Waterbeach
Barracks
and Airfield

Key Phase 1

May 2020

Secretary of State
for Defence and
Urban&Civic

52.2656° N, 0.12910° E

T2 C10 Tier 2: Key Phase 1 Framework
Application to Discharge Condition 10

# KP1 Framework Design Code

Existing woodland areas north of the lake, part of the KP1 development

# The Applicants and team

Urban&Civic plc is a strategic development company appointed by the Secretary of State for Defence (via Defence Infrastructure Organisation - DIO) as development managers to bring forward the former Waterbeach barracks, airfield and associated land for development. This Design Code was prepared on behalf of the Secretary of State for Defence and U&C by Fletcher Priest Architects with input from across the project team. The masterplan project team comprises of:

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*A number of photographic references are used throughout this design code document to illustrate positive and negative precedents, and are accompanied by text explaining the reasons for their inclusion, and the project location, where possible. Many of these images have been created by Fletcher Priest Architects and other members of the project team. Where third party images are included, copyright remains with the original copyright holders.*

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52.2656° N, 0.12910° E

# 1 Introduction

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# 1

# 1 Introduction

# 1.1 Background and context

This Design Code relates to Key Phase 1 (KP1) of the development of Waterbeach Barracks and Airfield site under Outline Planning Permission (OPP) (SCDC Reference: S/2075/18/OL). It forms part of a suite of documents submitted to South Cambridgeshire District Council (SCDC) pursuant to Condition 10 of the Outline Planning Permission.

As required by Condition 10, the Design Code is to be submitted to and approved by SCDC prior to the approval of any first Reserved Matters Applications (RMA) in KP1. The content of the Code is in accordance with the scope specified in the OPP Condition 1.

**The Local Plan**
The Waterbeach Barracks and Airfield site forms part of a larger area allocated as a 'New Town' under Policy SS/6 of the South Cambridgeshire Local Plan (September 2018) (the Local Plan).

### 1.1.1 The Supplementary Planning Document
To guide the comprehensive development of the land subject to Policy SS/6 of the Local Plan, The Waterbeach New Town Supplementary Planning Document (SPD) was adopted by SCDC in February 2019. The SPD establishes a 'Spatial Framework' (Figure 1.1) and 'Guiding Principles' for the disposition of key uses and infrastructure delivery across the whole Policy SS/6 allocation.

### 1.1.2 Neighbourhood Plan
A Waterbeach Neighbourhood Plan (NP) is now in preparation and may proceed (following examination and referendum) to become part of the statutory development plan. The NP area covers the Policy SS6 New Town Allocation. Since the OPP was granted a consultation has commenced upon a first draft of the NP. This Design Code generally accords with objectives and policies of the draft NP, where those are consistent with the OPP. In a small number of instances, the draft NP does not fully accord/take into account the parameters and requirements of the OPP. U&C and DIO have submitted representations to seek changes to the NP to address these inconsistencies.

### 1.1.3 The Outline Planning Application
Outline Planning Permission for the Waterbeach Barracks and Airfield was granted in September 2019. The OPP approved the broad quantum and disposition of land uses for part (293 hectares) of the


Figure 1.1: SPD Spatial Framework Plan


Figure 1.2: Waterbeach Barracks and Airfield Parameter Plan

Figure 1.3: Waterbeach Barracks and Airfield Heights Parameter Plan

wider Policy SS/6 allocation. A three tiered approval process has been agreed with SCDC and established through the conditions of the OPP.

**Tier 1**
The OPP formally approves a number of plans and documents, which together with the OPP conditions and the Section 106 (S106) legal agreement, provide the development framework for the site.

The Design Principles set out within Design and Access Statement Supplement (revised 2nd October 2018), the Development Specification and Spatial Principles (revised October 2018) and the Parameter Plan (1330 GA 010002 Rev 17, reproduced opposite as Figure 1.2), formally approved as part of the OPP, establish the key spatial and design principles and parameters for development across the Barracks and Airfield site. Development **must** be brought forward in accordance with these approved plans and documents as stipulated in Condition 7 of the OPP. For reference, the approved Spatial Principles from the Development Specification are included in Appendix 1 in part D of this document.

Alongside the OPP, site wide strategies dealing with construction and environmental management, unexploded ordnance and heritage submitted for approval post outline consent, set broad principles for the delivery of the whole scheme (Tier 1).

**Tier 2**
The OPP conditions stipulate that a second Tier of design control and technical specification is submitted and approved for each Key Phase of development (the 'Key Phase Framework').

**Tier 3**
The OPP conditions stipulate that RMA (Tier 3) to be brought forward within a Key Phase area cannot be approved until all Key Phase Framework documents (Tier 2) including the Design Code have first been approved. Those RMA brought forward **must** conform to the approved Key Phase Framework.

### 1.1.4 Key Phase 1
The extent of the KP1 was established as part of the OPP and is identified on the approved Early Delivery Plan (1330 GA 010003 Rev 02) (Figure 1.4 opposite). A minor adjustment to the extent of KP1 area is now proposed. However, the boundary of KP1 remains substantially in accordance with the approved Early Delivery Plan referenced under Condition 7 of the OPP which allows for such minor variations to the approved plans.

KP1 is situated in the north western and central part of the wider Barracks and Airfield site. Its western most edge is bound by the A10. It is to be accessed from a new fourth arm of the existing Cambridge Research Park roundabout in accordance with Condition 27 of the OPP.

This Design Code for KP1 has been prepared to accord with the existing policy and planning framework for the site, this includes the principles set out in Policy SS/6 of the Local Plan, the SPD and the approved OPP plans and documents. The Code is consistent with the Tier 1 approved documents and **should** be read in conjunction with them.

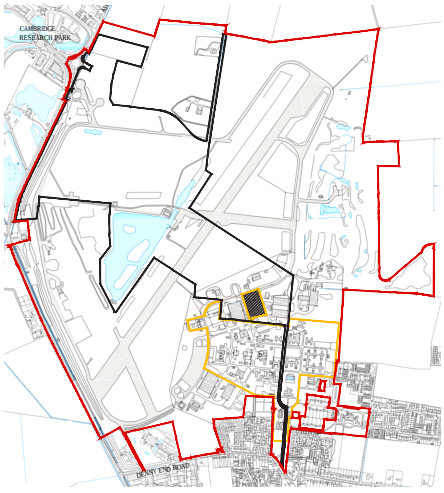


Figure 1.4: Early Delivery Plan submitted as part of the OPA

OPA site boundary
KP1 boundary

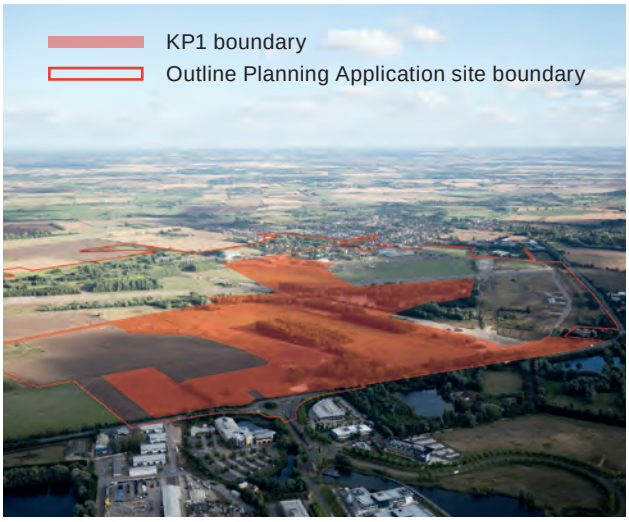


Figure 1.5: View of KP1 area facing south-east

## 1.2 Purpose of the document

The purpose of this document is to provide design requirements and guidance specific to the development of KP1, against which subsequent RMA will be considered.

The Design Code is a tool for use by both the Local Planning Authority (LPA) and site developers. It is intended to regulate and steer the detailed design of the scheme to secure the character and quality of development envisioned for the scheme at the outline and now at this Key Phase Framework stage.

The Code draws upon national and local best practice, urban design guidance and has been influenced by studies of national and international projects. Where such best practice, policy or guidance is relative to a specific section, this is referenced within the Code.

Terminology, hereafter:

- Waterbeach Barracks and Airfield Key Phase 1 Design Code will be referred to as the Design Code
- The Outline Planning Application will be referred to as OPA
- The Outline Planning Permission will be referred to as OPP
- Key Phase 1 will be referred to as KP1

## 1.3 Using the Design Code

The Design Code includes a Regulatory Plan. The Regulatory Plan provides the overriding design control tool and informs the structure of the Code. It is the key reference plan to determine the aspects of the code that apply in any given location.

The Design Code document also includes a number of additional diagrams and illustrative material which both add detail to the design requirements (mandatory) and provide further guidance (indicative or discretionary). This supplements the detail provided on the Regulatory Plan. The Regulatory Plan takes precedence for establishing design requirements and their spatial application.

The Regulatory Plan includes parcel references for development parcels. Parcel references are noted as numbers in the centre of development parcels. These parcel reference numbers are not cross referenced in the Design Code, but are provided for ease of reference for future RMAs. These parcel references do not represent a phasing sequence.

In developing the vision and designing the framework for development which this Design Code represents, the Design Team have given many of the features of the scheme a name. This helps to convey ambition and character and makes it much easier to present the code in a simple and clear way. These names are not proposed necessarily to be those applied once the development is built; naming will be a matter for further consideration and will be influenced by many factors including detailed design and the intention to reflect the history of the site, as being explored through the Heritage Strategy.

Together, the Design Code with the Regulatory Plan provide:

- Design requirements and fixes for the Key Phase for a wide range of design aspects, varying from parking solutions to built form which **must** be applied. These components are mandatory
- Supplementary design guidance including illustrative material which is intended to assist designers in giving expression to the design aspirations for KP1. Such details are recommended or indicative and discretionary

**Design Requirements and Design Guidance**

Reflecting the above, the information within the Code is categorised as follows:

- Where 'design requirements' are mandatory, the word '**must**' is used
- Where 'design guidance' is recommended but discretionary, the word '**should**' is used
- Where avoidance is mandatory, the words '**must not**' are used

In specific cases, both good and poor examples have been illustrated to help the understanding of the key design principles that are being set out. They are marked with green and red as below:

✓ good example
✗ bad example

Specific chapters of the design code are framed within grey boxes to better signpost key guidance.

**Relationship to wider site and other Key Phases**

To demonstrate that the KP1 design framework, as set out in the Code and on the Regulatory Plan, has had regard to the wider site and future integration with subsequent Key Phases, information is provided in pertinent sections, highlighted by orange boxes to explain this relationship.

**Development context**
An indicative framework for the wider site has been established through the Illustrative Masterplan which accompanied the Outline Planning Application and which continues to evolve to reflect ongoing, detailed design work. The base details for the Regulatory Plan include the indicative parcel framework, as informed by the latest Illustrative Masterplan (Figure 1.6 shown below). This provides context for KP1 and demonstrates how it contributes to the comprehensive development of the site in accordance with the overarching vision.

Figure 1.6: OPA Illustrative masterplan with KP1 boundary overlay

## 1.4 Design Code Compliance Checklist

If Reserved Matters proposals do not comply with the requirements of the Design Code it is the responsibility of the team bringing forward the RMA (the developers and appointed designers) to explain and justify the non-compliance and demonstrate that the proposals do not conflict with the approved OPP plans and documents.

Departures from the Design Code will only be acceptable when a rationale for not complying can be clearly demonstrated as a positive intervention for example, place making benefits, by responding positively to changing legislation, circumstances or technological advancement. It is acknowledged that it may also be appropriate or necessary to depart from some aspects of the design code to respond to unforeseen site conditions or special circumstances. Opportunity for self-build homes, landmark buildings/structures or artistic interventions may give rise to unique features which add richness and diversity to the scheme. Any such non-compliance will be subject to the agreement of the master developer (Urban&Civic or any successor in the role) and the LPA.

Applications submitted within the approved KP1 area **must** accord with the KP1 Framework, including the Design Code. This **should** be demonstrated in relevant RMA through the submission of a Design and Access Statement and/or compliance checklist within which any significant deviation from the Design Code **should** be identified and justified.

## 1.5 Design Code Review

In the future, a review of the Design Code may be required to reflect changing and unforeseen implications or circumstances including, updates to national and local policies and the results of site and ground investigations that may result in unintended consequences reducing the design quality. Any review would be undertaken by mutual agreement between the master developer and SCDC.

## 1.6 Town Centre

KP1 includes a substantial component of the Principal Centre, as identified on the approved Parameter Plan. Under Condition 12 of the OPP it is required that a Town Centre Development Framework (TCDF) and Town Centre Economic Development Plan (TCEDP) are prepared and approved by SCDC, prior to or concurrent with the approval of any RMA for new built development within the Principal Centre.

The preparation of these two documents will establish the design framework and more detailed requirements for the Principal Centre. Development within the defined Principal Centre will be carried out in accordance with the TCDF and TCEDP. Pending their preparation and any associated evidence, it would be premature to define overly prescriptive or specific design requirements for the Principal Centre within the KP1 Design Code.

Key structural design requirements and high-level indicative design guidance is included to demonstrate how the Principal Centre will be brought forward to integrate with the wider KP1 area. Further design detail will be established within and alongside the TCDF and TCEDP. In line with Condition 12, any refinement that is required as a result of the two documents, will be undertaken through subsequent Design Codes.

# 1.7 The Regulatory Plan

The Regulatory Plan was prepared in accordance with Condition 7 of the OPP. It demonstrates broad compliance with OPA parameters and establishes the framework for development within KP1. The Regulatory Plan (Figure 1.7 shown opposite) is the key plan associated with the Design Code and the content of the plan and its associated key guides, are at the basis of the structure of the code. Its key is enlarged and explained below.

**KEY:**

Drawing inside Key Phase 1 boundary is mandatory unless otherwise specified in the key below.Drawing outside Key Phase 1 boundary is illustrative only. The base plan shows indicative representation of potential future layout, subject to design evolution as part of future Key Phases.

- Outline Planning Application boundary
- Key Phase 1 boundary
- Area to be design coded through future key phases
- Residential land use
- Potential for mixed use
- Education land use
- Area identified in the Parameter Plan (see section 4.2.2 in design code)

**Movement and Access**

- Vehicular access/ exit from the A10
- Vehicular access only from Waterbeach Village
- Pedestrian and cycle access/exist
- Onward connections to future phases
- Minor access points off primary / secondary streets - indicative location
- Primary segregated cycle routes on-street (see Section 3.3 in Design Code)
- Primary shared pedestrian and cycle routes off-street (see Section 3.3 in Design Code)
- Secondary shared pedestrian and cycle routes off-street (see Section 3.3 in Design Code)
- Causeway (see Section 3.5.6 in Design Code)
- Greenway- shared use route, including horse riding (see Section 4.2.1 in Design Code)
- Cross parcel permeability route - mandatory route, indicative alignment (see Section 3.5.5 in Design Code)
- Cross parcel permeability routes - indicative only (see Section 3.5.5 in Design Code)
- Primary street (see Section 3.5.1 in Design Code)
- Primary route with public transport priority (see Section 3.5 in Design Code)
- Secondary street - includes on-street cycling (see Section 3.5.2 in Design Code)
- Tertiary street (see Section 3.5.3 in Design Code)
- (A) Location for intervention / traffic calming to prioritise pedestrian / cycle movement
- (B) Short term: as 'A' all mode access/ Long-term - public transport, pedestrian and cycle only
- Indicative location for temporary transport interchange

**Landscape and Public Realm Design**

- Existing water body (see Section 2.2.1 in Design Code)
- SuDS - indicative location (see Section 4.1.4 in Design Code)
- Informal open space (see Section 4.2 in Design Code)
- Woodland blocks to be retained (see Section 4.2 in Design Code)
- (x) Community link (see Section 3.5.5 in the Design Code)
- (2A) Community link 2A - centreline must not move more than 0.5m either side
- (1A) Community link 1A - centreline must not move more than 3m either side (see Section 3.5.5 in Design Code)
- Allotments and community orchards (see Section 4.2.4 in Design Code)
- School Plaza/ Local Square (see Sections 5.17.2 / 5.17.4 in Design Code)
- Lakeside public realm (see Section 5.17.5 in Design Code)
- Outdoor sports area (see Section 4.1.2 in Design Code)
- NEAP
- LEAP
- LAP
- SIP
- Community play
- Memorial garden (see Section 4.1.5 in Design Code)

**Built Form**

- Fixed building alignment (see Section 5.2 in Design Code)
- Indicative building alignment (see Section 5.2 in Design Code)
- Key buildings (see Section 5.17 in Design Code)
- Key buildings with potential for mixed use
- Key corners (see Section 5.2 in Design Code)
- Key Groupings (see Section 5.17 in Design Code)
- (1) Continuous frontage (see section 5.6 in design code)
- (2) Consistent frontage (see Section 5.6 in Design Code)
- (3) Stepped frontage (see Section 5.6 in Design Code)
- (4) Urban frontage (see Section 5.6 in Design Code)
- (5) Denny Waters frontage (see Section 5.6 in Design Code)

**Contextual indicative information outside KP1**

- Indicative future plot
- Indicative future education plot
- Indicative future open space


Figure 1.7: KP1 Design Code Regulatory Plan (please refer to A1 plan as submitted part of the application)

# 2

52.2656° N, 0.12910° E

# 2 Vision

# 2.1 Vision

Waterbeach Barracks and Airfield provides an unequalled opportunity to create a truly sustainable development for living and working.

It is a unique place, nestled in a beautiful and established landscape. For generations people have lived, worked and played here. The new development provides the setting for outdoor living underpinned with the virtues of a modern, sustainable and well-connected community.

KP1 creates an arc of development connecting Waterbeach Village and the Barracks area with Cambridge Research Park. KP1 will provide a setting for lakeside living within short cycling and walking distance of these destinations.

This new neighbourhood will set a tone and level of ambition for future development across the whole of the new community, and it will include the delivery of part of the Principal Centre.

A benchmark for the entire development will be demonstrated through the early delivery of the first primary school and community infrastructure together with the quality and character of new homes and exciting public open spaces, which will capitalise on the inherited landscape, most particularly the spectacular water bodies and woodland blocks.

The heart of Waterbeach, the Principal Centre, will provide a focus for the entire community, including the additional development to the east and the existing village population to the south. KP1 establishes a high-level framework for the town centre, recognising the need for flexibility to adapt to changing social and economic demands as the role of town centre evolves in the coming decades.

KP1 has been subject to careful evolution over a considerable period of time, in consultation with stakeholders, including SCDC and Cambridgeshire County Council (CCC) officers, to ensure it realises the ambition and facilitates the timely delivery of infrastructure in accordance with the conditions and s106 agreement.

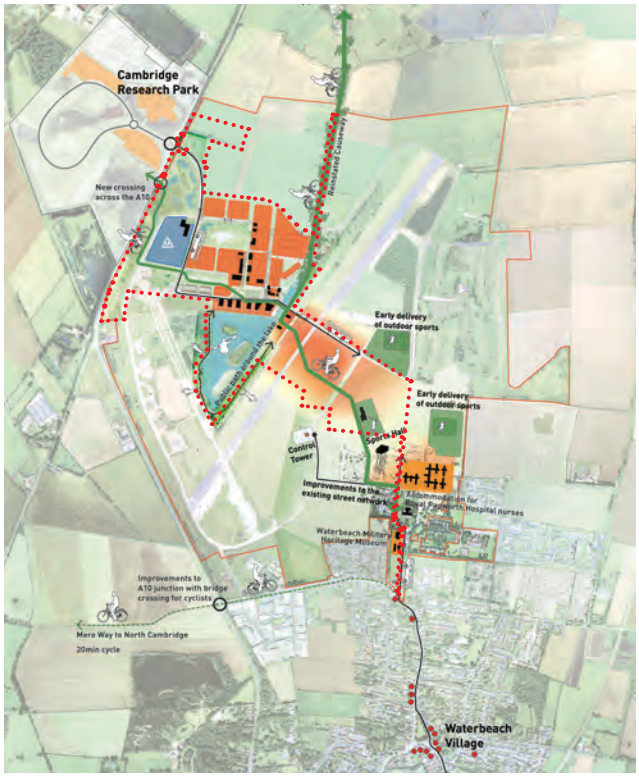


Figure 2.1: KP1 Design Concept diagram

In summary, the Design Codes regulates for a form of development which:

- takes full advantage of the existing landscape features including the lake, the lake spur and existing woodland blocks, integrating them as defining features and community assets that have a positive interface with proposed development parcels
- creates a gateway into the new community from the A10 and establishes a clear and legible street pattern on entering the development from the existing Cambridge Research Park roundabout.


Figure 2.2: KP1 Illustrative Masterplan

Figure 2.3: Illustrative aerial image of KP1

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## 2.2 Components

The following pages set out how the KP1 Design Code seeks to deliver and integrate components of the overarching vision for the allocated site. This section explains how the Code for KP1 was informed by existing features on site, and how it translates the Spatial and DAS Principles from the OPP into features of the KP1 design.

The diagrams opposite show KP1 boundary overlaid on the OPA Parameter Plan and the Illustrative masterplan.

**Comprehensive development**
In accordance with Policy SS/6 of the South Cambridgeshire Local Plan, the Waterbeach New Town SPD and the Spatial Principles, comprehensive development across the New Town **must** be facilitated. This is a key consideration for Design Codes on both sites. KP1 of the Waterbeach Barracks and Airfield development does not have a direct interface with the adjacent land and therefore specific design requirements for this interface will be detailed in subsequent Key Phases.

This section demonstrates how KP1 does consider the wider development and future connections to the adjacent land and has been considered in the context of the draft Parameter Plans for the adjacent land.

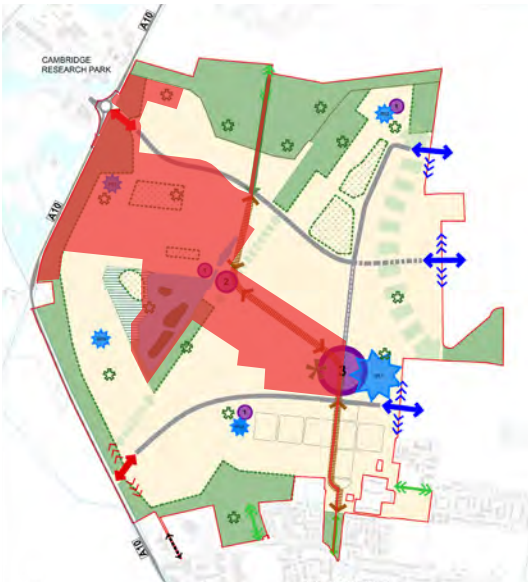


Figure 2.4: KP1 boundary overlaid on the OPA Parameter Plan

Figure 2.5: KP1 boundary definition overlaid on the OPA Illustrative masterplan

### 2.2.1 Inherited features

KP1 includes a number of areas of inherited features, specifically the Lake and Lake Spur, a series of woodland blocks to the north of the water, a landscaped bund and tree planting adjacent to the A10. The historic causeway provided a connection through the site from the village towards Denny Abbey to the north, but no longer exists within the central part of the site where it was lost due to the creation of the airfield runways and taxiways, many of which are still present. Figure 2.6 shows the indicative location of the historic causeway, with only the northern part still being visible on site.

**Heritage**
The Waterbeach Barracks and Airfield site contains a number of heritage assets and the OPP sets out how these are to be protected and enhanced as part of the new community.

KP1 has an important role in preserving site wide heritage assets and ensuring that they are well defined and enhanced within the Key Phase and the wider site. The Causeway, including the remaining historic alignment, runs through KP1 and the Design Code promotes it as a focal route through the development, with minimal vehicular disruption. The Regulatory Plan fixes the broad alignment of the Causeway in KP1 and the Code establishes how the route will be protected and augmented through the incorporation of pedestrian and cycle routes and public art.

The Design Code also demonstrates how the 19th Century Well Head and the Memorial Garden, as key heritage assets, will be focal points within the new community and will be carefully incorporated into the landscape strategy, connected to the wider community by pedestrian and cycle links, and a focus for play and informal recreation.

KP1 also includes part of the former Barracks area and a section of the former runway. The Design Code provides requirements and guidance as to how the former runway components will be incorporated as part of the structural landscape, including through the retention of view corridors across to Denny Abbey and surrounding fenland.

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Figure 2.6: KP1 Inherited features

### 2.2.2 Green infrastructure

The OPP parameters identify important structural components of existing green infrastructure to be incorporated into the development. Many of these are contained within KP1. These include the woodland blocks north of the lake, the lake itself, the lake spur and the first gateway to the linear 'Runway Park', a spinal parkland central to the masterplan, shown in Figure 2.7 opposite.

Green infrastructure within KP1 builds upon the inherited conditions, creating additional landscape and waterbodies adjacent to the A10 for habitat creation, visual amenity, hydrological functions and scene setting purposes. The woodland blocks will be thinned and opened up as part of woodland management to provide movement routes and play spaces, alongside the creation of new parks. Lost elements of the Causeway are reinterpreted as a key linear open space for movement and amenity that links Denny Abbey through to the lakeside area, across to the Principal Centre and southwards to the Barracks and Waterbeach village.

Green links will provide continuous movement routes from the green buffer on the western boundary of the site to the lake and from the runway parklands to the green spaces on the eastern edge of the site. In accordance with Spatial Principle 9 of the Development Specification, these green links will comprise a series of connected green spaces, primarily for recreational purposes, which are located between areas of strategic open space.

Strategic site wide biodiversity connectivity is provided by wildlife corridors that link together Biodiversity Priority Areas. A finer grain of connectivity for people, wildlife and biodiversity that will support and augment the function of the green links and wildlife corridors will be created by the wider network of movement routes, public open spaces and on plot spaces. The movement network and key public open spaces, including the function and parameters of both community and wildlife links, are described in more detail in Sections 3 and 4.

The features illustrated in Figure 2.7 are fixed on the Regulatory Plan and **must** be included in the detailed proposals as they come forward.

**Development beyond KP1 boundary**

**Figure 2.7** shows how the green infrastructure proposals for KP1 tie in with illustrative proposals for the wider development. Elements outside of the KP1 boundary are indicative only and subject to subsequent Key Phase approvals.

- OPP site boundary
- KP1 boundary
- KP1 development parcels
- Causeway Route
- Green space
- Water features
- Green links (within KP1)
- Green links (outside KP1)
- Future links to adjoining Site
- Community links (within KP1)
- Community links (outside KP1)
- Future Mere Way
- Key destinations

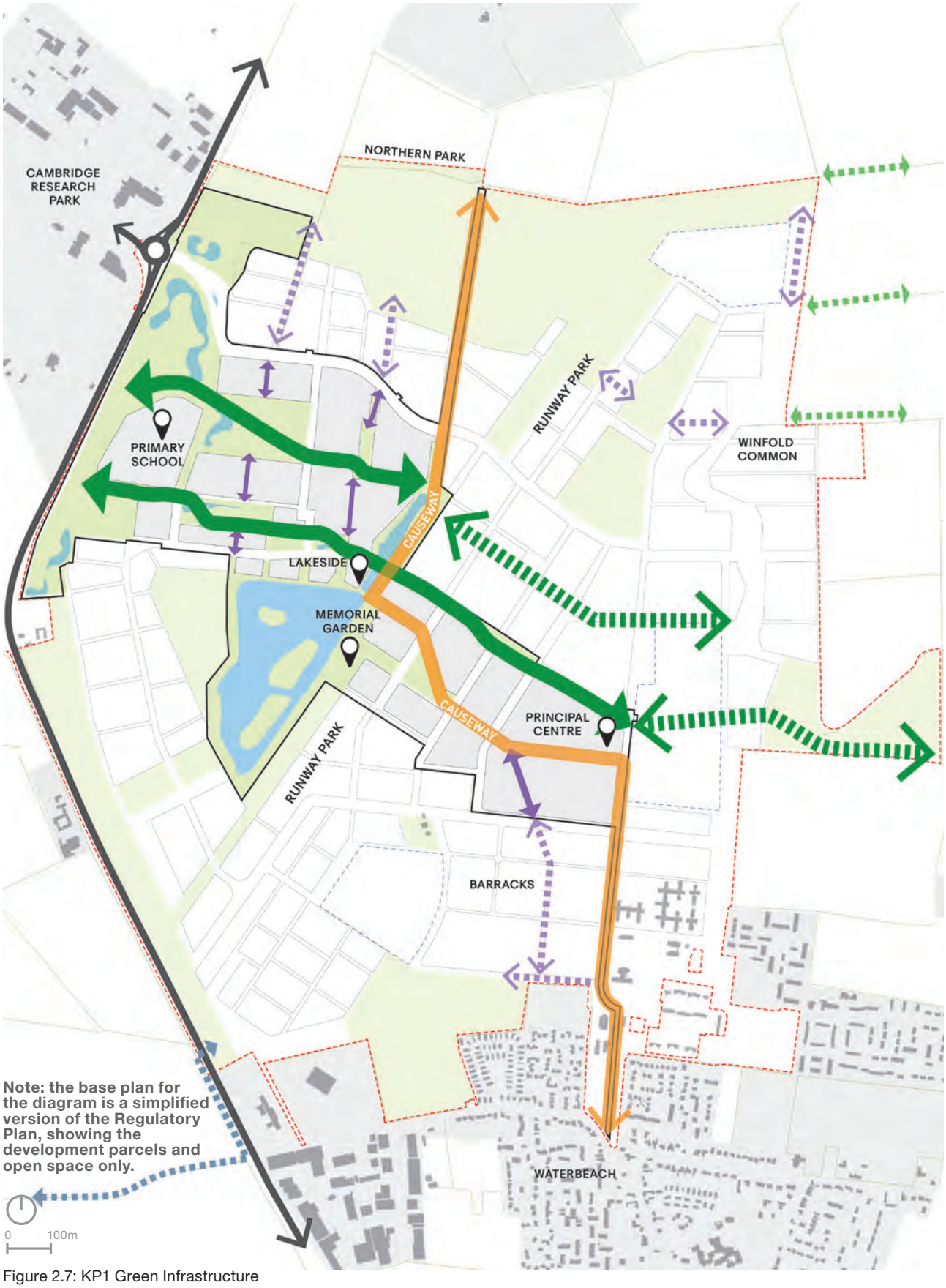



Figure 2.7: KP1 Green Infrastructure

### 2.2.3 Ecology and biodiversity

The site has a rich existing ecology and the development proposals are based on the principle of retaining and enhancing the ecological value of the site by creating an interconnected habitat mosaic.

Biodiversity assets identified in the OPP that fall within the KP1 boundary **must** be retained, enhanced and protected as safeguarded by the Biodiversity Priority Areas identified in the Biodiversity Strategy. Such assets within KP1 contribute towards part of a wider network of key north/south wildlife corridors connecting to a future east/west wildlife corridor that forms a key component of the Northern Park. Other biodiversity assets, both existing and proposed green spaces associated with the woodlands and new parks, form stepping stones between the corridors, which in turn are interconnected by finer grain wildlife links, further details of which can be found in Section 4.1.1.

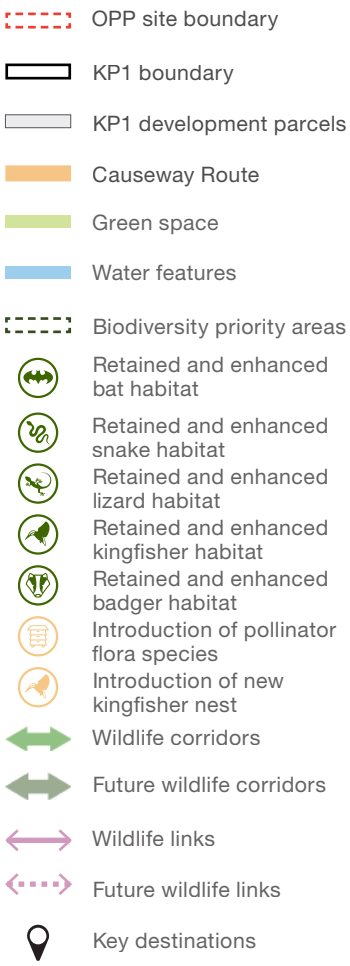
The following principles ensure KP1 delivers an interconnected habitat mosaic that will contribute to achieving a net gain in biodiversity across the wider site as required by Condition 10;

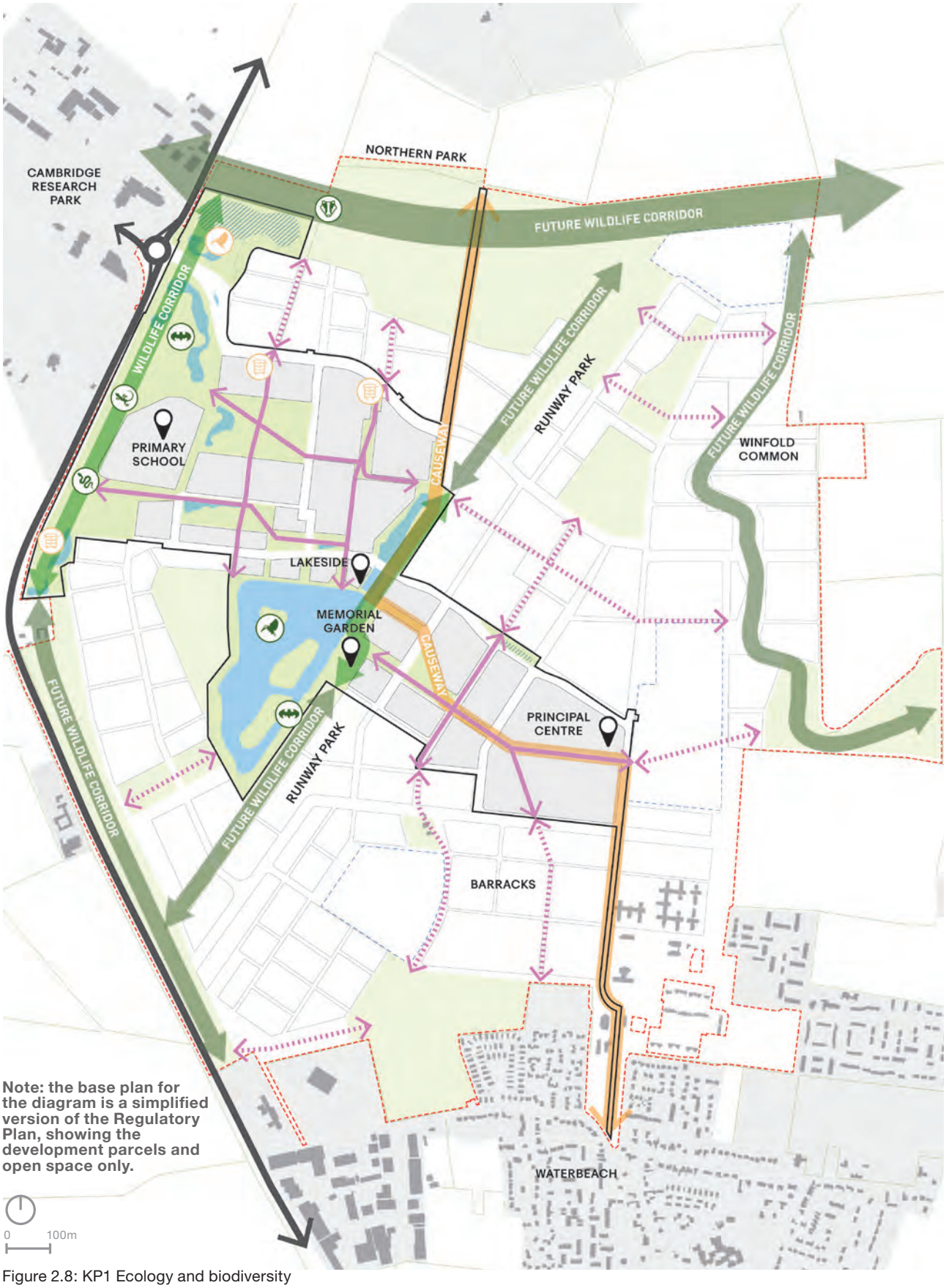
- Green spaces **should** be designed and managed to encourage and support wildlife
- Tree and plant species **should** be selected to attract flora and fauna specific to the Cambridgeshire region in order to enhance the local ecological resource, with references made to the Cambridgeshire Green Infrastructure Strategy
- Wildlife friendly planting to maximise biodiversity **should** be utilised and **should** include native species, local variates and a focus on edible and pollinator species to maximise foraging opportunities
- Where SuDS features are present within open spaces and streets they **should** be vegetated to increase biodiversity and contribute to finer grain wildlife links within the development

Reference **must** be made to the Ecological Management Plan (EcMP), for a detailed summary of proposed measures to be reflected and accommodated within proposals.

**Development beyond KP1 boundary**

**Figure 2.8** shows how KP1 biodiversity ties in with the wider biodiversity strategy for the development and achieves connectivity set out in the OPP. Components outside the KP1 boundary are indicative only and are subject to subsequent Key Phase approvals. The function and character of future wildlife links **should** adhere to these principles whilst dimensions and the precise relationship to the development parcels are subject to review during future stages of design.






Note: the base plan for the diagram is a simplified version of the Regulatory Plan, showing the development parcels and open space only.

Figure 2.8: KP1 Ecology and biodiversity

### 2.2.4 Views and vistas

The existing runway offers long vistas across the site and for the central part of KP1 this **must** strongly inform the layout of the development through the creation of a Runway Avenue and Runway Parklands. These spaces will reflect the alignment of the runway and support a strong linear view as shown on Figure 2.9 (4). This will maintain vistas to the south, towards the church spire of All Saints Church in Landbeach, and to the north, towards the Fenlands. The northern edge of the wider site offers opportunities for expansive views towards the Fenlands to the north east and towards Denny Abbey (5).

The northern part of KP1 is characterised by inherited landscape assets: the lake, the woodland blocks and the A10 bund. The approach required in relation to vistas in this part of the site is based on framing key views towards the inherited and proposed assets and creating neighbourhood rooms, nestled within mature landscape (2).

The following principles regarding views and vistas **should** be used to inform the detailed design of built form and landscape;

- Broad long-distance vistas **must** be preserved or created from the northern areas of the Causeway, connecting to the landscape context of the Fens and celebrating the site's wider setting (5)
- Direct and specific visual links to Denny Abbey, Landbeach Church and other inherited assets **must** be established where indicated on the diagram on the following page (3)
- Incremental and sequential internal views of the site's existing landscape assets including the lake and woodland blocks **should** be used to strengthen and define the character of the scheme, legibility and sense of place (2)
- The aviation heritage of the site **must** be reflected in the creation of panoramic views along the Runway Parkland from the Lakeside and through the creation of linear vistas along the Runway Avenue (4)

**Development beyond KP1 boundary**

Figure 2.9 shows how the view strategy for KP1 ties in with wider development. Lines outside the KP1 boundary are indicative only and subject to future Key Phase approvals, in line with the principles established through the OPP. However, future development **should** reference and **should** adhere to the concepts described within this Design Code for KP1 in order to safeguard view corridors as set out on Figure 2.9 opposite, by ensuring that the design of future Key Phases support and enhance views across the site.

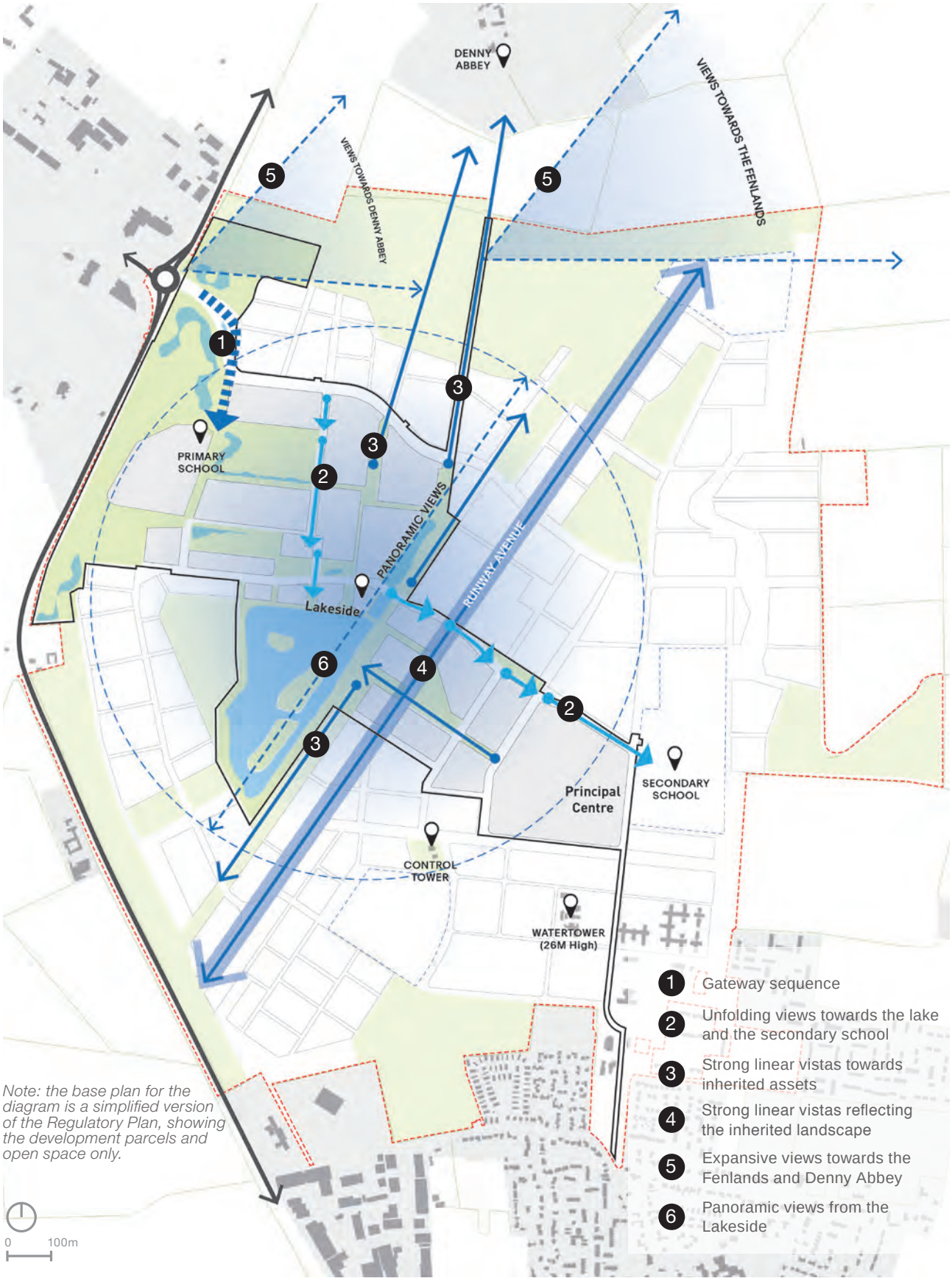



Figure 2.9: KP1 View and vistas

### 2.2.5 Key destinations

KP1 forms an arc of development from the Cambridge Research Park through the heart of the site, connecting with the barracks area and the existing village to the south. It therefore contains a diverse range of non-residential uses, including a primary school, community facilities and leisure uses to the north of the lake and town centre functions within the Principal Centre area. Consideration is also given to non-residential functions that are immediately adjacent to KP1, most notably the secondary school, which forms the eastern edge of the town centre but sits outside the KP1 boundary.

The following principles have shaped the proposals for KP1 and **must** be used to inform the detailed design of built form and landscape:

- KP1 **must** create key destinations at the Lakeside and in the Principal Centre
- The design, size and positioning of public uses in these areas **must** reflect their role to serve the future population of the entire site, including adjoining development to the east and the existing village
- The first primary school **must** serve as a destination for the population of the immediate and surrounding area
- Public functions within the Lakeside and Principal Centre areas **must** be located immediately adjacent to main public routes and spaces

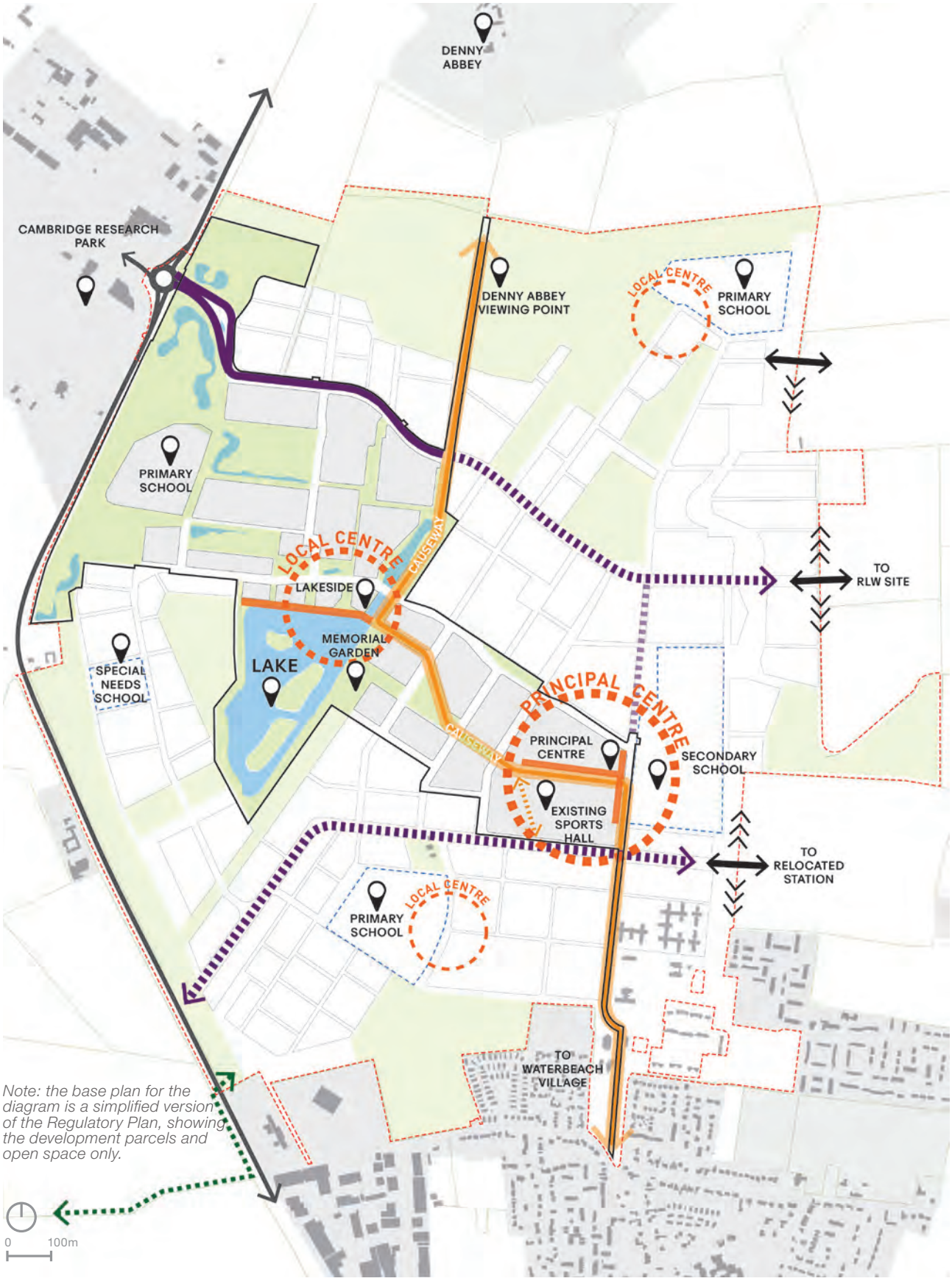
Figure 2.10 shows how KP1 proposals tie in with the wider development. The dashed lines outside the KP1 boundary are indicative only and are subject to future Key Phase approvals.

#### Development beyond KP1 boundary

Figure 2.10 shows the relationship between destinations within KP1 and those that are expected to come forward in later phases and through the development of the wide Policy SS/6 Allocation.

Later phases **should** reflect the relationship of public functions to the hierarchy of centres shown on the diagram and the principles set within the OPP of establishing local neighbourhood centres, particularly in relation to school and community facilities.

The relocated railway station will become a significant destination for immediate residents and those travelling from beyond the site, and this will have impacts on movement within the site and around the Principal Centre.




*Note: the base plan for the diagram is a simplified version of the Regulatory Plan, showing the development parcels and open space only.*

Figure 2.10: KP1 Key Destinations

### 2.2.6 Movement and access

The Spatial and Design Principles from the OPP have been designed to prioritise low carbon means of travelling. Within KP1, measures include:

- New dedicated cycling and walking connections on site and to the wider surroundings
- Design using the principle of 'filtered permeability' to create a movement network which prioritises walking and cycling over car movements to key destinations
- A robust and legible network of streets that can accommodate future change in the way people travel
- The creation of neighbourhoods with safe walking, cycling or scooting routes to schools, local shops and services

A series of key movement routes structure the OPP Parameter Plan and as KP1 covers the central part of the site, several of these pass through KP1. The primary road, which eventually will form a loop from the A10 through the site, via the relocated railway station, sits within the northern part of KP1 and adjacent to its southern edge. Secondary and tertiary streets connect into this road and establish a grid of legible, accessible and predominantly linear local connections. The medieval Causeway, which is located to the northern edge of the site and leads to Denny Abbey, is connected into a corridor for movement and landscaped public amenity through the centre of the site, linking to the eastern corner of the lake and onward through the heart of the town centre and south to the existing village. Cycle connectivity is an integral part of the masterplan, and onward connections are established to the Cambridge Research Park and Mere Way.

The Regulatory Plan sets out the structure of routes across KP1. The detailed design of streets and spaces **must** be in accordance with the Regulatory Plan (and with Figures 3.2 and 4.1), which is further expanded in Sections 3 and 4 of this Design Code.

- KP1 boundary
- OPA site boundary
- A10
- Primary street
- Future primary street within OPA boundary
- Primary route with public transport priority
- Future connection between primary streets
- Secondary street - includes on-street cycling
- Tertiary street
- A — Location for intervention / traffic calming to prioritise pedestrian / cycle movement
- B — Short term: as 'A' with all mode access/ Long-term: public transport, pedestrian and cycle only
- Primary shared pedestrian and cycle route off-street
- Future primary cycle route
- Secondary shared pedestrian and cycle route on-street and off-street
- Causeway
- Key pedestrian areas
- Greenway - shared use route, including horse riding
- Future greenway route - shared use route, including horse riding
- 400m walking distance from centres
- Indicative location for temporary transport interchange
- Principal connection points to the east (for future development)
- Mere Way

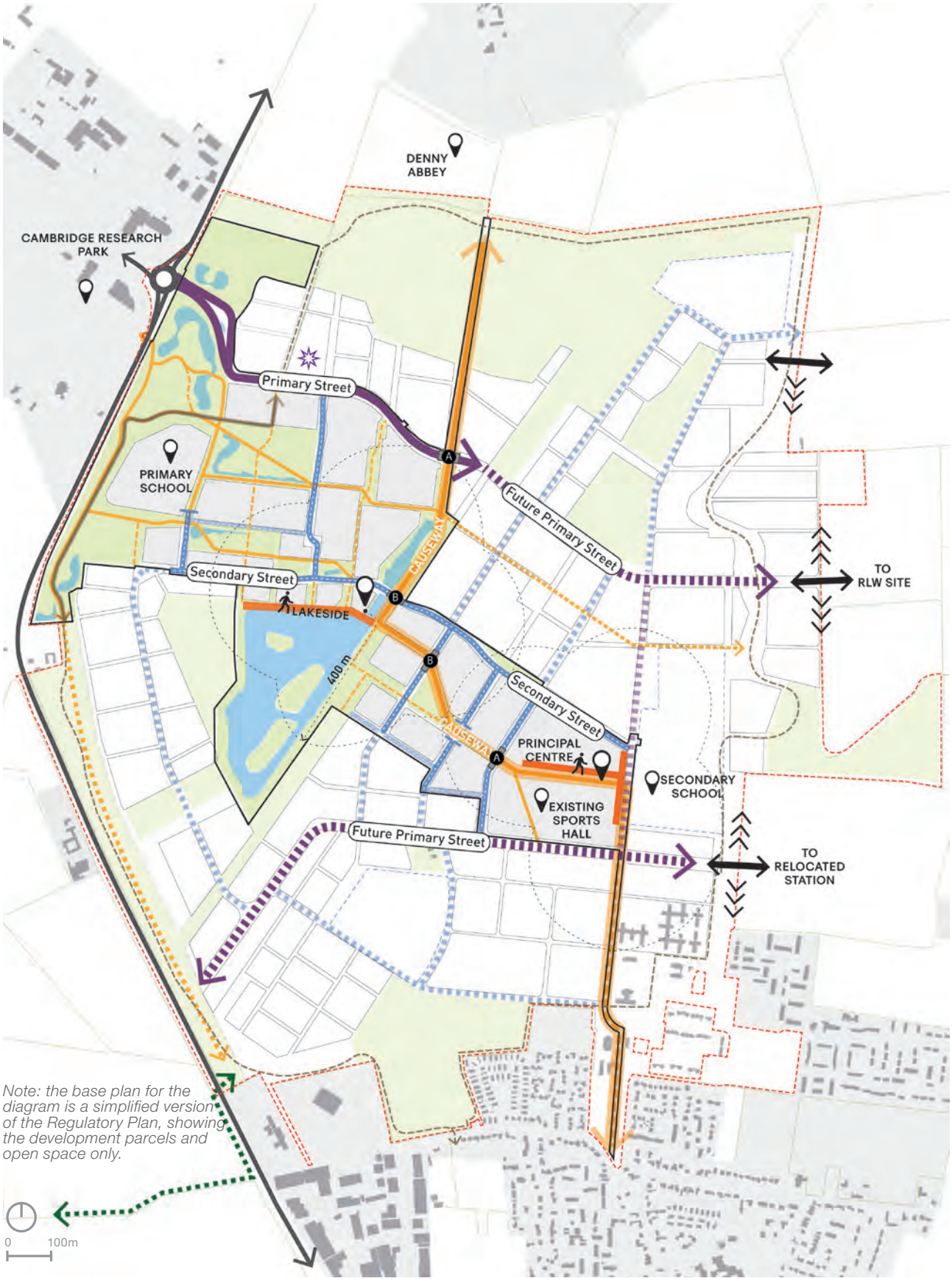



Figure 2.11: KP1 Movement

The detailed design of streets and spaces **must** encourage the use of sustainable modes of transport, particularly pedestrian and cycle movement within and beyond the site.

The detailed design of streets and spaces **should** be adaptable to accommodate future changes in the balance between transport modes and increasing future use of public transport.

The detailed design of streets **must** be coordinated to align with future streets on adjoining land, within and beyond the OPP boundary.

**Development beyond KP1 boundary**

Figure 2.11 shows how the network of routes providing movement and access for the KP1 proposals tie in with wider development and, strategically, with adjoining development on land to the east.

Elements outside the KP1 boundary, shown with dashed lines, are indicative only and are subject to future Key Phase approvals. However, the location, function and character of future routes **should** adhere to these principles whilst exact dimensions, alignments and relationship to built form are subject to review at later stages.

The primary movement network within the site **must** coordinate with the adjoining development to form a loop that connects to the relocated railway station and embeds the Principal and Lakeside Centres into the network. The secondary network **must** support movement for pedestrians, cyclists and vehicle users according to the principles shown here, reflecting connection points and approximate alignments for those routes that directly engage with KP1.

In accordance with Condition 28 of the OPP, KP1 will be served by safe and lit pedestrian and cycle connections to Waterbeach Village via the Barracks and to the A10 at the junction of Denny End Road. These connections will be delivered for use by the first residents of KP1.

## 2.3 Secured by design

KP1 development **must** follow design rules set out in Secured by Design Homes (2019), both in terms of public realm, public open spaces, mixed-use buildings and private dwellings.

A few key design principles are listed here, but a full review of Secured by Design principles **must** be undertaken at RMA stage, both for public realm applications and dwellings. KP1 proposals **must** include:

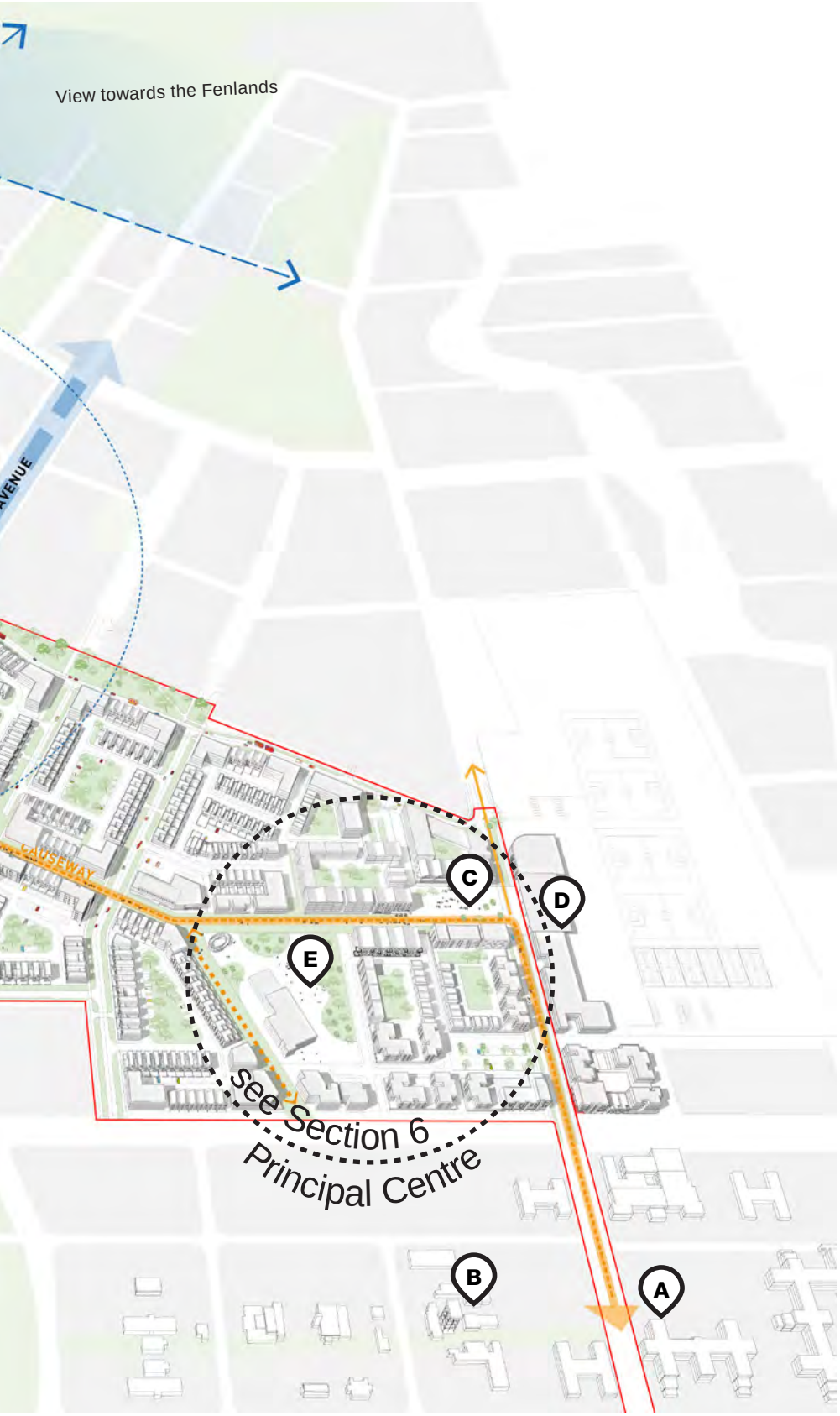
- Vehicular and pedestrian routes that are designed to ensure that they are visually open, direct, well used and not undermine the defensible space of neighbourhoods
- Streets that are designed to appropiate speed limits, offering opportunities for informal social interaction
- Routes for pedestrians, cyclists and vehicles that are integrated and provide easy, intuitive wayfinding through the application of inclusive design by increasing activity and therefore natural surveillance, a proven deterrent to crime and anti-social behaviour
- Public footpaths that do not run to the rear of, and provide access to gardens, rear yards or dwellings as these have been proven to generate crime
- Public spaces that are clearly defined and serve a clear public function
- Public spaces that are designed to be inviting, safe and attractive to use, offering opportunities for informal social interaction
- Public spaces that are well overlooked and have buildings fronting onto them, providing natural surveillance, afforded by the occupants of the properties
- Play areas designed so that they can be secured at night. The type of fencing and security measures will need to vary to suit the particular area. However, consideration **should** be given to a single dedicated entry and exit point to enable parental/guardian control and supervision
- External communal gardens that are enclosed and have secured access via a locked gate so that they are only accessible to residents
- Clear boundaries between private and public areas such as well defined, well designed front gardens
- Mix of dwelling types which enable greater potential for homes to be occupied throughout the day and provide increased opportunity for natural surveillance and community interaction
- Dwellings that maximise the amount of glazing at ground floor, street facing rooms to provide natural surveillance
- Parking in either locked garages or on a hard standing within the dwelling boundary
- Only where needed, communal parking areas that have small groups of bays, close and adjacent to homes, in view of active rooms (kitchens or living rooms)
- Streets, public footpaths and public spaces that are well lit, in accordance to statutory requirements and regulations

## 2.4 KP1 illustrative aerial view

The adjacent diagram illustrates the form of development that is anticipated to emerge through the application of this code. It also highlights key locations and destinations which will define the function and character of Key Phase 1.


Figure 2.12: KP1 Framework plan diagram

52.2656° N, 0.12910° E




KP1 boundary
KP1 Green space
KP1 Water features
Community links
Key buildings
Primary shared pedestrian and cycle routes off-street
Causeway

Destinations:

- (A) The Barracks (outside KP1 boundary)
- (B) Water Tower (outside KP1 boundary)
- (C) Town Square (illustrative location)
- (D) Future Secondary school (outside KP1 boundary)
- (E) Town Park
- (F) Memorial Garden
- (G) Lakeside (see Section 4.2.2)
- (H) Lake
- (I) Primary school
- (J) Cambridge Research Park
- (K) Denny Abbey

Design code reference:

Key groupings

1. Northern Gateway (see Section 5.17.1)
2. Primary school (see Section 5.17.2)
3. Rye Gardens (see Section 5.17.3)
4. Local Square (see Section 5.17.4)
5. Waterbeach Lakeside (see Section 5.17.5)

# B

# 3 Movement and access

# 4 Landscape and public realm design

# 3

# 3 Movement and access

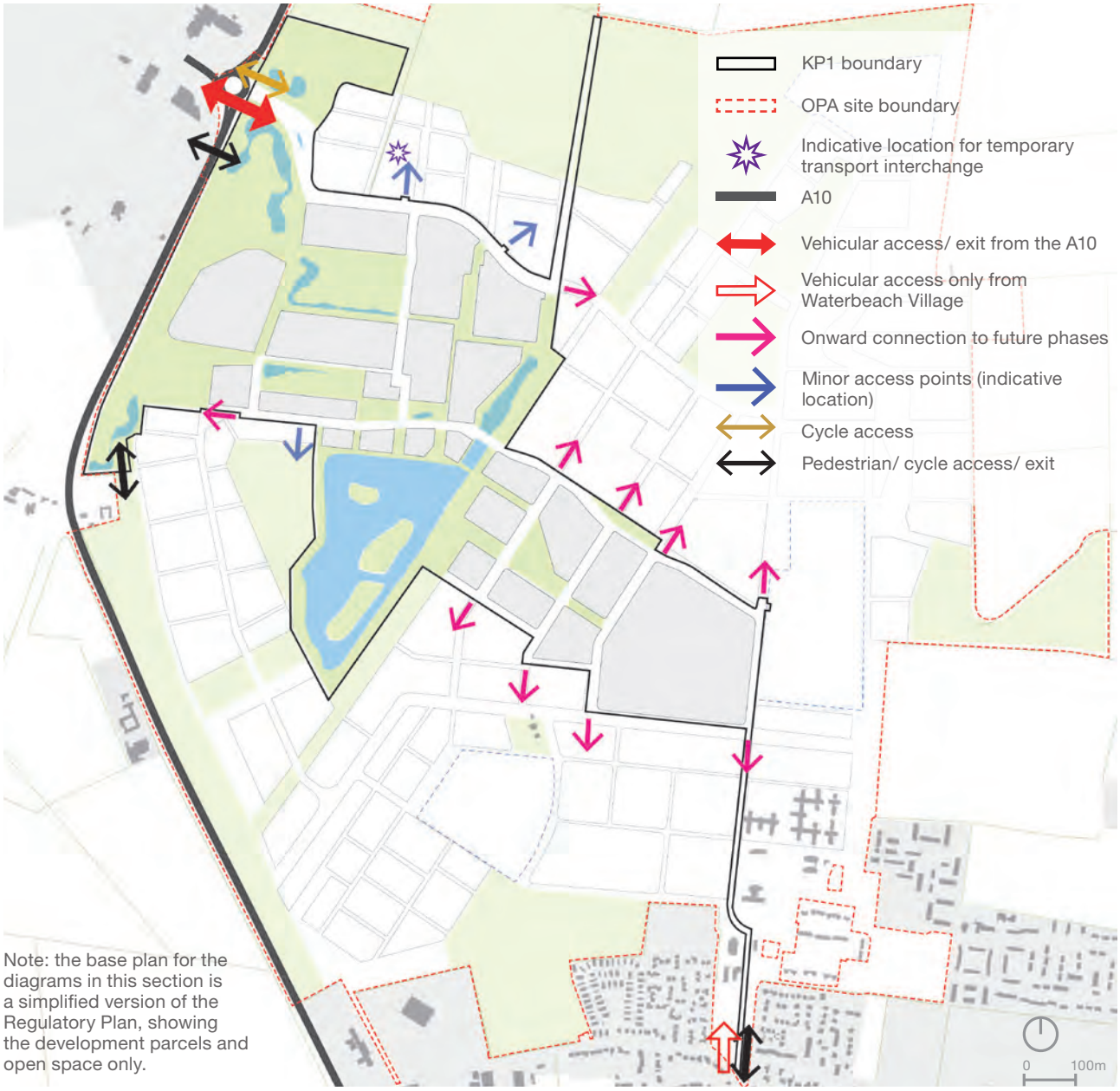
## 3.1 Movement and access guiding design principles

The network of routes and streets in KP1 has been designed to support sustainable travel and movement with an aim to minimise reliance on the private car. The design codes in relation to movement have been formulated to ensure a legible, safe, permeable and vibrant development.

## 3.2 Access points

Principal access to KP1 will be achieved through a northern junction off the existing Cambridge Research Park roundabout. The OPA Parameter Plan allows for the delivery of a second access to the site from a new junction with the A10 to the north of the existing A10/Denny End Road junction.

Points of vehicular access to KP1 are fixed on the Regulatory Plan, and illustrated on the plan below.




Note: the base plan for the diagrams in this section is a simplified version of the Regulatory Plan, showing the development parcels and open space only.

Figure 3.1: Access Points

## 3.3 Movement network

The Regulatory Plan is based on a well-connected network of streets and routes of varying roles and characters within the site. Character plays a key function in ensuring legibility and identity. The design codes for individual streets depend on location, role within the development, traffic projections and surface water drainage requirements.

Highway design **must** be in accordance with Cambridgeshire Housing Estate Road Construction Specification if streets are to be adopted. Highway design **should** also be in accordance with Manual for Streets or other relevant national/ local standards and good practice guides.

Primary and secondary streets are fixed on the Regulatory Plan and shown on the plan below. With a few exceptions, tertiary streets are generally within development parcels and not fixed on the Regulatory Plan.

- The alignment and hierarchy of streets and routes **must** be as shown on the Regulatory Plan and the diagram below
- As part of KP1, a re-instated Causeway link **must** be made between the barracks entrance and the northern edge of the site providing pedestrian and cycle access across the site

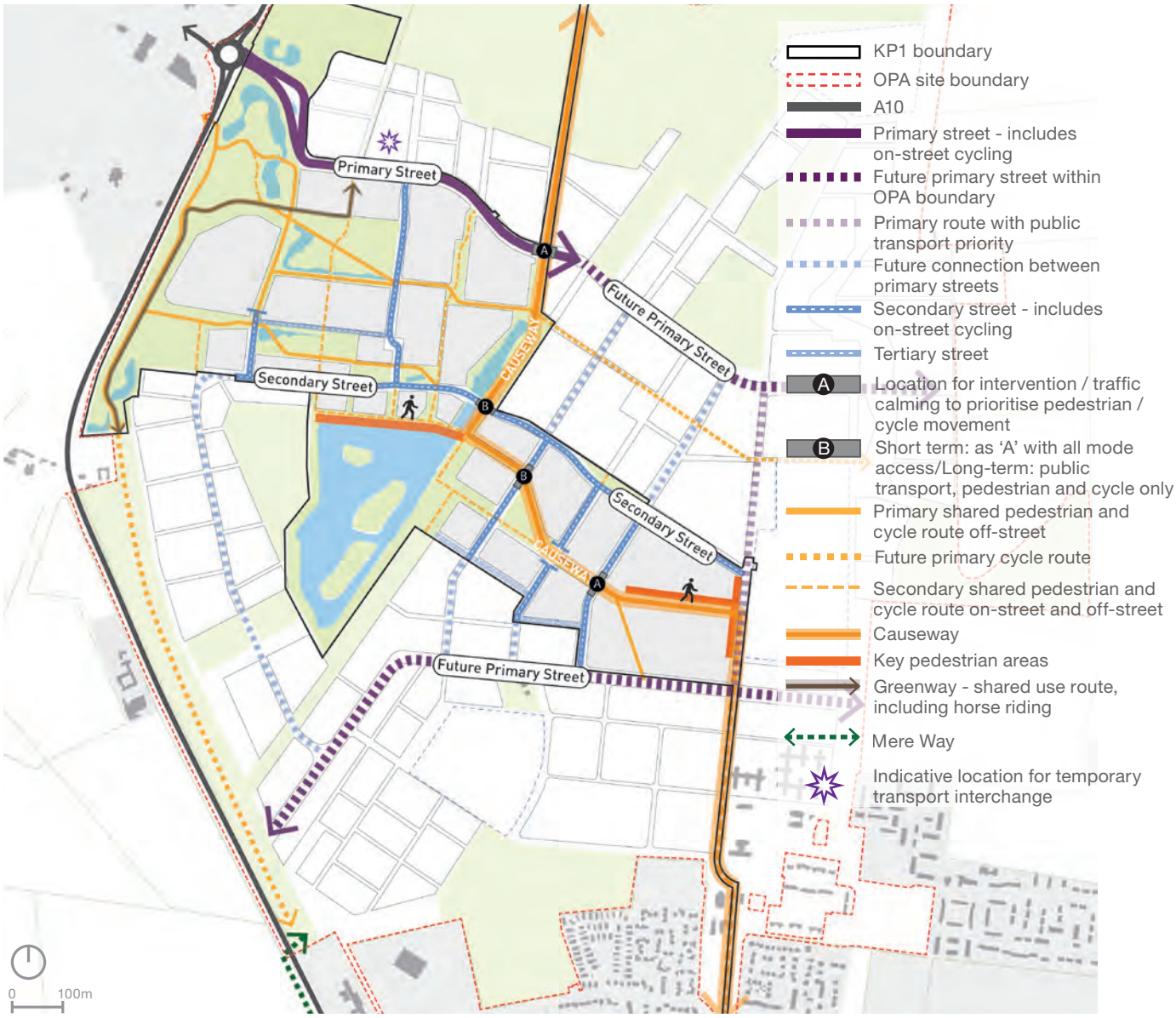



Figure 3.2: KP1 Movement network

## Pedestrian network

The OPA Spatial and DAS Principles give indication of general appearance and function of the pedestrian network for the entire site. The Regulatory Plan sits within these principles and fixes the pedestrian network, as illustrated on the diagram below, composed of both pedestrian paths alongside street corridors and off-street paths, at times shared with cyclists. In addition to the routes shown below, other paths **should** be encouraged through open spaces and along natural desire lines, see Section 4.2.

Pedestrian network within KP1:

- Footways **must** be provided adjacent to all Primary, Secondary and Tertiary Streets, except for the A10 access road, between the A10 roundabout and the first junction in KP1 (see Section 3.5.1) and shared surface Tertiary Streets
- Minimum width for the pedestrian network (footways and footpaths) **must** be 2m if to be adopted, unless it can be justified otherwise, and increased in areas of high footfall, see Section 3.5 for coding on street types
- Access to and areas around the Principal Centre and the Lakeside **must** be designed as key pedestrian spaces, providing safe and inviting public realm for people to enjoy, see Sections 4.2.2 and Section 6

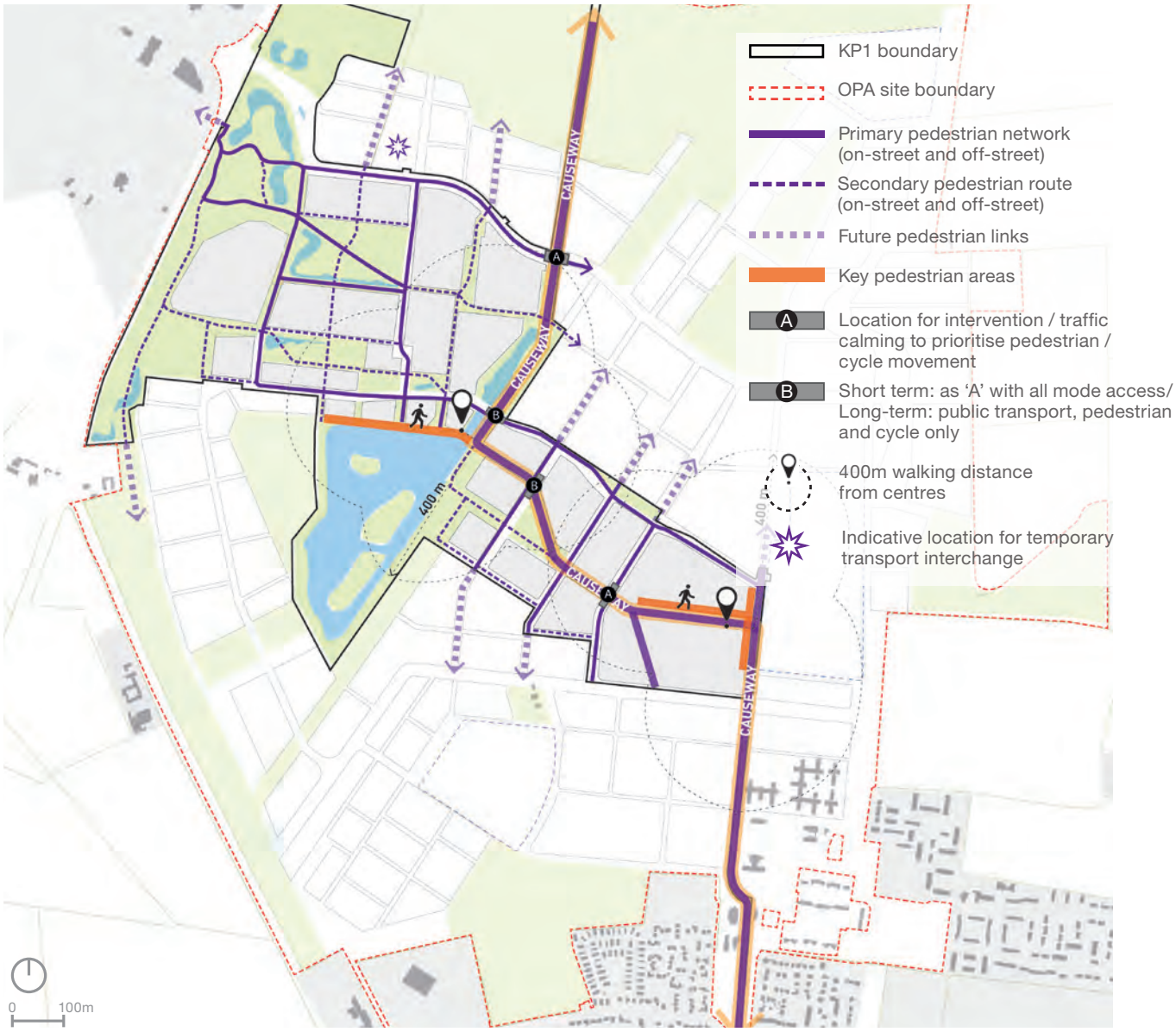



Figure 3.3: KP1 Pedestrian network

### Cycle network

The diagram below shows the cycle network which is to be provided through a combination of segregated cycle lanes along primary and secondary streets and through open spaces on paths shared with pedestrians.

- A network of cycle routes **must** be delivered in accordance with the Regulatory Plan and the diagram below
- Particular consideration **must** be given to how the network delivered on site connects into the wider network of cycling routes, including connections to the Research Park, Waterbeach village, the future station and Cambridge via Mere Way
- Segregated cycle lanes, **must** be provided along all Primary Streets, unless otherwise specified, and along some Secondary Streets as shown in the Section 3.5.1 and 3.5.2
- All streets **must** be designed as places where cyclists are safe and welcome

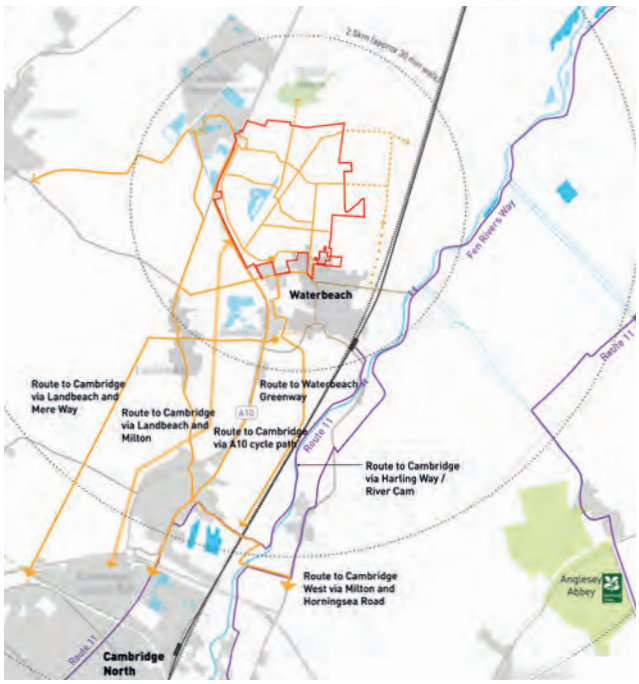



Figure 3.4: Waterbeach cycling strategy in the context of Cambridge North and the Fenlands

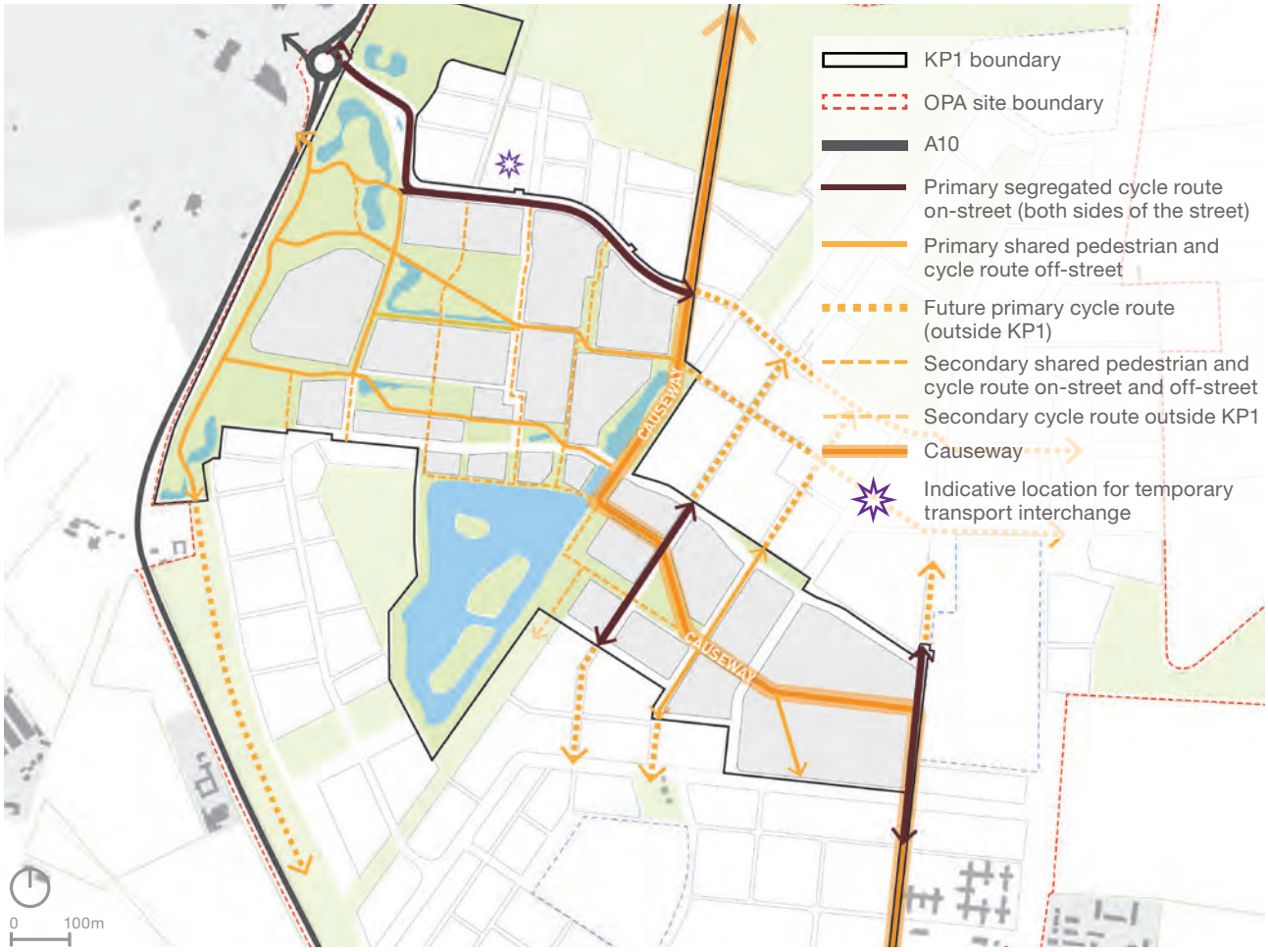



Figure 3.5 : KP1 cycle network

### Primary cycle route network

- Primary segregated cycle routes along Primary streets **must** be min 2.1m wide in a single direction (See also Section 3.5). Primary cycle routes along secondary streets can be either segregated and 2.1m wide in each direction or shared and bi-directional in which case they **must** be 4m wide
- Primary cycle routes along community links and through open spaces **must** be on paths 4m wide, shared with pedestrians, unless justified otherwise
- The Primary cycle network **should** provide relatively direct routes to key destinations on and beyond the site as well as routes for cyclists travelling through the site from and to destinations further afield
- Segregated cycle paths such as the ones along Primary and Secondary streets **should** be clearly demarcated with red/ brownish bound gravel/ asphalt
- Shared cycle paths with pedestrians such as the ones along community links and through open spaces **should** be heritage surface course
- The shared cycle path leading to Cambridge Research Park, through the A10 Green Corridor (see Regulatory Plan), **should** be heritage surface course


Figure 3.6: Illustrative section showing a primary cycling route along a Primary street (refer to Section 3.5)

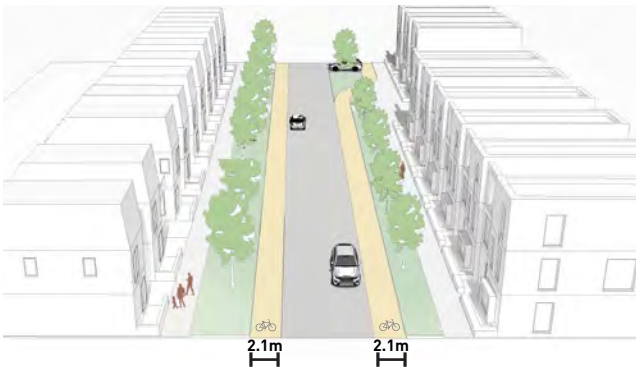



Figure 3.7: Illustrative section showing a primary cycling route along a typical Secondary street (refer to Section 3.5)

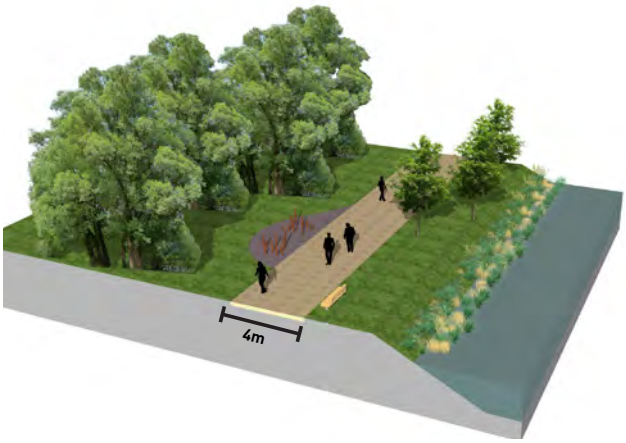



Figure 3.8 : Illustrative section showing primary cycling route through an open space (see Section 3.5)

### Secondary cycle route network

- The Secondary cycle network **must** provide additional, more local connections ensuring that all homes are within near proximity of a safe cycle route
- Secondary cycle routes along secondary streets **must** be provided through a 3m wide path shared with pedestrians. The path **should** be segregated from vehicular traffic by an area of soft landscaping, where applicable (See also Section 3.5.2)
- Secondary cycle routes along community links and through open spaces **must** be on paths at least 3m wide, shared with pedestrians
- Secondary cycle routes on tertiary or lower order streets **should** be on carriageways
- Secondary cycle paths **must not** use different materials or be coloured differently from the adjoining public realm or materials used in green open spaces


Figure 3.9: Illustrative section showing a secondary cycling route along a typical Secondary street (refer to Section 3.5)


Figure 3.10: Illustrative section showing a typical secondary cycling route along a community link (refer to Section 3.5)

# 3.4 Bus network

A comprehensive development of this scale provides the opportunity to realise a step-change in transport and highway infrastructure provision which in turn can help to deliver real modal travel choices, exemplar sustainable travel patterns and help to address the existing infrastructure deficit.

The specific routes and frequency of the bus network through the site, along with the size of buses, **must** be reviewed on an ongoing basis throughout the build programme with the aim of ensuring that the bus service provision meets the needs of the development. The street network in KP1 has been designed to provide the foundation and basis for an expandable bus network as the development matures and increases in size.

Principles specific to public transport include:

- Streets and junctions **must** be designed to accommodate standard sized buses (>12m) along the primary bus routes shown on the diagrams below
- All secondary streets **must** be designed to accommodate smaller and shuttle buses as shown on the diagram below
- All homes **must** be located within 400m walking distance of a bus stop, primary school or a defined centre
- The bus stops **must** be on carriageways
- The bus stops **must** be constructed to be accessible and **must** include shelters

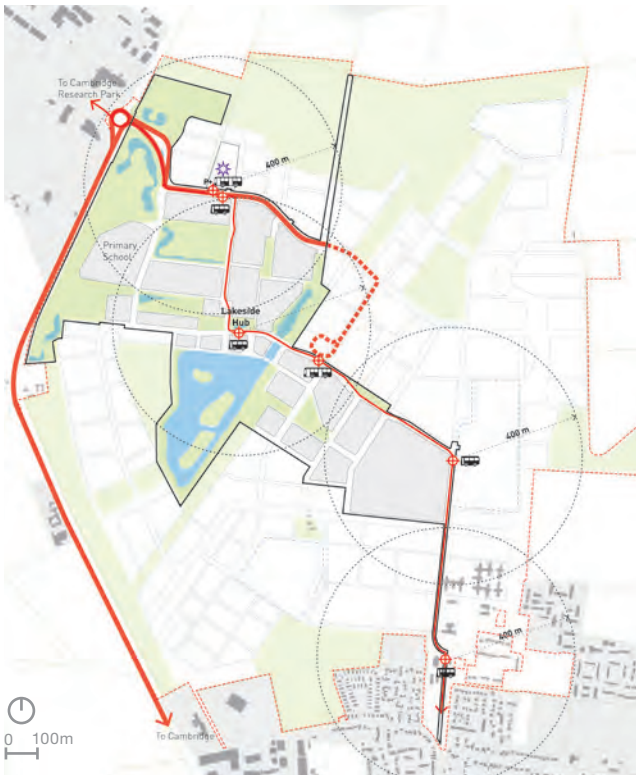



Figure 3.11: Bus network for KP1 completion (indicative)

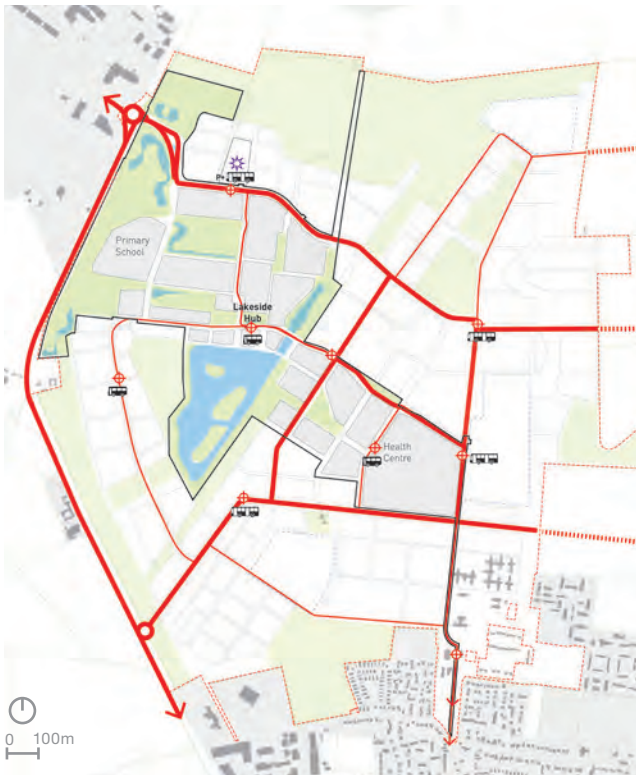



Figure 3.12: Long-term site-wide bus network (indicative)

KP1 boundary

OPA boundary

Proposed route for smaller sized buses including potential shuttle bus services

Indicative location for temporary transport interchange

Proposed route for standard sized buses

Temporary route on existing hard-scape

Bus stop (indicative location)

Smaller bus (< 12m) including shuttle bus

Standard bus (>12m)

400m distance from bus stop

## 3.5 Street hierarchy

The street hierarchy and location is **mandatory** and minimum dimensions are **recommended**. There are three main street types within the road hierarchy of KP1: primary streets, secondary streets and tertiary streets.

The street hierarchy for KP1 is shown on the Regulatory Plan and further explained in the diagram below. Primary streets serve a function at the scale of the entire site, including future phases, establishing structural connections to the A10 and the future railway station. Secondary streets connect to the primary streets and serve the entire site for general purpose access and circulation, while all other streets are tertiary and intended for local movement only.

The road network will be subject to meeting adoptable highway standards and achieving the approval of the adopting highway authority. This will not cover tertiary streets, i.e. those within development parcels, not identified on the Regulatory Plan and Figure 3.13, therefore these roads could be non-adopted or otherwise.

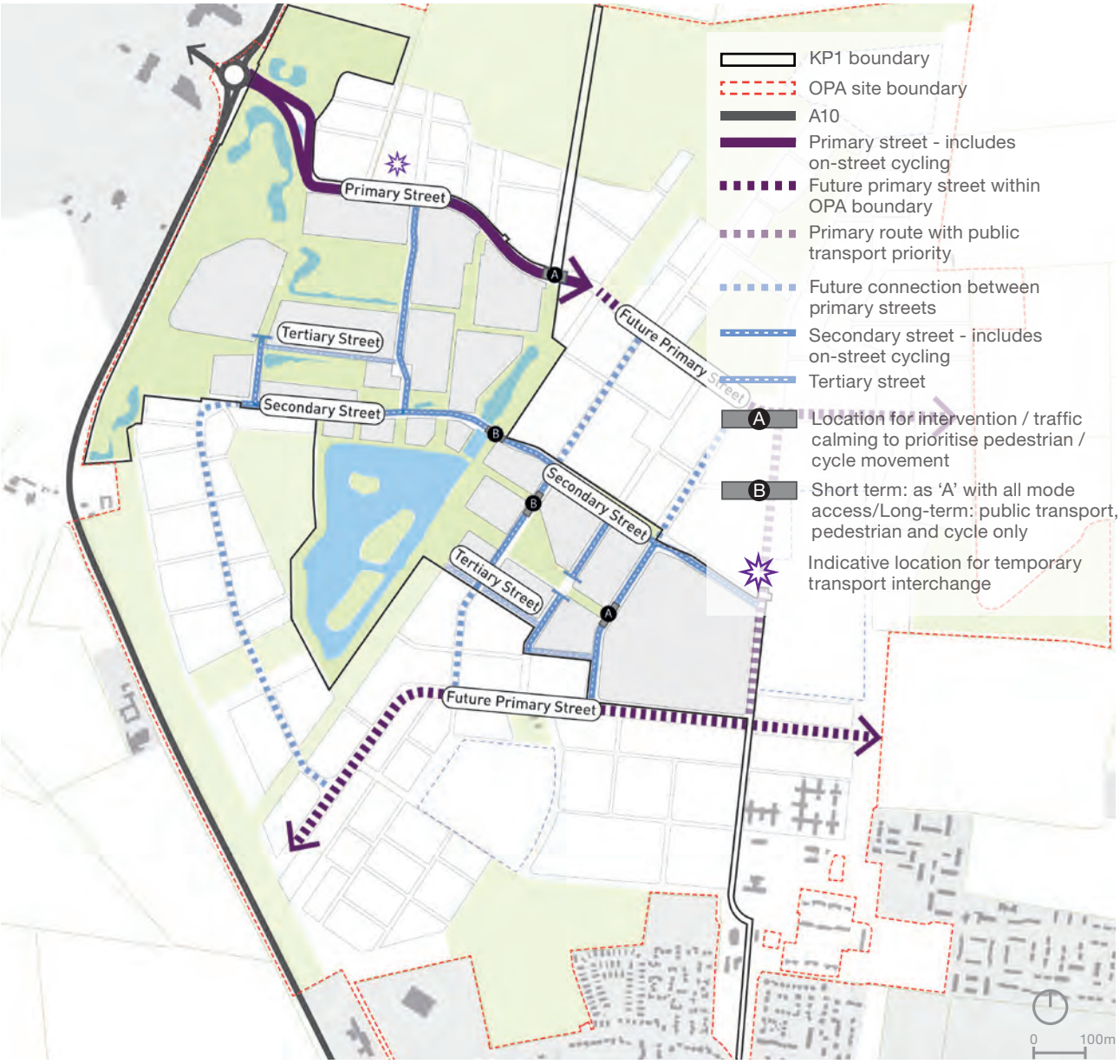



Figure 3.13: Street hierarchy

The design of the streets **should** consider reccommendations given in the Healthy Streets for London document which looks at design measures to improve air quality, reduce congestion and create more attractive places and streets.

Primary and Secondary streets all **must**:

- Follow the alignment fixed in the Regulatory Plan
- Minimise clutter and signage
- Comply with the street planting codes set out in section 4 and boundary requirements and guidance set out in section 5
- Be designed to be safe and legible
- If to be adopted, be designed in accordance with the Cambridgeshire Housing Estate Road Construction Specification and Manual for Streets and/or other relevant national/ local standards and good practice guides
- If not proposed to be adopted, be designed to follow good practice as set out in Manual for Streets and other relevant guidance

KP1 incorporates four separate vehicular crossings of the Causeway, as fixed on the Regulatory Plan and shown in Figure 3.13 opposite:

- Crossings (A) are on the northern Primary Street and on the Secondary Street west of the Principal Centre. These are 'through' streets for all modes that form important links within the movement network for the scheme as a whole
- Crossings (B) are on secondary routes to the south of Denny Waters and adjacent to Causeway Park. These will be open to all modes to allow private vehicular access to parcels east of the Lake only for as long as necessary, pending construction of a second A10 access and a second southerly primary east-west route. When access to KP1 parcels becomes available from the south these crossings will be altered to provide for pedestrian, cycle and public transport movement only (bus gates will be installed

These crossings and the adjacent parcels must be designed to allow for the future exclusion of through movement by private vehicles and diversion through or turning within adjoining development parcels.

By definition, the street hierarchy for KP1 establishes relationships and principles that will guide future development in subsequent phases and on land beyond the site to the east. The role of the primary streets is to serve the combined sites in a comprehensive manner, establishing a loop of movement to and from the A10, and the secondary streets should form a site wide network that provides good access to the entire site, from which tertiary streets can provide local access.

**Development beyond KP1 boundary**

- The Primary street delivered in KP1 **must** extend in subsequent phases as indicated on the diagram on the previous page
- A secondary network **must** be established in subsequent phases that connects into the secondary streets delivered in KP1 reflecting the principles indicated in the diagram on the previous page

### 3.5.1 Primary streets

Primary streets are the highest ranking streets providing the main connections through KP1 to adjacent phases. Primary streets are generally longer and straighter than the lower order streets, with longer distances between junctions and generous soft landscape areas between plot lines and vehicular traffic to provide a buffer and appropriate setback for homes. Building frontages **should** be formal and the buildings fronting the primary street **should** be higher than along adjoining lower ranking streets. Buildings on corners **should** be marked by an architectural response, as defined in Key Corners in Section 5.2. Frontage and built form response to these streets is covered in Section 5.6 For streetscape materials see Section 4.4.1.

All primary streets within KP1 **must**:

- Provide access to secondary or tertiary streets on either side through the junctions fixed on the Regulatory Plan
- Include a 2.1m segregated cycle lane in each direction, with the exception of the segment of the primary road between the A10 and the first junction in KP1, see Primary street type 1
- Accommodate bus services
- Be lined with trees on both sides of the street in accordance with the requirements set out in section 4.4.4, unless otherwise stated in the individual street types
- **Not** have direct or shared driveway access
- **Not** have on-street parking
- Provide access for cyclists through junctions, without impeding the flow of traffic on the primary street. This can be done by varying the width of the landscaped verges (3-5m) to accommodate turning vehicles, see Section 3.6
- Be designed for 30mph traffic
- Be designed as to be adopted by the Local Highway Authority

The Parameter Plan fixes the requirement for two primary routes across the OPA boundary, identified as Primary street Type 1 and Primary street with bus route on the diagram below. Type 1 is fixed on the Regulatory Plan as it sits within KP1 boundary, whilst the sourthern street is illustrative only as it falls outside KP1 boundary, but has been included for reference as it has an interface with KP1.

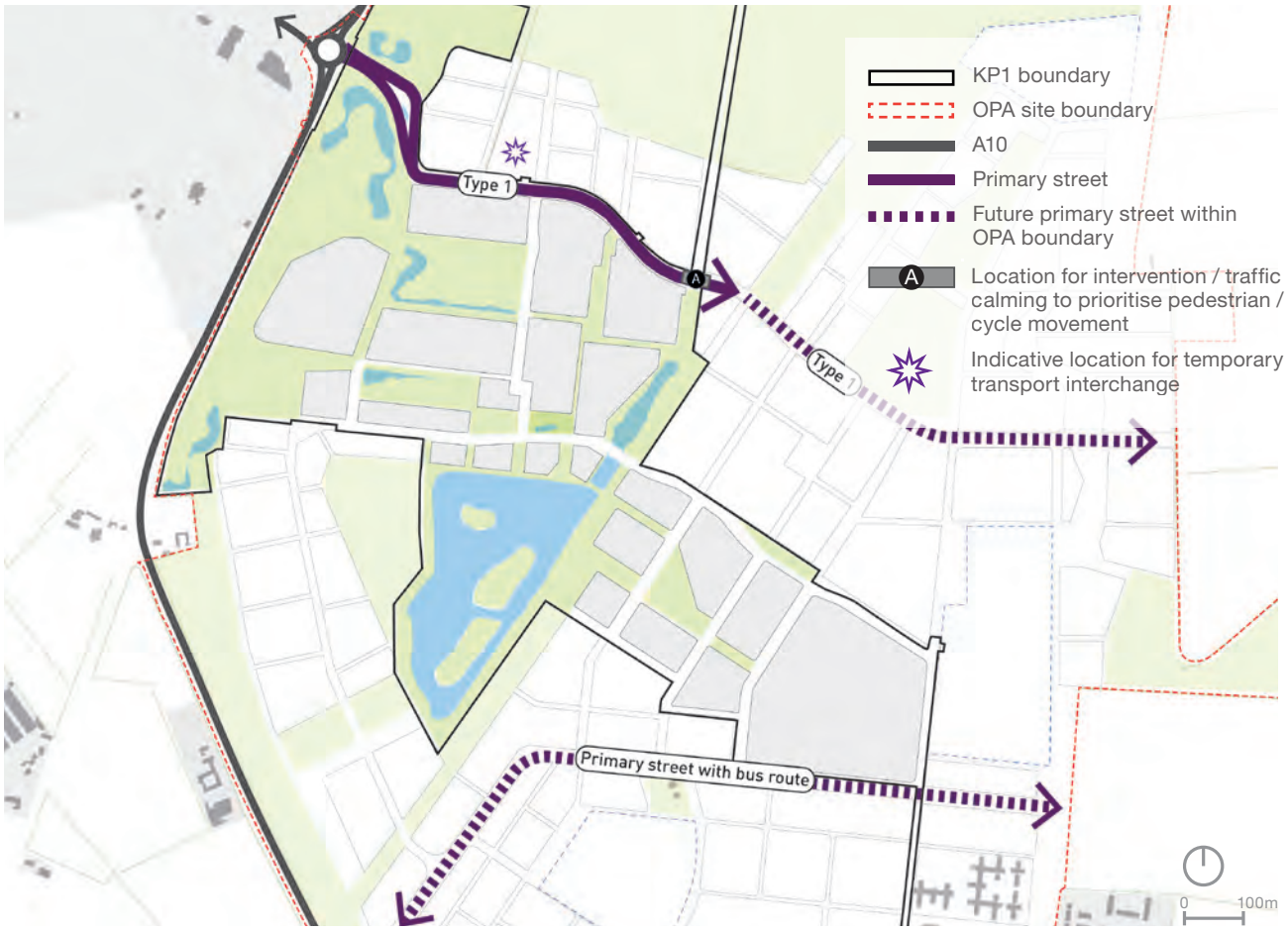



Figure 3.14: Primary street types

## Street typology sections (recommended)

### Type 1 Primary street [1]

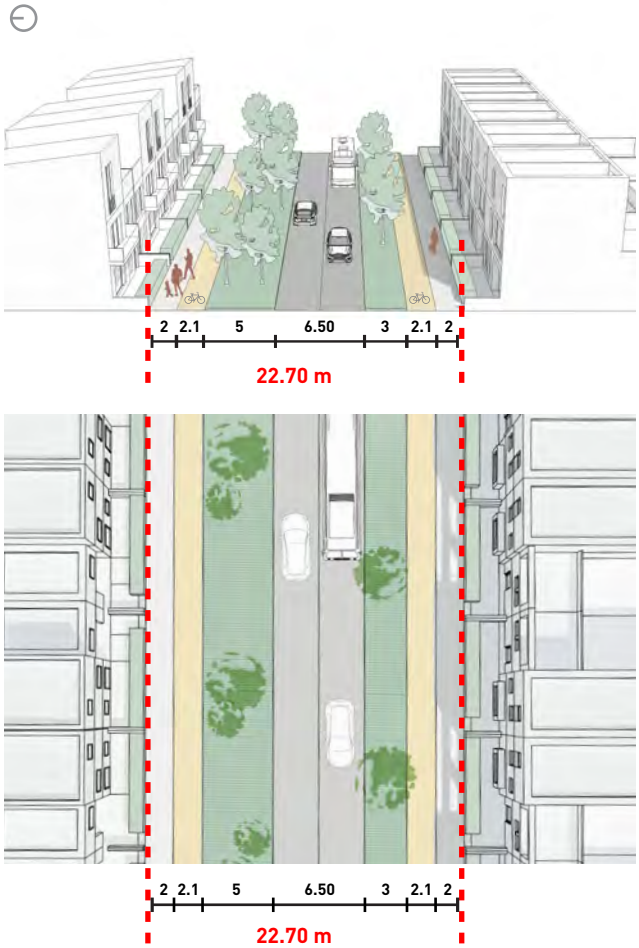



Figure 3.15: Illustrative section and plan of Type 1

Carriageway
Footway
Verge
Segregated cycle path

- A principal thoroughfare to accommodate high volumes of movement, by all modes. In KP1 the Primary street provides the first section of the main east-west link across the northern part of the site which will in time connect to land to the east
- Carriageways **should** be 6.50m
- **Must** accommodate segregated cycle lanes in both directions, each 2.1m wide and footways of a minimum of 2m
- **Should** be lined with trees and wide grass verges that vary in width (3-5m) to accommodate turning vehicles at junctions in order to give cyclists priority through the junction without impeding the flow of traffic on the primary street (see Section 3.6)
- Verges **should** accommodate SuDS, where required

[1] As an exception, along the segment of the primary road between the A10 and the first junction, a pedestrian footway is not required as the pedestrian crossing is further to the south of the A10 roundabout as indicated in the Regulatory Plan. A segregated cycle path must be provided on the northern side of the street to link with cycling provision on the A10, accessing the site from the west.

### 3.5.2 Secondary streets

Secondary streets function as distributor routes providing access to development plots. To reduce speed, Secondary streets **must** include speed reducing features such as raised tables and narrowed crossing points (see Section 3.6). Building frontages **should** be formal and plot boundary treatments **must** be consistent along the street. For this reason, most Secondary streets **must** be designed without direct driveway access, but buildings **must** have their primary front doors onto these streets (see Section 5.6). Buildings on corners **should** be marked by an architectural response, as defined in Key Corners in Section 5.2. Frontage and built form response to these streets are covered in Section 5.6. For streetscape materials please see Section 4.4.1.

All secondary streets within KP1 **must**:

- Follow the alignment fixed on the Regulatory Plan
- Provide access to and movement through development parcels in accordance with the Regulatory Plan
- Be designed as to be adopted by the Local Highway Authority
- Have footways minimum 2m wide
- Be designed for 20mph speed
- Be lined with trees on both sides of the street in accordance with the requirements set out in section 4.4.4, unless otherwise stated in the individual street types

All secondary streets within KP1 **should**:

- Be between approx. 16-23m wide overall (plot to plot)
- Accommodate a 5.5m wide carriageway if they don't need to accommodate standard buses (>12m long) and 6.2m wide if standard buses are required to circulate on that section, as shown in Section 3.4
- Include drainage features in the verge, where required
- Not have direct driveway access, unless otherwise specified in Section 5.6
- Accommodate on-street visitor parking within parallel parking bays on the carriageway (white boxes)
- Accommodate cycle routes in accordance with the street sections typologies coded on the following pages
- Be designed in accordance with the types set out over the next pages and on the diagram below

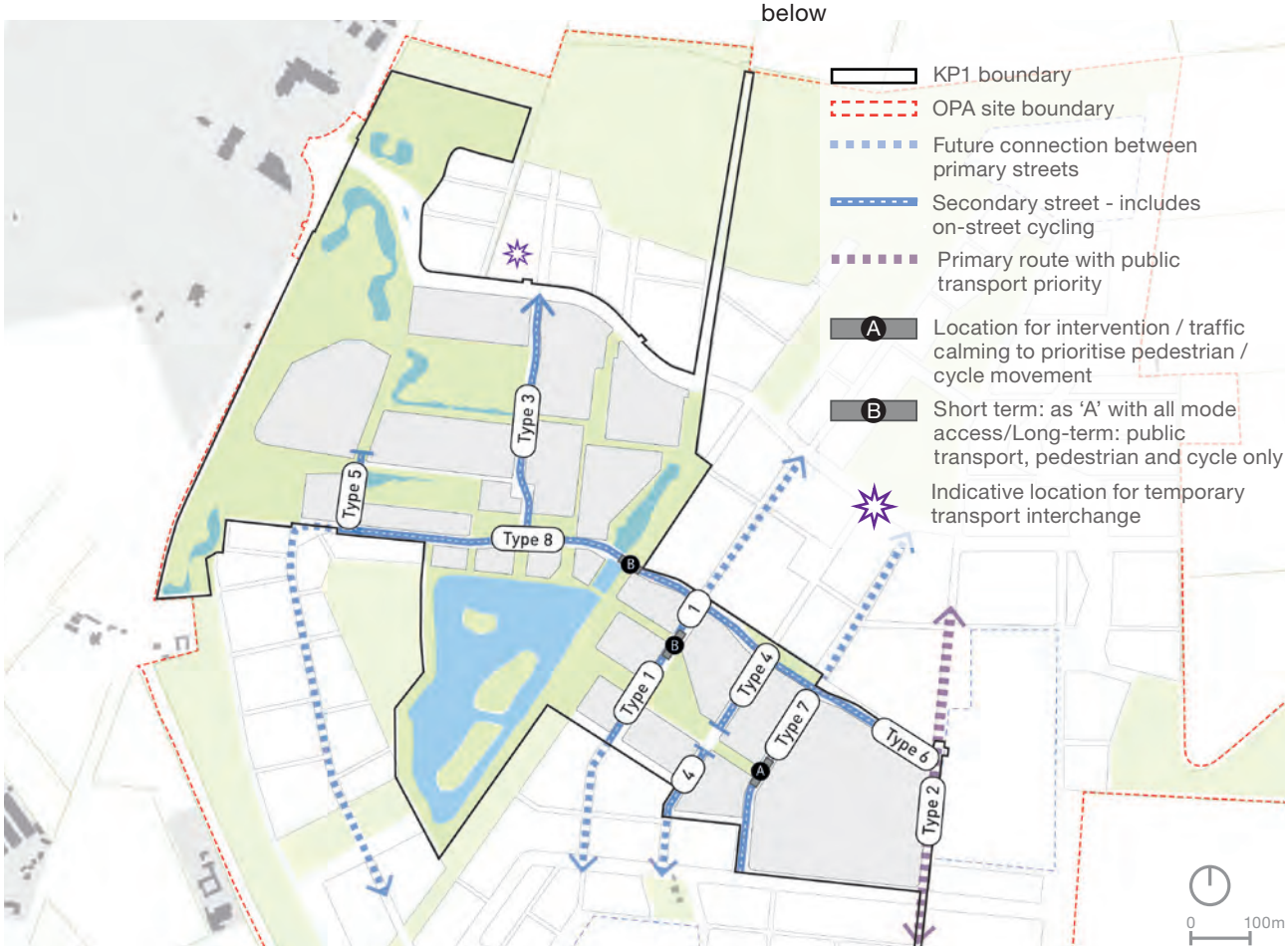



Figure 3.16: Secondary street types

## Street typology sections (recommended)

### 1. Secondary Street with primary cycling route

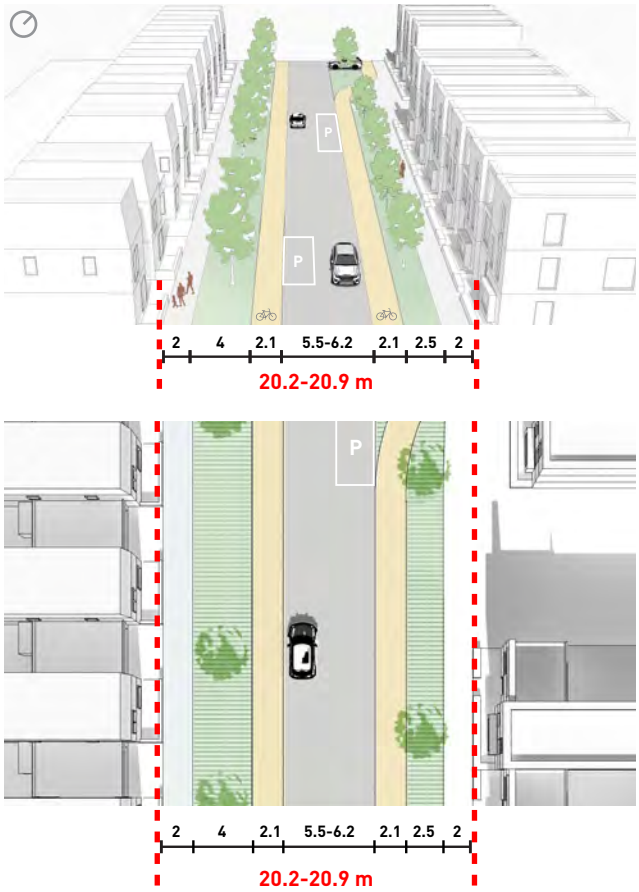



Figure 3.17: Illustrative section and plan - **Type 1**

Carriageway
Footway
Verge
Segregated cycle path

Part of the main movement network for pedestrians, cyclists and public transport. Additional role providing local access to development parcels, by car. Through movement by car will be limited/prevented in the future as the network develops. The street will extend on the alignment of the former runway and will offer extended views towards the northern boundary of the site. Secondary street Type 1 is delivering part of the primary cycle route through the site and **must:**

- Be designed to accommodate standard bus services, including bus stops and appropriately sized junctions
- Accommodate segregated cycle lanes in both directions, each 2.1m wide, next to the carriageway
- Include an area of soft landscaping, 2.5-4m wide, on each side of the street
- Accommodate min 2m wide footways
- In accordance with the Regulatory Plan **must not** provide access over the Causeway for vehicular traffic, with the exception of public transport

### 2. Primary Route with public transport priority

This is part of the main movement network for pedestrians, cyclists and public transport. Some local access to development parcels by car may also be appropriate. Through movement by car will be limited/prevented in the future as the network develops. Design and character will be influenced by function – the street forms both part of the Causeway and an integral part of the Principal Centre public realm.
The primary route with public transport priority (Type 2) is delivering part of the primary cycle route through the site past the Principal Centre and outside the secondary school and will be coded in detail as part of the Town Centre Development Framework (TCDF).

### 3. Secondary Street with secondary cycling route

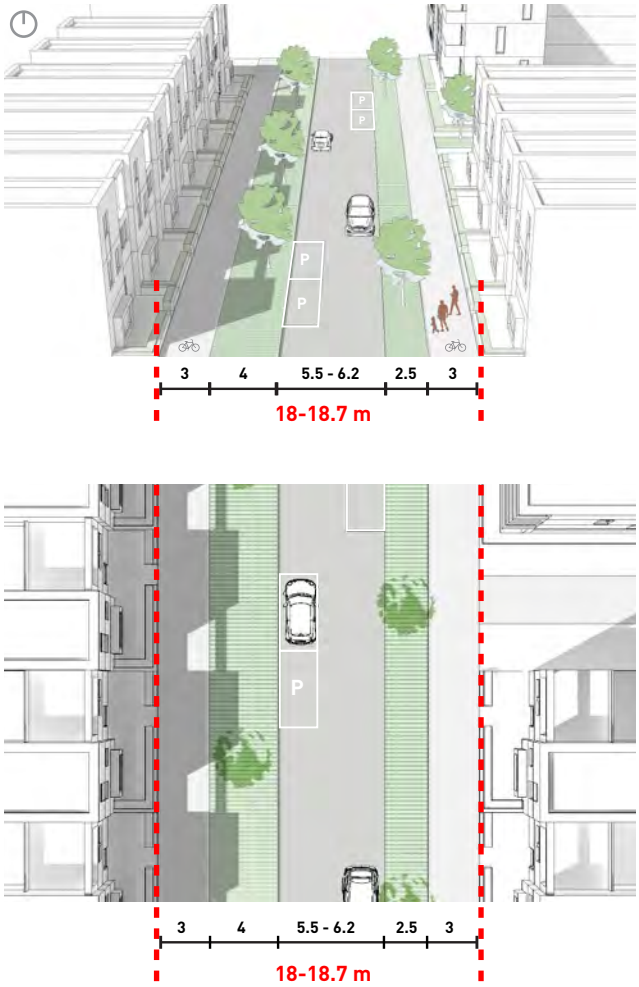



Figure 3.18: Illustrative section and plan - **Type 3**

### 4 .Secondary Street with primary cycling route

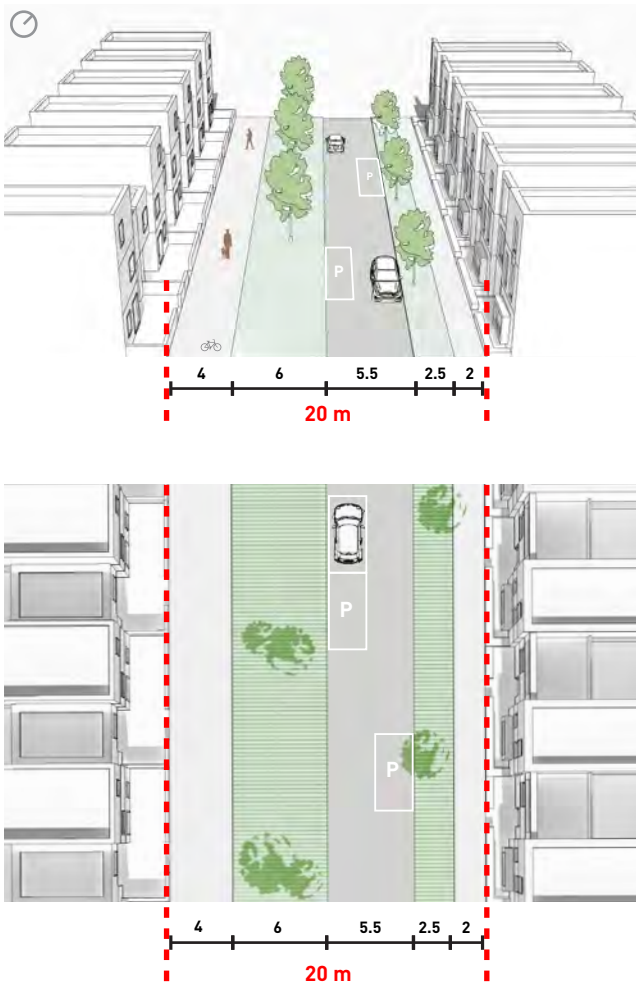



Figure 3.19: Illustrative section and plan - **Type 4**

Carriageway Verge
Footway

A local street accommodating buses and providing access to adjoining development parcels. Cyclists and pedestrians accommodated on a shared surface. The north-south alignment will provide unfolding views towards Denny Abbey, in the north, and the Lake, in the south. It **must:**

- Accommodate a 3m wide shared footway/ cycleway on each side of the street
- Include an area of soft landscaping, 2.5-4m wide, on each side of the street
- Provide white box parking spaces of min 2m width, along the carriageway (parallel parking)

Secondary Street providing local access with priority for cyclists and pedestrians. Through-movement by car is restricted (there is no vehicle crossing of the Causeway). The street should include generous green verges to support the function of the street as a Wildlife Corridor connecting proposed green spaces to the north and south outside KP1. It **must**:

- Accommodate a min 4m wide shared bi-directional footway/cycleway on one side of the street
- Include an area of soft landscaping of up to 6m on one side of the street to facilitate a wildlife link
- Be designed as a low speed street where walking and cycling is prioritised
- Provide white box parking spaces of min 2m width, along the carriageway (parallel parking)

## 5. Secondary Street with secondary cycling route

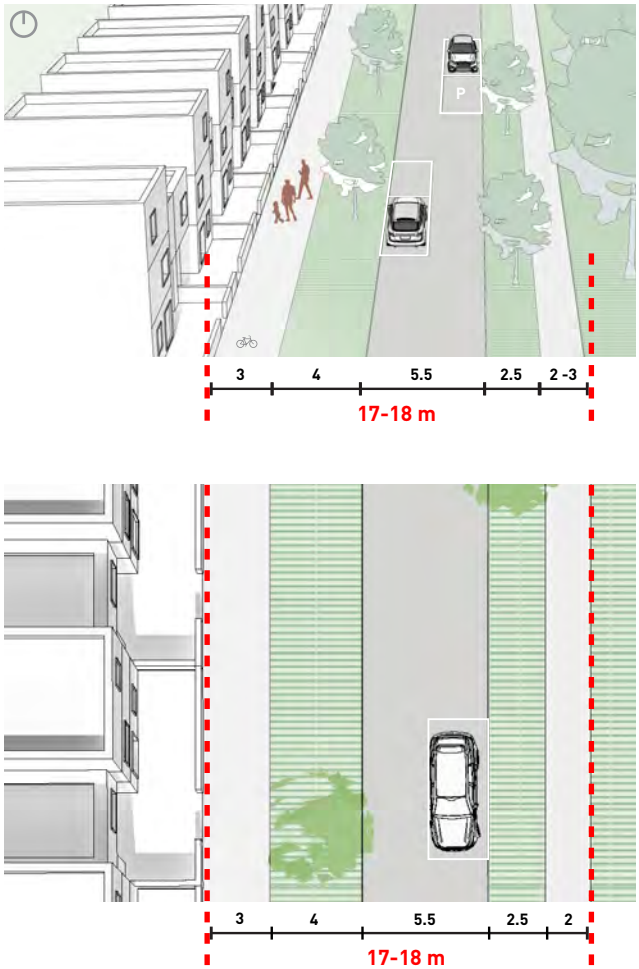



Figure 3.20: Illustrative section and plan - **Type 5**

Carriageway
Verge
Footway

Secondary street providing local access to the school car park/service entrance. To be designed for all modes including school coaches. It **must:**

- Accommodate a 3m wide shared footway/ cycleway on the school side of the street
- Include an area of soft landscaping, 2.5-4m wide, on each side of the street

## 6. Secondary Street with footway only

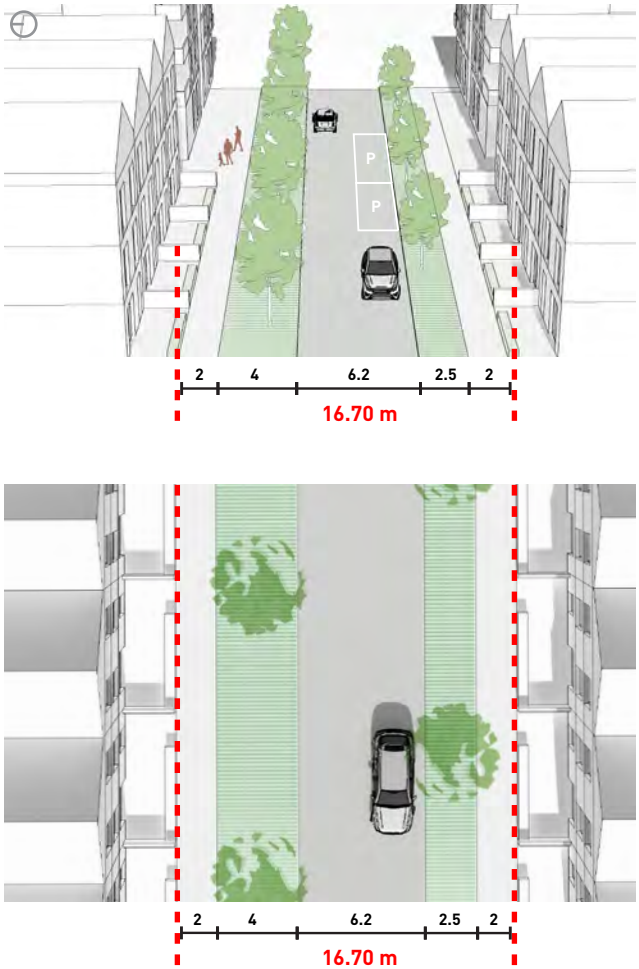



Figure 3.21: Illustrative section and plan - **Type 6**

Secondary link between the Lakeside, the Principal Centre and the Secondary School (at the eastern termination point of the street). Priority for bus access. No dedicated provision for cyclists. Access for private cars will, in the future, be restricted at the intersection with the Causeway; a bus gate will be provided in this location. The street forms part of an east-west Green Link so emphasis should be placed on generous, high quality landscaping to enhance the experience of recreational users and introduce to bio-diversity. The termination point on the school boundary should be a notable feature to aid legibility. It **must:**

- Be designed to accommodate standard bus (>12m) services, including bus stops and appropriately sized junctions
- Include an area of soft landscaping, 2.5-4m wide, on each side of the street
- Accommodate a min 2m wide footway on both sides of the street

## 7. Secondary Street with footway only

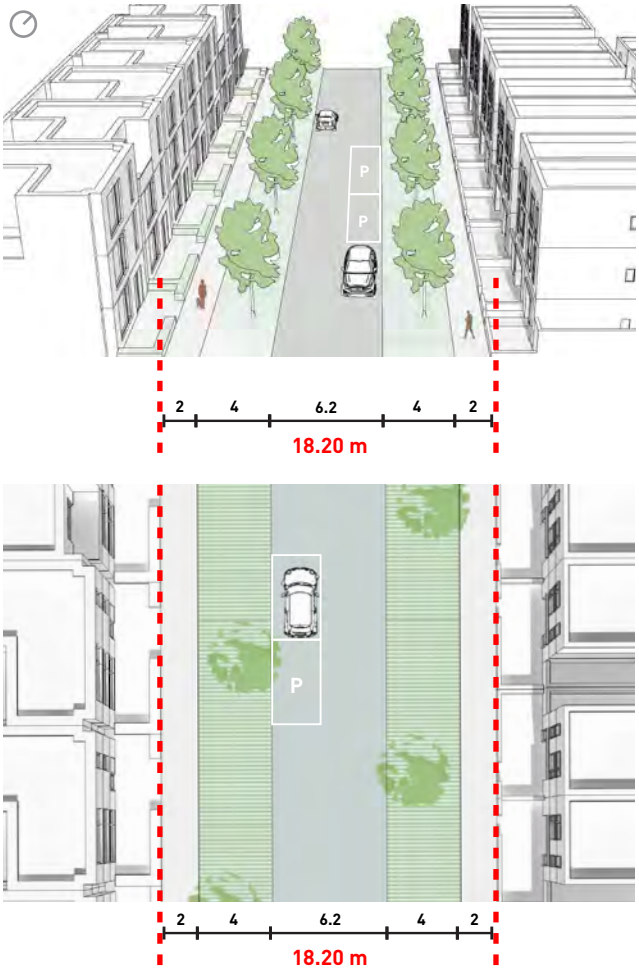



Figure 3.22: Illustrative section and plan - **Type 7**

Carriageway Verge
Footway

Important secondary link on the periphery of the Principal Centre which will form a through route for all modes and, in the future, connection to primary routes outside KP1. Priority for local access and through movement of vehicles. There is no dedicated provision for cyclists. It **must:**

- Include an area of soft landscaping, 2.5-4m wide, on each side of the street
- Accommodate a min 2m wide footway on both sides of the street

## 8. Secondary Street with footway only[3]

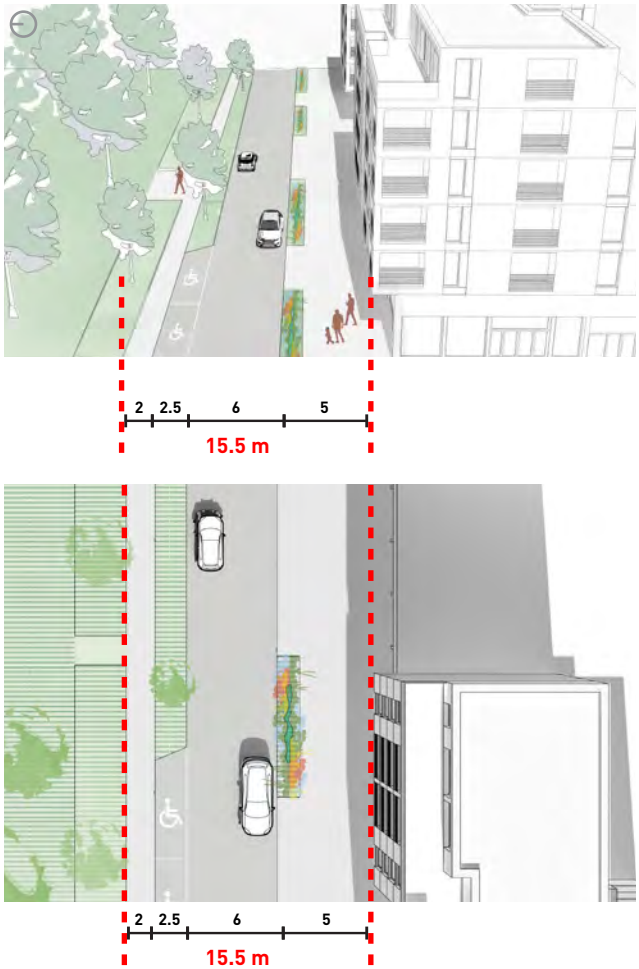



Figure 3.23: Illustrative section and plan - **Type 8**

Secondary link providing local access to the Lakeside blocks with priority for pedestrian and bus movement. No dedicated provision for cyclists. Access for private cars will, in the future, be restricted at the intersection with the Causeway; a bus gate will be provided in this location. It **must**:

- Be designed together with the adjacent Waterbeach Gardens, with hardscape materials complementing those used in the public space (see Section 4.2.3)
- Be designed as a low-speed environment with pedestrian priority
- Provide on-street visitors car parking near the Lakeside retail, leisure and community uses in a parallel arrangement

[3] Along the segment of the secondary street between the south eastern corner of Waterbeach Gardens and the south eastern corner of Denny Waters, the street section contains a 4m wide shared cycle and pedestrian path, on the north side of the street, as an exception to the typical cross section shown and coded above.

### 3.5.3 Tertiary streets

Tertiary streets provide access and movement through the development parcels and access to dwellings. The position/alignment of the tertiary streets is not fixed on the Regulatory Plan, with a few exceptions that are clearly indicated on the Regulatory Plan. One of these exceptional tertiary streets (th tertiary street along the northern edge of Waterbeach Gardens) is part of an important frontage towards a key open spaces and has been coded below. For streetscape materials and tree planting requirements please see Section 4.4.1.


Figure 3.25: Tertiary street with shared surface design


Figure 3.26: Example of tertiary street with a narrow section for traffic calming

All tertiary streets within KP1 **must**:

- Be connected to Primary and Secondary streets
- Be narrower and less formal in character than the higher ranking streets
- Include traffic calming measures to increase safety for pedestrians and cyclists
- Minimise clutter and signage and avoid the proliferation of small street signs such as for parking regulations (street signage strategy to come forward at the RM stage)

All tertiary streets within KP1 **should**:

- Normally be used only by those living or visiting the parcels that the street serves
- Have direct driveway access in which case, the houses fronting this street must have a front garden not wider than 2m and the driveway must be set at least 4m behind the main building line
- Encourage a permeable grid structure
- Provide visitor parking on-street in white painted boxes (2m wide) on the carriageway or as parking bays within a landscaped zone, but **must not** be longer than 3 continuous parallel bays

**Tertiary street along the northern edge of Waterbeach Gardens**

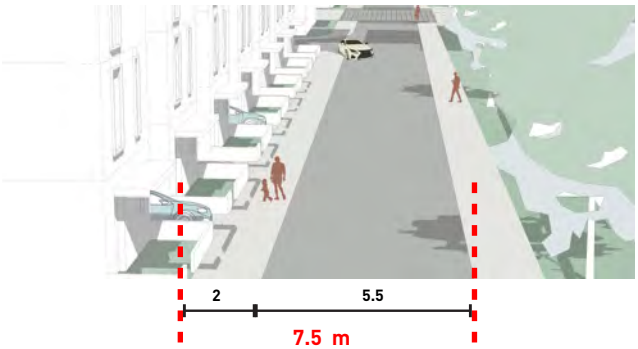



Figure 3.24: Tertiary street illustrative section

- The location is fixed on the Regulatory Plan (see Section 1.7)
- The carriageway **must** be 5.5 m, with a 2m footway on one side of the street

A menu of tertiary street designs that are considered appropriate across KP1 are set out below. In addition to these, other types are permitted and will be reviewed at reserved matters stage, per each development parcel. Privately maintained access streets are also permitted, provided they follow the codes set out in Section 3.5.4.

### Tertiary street with standard highway design

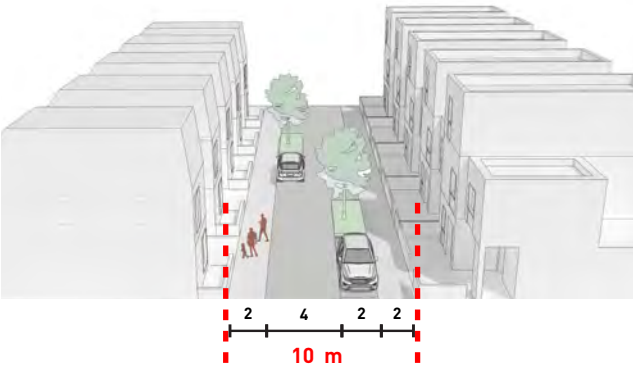



Figure 3.27: Tertiary street illustrative section

- **Should** be designed with footways and carriageways clearly marked by kerbs with different materials or as a shared areas
- The carriageway **must** be maximum 6m wide and **should** have planting and parallel parking, in an alternating arrangement in order to provide traffic calming
- Footways **must** be min 2m wide
- A planting zone that provides sufficient space to accommodate tree planting must be provided along this street type

### Tertiary mews street

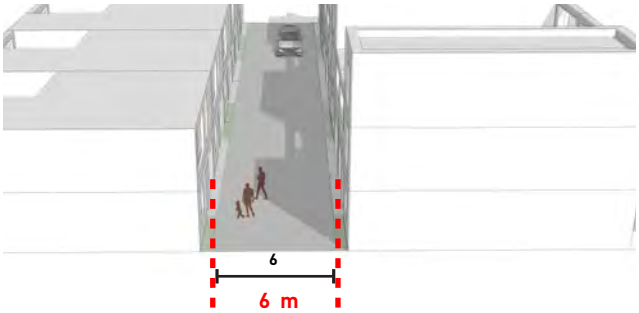



Figure 3.29: Tertiary mews street illustrative section

- The distance between building frontages **should** be min 6 m and **should not** be wider than 10m
- A minimal zone for planting or a differentiated hard surface of 0.5-1.5m **should** be provided along the building boundary, within the dwelling plot. This **should** not result in a continuous hard surface of more than 15m long
- If the street is to be adopted by the Local Highway Authority, the shared surface **must** include a 0.5m maitenance area on both sides

### Tertiary Street with shared surface

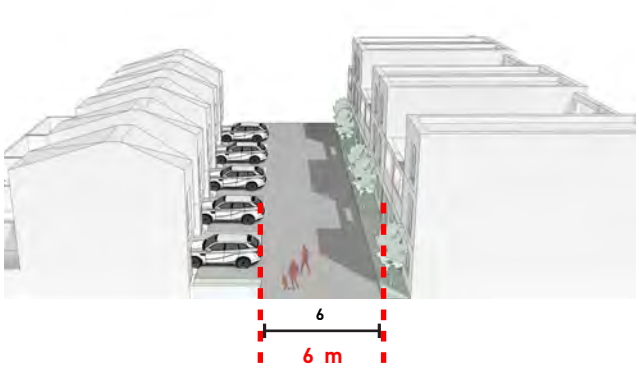



Figure 3.28: Tertiary street illustrative section

- **Should** be designed as a shared surface and **must** serve a maximum of 14 homes
- If unadopted, the shared surface **should** be max 6m wide to allow space for pedestrians and cars to cross them safely
- If the street is to be adopted by the Local Highway Authority, the shared surface **must** include a 0.5m maitenance area on both sides, enlarging the corridor to max 7m wide


Figure 3.30: Precedent image of narrow tertiary mews street

### 3.5.4 Privately maintained access streets

Privately maintained access streets are lower ranking streets, set within development parcels (internal to/ or abutting the perimeter of a development parcel), which provide access to dwellings. Their location is not fixed on the Regulatory Plan, however they will only be permitted on specific frontages. Section 5.6 provides further codes in relation to where these types of streets are permitted and where they must not occur.

All privately maintained access streets within KP1 **must**:

- Be only accessed from tertiary streets
- Be set in between key corner buildings, if set along the perimeter of the parcel, facing open green spaces (as shown in Figure 3.33 below)
- Incorporate a landscape edge min 1.5m wide towards the parcel boundary with a boundary treatment matching the boundary treatments of adjacent properties, if set along the perimeter of the parcel, facing open green spaces
- Include a carriageway max 5.5m wide which **must** be 5.5m wide for the first 5m
- Be serving a particular housing typology meeting the following requirements:
  - front garden not wider than 2m
  - driveway set at least 4m behind the main building line
- Include traffic calming measures to promote a pedestrian and cycle friendly environment
- Include ungated pedestrian and cycle connections across the landscape threshold
- Not be provided parallel and in addition to primary, secondary and tertiary streets

All privately maintained access streets within KP1 **should**:

- Normally be used only by those living in the dwellings the private drive serves and pedestrians and cyclists passing through
- **Not** be designed as cul-de-sacs so that connectivity and legibility is encouraged
- Be designed as shared surface areas
- Be designed as tight as possible and with a local character

Figure 3.31: Diagram showing the typical arrangement of a privately maintained access streets abutting a key open space

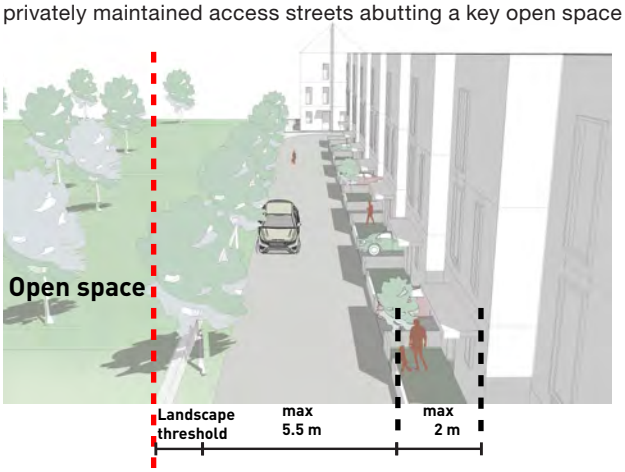



Figure 3.32: Privately maintained access street illustrative section

Carriageway
Landscape
Open space
Development parcel boundary
The length of the threshold landscape strip along the boundary of the parcel, designed to complement the adjoining public realm
Pedestrian/cycle connections

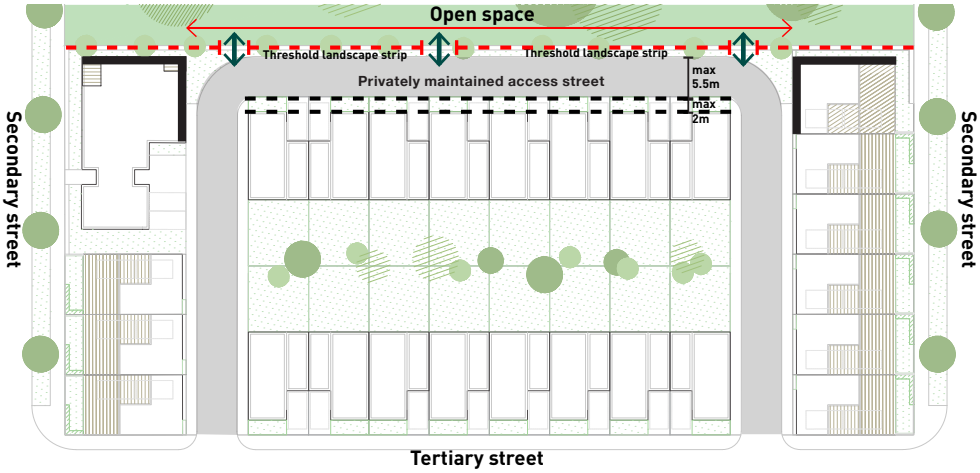



Figure 3.33: Typical arrangement of a privately maintained access street next to an open space