

# 9. OPEN SPACE AND GREEN INFRASTRUCTURE

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## 9.1 Open space and green infrastructure overview

The landscape of Welborne will be characterised by a network of well vegetated parkland and woodland surrounding the development, a central linear town park at its heart, a series of neighbourhood parks distributed throughout, and buffer planting on the edges to integrate Welborne into its surroundings.

Figure 9.1 shows the illustrative landscape framework for Welborne and the proposed open space and green infrastructure provision. This section describes:

- the rationale for its location - focusing on access from residential areas;
- the quantum and different types of open space and GI;
- the role of open space and GI - incorporating Sustainable Drainage Systems (SuDS) components, providing for play, acting as an internal green network, and as buffers.

Further detail on all of the above is provided in the Open Space and Green Infrastructure Strategy which accompanies this DAS.



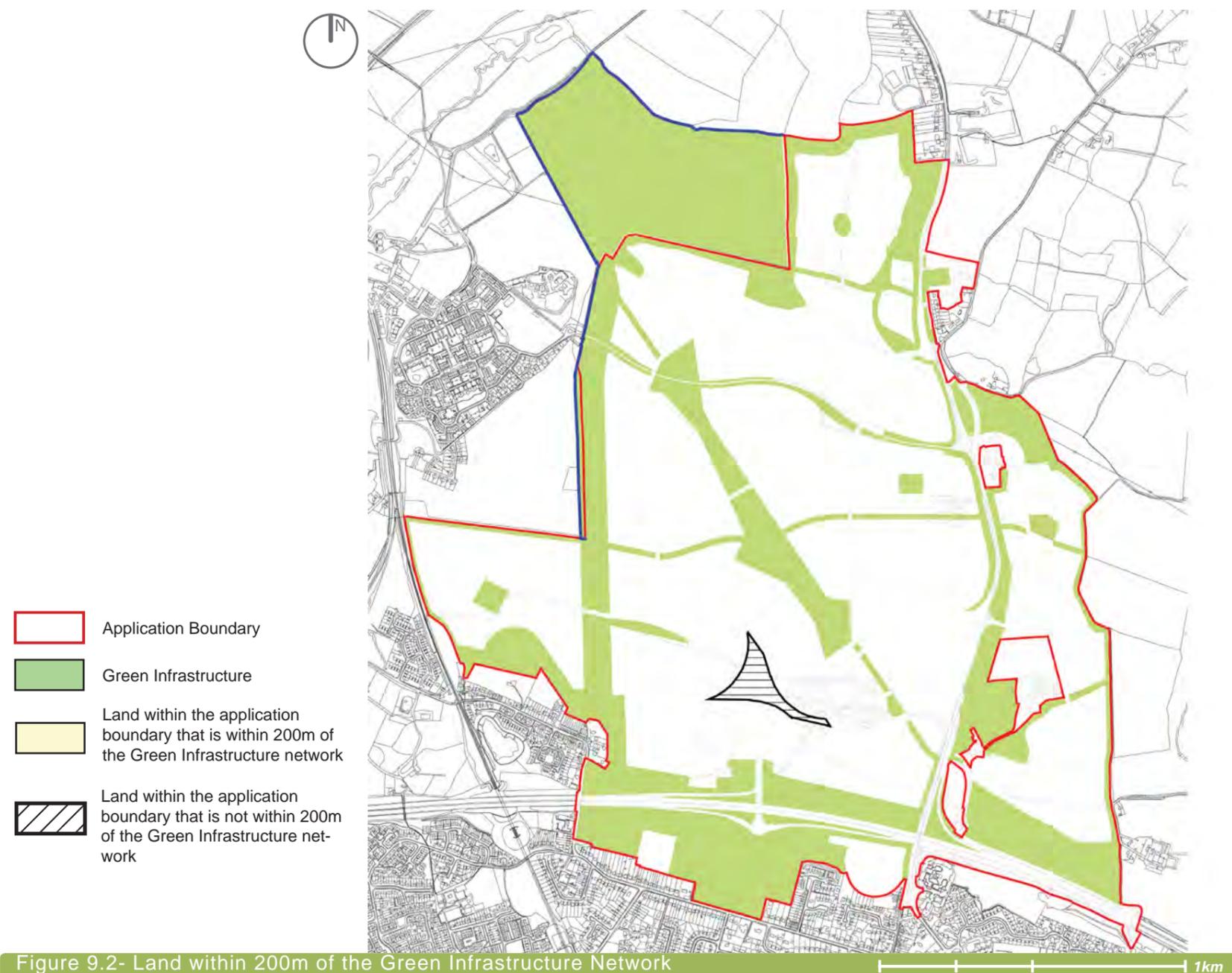
Figure 9.1 - Illustrative landscape framework

## Access from residential areas

One of the principles of the GI at Welborne is, to as far as possible, locate all dwellings within 200m of the GI network. Figure 9.2 indicates the land within Welborne that is within 200m of the GI network. This accounts for areas designated as GI within the development and does not include internal green links within Welborne.

This analysis indicates that based on the GI Masterplan shown at Figure 9.2 almost all residential land is within 200m of GI, with just one small area, measuring approximately 2.51ha, located more than 200m away from GI. This is considered acceptable as the residential areas are not beyond 250m from greenspace and will be connected by green links between two significant areas of greenspace.

Additional analysis using Natural England's Accessible Natural Greenspace Standards (ANGSt) indicates that all residents in Welborne would be within 2km of an accessible natural greenspace site of over 20ha, and that almost all residents would be within 300m of a site over 2ha. Further detail on this analysis is provided in the Open Space and Green Infrastructure Strategy.



## Green infrastructure provision

Broad GI typologies are proposed to be integrated into the development and the areas of each typology is set out in Table 2 as a minimum. The function and structure of these typologies are explained in more detail in the following section.

GI assets such as front and back gardens, verges and street tree planting, neighbourhood open green spaces and pocket parks serve an important function in enhancing the character of Welborne, and will be developed in detailed design stages.

Table 2 shows that the GI provision meets the Welborne Plan requirements with the exception of SANG. The area of SANG provision has been developed over a number of years with Natural England and FBC in order to provide sufficient SANG sites.

### SANGs

SANGs are part of Natural England's policy intended to mitigate the potential impact of residential development on nearby conservation designations. The SANGs are designed to be a natural environment, and are integral to the rural setting of Welborne. Further information on the design and management of the SANGs can be found in the Open Space and GI Strategy and the SANG Management Plan.

Functions:

- Mitigation
- Recreation
- Habitat and biodiversity

Three SANGs are proposed in Welborne. Dashwood SANG, an existing, partially ancient woodland, is located in the north western corner of the development, within the borough of Winchester City Council. Fareham Common is located between the M27 motorway and the northern urban fringes of Fareham. The Welborne Mile SANG is a broad, linear greenspace, running north-south between Fareham Common and Funtley in the south and Dashwood SANG in the north.

### Semi-natural Greenspace

The semi-natural greenspace will incorporate footpaths alongside woodland belts to provide a predominantly traffic-free route through a varied semi-natural habitat. Some of the areas will incorporate SuDS features.

Functions:

- Habitat and biodiversity creation and enhancement
- Recreation
- Settlement buffer
- Integration
- Flood mitigation

The semi-natural greenspace is located around the perimeter, as green corridors through the settlement or alongside roads. In addition, there is a large area of semi-natural greenspace located between the employment area and the M27 motorway.

In accordance with the general principle of green space fulfilling a variety of different roles areas of SANG are also considered to contribute towards Semi-Natural Greenspace.

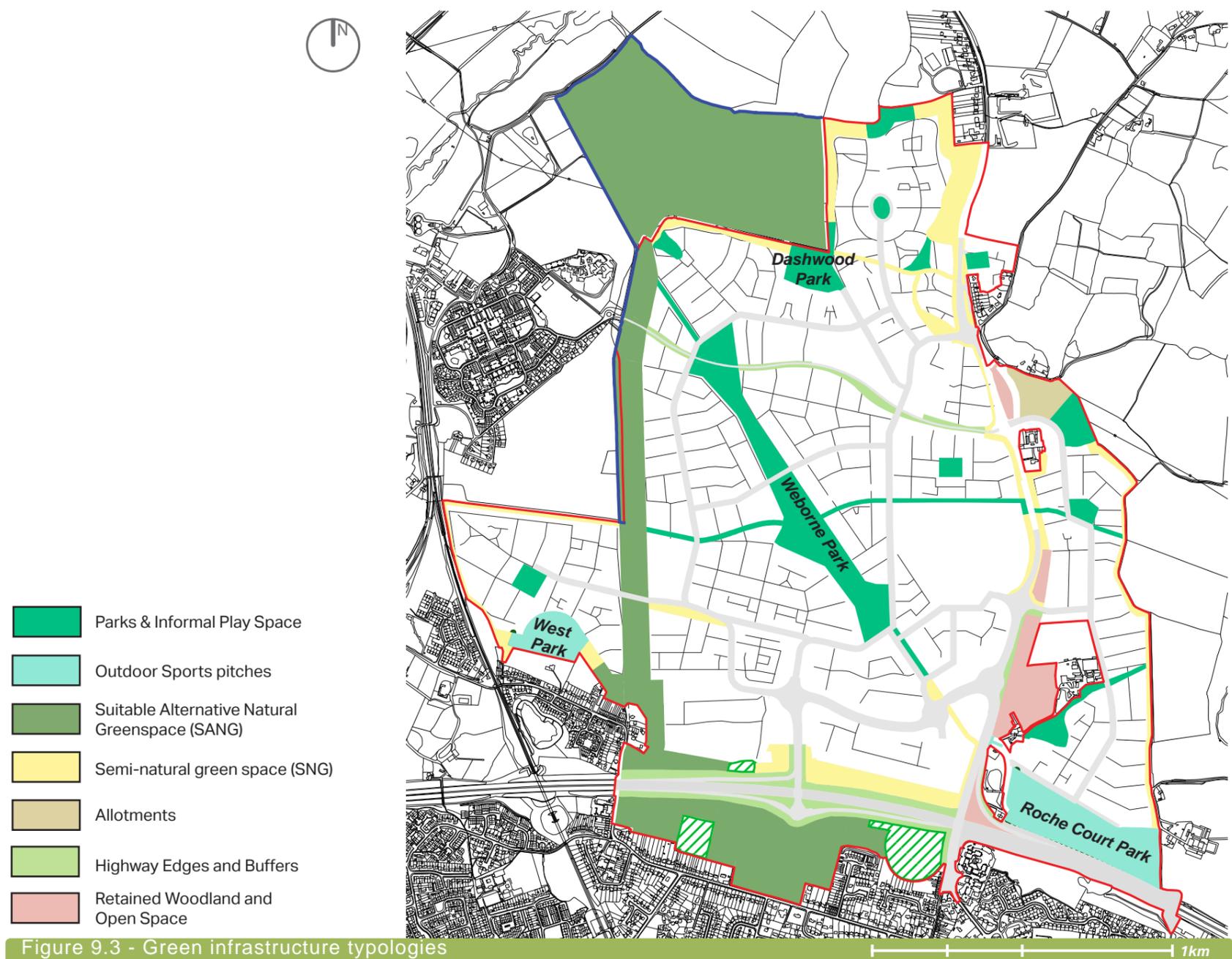
Table 2: GI Provision

GI Typologies	Welborne Plan Requirement (Ha)	Welborne GI Areas (Ha)
Parks and Informal Play Space	22.80	23.88
Outdoor Sports Pitches, including dual use at secondary school	18.20	18.37
Suitable Alternative Natural Greenspace (SANG)	84.80	59.23
Semi-natural Greenspace (SNG)	46.47	26.92
Allotments	2.10	2.10
Highway edges and buffers	Not specified	8.69
Retained Woodland & Open space	Not specified	6.31

## Green infrastructure typologies

The GI provision across Welborne comprises a range of different GI typologies. The distribution of these typologies are shown on Figure 9.3.

- Welborne Park;
- Neighbourhood parks;
- SANGs;
- Semi-natural greenspace;
- Sports pitches;
- Allotments and community gardens;
- Highway buffers;
- Retained existing greenspace and vegetation; and
- Private gardens (not shown on figure 9.3)



## Welborne Park

### Strategy

Welborne Park will form the largest park within the application boundary of Welborne at 11.62 ha in size. Proposed as part of the larger GI network, it's central location strongly defines the character of the new settlement. In its current form, this 'green lung' is large enough in scale to create a sense of openness at the heart of the new settlement. Welborne Park will comply with policy and connect the development to it's surroundings whilst providing far reaching views and direct access to the community. The location of Welborne Park is indicated on Figure 9.3 on the previous page.

The fundamental purpose of Welborne Park is to provide a substantial area of open space within 1 km of almost all of the future residents at Welborne, and to link adjacent neighbourhoods and communities. The park has the potential to form a multi-functional green space providing a wide range of ecosystem, community, cultural, play and recreational amenities.

The following characteristics of Welborne Park are set out below in order to inform detailed design in response to policy and site context:

- Transitional character, from semi-natural and informal in the north, to urban in the south in response to landscape character;
- Broad area of chalk downland and meadow;
- In order to provide long distance open views, trees should be located predominantly around the park fringes;
- Permeable open edges to allow easy access and links across the park;
- A clear wide primary route along the length of the park, closed to vehicular traffic;



Figure 9.4 - Welborne Park indicative spatial layout

500m

Residential street layout indicative only

- Hierarchy of mixed-use footpaths and cycleways crossing the park and connecting to the primary route, including informal paths through grassland;
- Clear pedestrian priority road crossings to prevent severance of the Welborne park.

### Concept

As a defining feature of Welborne, this large park forms the centre piece of the development and crosses various character areas as identified in Chapter 4. It will transition from the enclosed woodland public space in the north (area 1), through the expansive downland via the Boulevard (area 2) to a large parkland area (area 3) and a more urban public space (area 4), adjacent to the District Centre in the south. The transition reflects the characteristics of the surrounding landscape, as seen in Figure 9.5.

The areas are linked by a primary linear route which runs the length of the park, turning the constraint of the gas pipeline into an opportunity, and creating an active connection.

The park is also bisected by Welborne Park Avenue, part of a wider east-west green link which connects the western edge of the development to the east, forming a key part of this important connection. Further information on this road is included after the description of our indicative design approach to the four core areas of Welborne Park as identified in Figure 9.5.

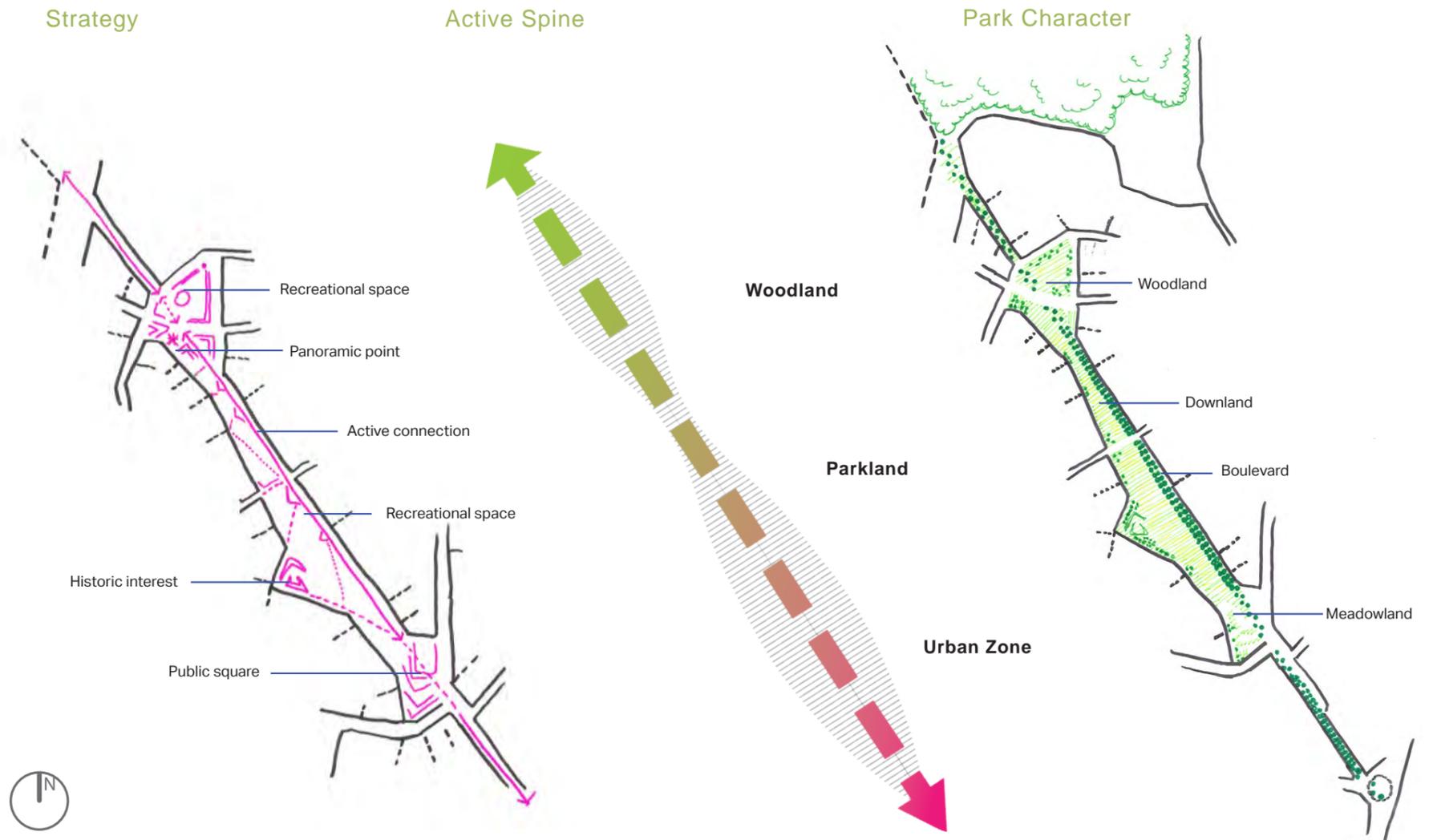


Figure 9.5 - Welborne Park concept

### Area 1: Woodland Neighbourhood

Area 1 is located at the northern end of the park and provides a direct green link to the Welborne Mile SANG and Dashwood SANG.

This part of the park is located within the Woodland Landscape Character Area (see Chapter 4) and therefore incorporates more trees than are generally found in the rest of the park. The trees would be located in formal avenues either side of the primary footpath that would be located centrally through the zone. This orientation will allow views along the footpath towards the south of Portsdown Hill and the landmark Spinnaker Tower in Portsmouth, creating a strong visual connection with the landscape beyond Welborne.

In order to maximise the opportunities for enjoying the long-reaching views south-east, there could be a panoramic viewing area which would take advantage of the higher topography. Adjacent to the viewing area, a plaza could invite visitors into the park from Knowle Road and along the Boulevard, with an opportunity to provide refreshments and activate the space.



Location plan for Area 1 of Welborne Park



Figure 9.6 - Welborne Park - Area 1 Woodland illustrative plan

Figure 9.7 - Sketch illustrating viewing terraces from the Woodland area in Welborne Park, looking towards Spinnaker Tower



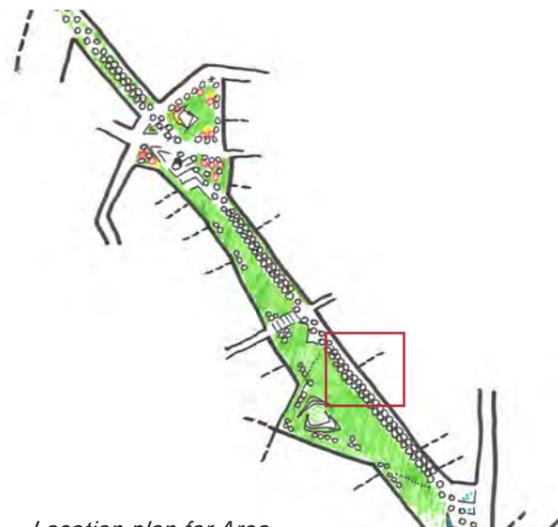
### Area 2: Boulevard

The Boulevard acts as the main active spine running the length of the park from north to south. The Boulevard takes into consideration the constraints of the gas pipeline and creates a unique and striking feature at the heart of Welborne.

Along the Boulevard, there will be provisions for cycling, running and walking. Benches will be located alongside the route to provide opportunities for rest, relaxation and contemplation. There will be small-scale pocket spaces that spill out of the spine into the parkland, creating spaces of activity and gathering.

Signage along the Boulevard will provide wayfinding and indicate links and routes to other areas of GI, and will provide information on circular recreational routes around Welborne Park. Other footpaths would lead off the Boulevard into the park and surrounding residential areas, and a pedestrian crossing would be provided from the south-eastern corner of the park across Welborne Way to the District Centre.

Swales could be incorporated to the outside of the tree avenues to provide sustainable drainage and ecological benefits.



Location plan for Area 2 of Welborne Park

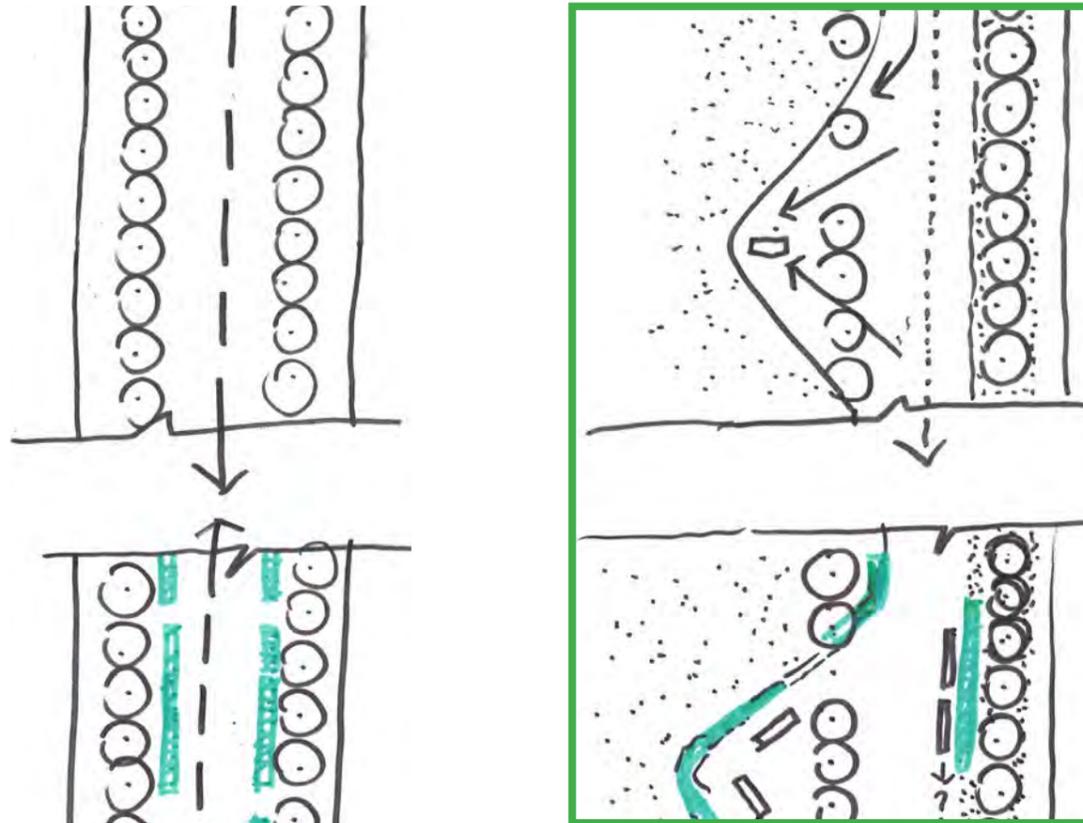


Figure 9.8 - Welborne Park - Area 2 Boulevard illustrative plan

Figure 9.9 - Sketch illustrating view of the Boulevard area



### Area 3: Downland

The area of parkland is intended to have a semi-natural, informal character. The land in this part of Welborne Park falls gradually from north west to south east allowing open views across the wider park to the south and towards Fareham and Portsmouth.

The parkland area may comprise of broad areas of rough chalk grassland interspersed with mown paths and picnic areas, and occasional copses or clusters of trees scattered around the perimeter. The character of this area would be highly open; a downland landscape for informal use set within meadow.

Within this area of the park there is a long barrow. This existing archaeological feature will be preserved and emphasised to create an educational space. The space could be enclosed by grassy sculptural mounds which would provide protection and an opportunity for reflection that includes interpretation on the cultural and historic interest of the long barrow.



Location plan for Area 3 of Welborne Park

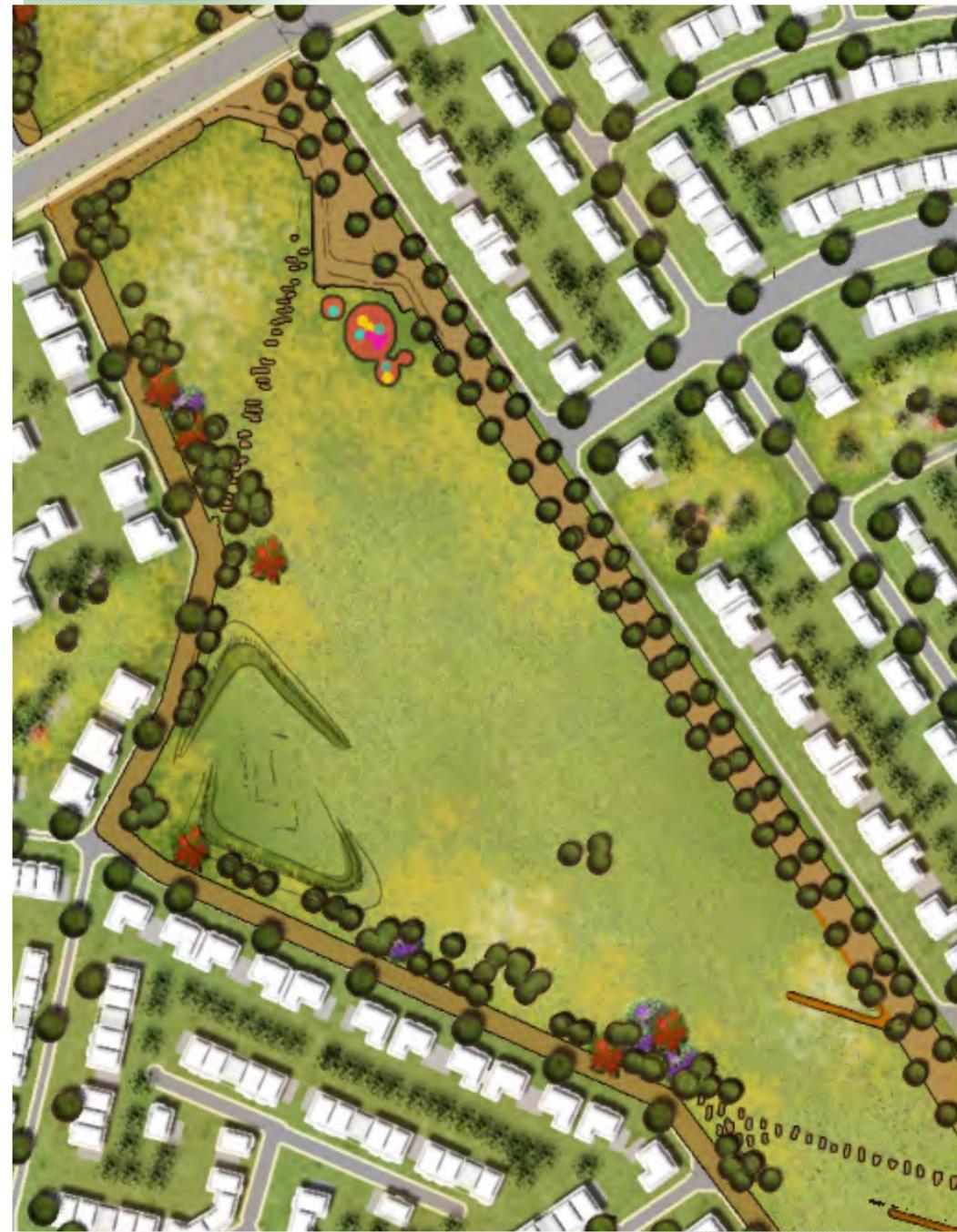


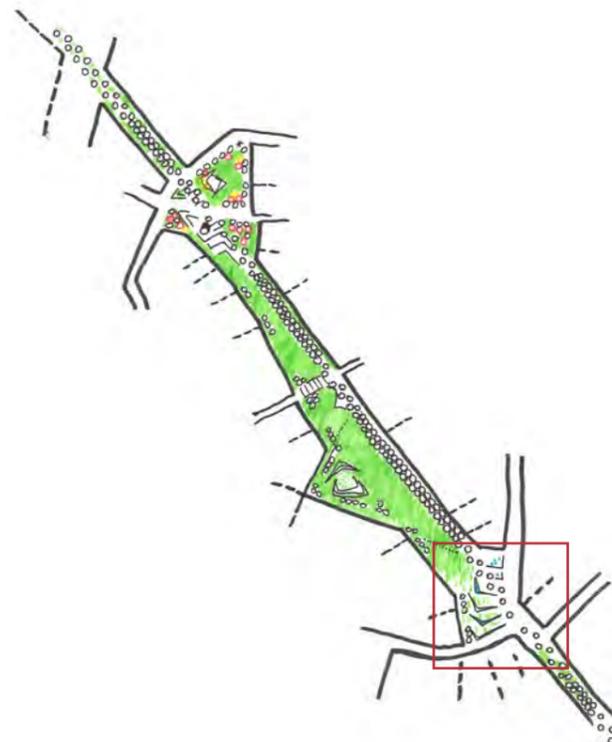
Figure 9.10- Welborne Park - Area 3 Parkland illustrative plan

### Area 4: Urban Zone

The Urban Zone is located in the south of the park, and is the closest area to the District Centre. Consequently, this area is likely to see the greatest intensity of use within Welborne Park.

This area will comprise high-quality public realm, which will incorporate a number of unique design features. The space will become a focal point for residents and visitors alike, and will form part of Welborne's strong identity. The area will be designed to facilitate a range of uses including public events and performances.

The avenue tree planting of the Boulevard could emerge again south of the Urban Zone and continue into the High Street, making a visual connection with the District Centre, and softening the built form.



Location plan for Area 4 of Welborne Park



Figure 9.11 - Welborne Park - Area 4 Urban Zone illustrative plan

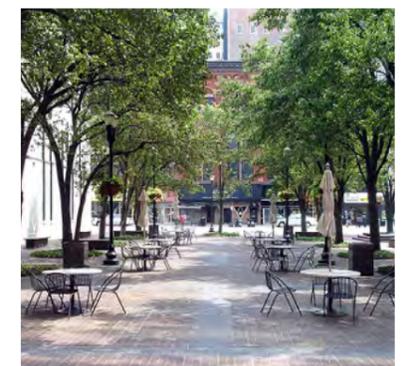
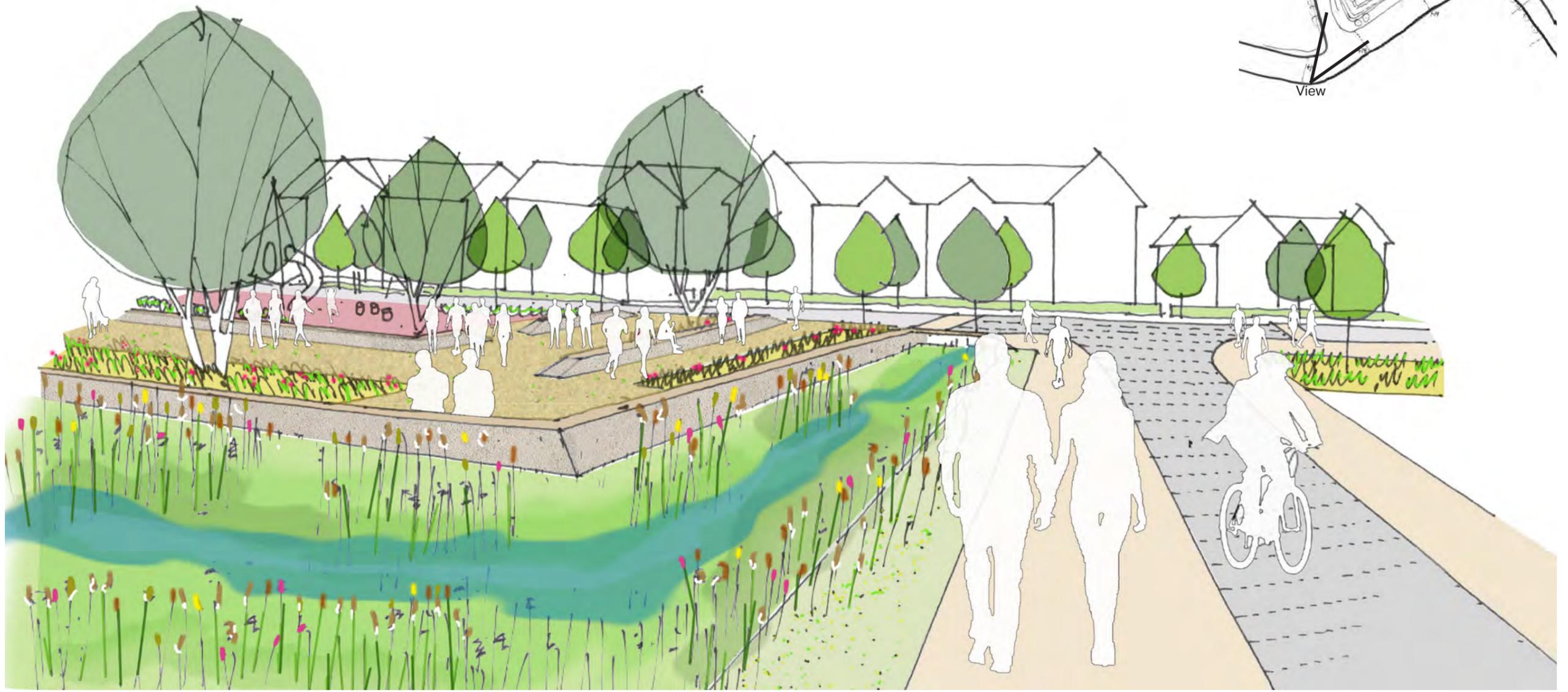
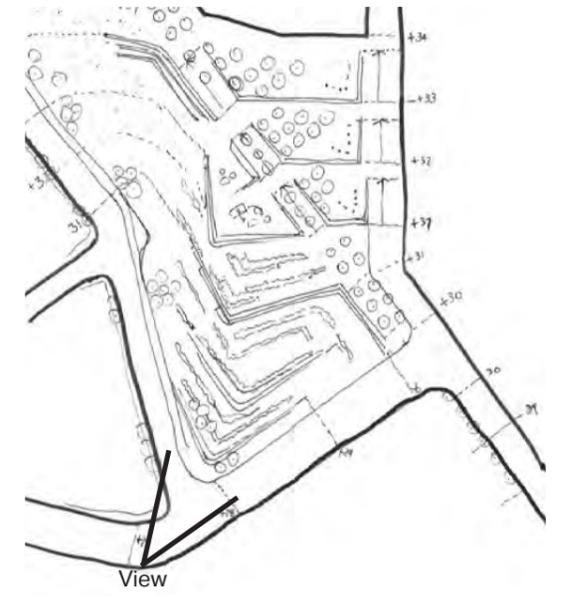


Figure 9.12 - Sketch illustrating view of the Urban Zone



### Welborne Park Avenue

The intention to provide a road crossing the park from east to west (Welborne Park Avenue) is for a number of reasons including the commitment to strong placemaking and design reasons.

Firstly, the scale of the proposed park needs to be considered. Figures 9.13 and 9.14 show how Welborne Park compares in size to Southampton Central Park and The Stray in Harrogate in comparison.

Southampton Central Park is a combination of Watts Park, East Park, Palmerstown Park, Houndwell Park and Hoglands Park. New Road which crosses from east to west ensures the parks feel well connected and at certain crossing points, pedestrians are given greater priority. The Stray in Harrogate is another example of a well-used centrally located open space with roads connecting communities to the north and south. Roads in both of these examples help to physically and visually connect communities around the edges of these large open spaces.

A road across Welborne Park is required to provide convenient connections between the substantial residential communities living on either side of the park. This is not just about providing more convenient movement for traffic but also necessary to support pedestrian and cycle connectivity. After dark in particular, cyclists and pedestrians, will feel safer using a route that is shared with vehicles than one that feels overly isolated within a park. Moreover, there are many examples of major and successful urban parks that are crossed by trafficked routes in ways that do not undermine their quality while at the same time positively defining the character of a place - two are shown here already and Wimbledon Common in southwest London is shown overleaf.

Our approach seeks to learn from these successful open spaces and carefully places a connecting route across the middle of Welborne Park. This enables the necessary



Figure 9.13- Southampton Central Park with the outline of Welborne Park overlaid



Figure 9.14- The Stray in Harrogate with the outline of Welborne Park overlaid

Source: Google Earth

east-west connection at a point where the crossing is at its shortest and which leaves two very substantial areas of parkland on either side. Through careful design the road can be well integrated with the park for all users. Moreover, the crossing route will be part of the central east-west link that will draw the green character of Welborne Park outwards and integrate the central park with the communities to the east and west. It can also be used to define the park and contribute to the space, rather than to bisect and compromise it.

The design-led approach to Welborne Park, as described above, includes a number of different zones throughout the park to give variety to this large open space at the centre of the development. The roads which cross both examples shown in Figures 9.13 and 9.14 form part of the design of the parks where there are clearly different zones. Welborne Park will also have different areas from enclosed woodland space in the north to a more urban park at the southern end by the District Centre, and the east-west route can help with visualising this transition.

In addition to placemaking and design reasons, the east-west route across the park will provide alternative vehicular connections for the residential communities on either side of the park, particularly emergency service access in case of an incident on either Westway, Dashwood Avenue or Knowle Road. It will also encourage east-west pedestrian and cycle movements with a trafficked route increasing the perception of safety through accommodating surveillance at night-time or in the darker winter months.

Whilst the design of Welborne Park Avenue will be ultimately governed by the design coding process and reserved matters submissions, the following key principles are envisaged to be essential to the detailed design:

- The design of the road should correspond to the openness of the Downland character area and should not interrupt views of the expanse of open space as much as possible. This would mean fewer trees along this route;

- North/south pedestrian connectivity between both halves of the park will be prioritised with raised tables for crossing points;
- The road will not form part of the primary road network;
- The road will feature pedestrian and cycle links east-west integrated into the park landscape; and
- The road will feature appropriate speed and a suitable carriageway alignment will be provided in order to encourage and facilitate low traffic speeds.

Following these principles, and learning from best practice examples, this approach will ensure that Welborne Park Avenue makes a positive place-making contribution to the character and identity of Welborne.



*Cannizaro Road crossing Wimbledon Common, SW London*

## Neighbourhood parks

The neighbourhood parks are intended to provide recreational green spaces across Welborne. The parks are strategically located to provide areas of green space within close proximity of all residents.

Ten neighbourhood parks are proposed for Welborne, providing a total of 10.6ha of park and amenity space within the application boundary (in addition to Welborne Park). Each neighbourhood park will be different, responding uniquely to the Welborne character area in which they are located (see Chapter 4).

Concept designs have been prepared for three of the key neighbourhood parks serving the northern, eastern and western residential areas: Dashwood Park, Roche Court Sports Park and West Park (locations shown previously on Figure 9.3). Dashwood Park is deemed particularly important as it will be the first neighbourhood park to be developed in the first phase at Welborne. The following pages set out a more detailed indicative concept and layout for Dashwood Park, with initial concepts for the other two parks.

### *Dashwood Park - concept design*

Dashwood Park is located on the south eastern edge of Dashwood SANG in the north of Welborne, north of the Village Centre, with residential areas to its southern and eastern sides. It is located in the Woodland Landscape Character Area and covers an area of 2.41ha, making it the largest of the neighbourhood parks.

Dashwood Park is strategically located between the existing woodland of Dashwood and the built form and urban character of the housing and Village Centre. The area provides the potential to provide connectivity with the wider green infrastructure routes and the Welborne Greenway and acts as a space to transition from urban to woodland

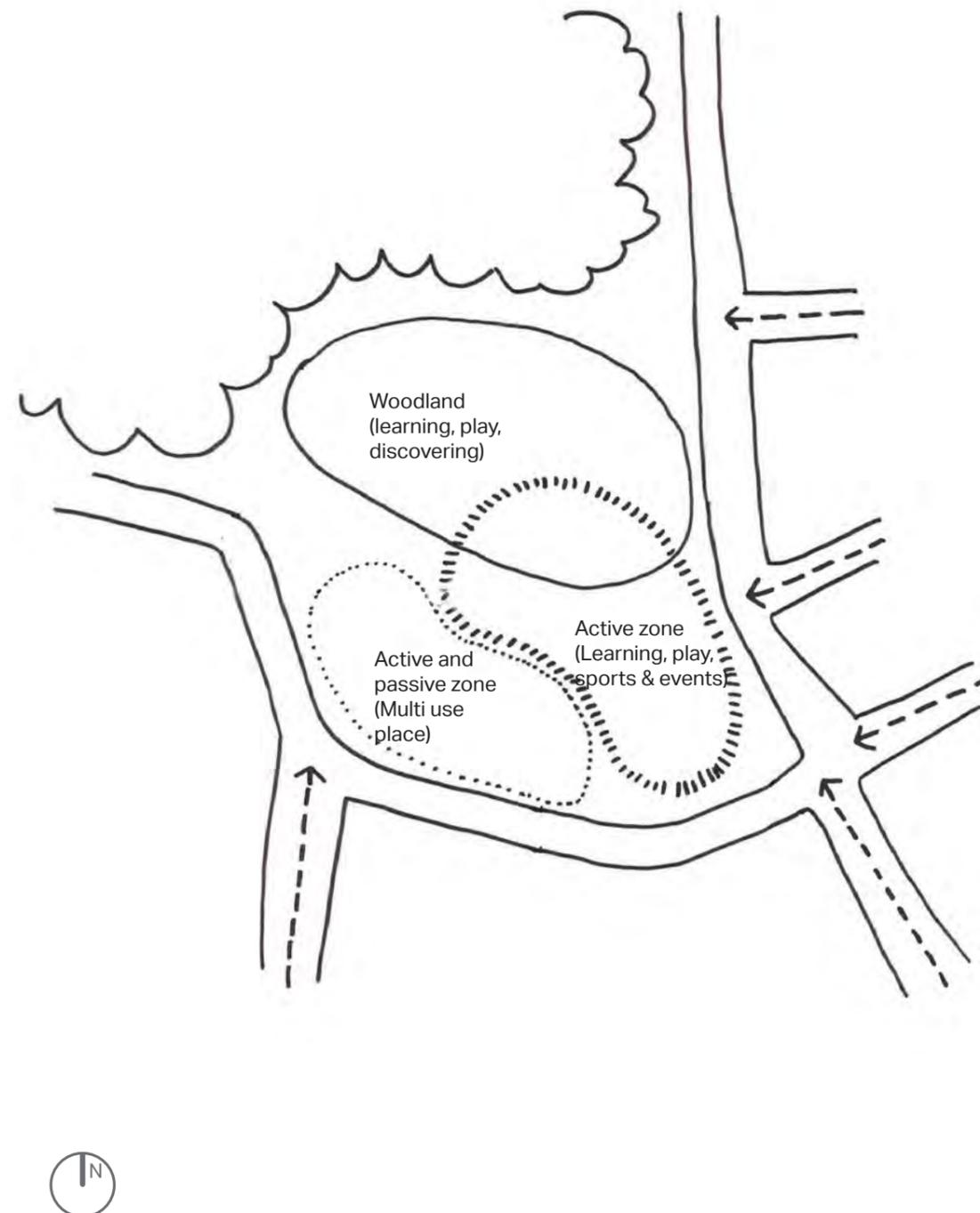


Figure 9.15 - Dashwood Park strategy and character areas

## Neighbourhood parks

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### *Dashwood Park - concept design*



Figure 9.16 - Dashwood Park illustrative sketch

### 1. Discovery garden

Dashwood Park could include a discovery garden, promoting exploration and play within a woodland setting.



Figure 9.17 - Dashwood Park discovery garden

## 2. Woodland play

Woodland play areas could be provided to encourage informal opportunities to interact with nature through learning, play and sport.

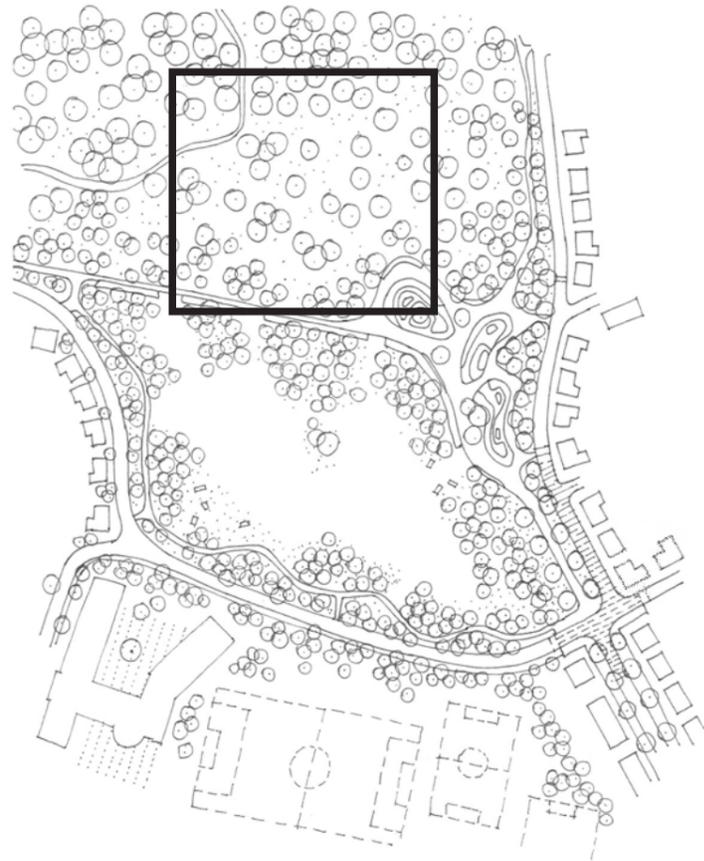


Figure 9.18 - Dashwood Park woodland play



### 3. Recreation

Towards the southern end of the park, closer to the residential neighbourhoods, this area could be kept as an open lawn area for general recreational use.



Figure 9.19 - Dashwood Park recreation area

### Roche Court Sports Park - concept design

Figure 9.18 illustrates an indicative general arrangement of the sports complex. The arrival destination is located in the centre of the park which includes parking for visitors to the sports facilities. All-weather tennis courts and a full sized 3G artificial turf sports pitch are located to the west, and 5-a-side football pitches to the east.

The design of the Roche Court Sports Park has taken into consideration the guidelines specified by Sport England regarding pitch layout and orientation.

Retaining some existing woodland as well as proposed tree planting will provide a buffer to the motorway and the eastern edge of the site. Tree avenues along the circulation route around the site will enhance the landscape setting of the sports pitches.



Figure 9.20 - Roche Court Sports Park indicative spatial layout

### West Park - concept design

West Park could provide sports facilities including a small pavilion for services to support the sports functions. The sports provision and pavilion will be nestled within the semi-natural green space settlement buffer to Funtley. Two options have been developed for the sports provision in West Park with an emerging preferred option, after initial discussions with local residents being for a cricket green as indicatively shown in Figure 9.19.

The cricket pitch is located in the centre of the park, with some seating around the perimeter. A pavilion and terraced seating could overlook the pitch to the east, with a car park situated behind.

The pitch is integrated into the settlement buffer between Welborne and Funtley. Further planting on the northern half of the pitch provides further landscape integration.



Figure 9.21 - Illustrative sketch plan of cricket green option for West Park

## 9.2 Multi-functional role of GI

### *Sustainable drainage systems*

The surface water drainage strategy for Welborne is to discharge surface water runoff to ground by infiltration via a combination of SuDS components. A small number of development parcels will discharge surface water to existing surface watercourses where ground infiltration is not possible.

It is proposed that some SuDS components could be incorporated within the GI at Welborne to increase the multi-functionality and benefits of green space. The benefits of SuDS in GI are wide ranging including improving visual amenity, enhancing biodiversity, supporting education, and maximising the use of designated green space.

Further detail is provided in the Waste Water and SuDS Strategy which is submitted as part of this OPA.

### *Providing for play*

A range of designated, non-designated, sports and community hub facilities will be provided at Welborne, and will incorporate natural play, traditional playgrounds, intermittent play, outdoor gym equipment, and sports pitches, courts and greens. Play and sports facilities will be distributed across the GI network at Welborne, and will be connected with footpaths and cycleways to ensure all residents have convenient and safe access to recreational opportunities.

### *Internal green network*

There is opportunity for the GI at Welborne and its various land uses to be connected by an integrated network of green trails, links and corridors designed to connect the different elements of on-site GI, encourage more sustainable travel and exercise, promote biodiversity and enhance the appearance and verdant characteristics of Welborne.

The layout of the proposed internal GI network is focused around maximising connectivity across Welborne between

residential land, and employment and education land, as well as connecting the District Centre, Village Centre and Community Hub. It will comprise the following route types to provide suitable access for everyone:

- Welborne Greenway - perimeter trail: a c.10km trail broadly following the perimeter of Welborne and incorporating a shared cycleway and footpath;
- Accessible green corridors: primary routes through Welborne located away from roads through areas of greenspace;
- Green links: dual-use cycleways and footpaths, segregated from roads behind belts of vegetation or avenues of trees; and
- Residential streets: a hierarchy of streets which provide connectivity across Welborne.

Further detail on all of these route types is provided in the Open Space and Green Infrastructure Strategy.

### *Woodland buffer planting*

Native, biodiverse planting will help integrate the new development into its surroundings, blending adjacent landscape characteristics with the new town of Welborne. The planting will incorporate large to medium scale trees, species-rich hedgerow, woodland areas and grassland.

It has a number of functions including:

- Habitat and biodiversity creation and enhancement;
- Visual screening;
- Character and physical screening; and
- Integration of the development.

Woodland buffer planting will be located alongside the motorway, the Welborne Approach, Broadway, the High Street and Knowle Road.



*Street tree planting adds to the verdant quality of a town*



*Retention basin, a SuDS component*

## 9.3 Central east-west green link journey through Welborne

The proposed east-west green link will be approximately 15 metres wide. The new brideway provides cycle and pedestrian routes, enhances habitats, accommodates SuDS and connect community facilities. It also includes a vital link across Welborne Park.

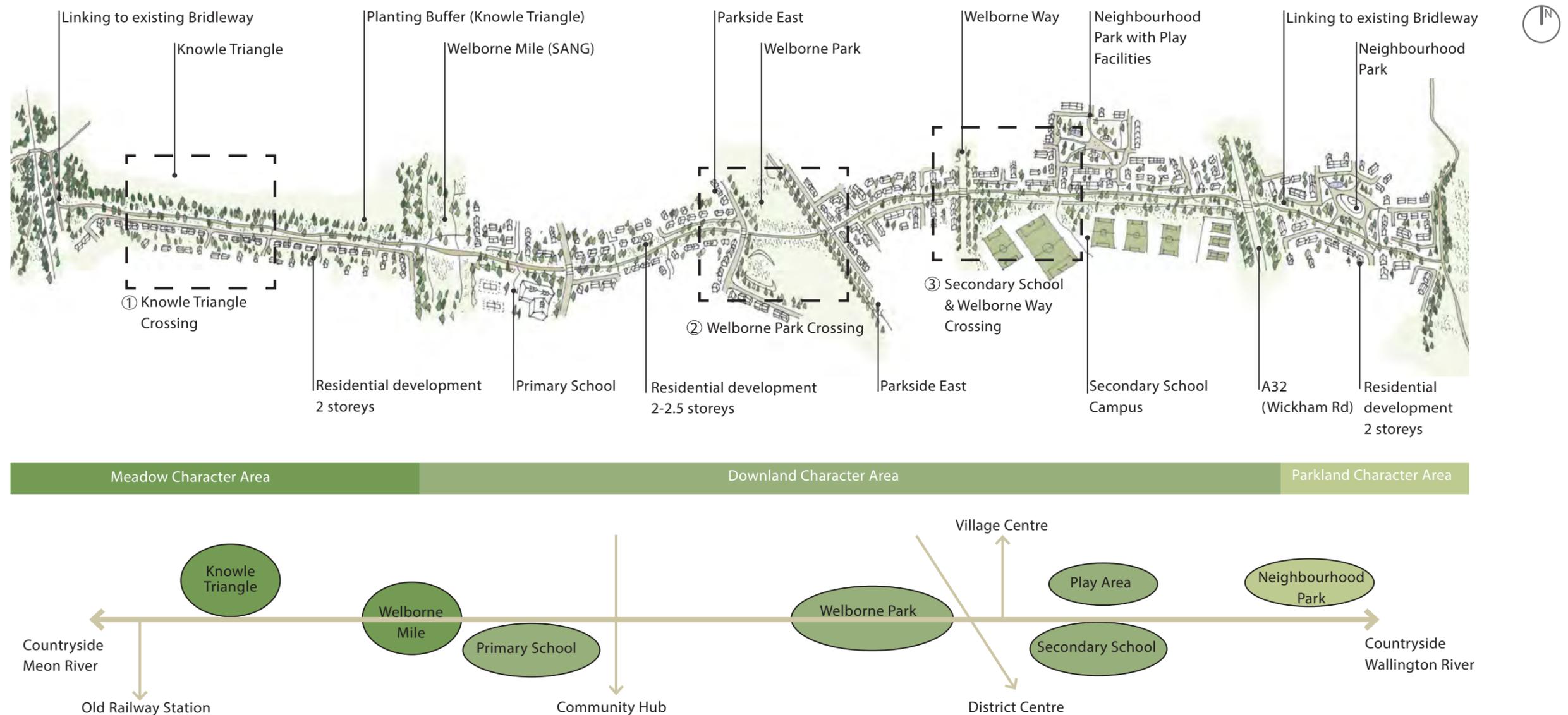
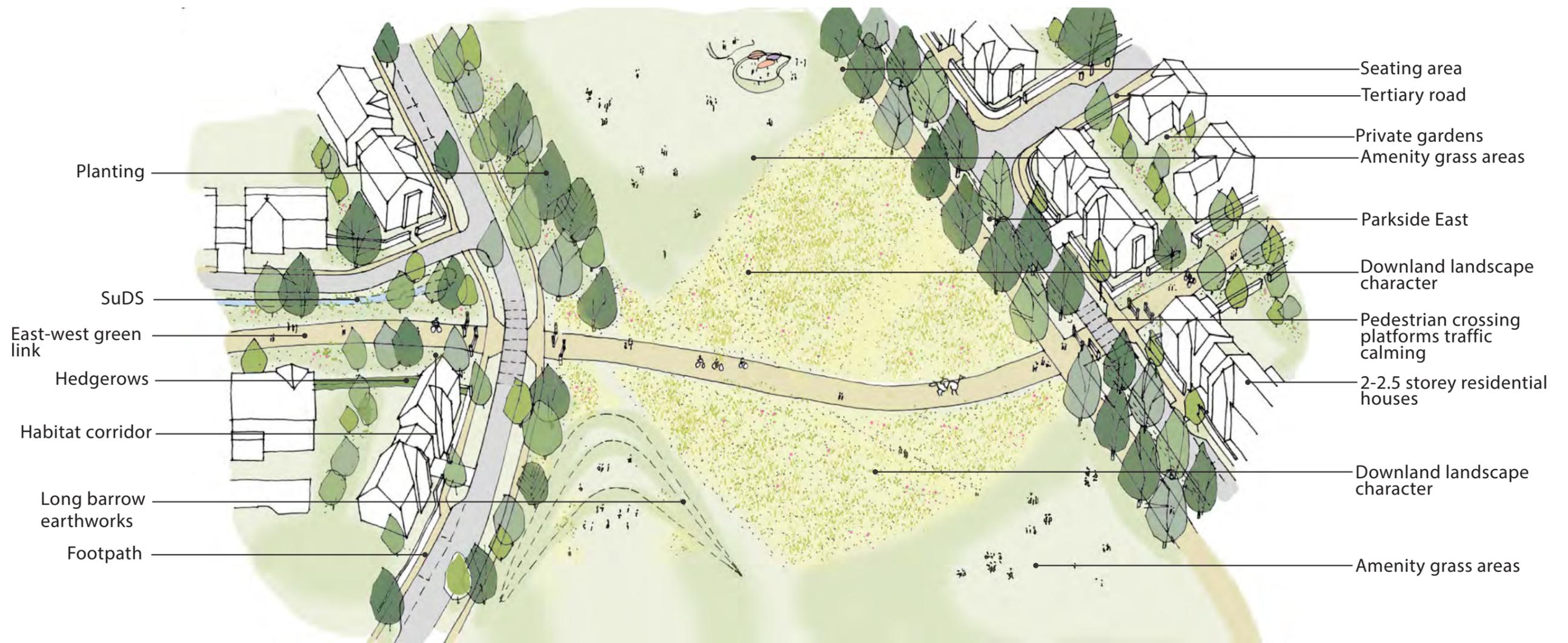


Figure 9.22 Illustrative sketch of the central east-west green link



Figure 9.23 - Illustrative sketch of a section of the central east-west green link, on the south side of Knowle Triangle



Area 2 in Figure 9.22

Figure 9.24 - Illustrative sketch of the east-west green link journey through Welborne Park (Welborne Park Avenue)



Area 3 in Figure 9.22

Figure 9.25 - Illustrative sketch of the east-west green link journey through the secondary school

## 9.4 Settlement buffers

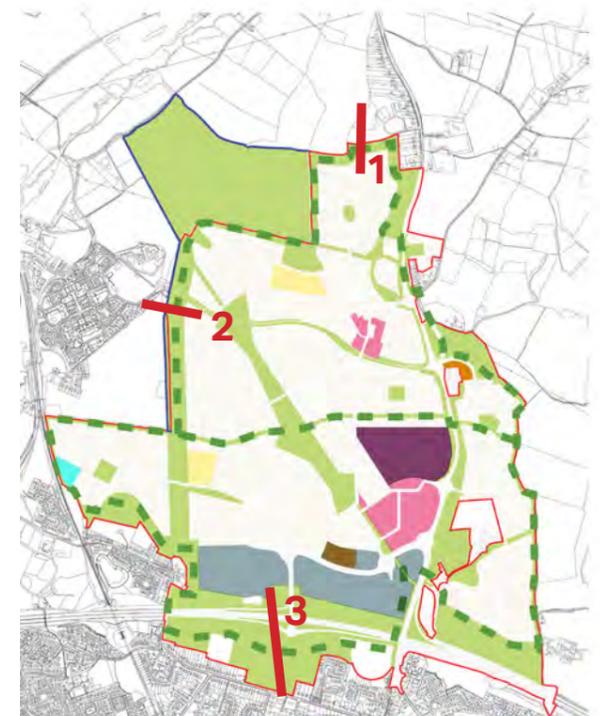
Policy WEL5 Maintaining Settlement Buffers in the Welborne Plan requires the development proposals to “respect and maintain the physical and visual separation of Welborne and its adjoining settlements (Fareham, Funtley, Knowle and Wickham) to protect the individual character and identity of each of these settlements” (page 35).

The proposed settlement buffers are in accordance with Policy WEL5 as follows:

- Wickham;
- Knowle (the Welborne Mile);
- Fareham Common; and
- Funtley.

Illustrative sections of the buffers are set out on the following pages with indicative widths of the buffers shown to demonstrate that the visual and physical separation required will be achieved. Note that the distances for front gardens and homes will be confirmed through the detailed design stage.

Figure 9.25 shows an illustrative section of the proposed buffer at Wickham which includes Blakes Copse. The section shows housing on the northern edge of the site facing onto Blakes Copse and the agricultural land beyond, with the SNG providing over the minimum requirement of 50m width separation.



Section location key plan

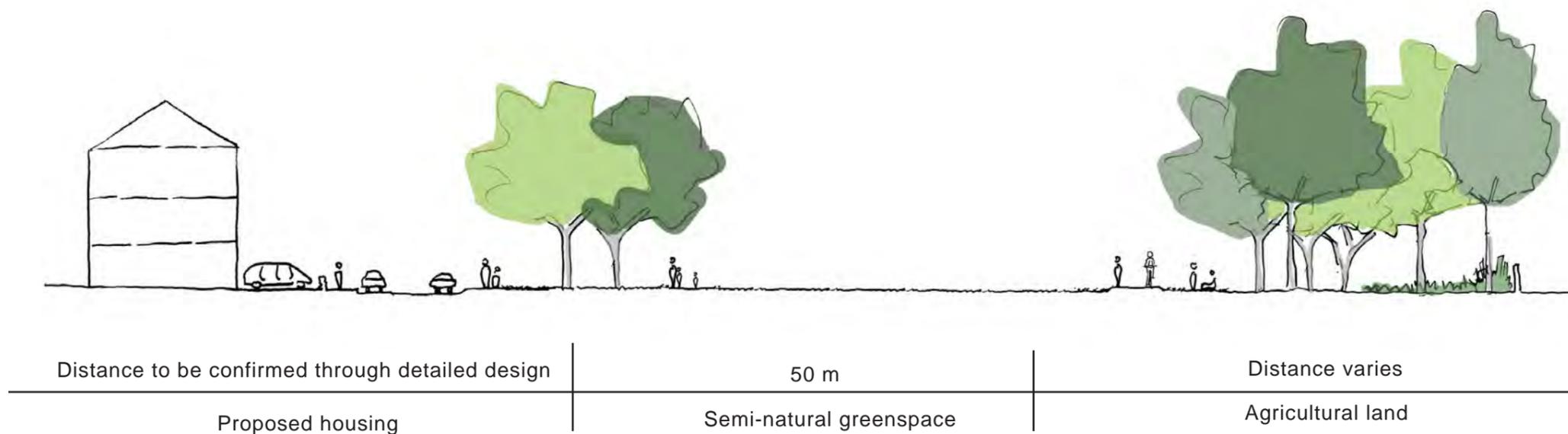


Figure 9.26 - Illustrative section of the Wickham settlement buffer - see Location 1 on the key plan

Figure 9.26 shows an illustrative section of the Knowle settlement buffer on the western side of Welborne. The buffer is provided by a key part of the development's SANG provision, the linear Welborne Mile which connects Dashwood in the north to Fareham Common in the south. This provides Knowle with a particularly wide settlement buffer which significantly exceeds the policy requirement of a minimum of 50m in width.



Figure 9.27 - Illustrative section of the Knowle settlement buffer (the Welborne Mile) - see Location 2 on the key plan

Fareham Common, located between the M27 and the rear of the existing properties on Kiln Road and Potters Avenue, provides a settlement buffer between Welborne and Fareham to the south as shown below in Figure 9.27.

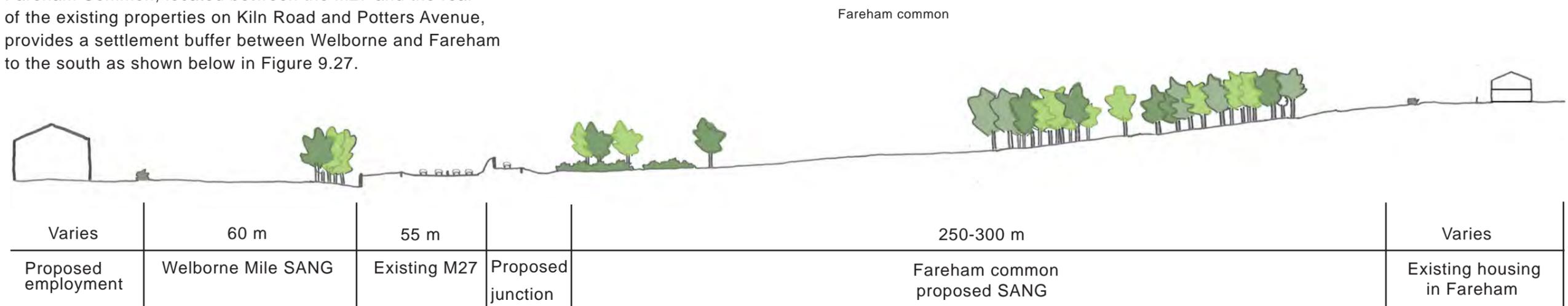


Figure 9.28 - Illustrative section of Fareham Common - see Location 3 on the key plan

Figures 9.28 and 9.29 below show two illustrative sections of the Funtley settlement buffer in the southwestern corner of Welborne. The top section shows the width of the settlement buffer in its eastern half, the bottom shows the buffer at its widest part (see numbers 3 and 4 on the key plan to the right).

The top section shows a buffer of SNG at a width of 52.5m whilst to the west, the bottom section has a width of 130m due to the provision of a new park and cricket pitch - West Park - in addition to the existing Funtley Recreation Ground, more than exceeding the 50m requirement as set out in Policy WEL5.



Section location key plan

**Funtley buffer - section 3**



Figure 9.29 - Illustrative section of the Funtley settlement buffer including the semi-natural greenspace - see Location 4 on the key plan

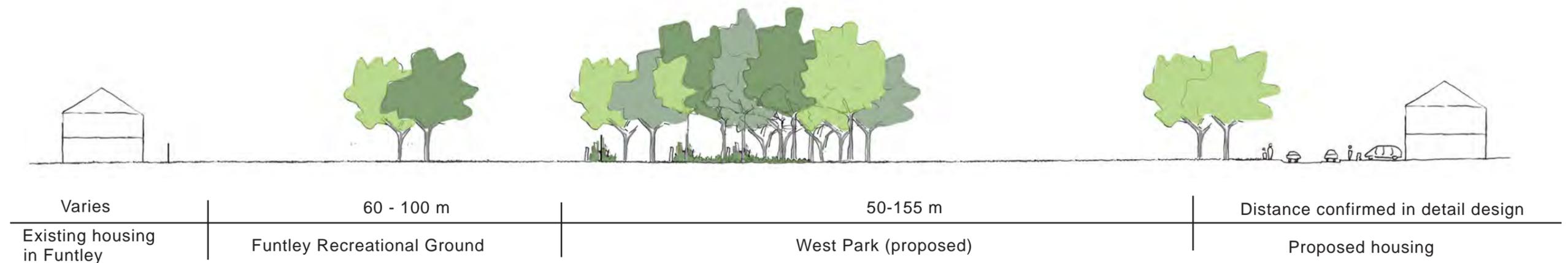


Figure 9.30 - Illustrative section of the Funtley settlement buffer including West Park - see Location 5 on the key plan



# 10. ACCESS & MOVEMENT FRAMEWORK

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## 10.1 Introduction

This section sets out the proposed access arrangements for Welborne. The existing site context, as set out earlier in Chapter 1 Introduction, has already been covered extensively through the planning policy framework prepared by FBC and is summarised in Part 2 of this DAS (Chapter 11 Site Analysis). We have established our vision for Welborne in Chapter 2 Vision and Objectives and supporting principles in Chapter 3 Strategic Development Principles. It is the aim of this chapter then to set out a series of access principles based on the above, which inform the movement and access framework for Welborne.

This section should be read in conjunction with the Transport Assessment and Transport Strategy submitted alongside this DAS as part of the OPA.

Designs for the new M27 Junction 10 have been produced by Atkins, who are acting on behalf of Hampshire County Council, who are the Project Sponsors for the scheme.

## 10.2 Access principles

Our vision for Welborne seeks to create 'an attractive and well planned community' with good connections between homes, jobs, open space, shops and community facilities, and existing nearby settlements. Our access principles also take into account principles and policy requirements as developed by FBC in the Welborne Plan including: Policy WEL2 High Level Development Principles; Policy WEL23 Transport Principles; WEL24 Strategic Road Access; WEL25 Local Road Transport Access; WEL26 Public Transport; WEL27 Encouraging Sustainable Choices; and WEL28 Walking and Cycling.

The high level access principles are as follows:

- Integrating the access and movement infrastructure as an essential part of Welborne's layout - for example, Welborne Way as the main north-south primary route through the development which also connects the District and Village Centres;
- Prioritising walking, cycling and public transport over private cars by creating walkable neighbourhoods to encourage a high level of self-containment, with homes located close to local services, schools, jobs and open spaces. This includes ensuring that the BRT route runs along the main routes through the development and connects the key destinations to one another (i.e. the schools and centres);
- Creating a clearly defined street hierarchy which enables users to easily understand the function of the route;
- Providing well designed routes to ensure clear wayfinding and safe and convenient connections between homes and key destinations within Welborne. This includes a public realm and wayfinding strategy to ensure traffic can navigate easily from the new Junction 10 of the M27 to the District Centre and the rest of the development;
- Ensuring that access to/from the site will mainly be from the south via improvements to the A32 and Junction 10 of the M27. The movement and access framework will also be designed to minimise the traffic impacts on the local and strategic road network by providing a central primary route running north-south through the site which connects the key destinations within Welborne - i.e. the Village and District Centres;
- Improving east-west movements across the site, particularly across the A32;
- Improving pedestrian and cycle connections to existing settlements via improvements of existing footpaths, cycleways and bridleways and the provision of new ones; and
- Ensuring equal access for all to street, public spaces, blocks and buildings.

## 10.3 Factors influencing design

### Stakeholder involvement

Buckland's consultant team has maintained a ongoing dialogue with Hampshire County Council (HCC), FBC and other key stakeholders regarding the proposals for Welborne and the measures required to maximise its sustainability and integration. This dialogue has continued as the proposals have developed, displaying a proactive and collaborative approach to working with the local planning authority, as desired by the National Planning Policy Framework.

Pre-application discussions took place between WSP | Parsons Brinckerhoff (representing Buckland) and HCC, and with Highways England. A scoping note was prepared by WSP | Parsons Brinckerhoff and submitted to HCC and Highways England. In addition, public information events were held in July and November 2016 (see Chapter 10 of this DAS) to provide information about the proposed scheme to residents in the surrounding area. Since the application was submitted, further discussions have taken place with the key stakeholders and revisions to the transport proposals.

### Travel demand forecasts

Trip generation, distribution and assignment for Welborne have been derived using HCC's Sub Regional Transport Model (SRTM), carried out by SYSTRA on behalf of HCC and Solent Transport (a partnership between HCC, Portsmouth City Council, Southampton City Council and Isle of Wight Council). The model considers the impact of potential and committed development in the region by providing an estimate of future traffic volumes along selected roads, based on assumptions made on where people may live, where they wish to travel to, and their chosen mode.

The trip distribution and assignment results for 2036 - assuming that Welborne has been fully built out by then - indicate that the majority of highway trips are to/from Portsmouth, Fareham and the near west (Hedge End and Eastleigh). For public transport, the majority of trips are estimated to be within Welborne, or to/from Fareham, Portsmouth and Southampton.

## Traffic impact assessment

The STRM findings have highlighted the following:

- There would be a general reduction in traffic flows along the A32 to the north of the site, due to the provision of the all moves M27 Junction.
- The all moves M27 Junction 10 will allow traffic to access north Fareham directly, rather than having to travel to/from M27 Junction 11. This will remove U turn manoeuvres from M27 Junction 11 for traffic travelling eastbound. For westbound traffic, the new Motorway junction will remove the need for traffic to perform U turns at A32 Pook Lane.
- With the development, there will be an increase in traffic volumes along the A32 Wickham Road south of the development site to North Hill and Park Lane. This is due to the re-routing of traffic in Fareham accessing the new all moves M27 Junction 10, and also traffic from Welborne accessing Fareham.
- With the development, it has been shown that there would be no queuing back from the all moves M27 Junction 10 back onto the M27 mainline.
- The new on site highway infrastructure to be constructed as part of the development is forecast to operate within capacity. This includes the new roundabouts to be provided on the A32.
- During peak times, traffic flows along the A32 to the north of the M27 and along Welborne Way are broadly similar. The new on site infrastructure therefore provides a choice of routes for the travelling public, adding resilience to the highway network.
- Through the closure of Pook Lane at its western junction with A32, traffic flows on this link will be removed.

## Design standards

The new all moves M27 Junction 10 has been designed based on the Design Manual of Roads and Bridges (DMRB) standards. The main roads and bridges will be designed to adoptable standards.

## 10.4 Proposed transport facilities

The development at Welborne will provide a range of on-site and off-site transport facilities. These include:

- Delivery of an all-moves M27 Junction 10 with new westbound on and off slips and new eastbound off-slip, providing access directly to / from Welborne;
- Construction of an east – west route connecting the all moves M27 Junction 10 to the A32, incorporating two signalised crossings to connect the employment area and areas to the south of the development with the District Centre and schools;
- Construction of three new roundabouts on the A32 Wickham Road and improvements to the A32 / Knowle Road roundabout to provide access into the site;
- Provision of bus priority measures and funding of a Bus Rapid Transit (BRT) service between Welborne and Fareham Railway Station / town centre;
- Closure of Pook Lane to through traffic to prevent traffic from using this route to reach the wider area;
- Dedication of land within the site for a future rail halt on the Easteigh to Fareham railway line;
- Development of a masterplan that prioritises and encourages walking and cycling within Welborne through a network of permeable and interconnected routes;
- Construction of a signalised cycle / pedestrian crossing of the A32 to link the community to key facilities;
- Upgrading of relevant PRow that pass through the site to bridleway status and provision of formal surfacing on key routes to on-site and off-site facilities;
- Construction of a signalised equestrian / cycle / pedestrian crossing of the A32 to link the community to key facilities, the wider Fareham area together with the improved rights of way network;

- Provision of improvements to pedestrian and cycle facilities in Funtley;
- Delivery of off-site cycle routes to Wickham along the A32 and Mayles Lane (if located within the public highway);
- Delivery of off-site cycle routes to Fareham Railway Station and town centre;
- Upgrade of existing routes connecting the site to Henry Cort Community College via Highlands Road;
- Conversion of the A32 / North Hill / Furze Court roundabout to traffic signals as a capacity improvement scheme;
- Completion of junction improvement works along the A32 north and south of the development;
- Completion of link improvements along the A32 south of the development to remove existing pinch points;
- Provision of funding towards road safety schemes at off-site junctions within the vicinity of Welborne.
- Completion of a Residential and Workplace Travel Plan to encourage residents and employees / employees of commercial premises to travel by sustainable modes of transport

Further detail on these are set out in the Transport Assessment, Walking and Cycling Strategy, Public Transport Strategy and Framework Residential Travel Plan which accompany this DAS as part of this revised OPA.

One of the most important defining features of Welborne will

## 10.5 Street network

be how well connected it is in terms of its spatial layout. Residents will be able to easily walk or cycle along a range of routes from their homes, centres, school or work. These routes also connect to one of the many open spaces, and to neighbouring settlements.

The internal street network will be designed to accommodate all modes of transport - walking, cycling, cars and buses - and ensure that homes, jobs, shops and community facilities can be easily reached by its residents. Streets will be well designed and generously proportioned and provide an attractive setting for new homes, and will provide a range of convenient walking and cycling routes connecting homes to local facilities, centres, schools and open spaces. Further detail has already been set out in Chapter 3 of this DAS.

The street network has also been designed in such a way to encourage vehicular traffic north-south through the site, via the Village and District Centres towards Junction 10 of the M27. This will provide a route that is complementary to the A32, which will offer options for traffic in order to reach M27 Junction 10, adding resilience to the highway network.

The proposed street structure can be divided into three main types of street as follows:

- Primary - main arterial routes through and to the development;
- Secondary - local distributor routes through the site; and
- Tertiary (or minor) - internal access streets.

These are shown on Figure 10.1 on the opposite page.

The following section briefly describes the role and function of these main types of streets.

### Primary streets

The primary street network will comprise:

- **Welborne Way** - this will be the main north-south route through the site, connecting the A32 in the north at Welborne Way roundabout to M27 Junction 10 in the south. This is the principal street within Welborne and will serve the Village and District Centres. At its southern end it becomes the **High Street** within the District Centre.
- **North Drive / Westway / Dashwood Avenue** - this is the east-west loop through the site, connecting the existing Knowle Road in the northern part of the site to the A32 in the south at Central Avenue roundabout. This primary route will serve the District Centre as well as the Community Hub in the western part of the site.
- **Albany Drive/Roche Court Drive/re-aligned Pook Lane** - this will be the primary north-south route through the eastern residential area.

### Secondary streets

The secondary streets within Welborne will connect the larger residential areas to the primary street network and will include:

- **Welborne Park Avenue** - this is an important east-west link across Welborne Park which connects the western residential areas to the eastern areas, and to Welborne Way. This is a key route which is important to ensure the cohesiveness of the residential development and to ensure a safe and well-lit walking and cycling route through Welborne Park in the evenings.

- **Dashwood Avenue** - this is the primary east-west route through the northern residential area.
- **Dashwood Boulevard** - this is a key route within the northern residential area connecting the Village Centre to Dashwood Park in the north.
- **North Woods Avenue** - this leads off the primary road network into the North Woods residential area in the northernmost part of the site.

### Tertiary streets

The local streets will be internal roads connecting to secondary routes, but also sometimes the primary network, to provide local access to residential areas. Many of these will provide safe and convenient pedestrian and cycle routes to the centres, schools, open spaces and employment areas.

There are also a number of lanes within this category along the edges of the development such as along the northwestern edge of the Dashwood character area, whose main function will be to provide access to homes on the edge of the site.

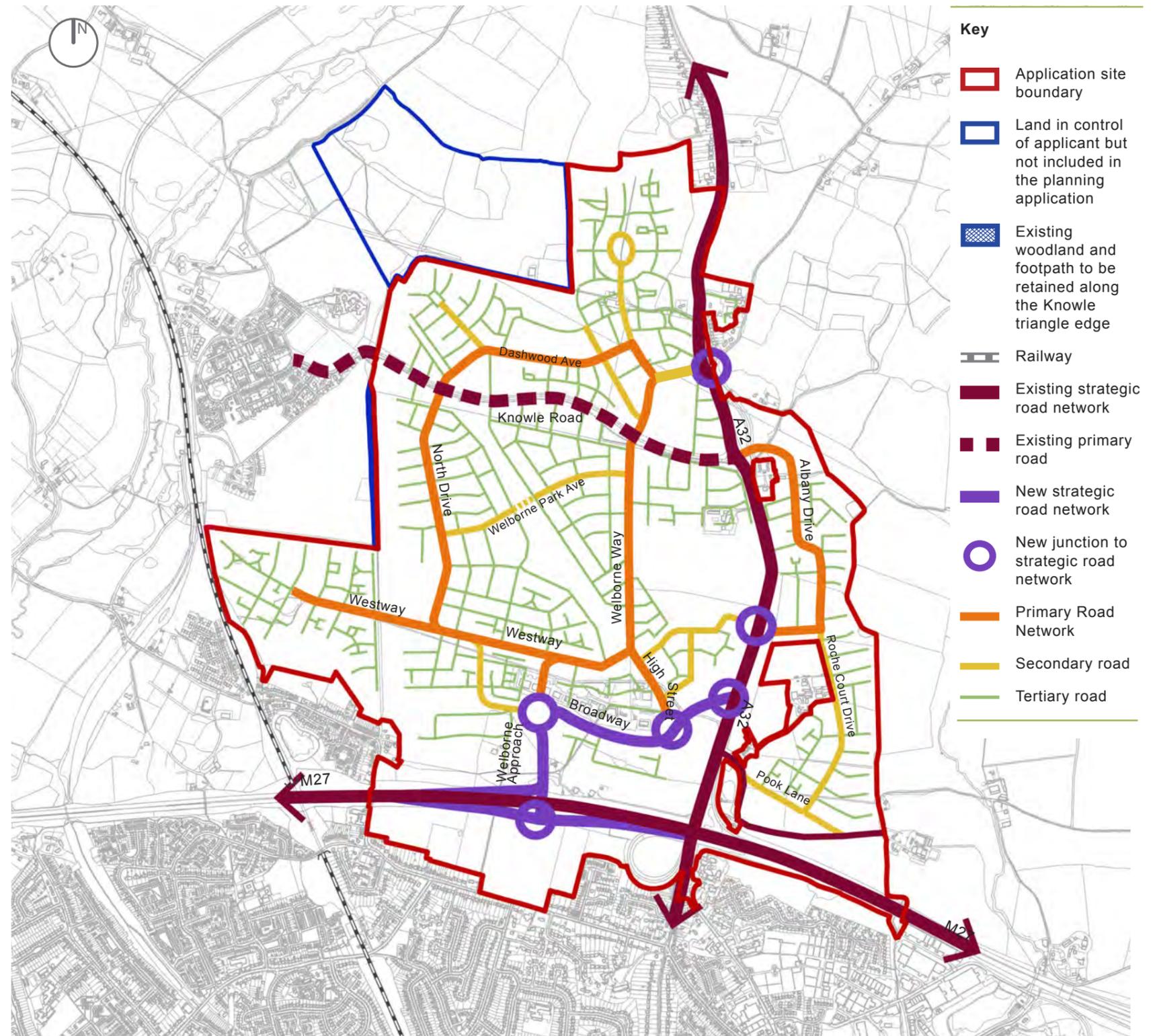


Figure 10.1 Street hierarchy

## 10.6 Street design

The preceding section set out the role and functions of the different types of streets; this section sets out their characteristics in design terms. Streets are one of the most important features of any development as they perform a number of functions. Streets act as movement corridors and public spaces, and they define the character and setting of a development. Overarching design principles regarding Welborne's streets - particularly its residential streets - have been previously established in Chapter 3.

This section includes indicative street sections of typical - and some atypical - primary, secondary and tertiary roads. This includes indicative spatial dimensions. Further information on the design principles of the streets will be contained within the Welborne Street Design Manual, which is being prepared in discussion with Hampshire County Council as the Highways Authority and will be appended to the Design Codes.

Figure 10.2 shows an illustrative section of a typical primary road within Welborne. These primary streets are the widest streets, capable of accommodating on-street parking with footways and tree verges on either side and with taller buildings than on other routes.

There are a number of exceptions to this design however for the most important routes within the development including Westway and Welborne Way.

Westway is the primary east-west loop through the site connecting the District Centre and Welborne Way to Knowle Road, serving the western half of the development. Its features, as indicated in Figure 10.3, include:

- a carriageway capable of accommodating a single lane of traffic in either direction with shared footway and cycleways in both directions;
- a tree verge on both sides; and

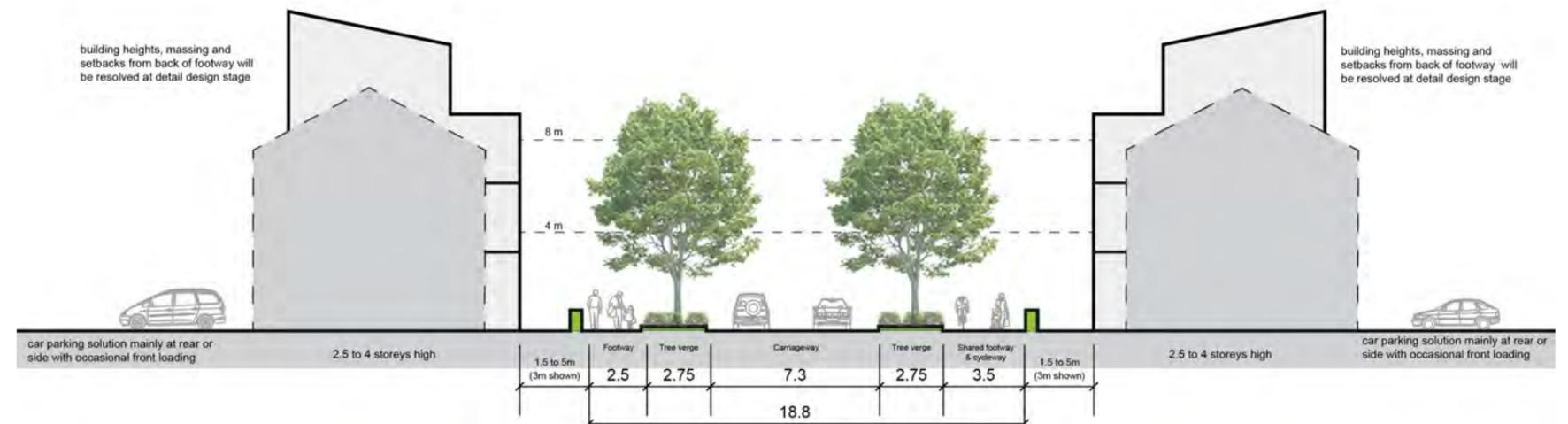


Figure 10.2 Illustrative primary road section

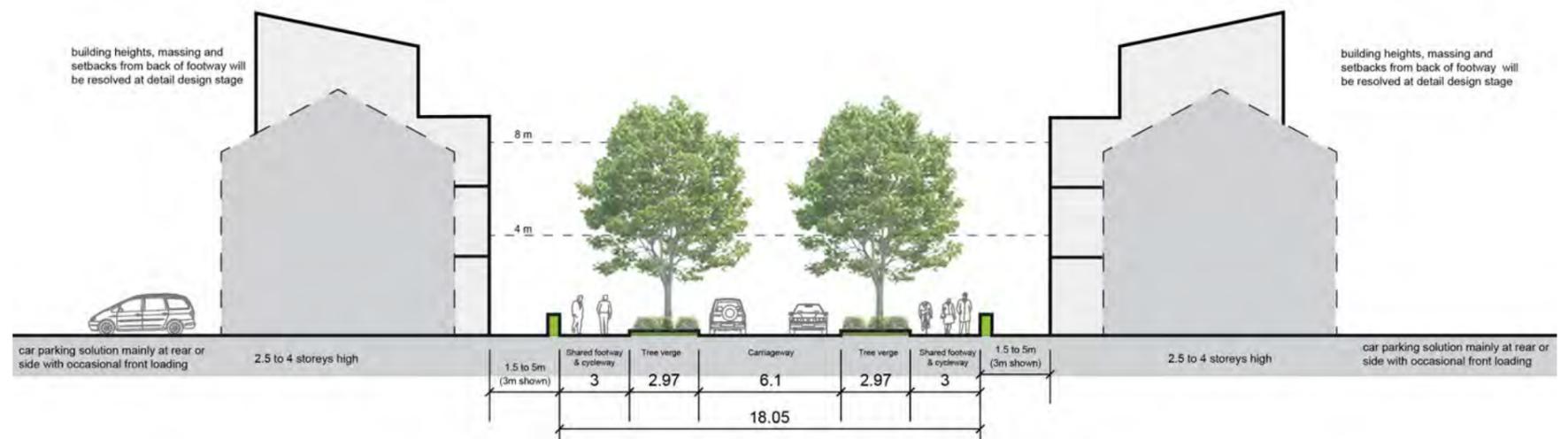


Figure 10.3 Illustrative Westway section

- private front gardens with parking to the rear or side of properties.

Figures 10.4 and 10.5 shows illustrative sections of Welborne Way, the main north-south route through the development. Its characteristics will include:

- a generous carriageway with dedicated cycleways in both directions;
- a tree verge and footway on the both sides; and
- taller buildings between three to five storeys high fronting onto the road.

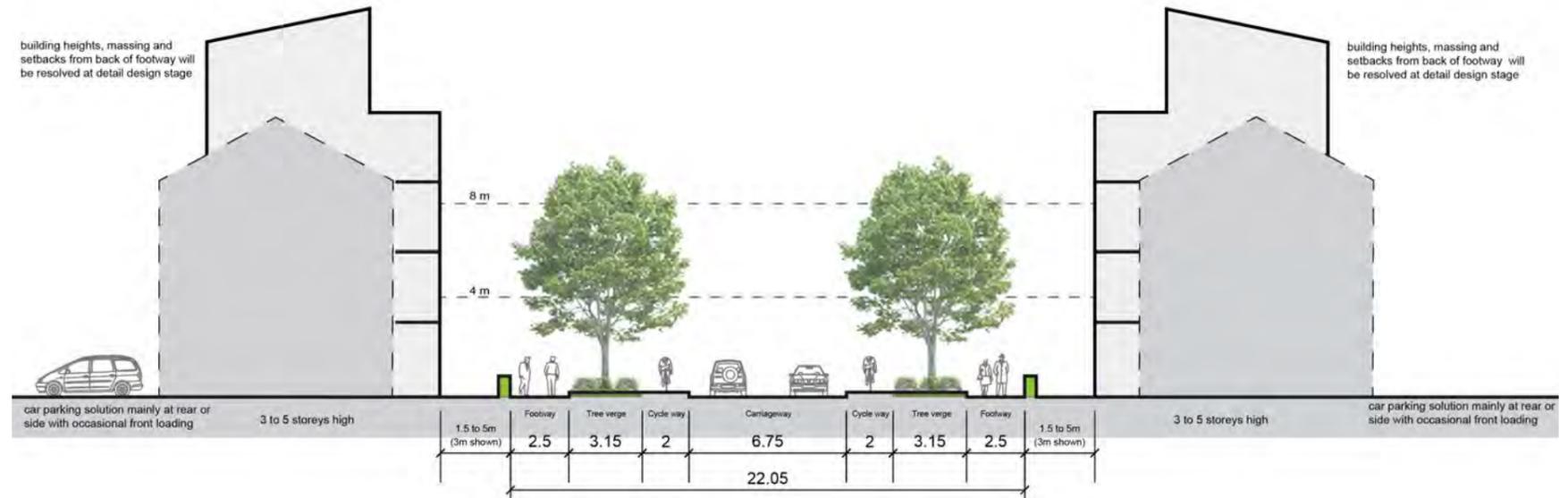


Figure 10.4 Illustrative Welborne Way section (Option 1)

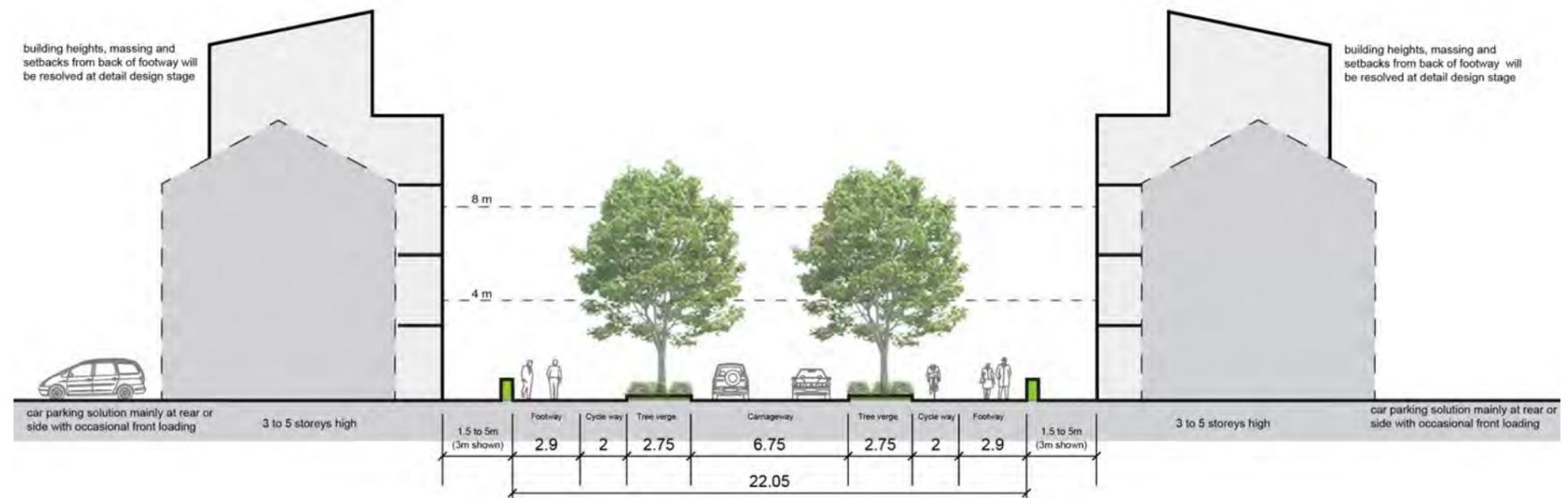


Figure 10.5 Illustrative Welborne Way section (Option 2)

Dashwood Boulevard is a different type of primary road as it is a defining feature of the northern part of the development, and connects the Village Centre to Dashwood Park and beyond, to Dashwood (outside of the application boundary). Dashwood Boulevard is an important route and its characteristics, as shown on Figure 10.6, may include:

- a wide carriageway;
- on the western side, a shared footway and cycleway between two tree verges; and
- on the eastern side, a tree verge capable of accommodating car parking and a separate footway.

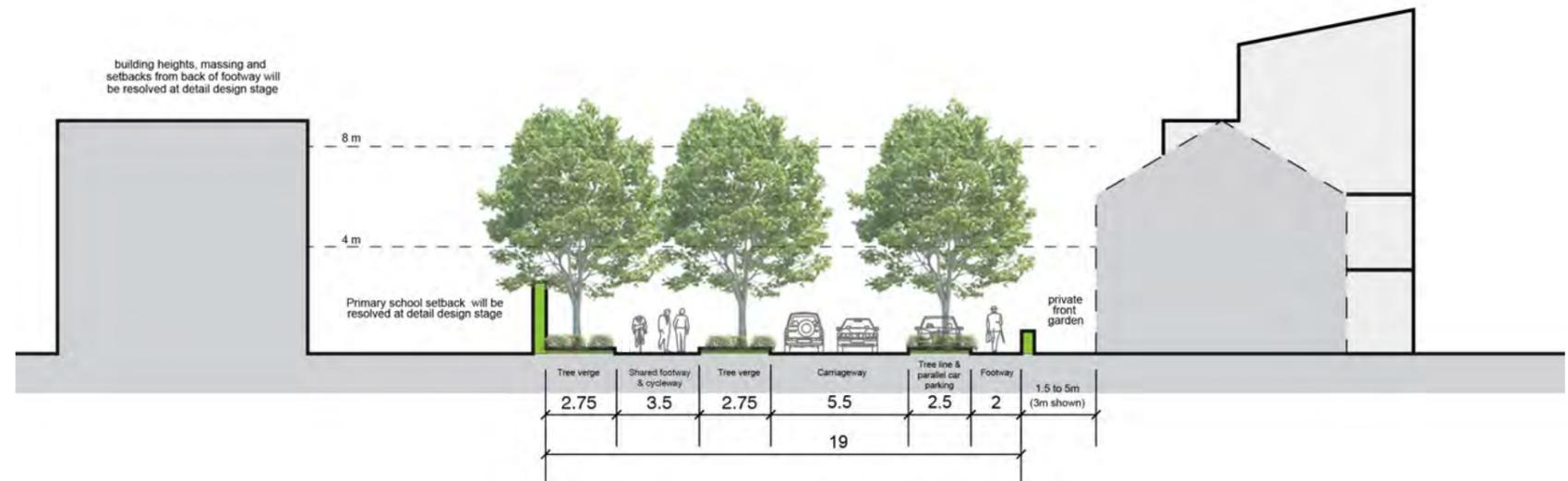


Figure 10.6 Illustrative Dashwood Boulevard section

Figure 10.7 shows an illustrative section of a typical secondary road which could include:

- a carriageway capable of accommodating single-sided on-street parking;
- a tree verge and footway on either side; and
- private front gardens with on-plot parking and homes of two to three storeys high on either side.

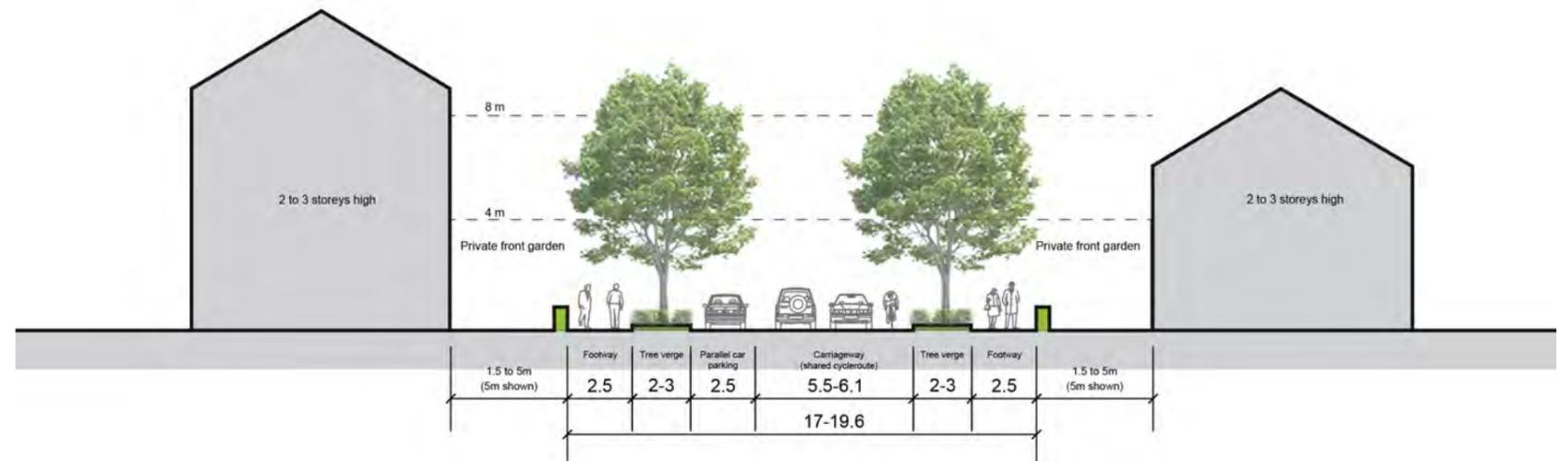


Figure 10.7 Illustrative secondary road section

Figures 10.8 and 10.9 show two examples of how a typical residential lane (a type of tertiary road) could look like. These are found on the edges of the development such as along the northwestern edges facing the Welborne Mile or Dashwood. For these types of road, there is likely to be:

- a carriageway capable of accommodating a single lane of traffic in either direction with a footway on one side;
- tree verges combined with parking spaces or trees within private front gardens; and
- homes and private front gardens fronting on to the carriageway on both sides, or on just one side with open space on the other side.

These illustrative street sections have been prepared as part of our Comprehensive Masterplanning to support the OPA. It is likely that refinements and alternative arrangements will be developed during the detailed design stage while keeping with the design principles established in Chapter 3.

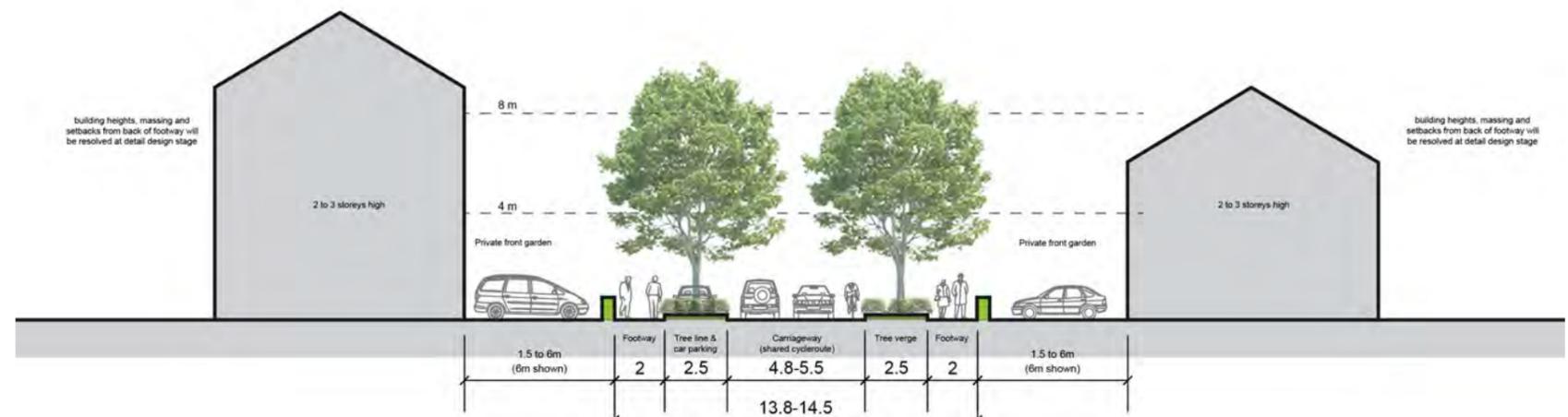


Figure 10.8 Illustrative tertiary road section

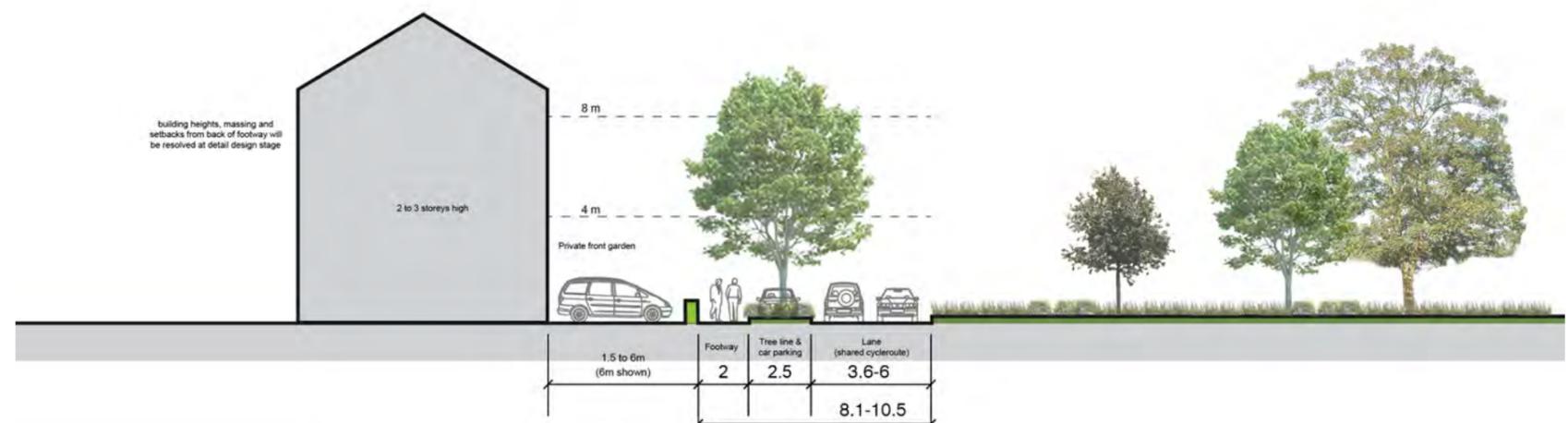


Figure 10.9 Illustrative edge lane section

## 10.7 Site access

### Connections to the strategic road network

Access to the development will be via new roundabout junctions constructed along A32 Wickham Road and the use of an existing junction at A32 Wickham Road / Knowle Road. The proposed junction layouts are set out in detail in the Transport Assessment and Transport Strategy which accompany this DAS. Access points are proposed at the locations shown on Figure 10.10:

- The junction of the new Welborne Way and A32 Wickham Road located at Forest Lane (to the north of Knowle Road junction);
- An improvement to the existing junction of Knowle Road and A32 Wickham Road to incorporate a new eastern approach to the roundabout;
- The junction of Central Avenue and A32 Wickham Road (to the south of Knowle Road junction); and
- The junction of Broadway and A32 Wickham Road located near Pook Lane and the M27 eastbound on-slip.

### Connections to existing primary road network:

- A new staggered cross road junction at Knowle Road and Welborne Way to allow for access to the Village Centre.
- A new four way priority junction at Knowle Road (east of Knowle Village) to allow for North Drive/Dashwood Avenue junction.

Junctions have been designed in accordance with standards contained in the DMRB and Manual for Streets where applicable. Guidance contained in DMRB (TD16/07) indicates that roundabouts are an appropriate junction treatment for the site accesses as they will emphasise the transition from a rural to an urban environment and facilitate heavy right turn movements.

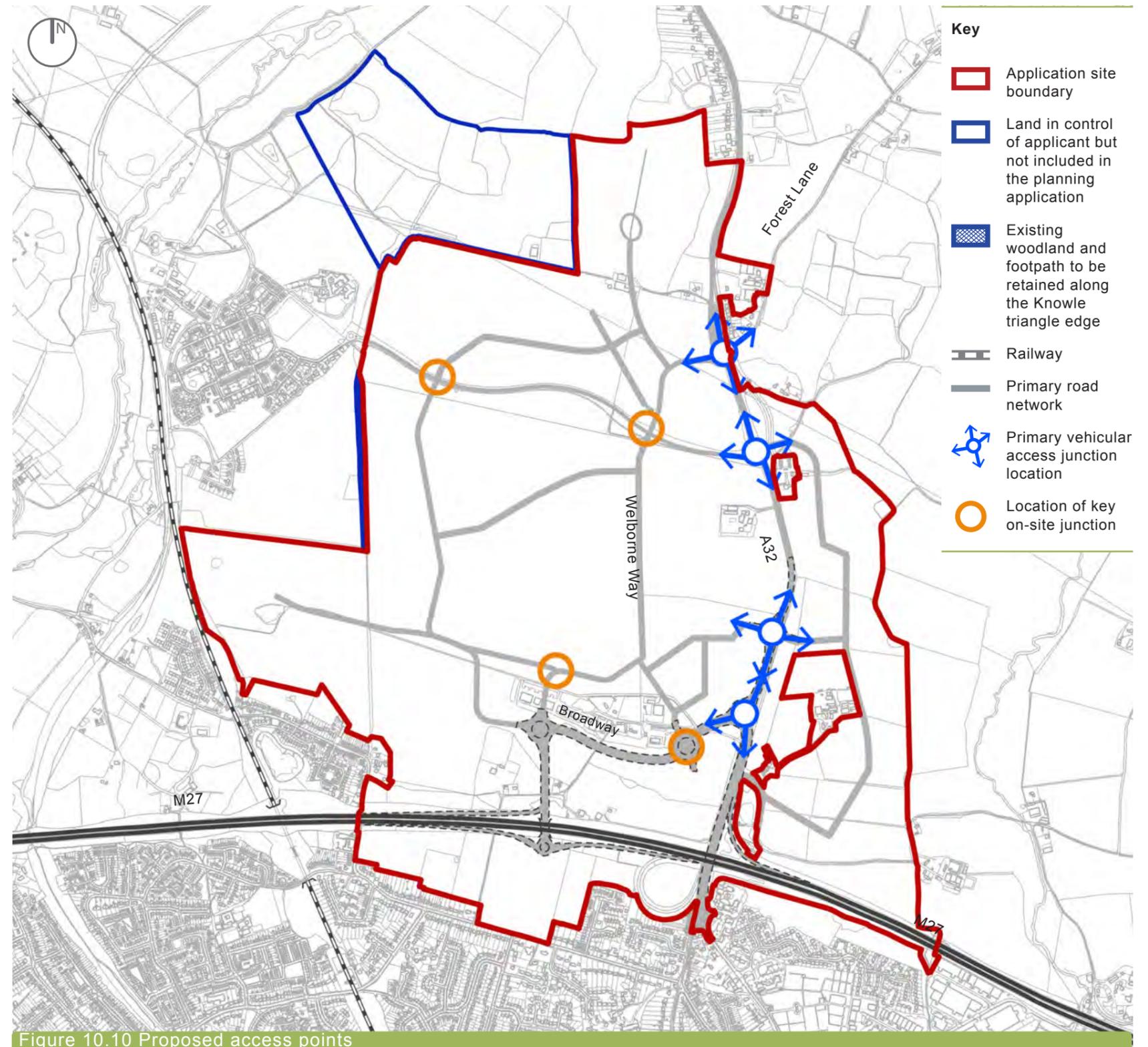


Figure 10.10 Proposed access points

## 10.8 Footpaths & cycle routes

The proposed routes make best use of existing footways and cycling provision with key infrastructure improvements provided on Kiln Road, A32 Wickham Road / Hoads Hill, Park Lane, Broadcut and Funtley Road. The improvements will help create sustainable transport links to Fareham town centre, railway station, educational facilities, Wickham, Knowle and Whiteley as well as provide links to the countryside for leisure opportunities. Internal links include:

- Delivery of walking and cycling routes through Welborne Mile and Welborne Park and the upgrade / provision of PRow that connect into these routes to bridleway status;
- Footpath 23b – upgrade to bridleway status to link through Dashwood to Mayles Lane;
- Footpath 86 - upgrade to a bridleway to accommodate multi-user use. This will allow connections to be made between Funtley to the south towards the new bridleway provided by Footpath 23b;
- Diversion of Footpath 88 to become main east/west route through masterplan and conversion to bridleway status to allow multi-user use;
- Upgrade of Footpath 101 on Bridleway status to connect into Bridleway 100 and bridge over M27;
- Retention of Footpath 90 south of the M27 and diversion of the western part of Footpath 89 to south of the M27 through the proposed SANG; and
- Provision of six signalised pedestrian crossings at the main highway links.

Any changes to footpaths will be subject to the appropriate statutory procedure.

The internal links will combine to create a circular route around the entire site boundary, plus links to the Village and District Centres. The surface finish for each footway, footpath and cycleway will be appropriate for its location, purpose and frequency of use.

Currently confirmed walking and cycling off-site routes include links from Welborne to Fareham town centre via Pook Lane and Broadcut, to Henry Cort Community College and to Whiteley.

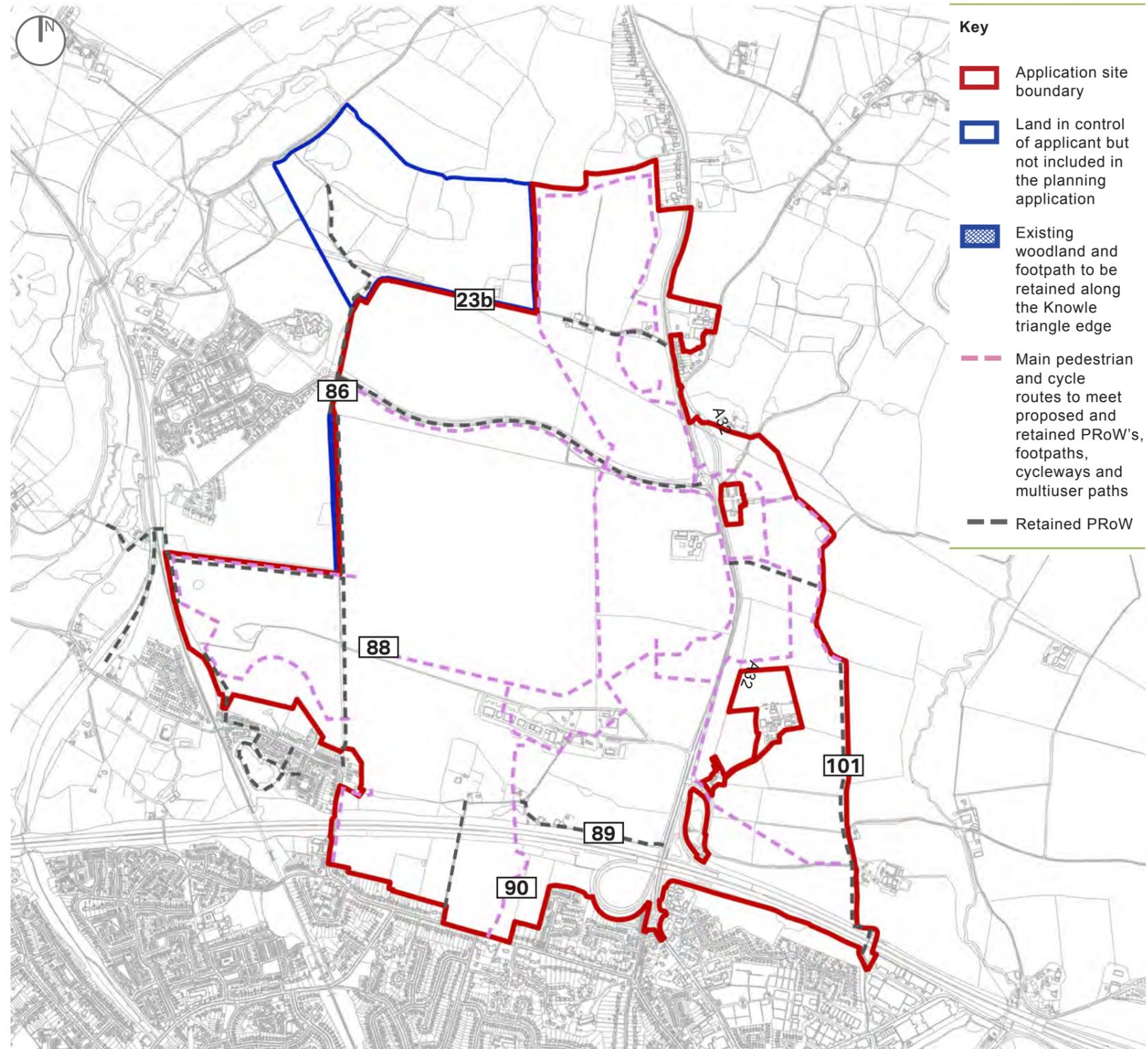


Figure 10.11 Footpath and cycle routes

## 10.9 Public transport

Welborne will provide a new bus route as a Bus Rapid Transit (BRT) to serve the development, as an extension of the Gosport to Fareham BRT. The proposed route will link the development site to Fareham railway station and bus station.

The BRT route will begin at Fareham railway station and enter Welborne via a new bus-only link located to the south of the Broadway roundabout. This would pass through the site connecting to the High Street roundabout. Buses would leave the site via the Broadway roundabout, having completed a circular route serving the Village and District centres and community hub.

There is potential for local Welborne, Fareham Town Centre and BRT services to also run along other primary routes, namely the western loop (North Drive and Westway) and the eastern loop (Albany Drive and Roche Court Drive). The precise routing and location of bus stops will be subject to agreements with the bus operators. Generally, bus stops will be provided within the site at a maximum walking distance of 600 metres from all dwellings, wherever possible.

Access to Fareham bus station will also be provided by the existing Route 69. There is also an existing bus Route 20 which runs between Wickham and Fareham via Knowle.

Bus priority measures will be considered on internal roads at the reserved matters application stage to ensure reliable travel times, and external roads to improve journey times to Fareham Town Centre, with dedicated bus lanes along the A32 between the Central Avenue roundabout and North Hill.

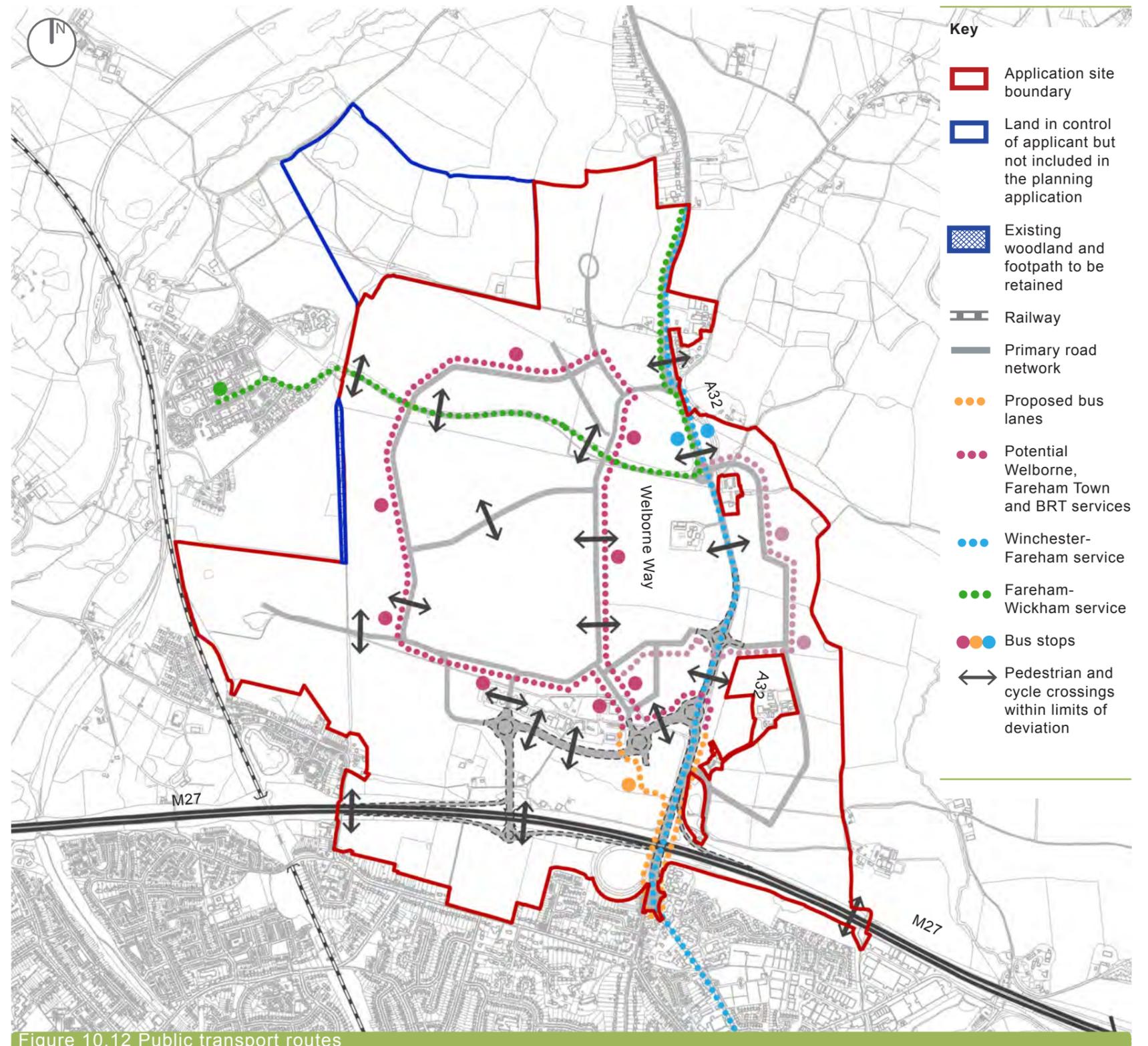


Figure 10.12 Public transport routes

## 10.10 M27 Junction 10

The development is proposing improvements of the M27 Junction 10 to include:

- New eastbound off-slip – diverging the motorway east of the Funtley road overbridge and heading into the development site north of the M27;
- Retained eastbound on-slip – existing slip-road retained with minor alignment improvements;
- Revised westbound off-slip – existing slip-road diverge retained but existing loop replaced with straight slip-road into the development site south of the M27;
- New westbound on-slip – slip-road commencing in the development site south of the M27 at the same location as the westbound off-slip and merging with the M27 east of the Funtley Road overbridge; and
- Welborne Approach and Broadway – connecting the eastbound off-slip, westbound off-slip and westbound on-slip to the A32 and eastbound on-slip.

The overall junction improvements for Junction 10 are shown in Figure 10.13, with the full junction General Arrangement drawings contained within the Transport Strategy. The design of Junction 10 is being completed by Atkins on behalf of Hampshire County Council as project sponsor and is fully coordinated with the Smart Motorways scheme due to be implemented along the M27 between 2019-2022.

The new junction will be provided within the development site and existing highway land, and will allow direct access to the M27 from Welborne without having to travel onto the wider highway network.

The M27 Junction 10 has been designed to be accommodated on land controlled by HCC as the local Highways Authority and Highways England, and is based on Design Manual for Roads and Bridges (DMRB) standards.

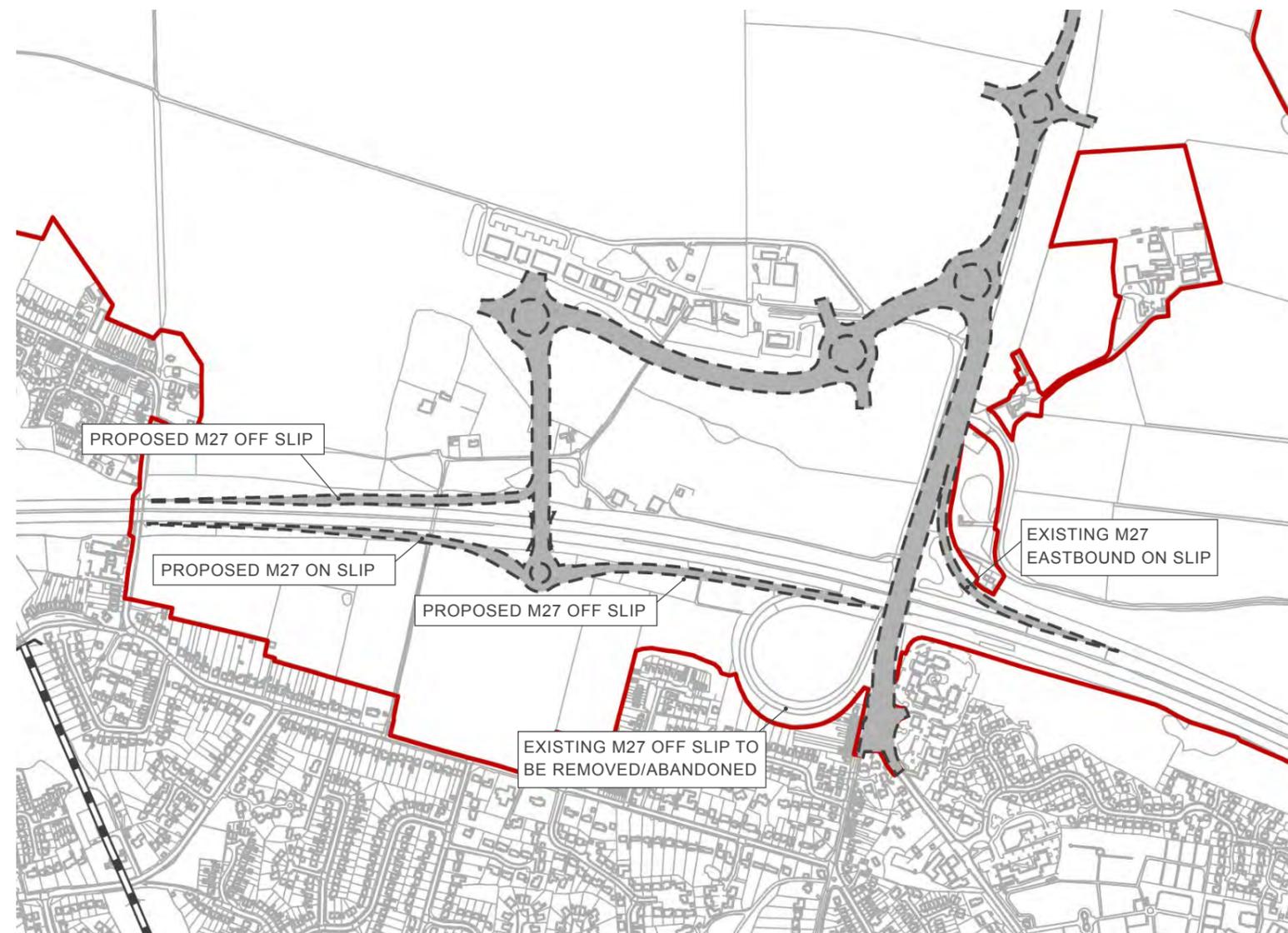


Figure 10.13 Proposed indicative arrangement of M27 Junction 10

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The provision of all movements (eastbound / westbound) will reduce the need for the existing traffic pattern of performing u-turns at Junction 11 to access the west. Similarly, the relocation of the westbound off-slip will remove the need to perform the u-turn movement at A32 Wickham Road to access Fareham towards the south.

## 10.11 A32 improvements

Access to the development will be via three new roundabout junctions constructed along A32 Wickham Road and the use of an existing junction at A32 Wickham Road / Knowle Road. Access points are proposed at:

- The junction of the new Welborne Way and A32 Wickham Road located at Forest Lane (to the north of Knowle Road junction);
- An improvement to the existing junction of Knowle Road and A32 Wickham Road to incorporate a new eastern approach to the roundabout;
- The junction of Central Avenue and A32 Wickham Road (to the south of Knowle Road junction);
- The junction of Broadway and A32 Wickham Road located north Pook Lane and the M27 Eastbound on-slip;
- A new staggered crossroad junction at Knowle Road and Welborne Way to allow for access to a village centre;
- A new four-way priority junction at Knowle Road (east of Knowle Village) to allow for North Drive / Dashwood Avenue junction; and
- Closure of Pook Lane at its junction with the A32.

## 10.12 Highways management

It is proposed that the primary street network, as shown on Figure 10.1, will be designed to meet Hampshire Highways Adoption Standards and will be offered for adoption by Hampshire County Council as the Highways Authority. It is also anticipated that the carriageway of the secondary and tertiary streets will be offered for adoption, but that the footways and verges will be maintained by a private management company. Further detail is provided in the Welborne Highways Adoption Strategy and Delivery Strategy Overview.

## 10.13 Parking strategy

As this is an outline application, the details of the amount of parking and parking arrangements will be determined through design codes and reserved matters applications for each phase. At this stage however, it is envisaged that residential parking will be provided through a mixture of on-plot and on-street parking for much of the development with courtyard parking in higher density areas at the District and Village Centres. Chapter 3 has already set out our approach to the sufficient and convenient provision of residential car parking, in line with the Design Guidance SPD (pages 68-70), and the amount of parking provided is in line with FBC's adopted Residential Car and Cycle Parking Standards (November 2009).

Two car parks for access to the SANGs will be provided, one off Knowle Road on the western boundary of the site to access the Welborne Mile and Dashwood to the north, and a second off Funtley Hill for access to Fareham Common, south of the M27. These will include provision for horse box parking.