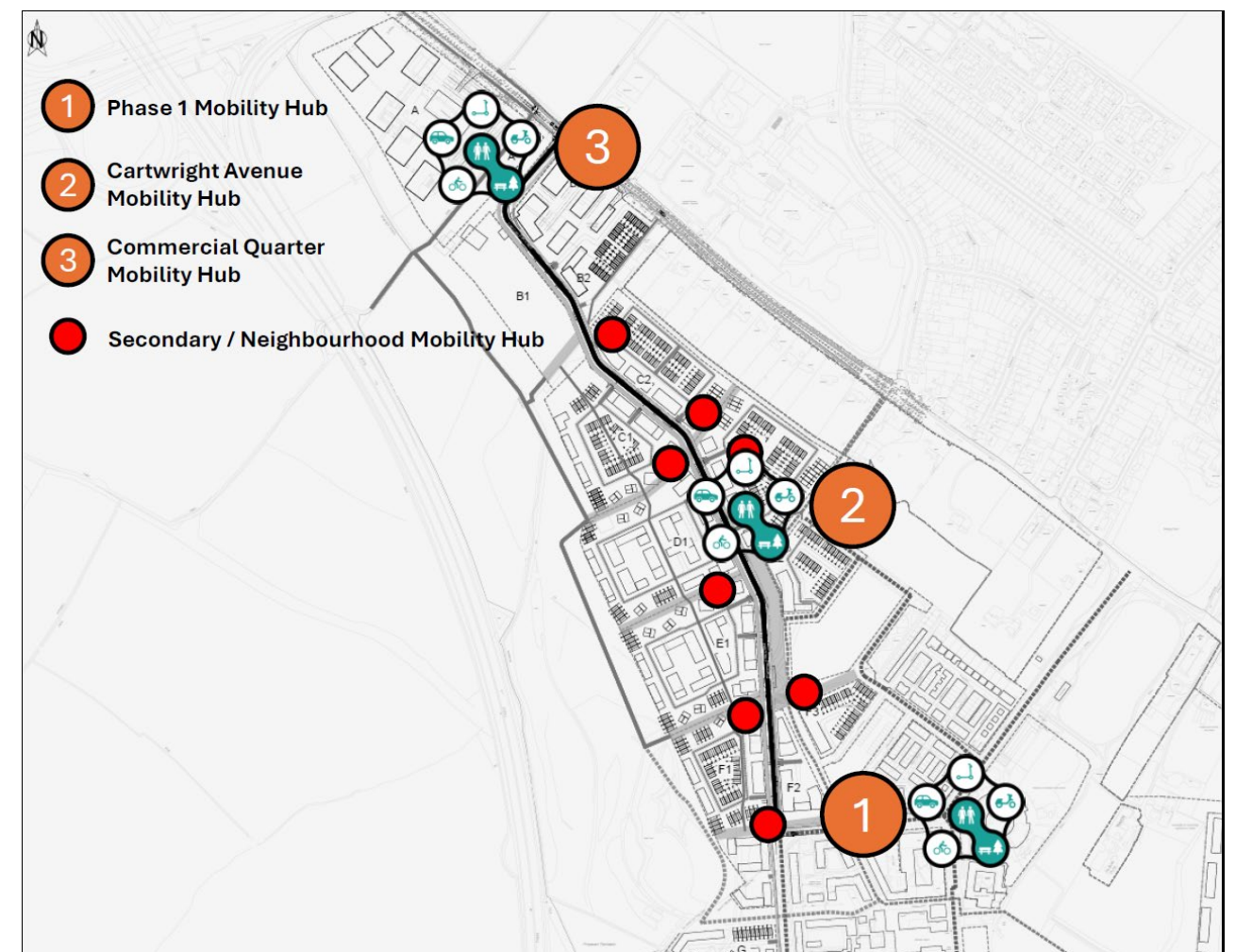
4.39 The Proposed Development has been designed to continue to accommodate buses via Eddington Avenue and Cartwright Avenue has been designed to the appropriate width to accommodate new and diverted buses via the North-West Huntingdon Road access.

4.40 A network of three primary mobility hubs is proposed within the Proposed Development. Mobility hubs seek to cluster complementary transport modes and services. The initial locations of the three primary mobility hubs are proposed as follows, as shown in Figure 4.6:

- To the north of Cartwright Avenue, nearby to the commercial uses in the north-west of the site;
- On the eastern side of Cartwright Avenue; and
- At the existing Eddington local centre, nearby to Storey's Field Community Centre.

4.41 Details and locations of proposed mobility hubs will be established at part of future RMAs.

Figure 4.6 Indicative Mobility Hub Locations (Illustrative)



⁴ Cambridge City Council and South Cambridgeshire District Council (2009); North West Cambridge Area Action Plan, Local Development Framework

Figure 4.7 Access and Movement Parameter Plan

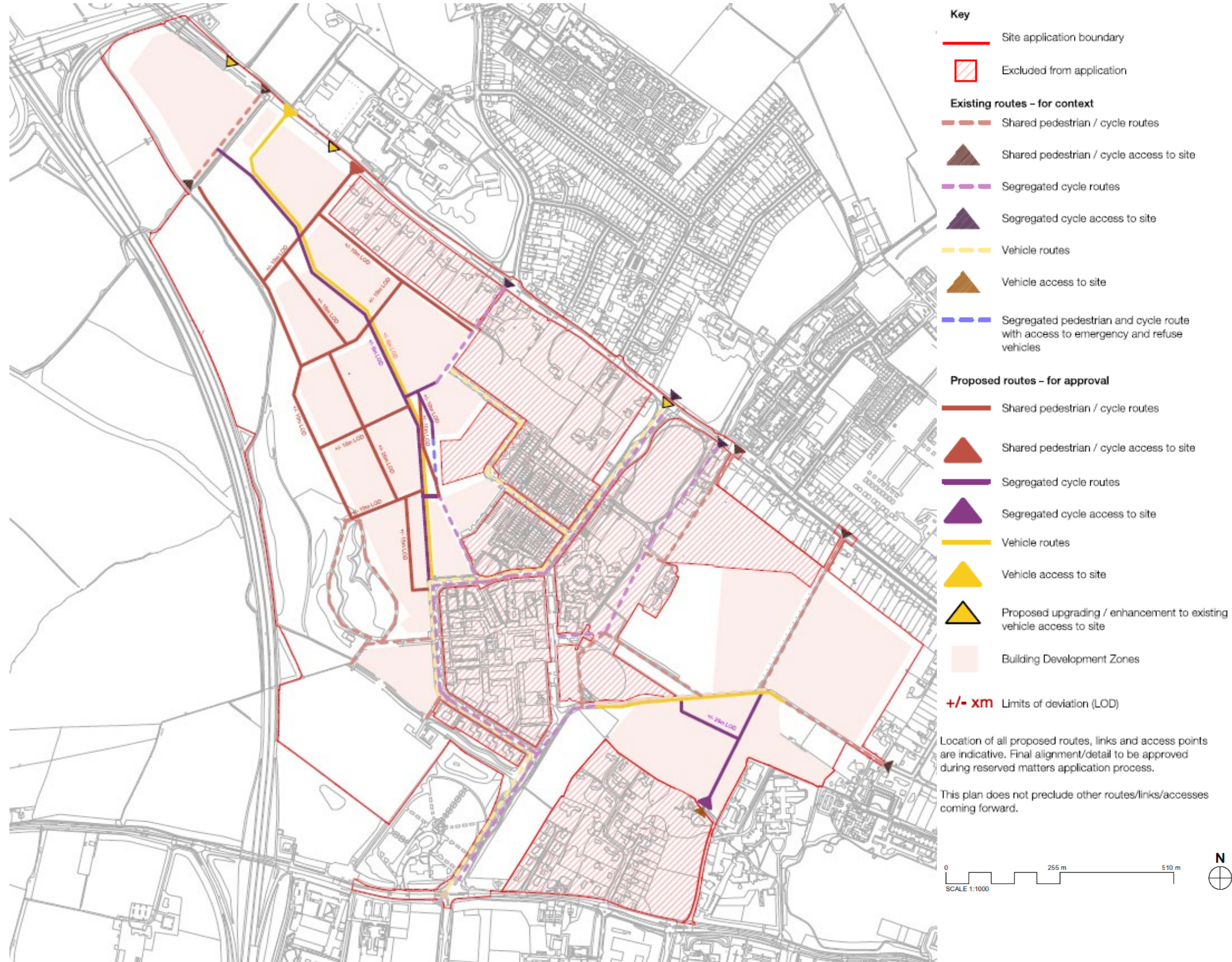
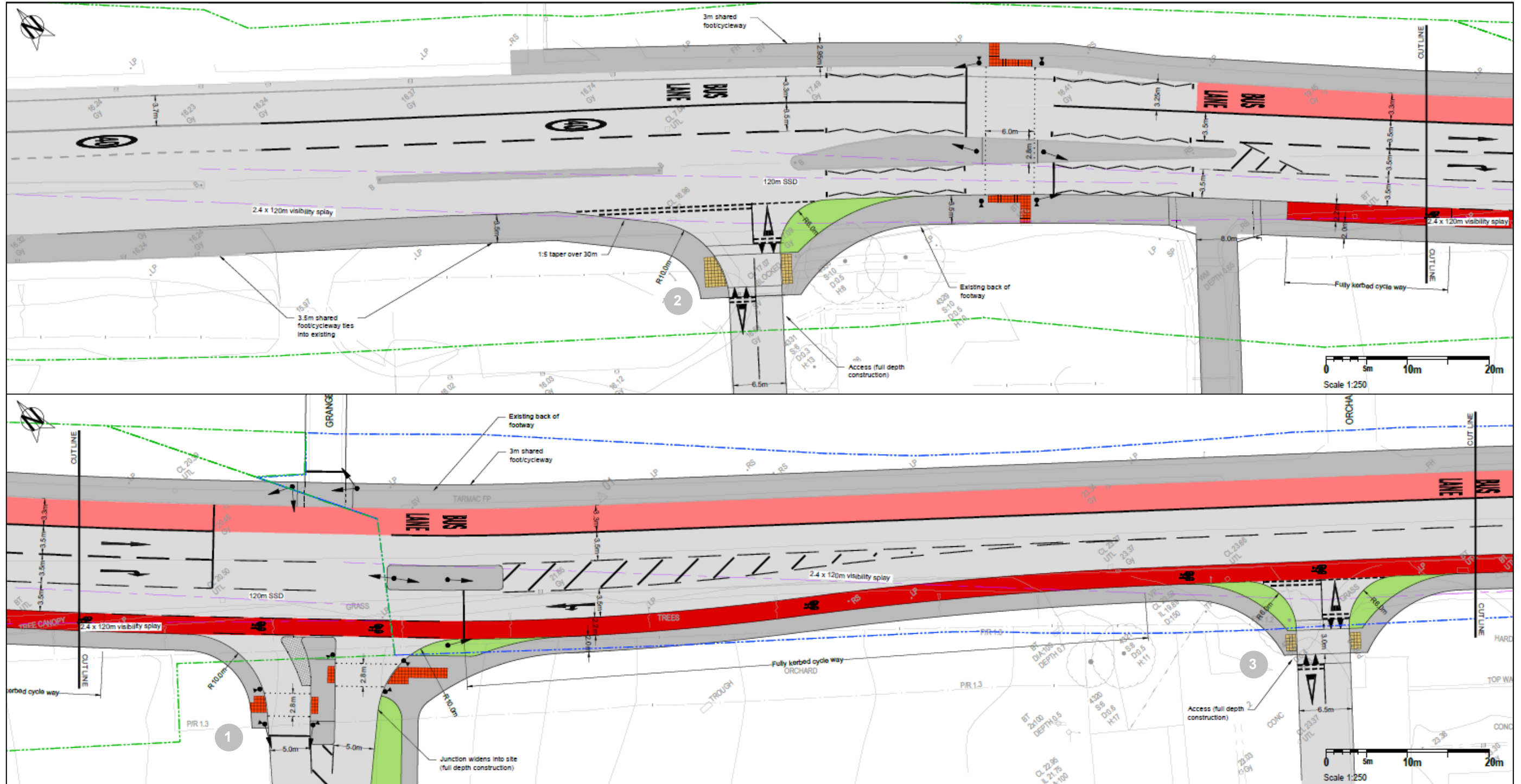


Figure 4.8 Detailed Access Plan (Huntingdon Road (A1307))



- Carriageway
- Overrun area
- Footway
- Cycleway (with Cambridge Kerb, unless otherwise specified)
- Verge
- Highway boundary
- Highway boundary (National Highways)

CHARACTER AREAS (PLACES)

4.42 The appearance of the Proposed Development shall be defined by the various character areas / places and as appearance is reserved for subsequent approval by the GCSPS, on behalf of SCDC and CCC, the appearance of the Proposed Development is controlled through the Design Code that is sought for planning approval.

4.43 The Proposed Development adopts a 'Character Area' approach for residential development areas, to ensure it responds to local context. Each character area has a distinct identity, appearance and function. The character areas are described below and illustrated on Figure 4.9:

- Shared Gardens – the Shared Garden will provide informal open space, where vehicle movements have been removed. They will comprise formal and informal child doorstep playable space, communal growing spaces, Sustainable Urban Drainage Systems (SuDS) and active travel routes for pedestrian and cyclists.
- Neighbourhoods – buildings and landscape contribute to define multi-use streets that have a pedestrian character but allow different forms of movement catering for the practical needs of every home. Planting and water management, communal uses for play and growing, walking and cycling are also embedded in the streetscape;
- Community Lane- a pedestrian priority, safe and leisurely street. Connecting through the school to the community centre and local centre, to formal sports and growing areas to the north of the site;
- Gravel Hill – the eastern most part of the site, combining a mix of uses including an academic quarter, residential and student accommodation. Separated from Phase 1 of the 2013 OPP by green infrastructure, it has a unique setting including the Girton Gap and partial extent of the Traveller's Rest Pit SSI with its 10m buffer zone;
- Cartwright Avenue & The Common – a spine providing vehicular access to the western area of the site. It includes a street with unidirectional cycle lane linking to the existing Turing Way, an open space, a street with bidirectional cycle land and a landscaped verge. The Common sits to the south of Cartwright Avenue and comprising of public realm in which movement corridors navigate east and west;
- Innovation Street – a flexible cluster of innovation uses including mid-tech industries and employment space, organised around a street connected to Cartwright Avenue; and
- Brook Leys – a significant area of public realm, with existing features such as the Washpit Brook and lagoon. The space is defined by its varied and undulating natural landscape. This provides a green edge to the Proposed Development where biodiversity will thrive, and will enhance and protect habitats whilst allowing residents to connect to nature.

4.44 The Urban Design Parameter Plan is shown in Figure 4.10, which shows key features such as frontages viewpoints, open spaces and clusters of activity.

Figure 4.9 Character Areas

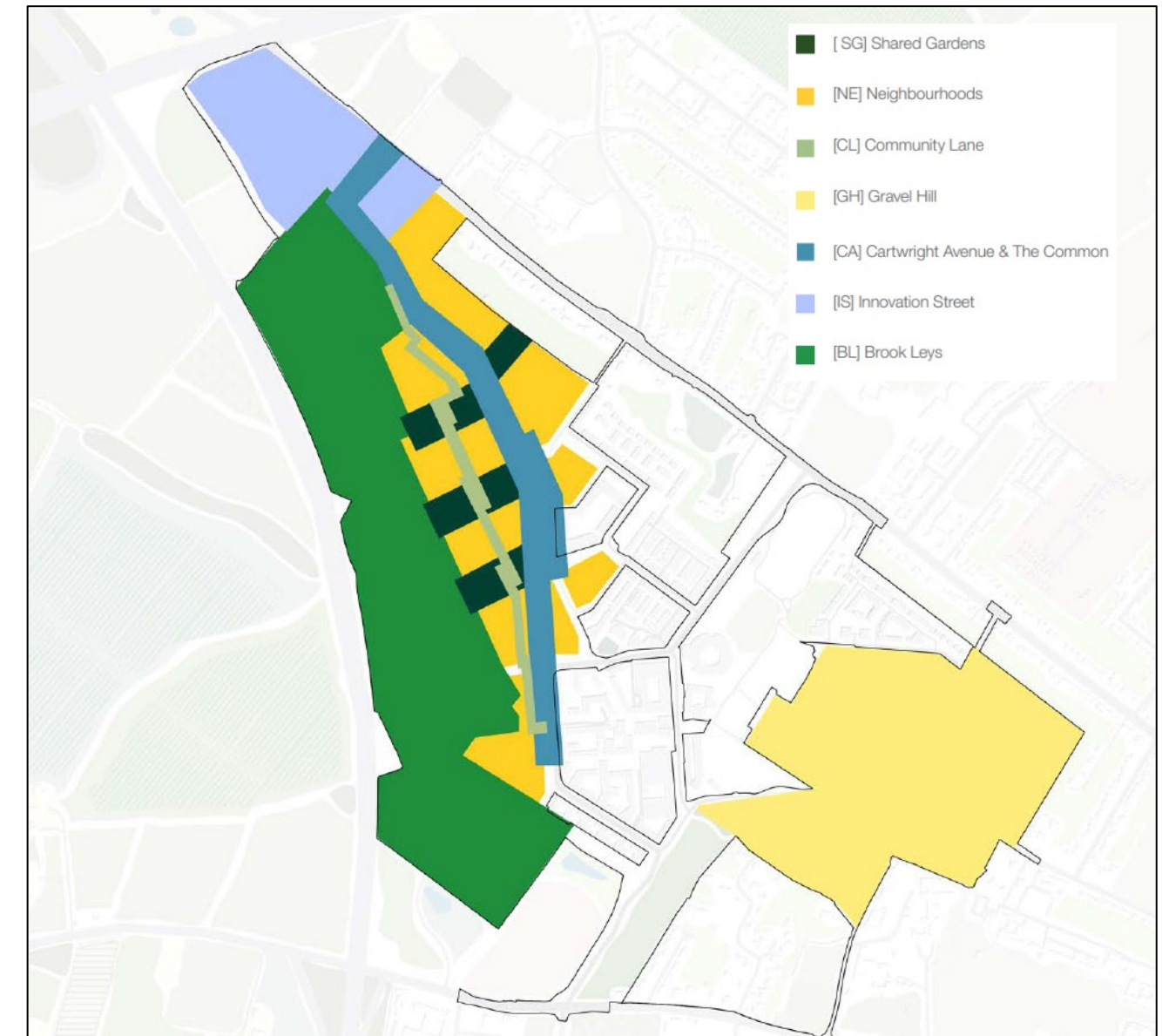
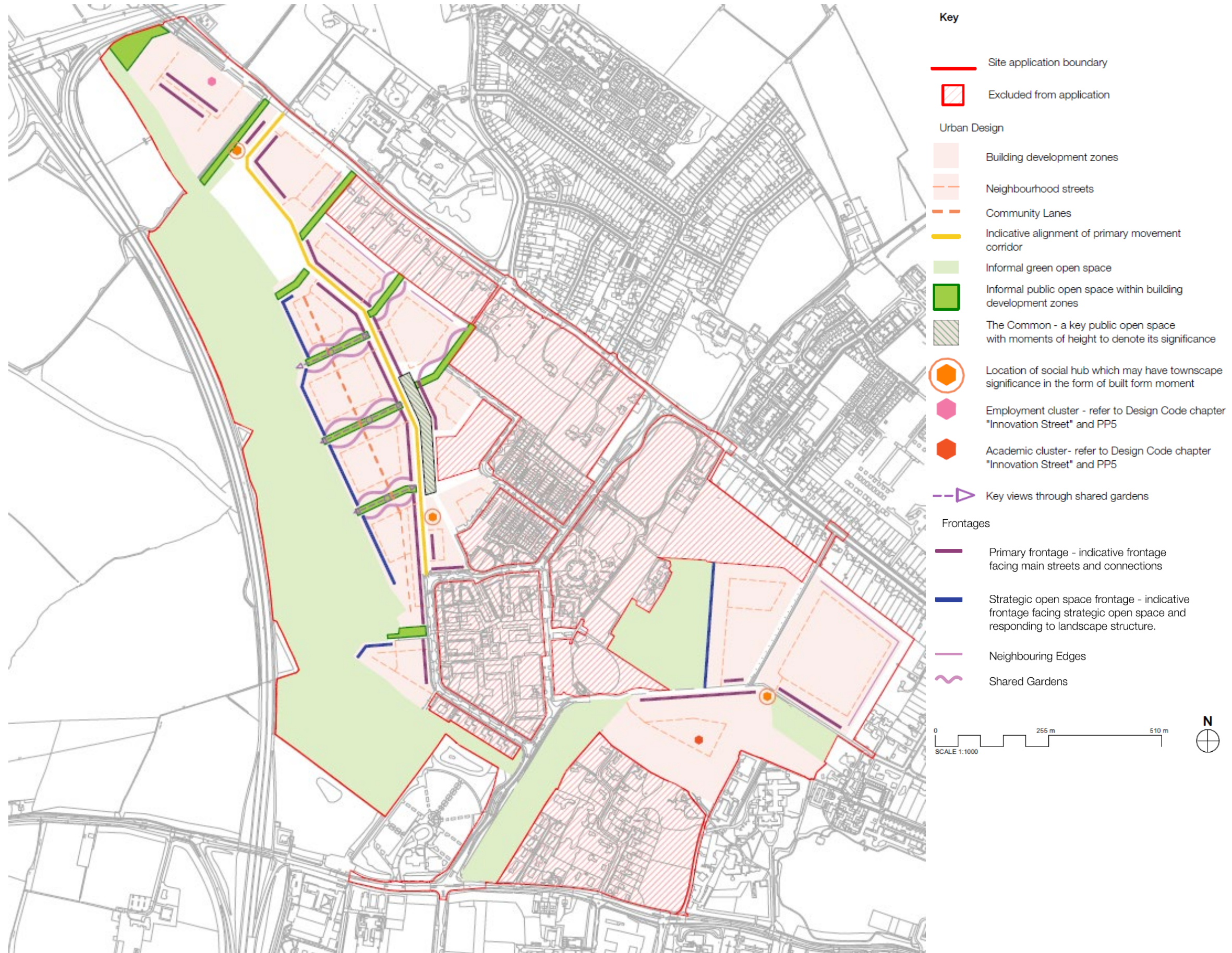


Figure 4.10 Urban Design Parameter Plan



GREEN INFRASTRUCTURE, PLAY AND OPEN SPACE

4.45 The landscape strategy will create a soft edge between city and countryside, enhancing the site’s identity as a sustainable, nature-rich area. It will deliver multi-functional, biodiverse spaces that support placemaking, health and wellbeing with access to play, sport, and productive landscapes.

4.46 The Proposed Development will include a variety of landscaping features, with each phase of the Proposed Development providing public and private open space for residents and visitors to the site. Green infrastructure takes the form of the following, but not limited to:

- Informal open space and associated facilities, new planting, SuDS and public art,
- Formal equipped playspaces and informal playable spaces and play on the way;
- Formal sports pitches and courts, as well as informal fitness and running trails;
- Allotments and community gardens;
- Structural planting; and
- Existing trees / woodland.

4.47 The proposed landscape approach includes the creation of several distinct landscape character areas, which are defined primarily by their intended use. The key landscape character areas are shown in Figure 4.11 and are as follows:

- Brook Leys – sits within the Cambridge Green Belt and is an important ecological and amenity asset for Eddington. The Washpit Brook corridor is a valuable home for wildlife and will support much of the Proposed Development’s SuDS strategy, managing water as it naturally flows towards the brook. Playable areas, with growing space close to the development edge, will be located within a large scale natural setting with an emphasis on habitat creation. Excess soil from existing material stockpiles site building works will be reused to form gentle landforms west of the Washpit Brook;
- The Common – comprises a linear urban park with play, seating and planting amongst the wider movement infrastructure (Cartwright Avenue). Trees line the movement corridors and aid in wayfinding. It also includes a space for pop-up or temporary events; and
- Shared Gardens – will provide doorstep and communal growing spaces, social spaces and gathering points, playspace and playable features, public art, rain gardens integrated with play, movement corridor for active travel.

4.48 Table 4.4 provides a summary of the proposed open space and playspace provision across the Proposed Development, as well as across the wider North West Cambridge Development Masterplan. The Green Infrastructure, Play and Open Space Parameter Plan is shown in Figure 4.17.

Table 4.4 Open Space Areas – Per Type

Public Open Space Type	Proposed Development Provision (ha)	Wider North West Cambridge Development Masterplan (including Phase 1) Provision
Sports Pitches / Courts	10.24	14.97
Informal Open Space	45.36	48.54
Allotments and Community Gardens	4.87	5.22
Playspace	2.00	3.79

Figure 4.11 Landscape Strategy



Playspace

4.49 The Proposed Development will provide a network of inclusive and equipped play and engaging playable spaces, distributed across the site. Play typologies have been based on the provision set out under the North West Cambridge Area Action Plan ‘Strategy for Youth Facilities and Children’s Play’:

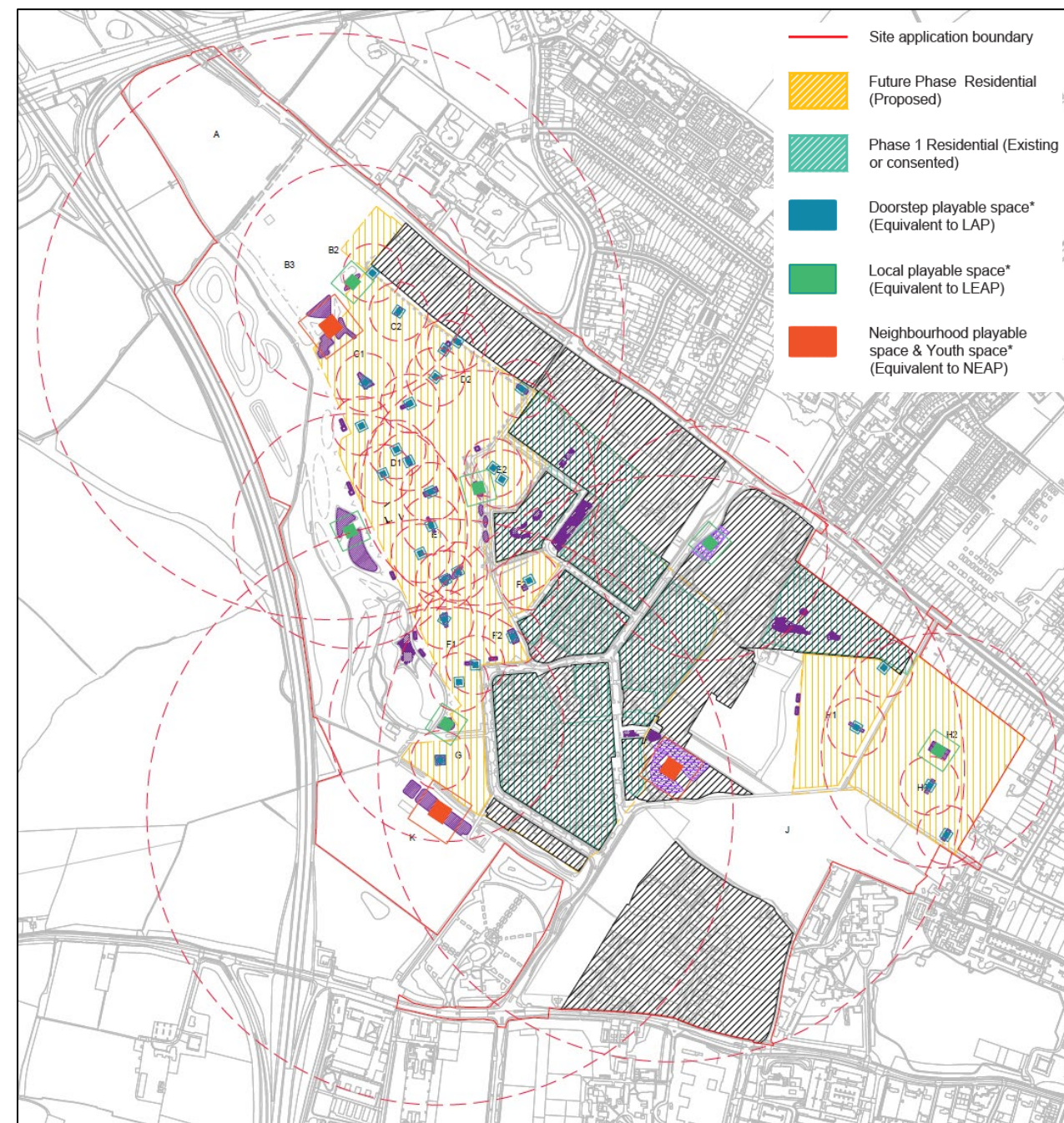
- Doorstop Playable Space (equivalent to Local Area for Play (LAP));
- Local Playable Space (equivalent to Local Equipped Area for Play (LEAP)); and
- Neighbourhood Playable Space and Youth Space (equivalent to Neighbourhood Equipped Area for Play (NEAP)).

4.50 Playspaces will be integrated into their landscape and public realm. Table 4.5 provides a summary of the playspace provision per play typology, and Figure 4.12 shows the illustrative playspace provision across the Proposed Development.

Table 4.5 Site Wide Play Provision

Playspace Category	Provision (m ²)
Doorstep Play	5,070
Local Play	6,410
Neighbourhood Play	7,520
Informal Play	1,000

Figure 4.12 Child Playspace Provision (Illustrative)



Sports Pitches and Recreational Uses

4.51 The Proposed Development includes the provision of sports pitches and recreational uses. Formal sports uses will be provided in two principal locations:

- Amenity Cluster C – located in Plot K of the Illustrative Masterplan, immediately west of the existing Madingley Road Park and Ride, this sports and amenity cluster will comprise formal sports provision, informal trails, foraging and habitat areas. The specific parameters of the sports provision will come forward as part of future RMAs, however Figure 4.13 shows the illustrative sports and amenity strategy for this cluster. This includes the provision of the following:
 - 3 x 3G football pitches;
 - 4 x tennis courts; and
 - 1 x 3G sports pitch.
- Amenity Cluster D – located in Plot B3 of the Illustrative Masterplan, within the north-western corner of the site, this sports and amenity cluster will serve the northern neighbourhoods and wider community with sports and allotments provision. As stated above, the specific parameters of the sports provision will come forward as part of future RMAs, however Figure 4.14 shows the illustrative sports and wider amenity strategy for this cluster, which may include a BMX track, for example.

Lighting Strategy

- 4.52** Phase 1 of the 2013 OPP incorporates higher light levels to support urban dynamics, ensuring key routes and public spaces are well-lit for both safety and visibility. The Proposed Development lighting levels will gradually decrease, particularly in residential areas and Shared Garden spaces. In these quieter zones, the light levels will drop to lower thresholds, contributing to a sense of calm while maintaining sufficient illumination for pedestrian safety. This hierarchical approach allows for a smooth transition from areas of higher activity to residential environments.
- 4.53** In addition to adjusting light levels, warmer colour temperatures (2700K, amber or red colour) will be used to minimise ecological impacts. Warmer tones help reduce the attraction of insects to artificial lights, thereby supporting local biodiversity and minimising negative ecological impacts. Furthermore, by incorporating dimmable LED technology, the lighting system will adapt to varying activity levels throughout the day and night. This flexibility allows for dynamic adjustments, enhancing visual comfort and supporting energy efficiency.
- 4.54** In the residential areas, light columns with a height of 6 meters will be used for road carriageways. For cycle routes, footpaths, and secondary roads, a height of 4 meters will provide adequate lighting for vehicles, pedestrians, and cyclists. Bollard and low-level lighting will be used for more focused illumination along pathways and in amenity spaces. The design integrates with the surrounding landscape, minimising light pollution and ensuring a safe, sustainable environment for residents.
- 4.55** The Proposed Development lighting strategy is shown in Figure 4.15, which illustrates the areas where no lighting is proposed.

Sports Pitch Lighting

- 4.56** The proposed lighting strategy for the sports pitches within the Proposed Development will balance performance with environmental sensitivity. It will prioritise minimising light spill into ecological sensitive areas, reducing glare towards nearby residential zones and ensures compliance with specific illumination standards required for a variety of sports. The following lighting is proposed for Amenity Cluster C, based on the Illustrative Masterplan:
- Illuminance – 75 lux for football pitches and 200 lux for tennis courts. The luminaires proposed are warm colour temperature (3000K) or very warm colour (2700K) and adjustable with hood accessories to minimise light spill; and
 - Lighting Design – 12m high columns with multiple luminaires on a bracket mounted system.
- 4.57** Figure 4.16 shows the resultant light intrusion into the surrounding area from the proposed lighting system on Amenity Cluster C. No lighting is required around Amenity Cluster D.

Figure 4.13 Amenity Cluster C (Illustrative)

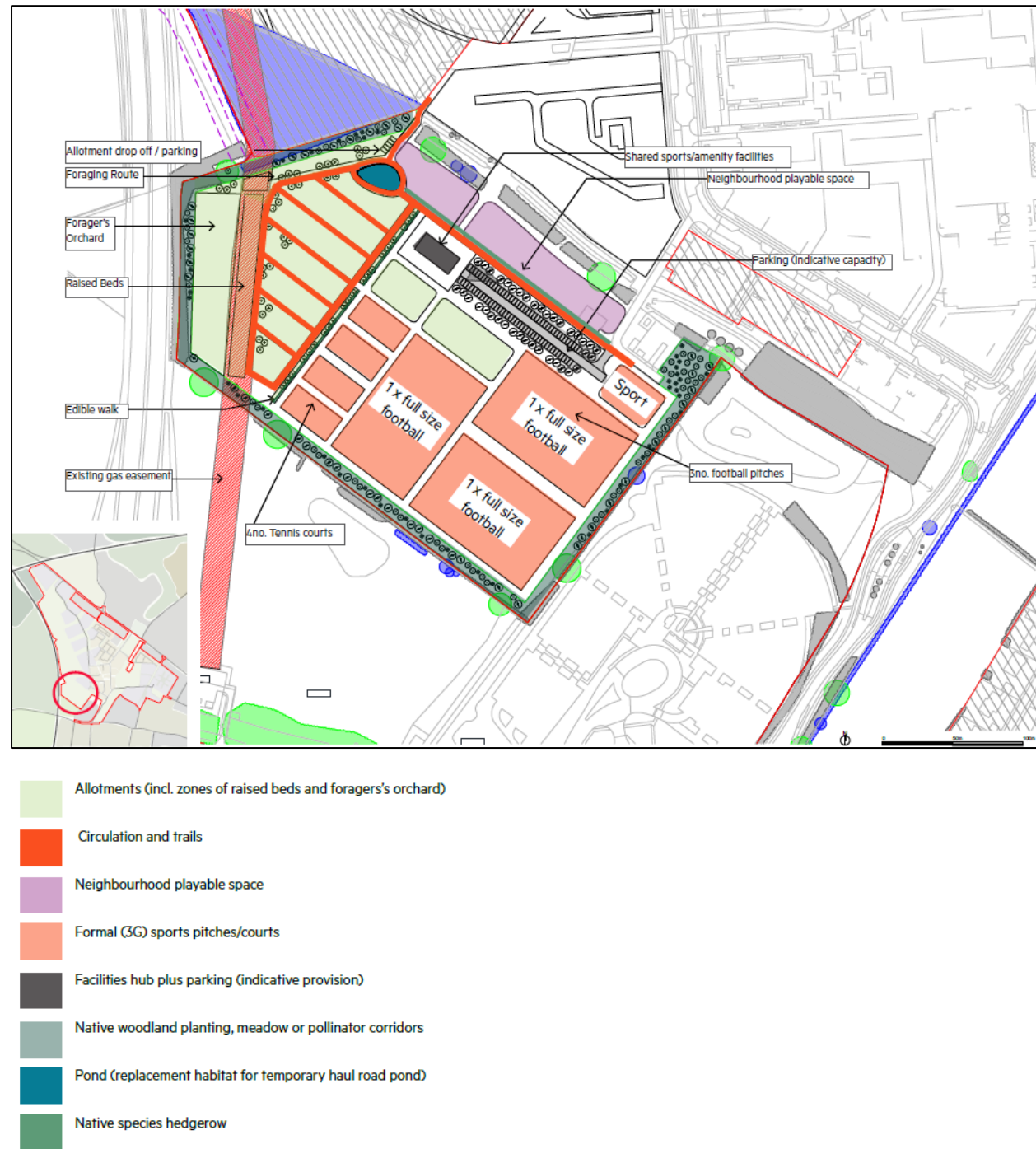


Figure 4.14 Amenity Cluster D (Illustrative)

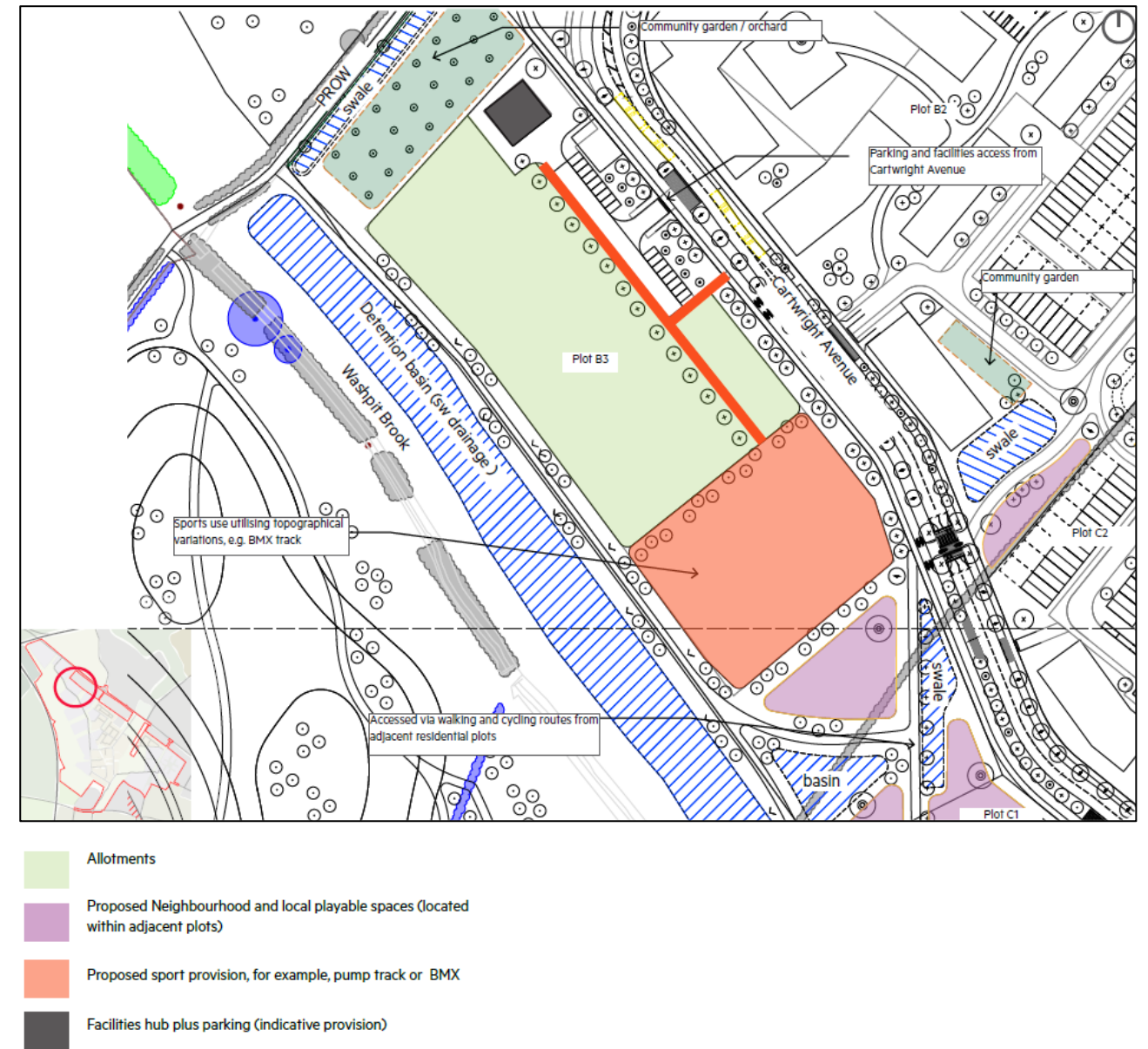


Figure 4.15 Proposed Development Lighting Strategy (Illustrative)



- Type 1 - Primary routes: 7.5 lx not falling below 1.5 lx
- Type 2 - Secondary routes: 5.0 lx not falling below 1.0 lx (pre-curfew), 3.0 lx not falling below 0.6 lx (post-curfew)
- Type 3 - Pedestrian routes/ridgeway: 3.0 lx not falling below 0.6 lx (pre-curfew), 2.0 lx not falling below 0.4 lx (post-curfew)
- Type 4 - No lighting in woodland area / Accent lighting in Community Lane or shared garden

Figure 4.16 Amenity Cluster C Light Intrusion (Lux)

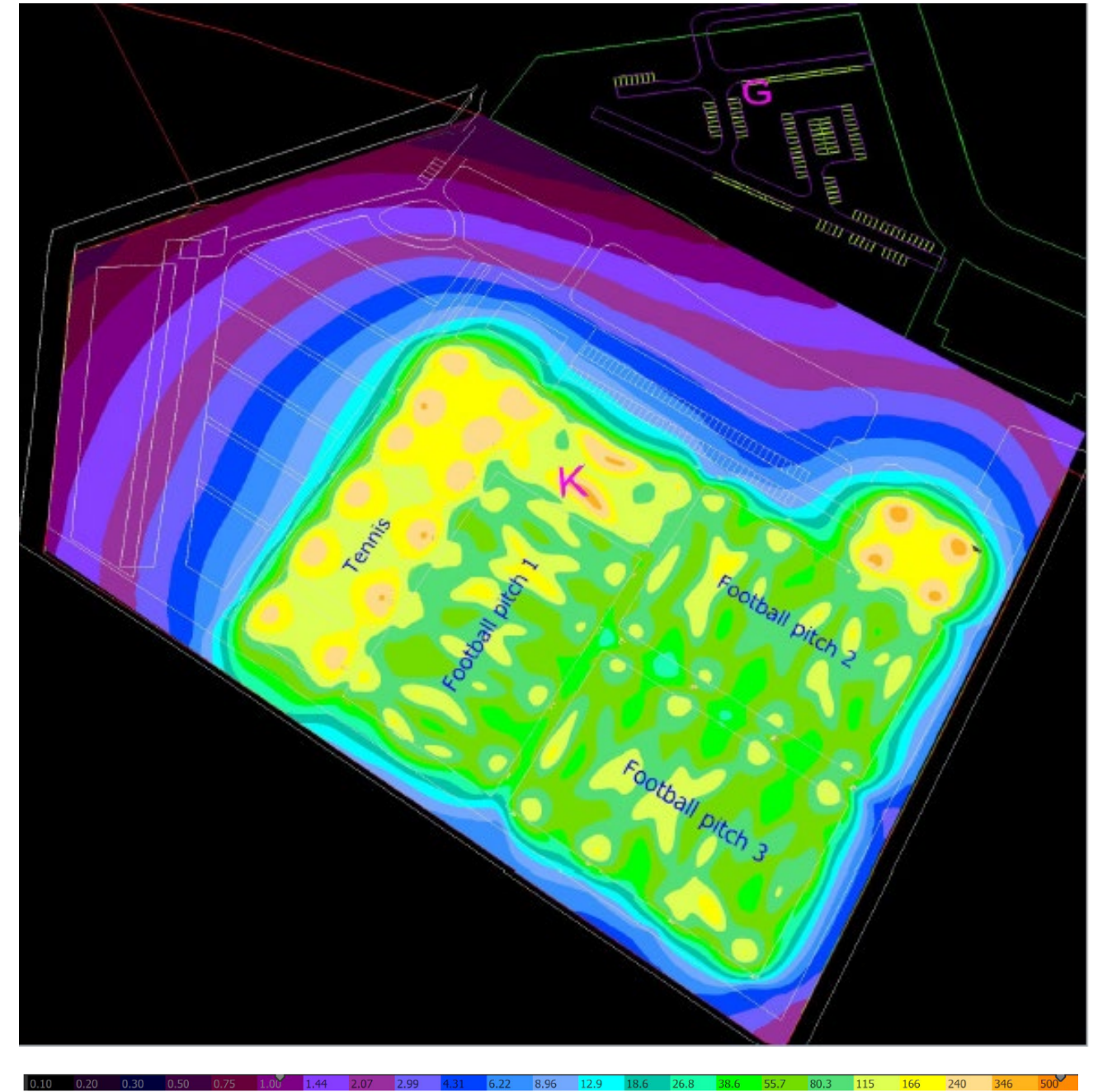
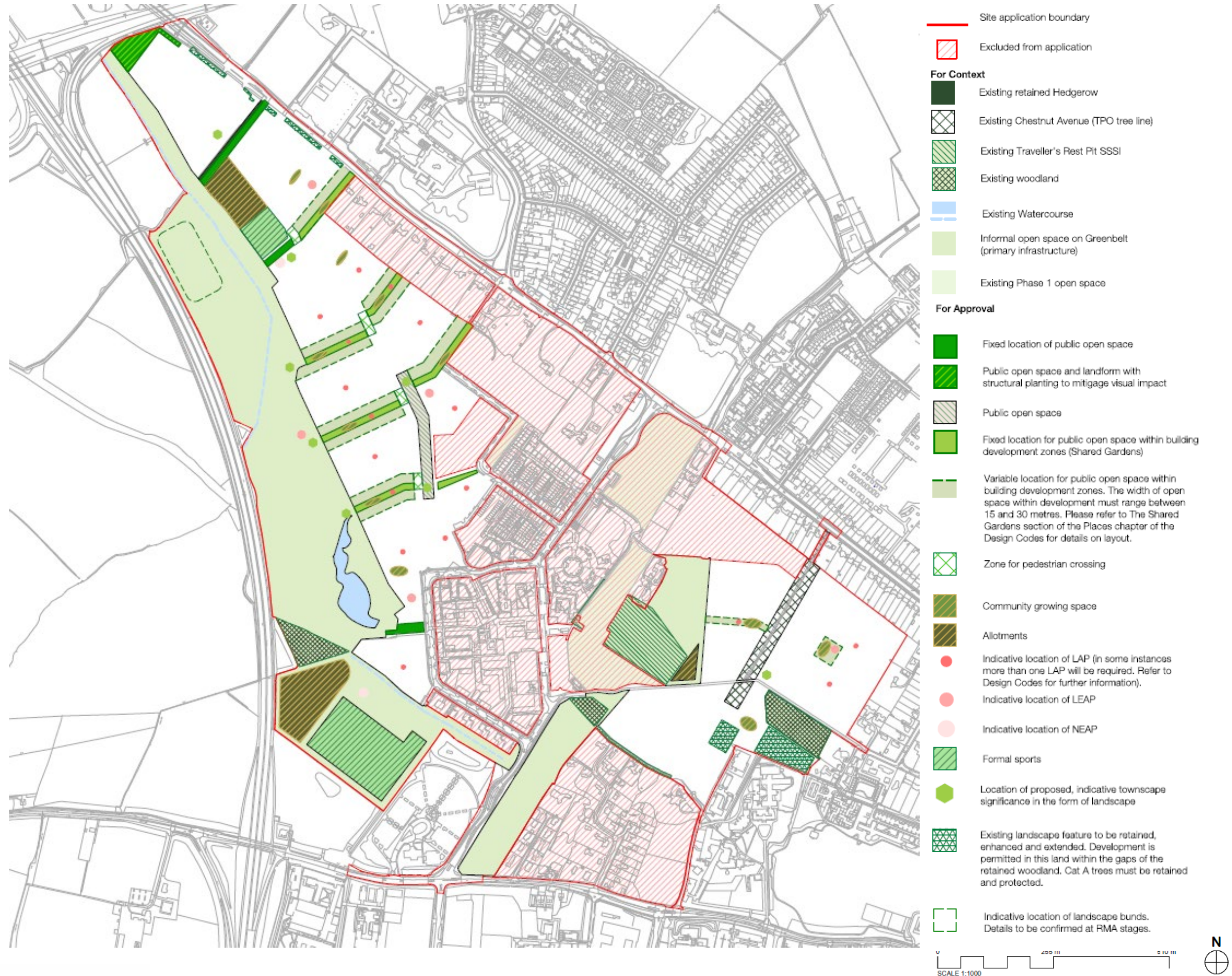


Figure 4.17 Green Infrastructure, Play and Open Space Parameter Plan



ILLUSTRATIVE MASTERPLAN

4.58 An Illustrative Masterplan, as shown in Figure 4.18, has been developed to accompany the OPA. The Illustrative Masterplan represents a version of Proposed Development that could come forward within the maximum proposed floorspace and in compliance with the Parameter Plans. Where necessary, the Illustrative Masterplan has been referenced throughout this ES chapter.

Figure 4.18 Illustrative Masterplan⁵



Amount of Development

4.59 A summary of the floorspace areas within the Illustrative Masterplan is provided in Table 4.6, all of which are within the limits set out in Table 4.1.

Table 4.6 Illustrative Masterplan Floorspace

Land Use		Amount (GEA) (m ²)
Residential	Residential (Use Class C3 / C4)	355,596
	Student Accommodation (Sui Generis)	51,513
Non-Residential	Flexible Employment Floorspace (Use Class E(g) / Sui Generis)	39,460
	Academic Floorspace (Use Class F1)	59,708
TOTAL		506,277

Residential Uses

4.60 The Illustrative Masterplan includes the provision of 3,742 residential units, as shown in Table 4.7, and 1,730 student accommodation units.

4.61 With regard to the other uses proposed in the OPA, it is envisaged that co-living floorspace and unit numbers would mirror that of the student accommodation given the similarities in the configuration of the two uses.

4.62 In future RMAs, these uses, alongside the Use Class C3 / C4 residential use was 'drawn down' from the overall 417,000m² floorspace cap set out in Table 4.1. Also in future RMAs, ancillary retail, nursery and recreation uses, as well as Senior Living accommodation could be accommodated in those areas identified on the Land Use Parameter Plan (Figure 4.2).

Table 4.7 Illustrative Masterplan Housing Mix

Residential Dwelling Type	Market			Key Worker	Total
	Flats	Houses	Total		
Single Person Unit	45 (5%)	-	45 (3%)	645 (30%)	690 (18%)
One Bed Unit	317 (35%)	-	317 (20%)	752 (35%)	1,069 (30%)
Two Bed Unit	522 (55%)	32 (5%)	554 (35%)	698 (32.5%)	1,252 (33%)
Three Bed Unit	68 (5%)	192 (30%)	260 (16%)	54 (2.5%)	314 (8%)
Four + Bed Unit	-	417 (65%)	417 (26%)	-	417 (11%)
TOTAL	952	641	1,593	2,149	3,742

⁵ This figure illustrates one way in which the Proposed Development could come forward.

EMBEDDED MITIGATION AND ENVIRONMENTAL ENHANCEMENTS

4.63 Mitigation refers to “*measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment*”⁶. Throughout the design process environmental mitigation measures have been incorporated (i.e. ‘embedded’) into the outline design of the Proposed Development⁷ to prevent, reduce and offset potentially adverse effects on the surrounding area. In addition, environmental enhancement measures have been incorporated (i.e. ‘embedded’) into the design, where practicable, to improve the existing environmental conditions of the site and surrounding area.

Ecology and Biodiversity

4.64 A number of measures have been incorporated into the design of the Proposed Development to avoid and mitigate ecological effects, and where possible, enhance biodiversity on the site. The measures include the following, as show in Figure 4.19:

- Retention of existing woodland within the site, including Storey’s Way Wood, Cricket Pitch Wood and Pheasant Plantation, as well as retention of Tree Preservation Order (TPO) trees along Horse Chestnut Avenue;
- Retention and protection of the Washpit Brook, including the 10m riparian zone, where no development will take place;
- Retention of the existing lagoon at Brook Leys and other wetland habitats created during Phase 1 of the 2013 OPP;
- Provision of new and enhanced habitats for example additional native species-rich hedgerow, new ponds, and planting of new native trees across the site; and
- Provision of bat, bird and owl boxes across the site.

4.65 The proposed Lighting Strategy includes the provision of ‘dark corridor’, as shown in Figure 4.15, and has incorporated the following measures that will reduce the impact of lighting on ecological receptors, including birds and bats:

- After midnight, lights on Cartwright Avenue and on-plot will be automatically dimmed to 20% brightness, and will only increase to 100% brightness when triggered by a vehicle, cyclist or pedestrian, returning to the dimmed state after 30 seconds. Lights on pedestrian or cycle routes will do the same but will dim to 0% output;
- There will be no lighting of pedestrian routes along Horse Chestnut Avenue, along the track on the site’s southern boundary between Gravel Hill Farm and Cricket Pitch Wood, or within the Ridge and Furrow Fields;
- No additional lighting is proposed along the swale between Kendrew Place and Eddington Avenue, and the continuation of this towards Pheasant Plantation will remain unlit on the south-west side of the hedgerow through a play area, and only limited light spill from the adjacent Plot G is likely to affect the north-east side of the hedgerow and the swale;
- There will be no lighting along Washpit Brook, within the riparian zone or to the west of the brook;
- No lighting of the edge of Pheasant Plantation is proposed;
- Lighting columns proposed along Garrod Street will be positioned to face away from Cricket Pitch Wood. Lower columns at greater intervals have been proposed for this location to minimise light spill;
- The cycleway along the northern edge of Storey’s Way Wood will be lit using low level bollard lighting to minimise light spill onto the woodland edge, and avoid light spill onto trees at heights where roosts may be present; and
- The cycleway along the northern half of a hedgerow along the existing PRoW (Footpath 99/5) will be lit using low level bollard lighting to minimise light spill onto the hedgerow, and avoid light spill onto trees at heights where bat roosts may be present.

4.66 Detailed landscape plans including species list will be developed as part of subsequent RMAs. Future RMAs would include the detail of where the above listed measures have been incorporated into the design of future buildings, infrastructure and landscaping to support ecological enhancements across the site. A Landscape Maintenance and Management Plan has been prepared in support of the OPA, which sets out a strategic approach to the maintenance and management of the proposed hard and soft landscaping.

Biodiversity Net Gain

4.67 National Planning Policy Framework (NPPF) and under the Environmental Act 2021 all planning permissions granted in England (with a few exemptions) will have to deliver at least 10% biodiversity net gain. The NPPF states that the planning system should ‘*contribute to and enhance the natural and local environment by minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*’. Following the issue of the NPPF, all planning decisions should aim to maintain and enhance, restore, or add to biodiversity conservation interests. Biodiversity Net Gain (BNG) using the Statutory Biodiversity Metric has been used to establish the existing features of the site and the habitats proposed as part of the Proposed Development.

4.68 Using the Illustrative Landscape Masterplan as an example of how the Proposed Development could be brought forward, an overall biodiversity net gain calculation has been undertaken for the Proposed Development. The calculation has assessed the value of the habitats within the site in its pre-development condition and compared this to a calculation of the same area with the post development proposals. The post development proposals are based on an interpretation of the Illustrative Landscape Masterplan, and so are not a definitive calculation of credits, but represent the potential for credits and gain that could be achieved.

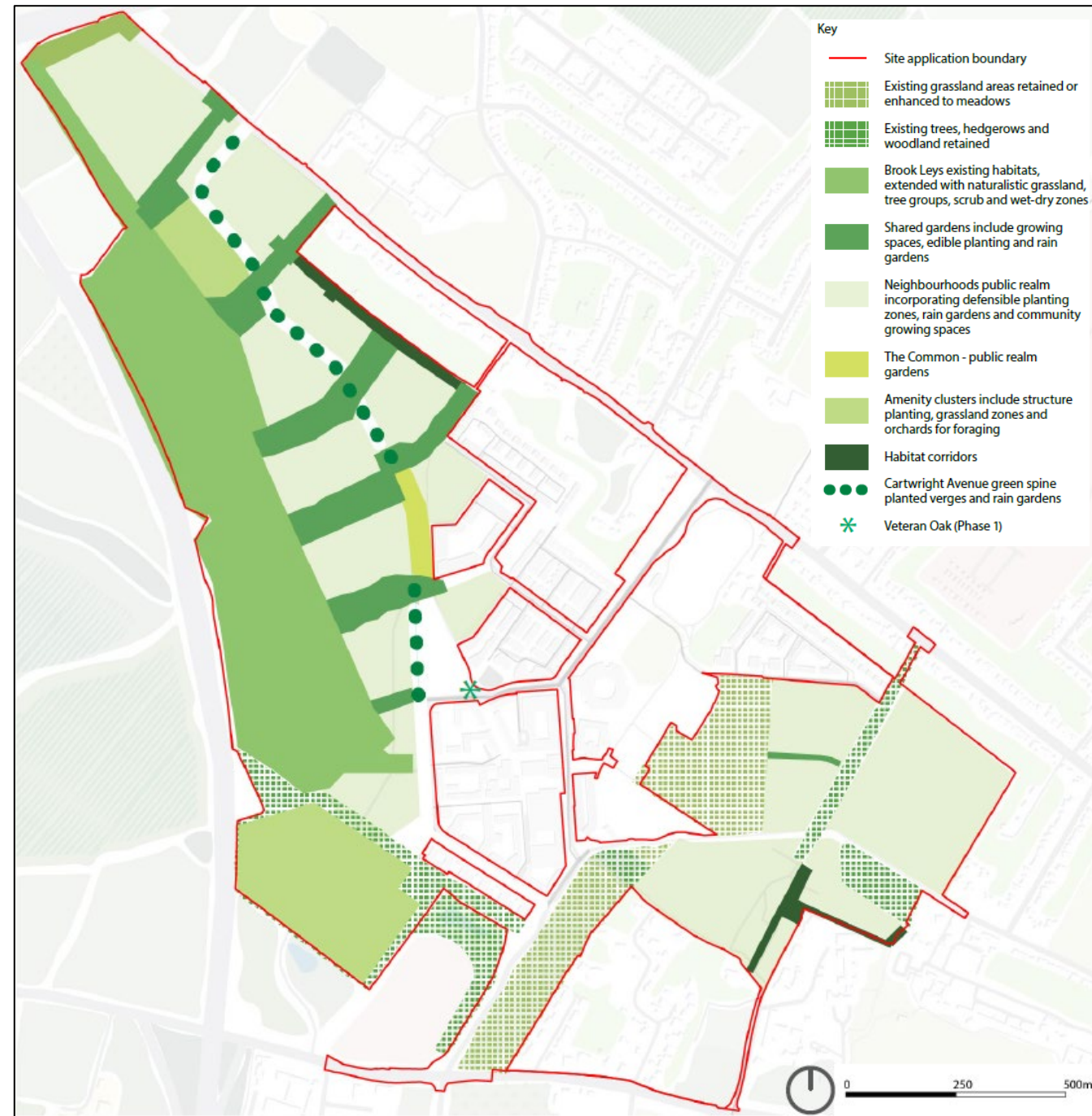
4.69 Based on the Illustrative Masterplan, the Biodiversity Net Gain Assessment presents a score of +15.72% in habitat units, +50.39% in linear units and +21.28% in watercourse units. These results demonstrate that the proposals can deliver a significant betterment for biodiversity compared to the existing site baseline.

4.70 Further details are provided within **ES Volume 1, Chapter 12: Ecology and Biodiversity** and within the Biodiversity Net Gain Assessment which is submitted in support of the OPA.

⁶ The Town and Country Planning (Environmental Impact Assessment) Regulations 2017
<https://www.legislation.gov.uk/uksi/2017/571/schedule/4/made?view=plain>

⁷ Referring to the embedded mitigation of the works being sought for under the Detailed and Outline Planning Applications collectively.

Figure 4.19 Biodiversity Strategy



Water Resources, Flood Risk and Drainage

- 4.71 A Flood Risk Assessment and Surface Water Drainage Strategy (ES Volume 3, Appendix: Water Resources, Flood Risk and Drainage – Annex 4) has been prepared for the site which provide proposals and commitments to be incorporated across the site to ensure that no significant effects in sensitive receptors occur as a result of the Proposed Development.
- 4.72 The site is located largely located within Flood Zone 1. Typically, areas within Flood Zone 1 have a less than 0.1% chance of flooding from rivers or the sea in any given year. There is a small area of the site adjacent to the Washpit Brook which is in Flood Zone 2 which has between a 1% and 0.1% chance of flooding from rivers.
- 4.73 A Flood Alleviation Scheme (FAS) has been implemented within the site as part of Phase 1 of the 2013 OPP to ensure that the completed development in its entirety does not result in increased flooding within the Washpit Brook

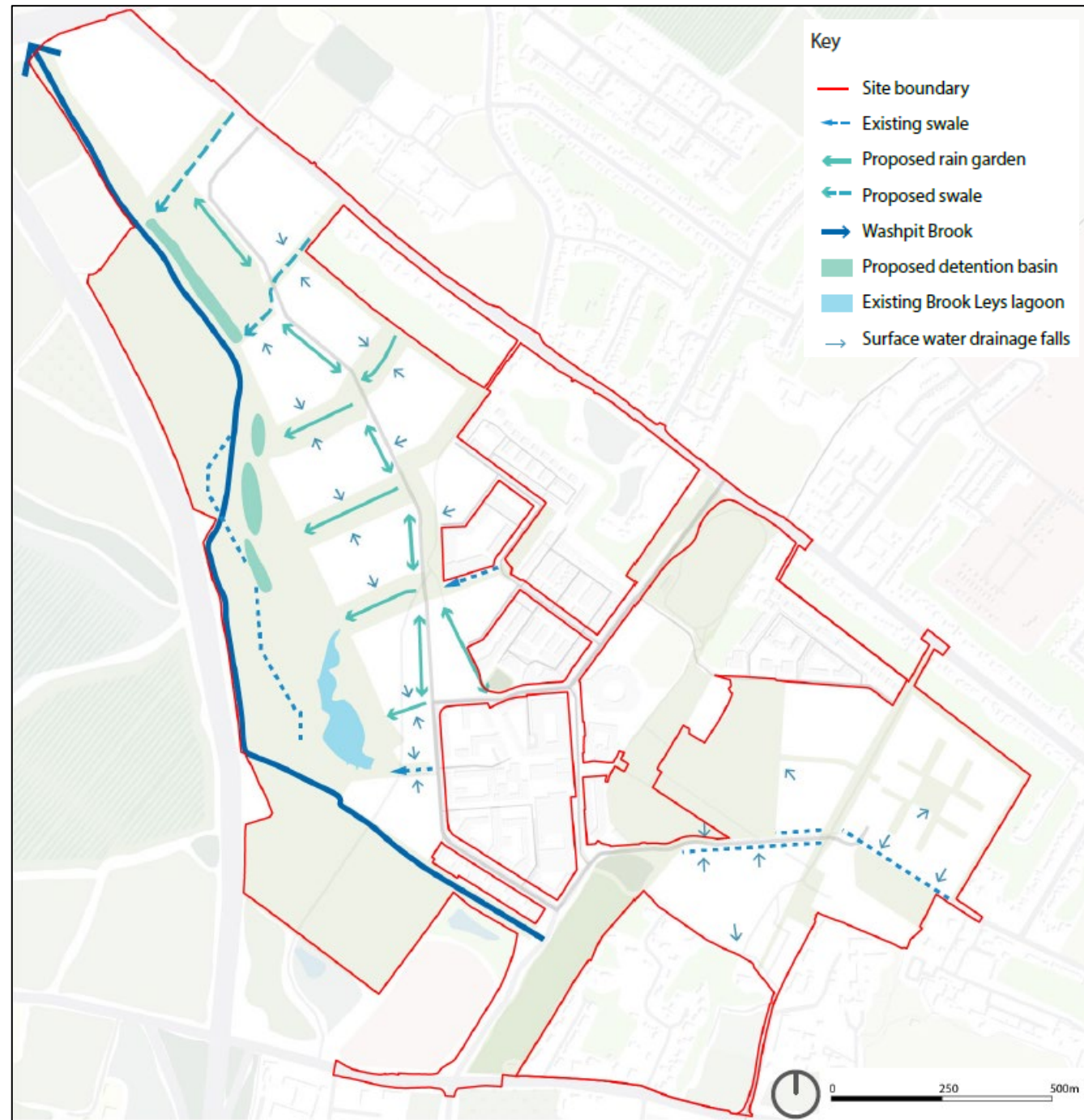
catchment and offer an amount of reduced flood risk downstream. The FAS still provides sufficient protection and will ensure that the Proposed Development (in combination with Phase 1 of the 2013 OPP) will not increase flood risk on the site.

- 4.74 The Surface Water Drainage Strategy, as illustrated in Figure 4.20, proposes to discharge to the Washpit Brook at greenfield runoff rates (2 litres / second / ha for up to 1 in 100-year +40% climate change rainfall event). Surface water runoff from individual plots will be attenuated and restricted to greenfield runoff rates before discharging into the sitewide drainage network. Surface water attenuation will be provided on-plot and across the sitewide drainage network to limit the surface water run-off up to 1 in 100-year storm event plus 40% climate change allowance.
- 4.75 It is proposed that all rainwater falling on the roofs of buildings will be captured, stored and redistributed to serve the non-potable demand requirements of the development. All other rainwater which falls on impermeable areas will be captured, treated, attenuated and conveyed to the Washpit Brook via a cascading network of SuDS.
- 4.76 Residential uses across the Proposed Development will meet the water consumption target of achieving mains water consumption of 80 litres or less per head per day. This will be achieved through water efficient fittings and water recycling. Non-domestic new buildings will be required to meet BREEAM 5/5 Wat01 credits through installing water efficient sanitaryware and water recycling.

Energy Strategy

- 4.77 An Energy Strategy has been prepared to accompany the OPA as a standalone report. The strategy examines the relevant energy policies and targets that the Proposed Development considers and provides a preliminary assessment of the predicted energy demand and predicted carbon dioxide (CO₂) emissions of the Proposed Development.
- 4.78 The proposed energy strategy has been developed in line with Policy 28 'Carbon Reduction, Community Energy Networks, Sustainable Design and Construction and Water Use' of the Cambridge Local Plan (2018), Policy CC/1 of the South Cambridgeshire Local Plan (2018), as well as the North West Cambridge AAP (2009). The proposed energy strategy follows the energy hierarchy, on the basis that it is preferable to firstly minimise carbon dioxide emissions through reduced energy demand.
- 4.79 An all-electric heating strategy is proposed. The preferred energy strategy utilises individual Air Source Heat Pumps (ASHPs) for dwellings and a local heating network supplied by building-mounted ASHPs for apartments. On-site renewable energy generation will be maximised by utilising the available flat roof space for apartments and non-domestic buildings and suitably oriented pitched roofs on houses for solar photovoltaic (PV) panels
- 4.80 The building services will include energy efficient lights, optimised heat distribution and mechanical ventilation with heat recovery.
- 4.81 As a result of this energy strategy, on-site carbon emission reduction associated with the high-level design information available at this stage is estimated to be a 52% saving against Building Regulations Part L 2021. Further detail will be provided at the RMA stages.

Figure 4.20 Surface Water Drainage Strategy



Waste Management and Storage

4.82 An Operational Waste Management Plan has been prepared to accompany the OPA. Within the Proposed Development, residential waste will be managed in accordance with the following guidance:

- Household Waste and Recycling Policies and Procedures (2023)⁸;
- RECAP Waste Management Design Guide: Supplementary Planning Document (2012)⁹;
- RECAP Waste Management Design Guide (2012)¹⁰; and

- RECAP Waste Management Design Guide Toolkit (2021)¹¹.

Residential Waste Management

- 4.83 Based on the Illustrative Masterplan, it is predicted that the Proposed Development will produce 1,146,053 litres per week of residential waste (556,870 litres of residual waste, 566,870 litres of dry-mixed recycling (DMR) and 12,313 litres of food waste).
- 4.84 Residents of the Proposed Development will be provided with access to Underground Refuse Storage (URS) units to deposit their residual waste and DMR. Residual waste and DMR will be stored in 5,000-litre URS units within the external landscaping, and food waste will be stored in 240-litre wheeled bins within dedicated external housings adjacent to the URS units. The URS units and external housings will be distributed throughout the Proposed Development, positioned to meet the needs of residents without impeding vehicle or servicing access and maintaining pedestrian safety.
- 4.85 On nominated collection days the Greater Cambridge Shared Waste Service (GCSWS) URS collection vehicle will access the URS units to collect the residual waste and DMR.
- 4.86 As per the guidance, the URS collection vehicle will not be required to perform any reversing manoeuvres to service the Proposed Development. All URS units will be accessible by the Refuse Collection Vehicle (RCV) in a forward gear.
- 4.87 All plots have been designed to provide a secondary route out of the plot should the collection vehicle be occupying the exit route.
- 4.88 For residential food waste collections, the GCSWS waste collection operatives will access the bins from the external housings and wheel them to the RCV. Once the bins have been emptied, the operatives will return them to their respective collection positions.

Commercial Waste Management

- 4.89 Based on the maximum quantum of commercial floorspace, the commercial elements of the Proposed Development are predicted to produce approximately 277,500 litres per week of waste (69,375 litres of residual waste, 194,250 litres of DMR and 13,875 litres of food waste).
- 4.90 All commercial waste facilities will be designed to British Standard BS5906:2005 Waste Management in Buildings – Code of Practice standards.
- 4.91 Commercial tenants will provide temporary internal waste storage within their commercial area that allows for the segregation of waste at source.
- 4.92 The commercial tenants in each building will be provided with access to shared commercial waste stores at ground level. The commercial waste stores are the locations that all commercial residual waste, DMR and food waste generated within the Proposed Development will be stored prior to collection.
- 4.93 As necessary, the commercial tenants will transfer the segregated waste from their temporary internal waste storage to the nearest commercial waste store. As a minimum, the commercial waste stores will be sized to accommodate a minimum of two days' waste storage. The appointed commercial waste contractors will collect the bins directly from each of the commercial waste stores on an agreed schedule.

⁸ Greater Cambridge Shared Waste Service, Household Waste and Recycling Procedures (2023).

⁹ Cambridge City Council and Peterborough City Council, RECAP Waste Management Design Guide: Supplementary Planning Document (2012).

¹⁰ Cambridge City Council and Peterborough City Council, RECAP Waste Management Design Guide (2012).

¹¹ Cambridge City Council and Peterborough City Council, RECAP Waste Management Design Guide Toolkit (2012).