MINDENHURST
DEEPCUT – SURREY

# DESIGN CODE

## Phase 1 Infrastructure

NICHOLAS PEARSON ASSOCIATES
ENVIRONMENTAL PLANNERS • LANDSCAPE ARCHITECTS • ECOLOGISTS

A development by
SKANSKA

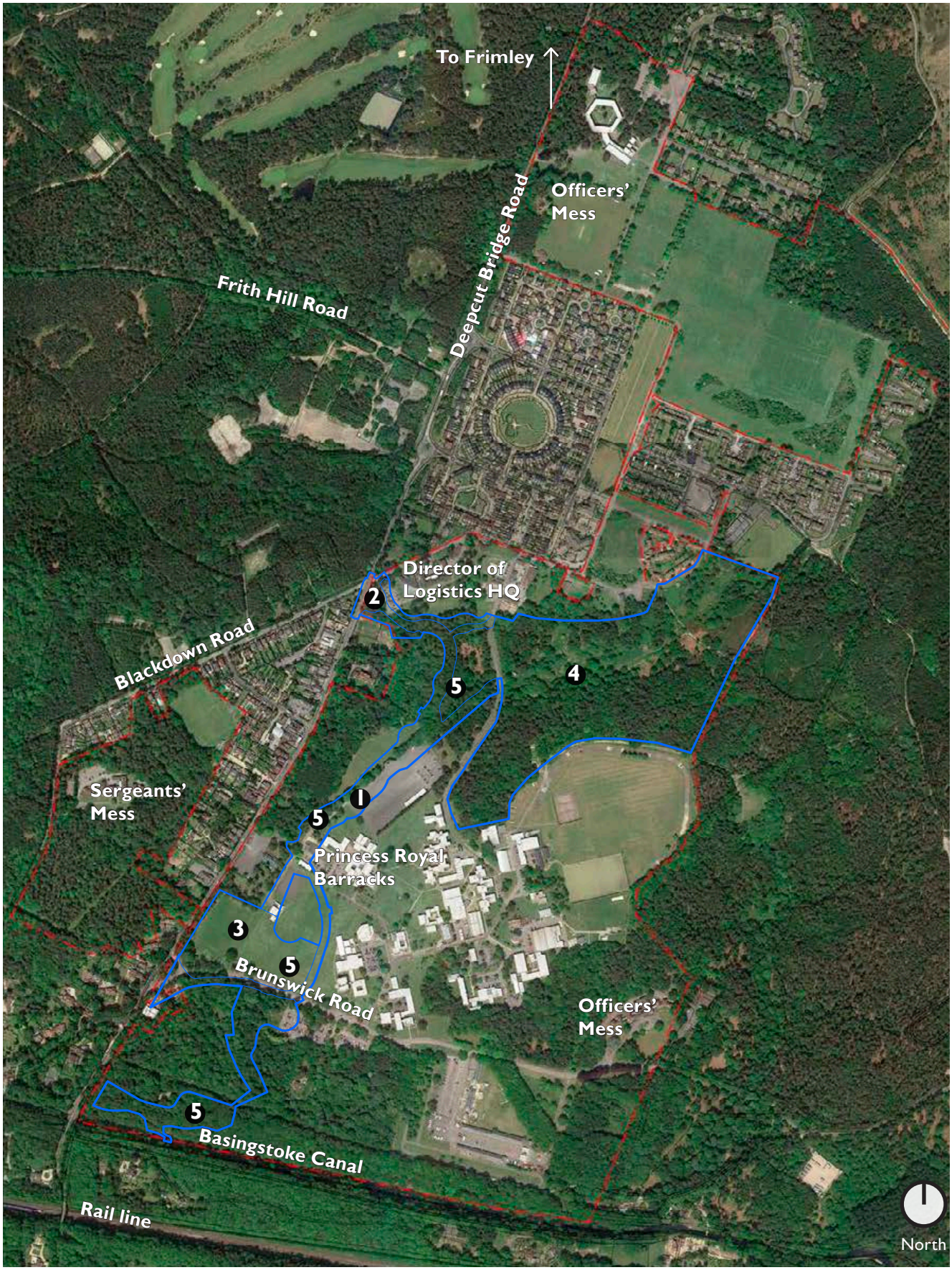



Figure 1 Aerial view of the site showing Mindenhurst Application boundary and Phase 1 Infrastructure boundary, numbering indicates the piece of infrastructure listed on page 5.

Application boundary / Design Code boundary

Phase 1 Infrastructure boundary

## MINDENHURST, DEEPCUT, SURREY

This Infrastructure Design Code has been prepared in response to Condition 3 of the Outline Planning Permission* for redevelopment of the Princess Royal Barracks site at Deepcut.

The new development will be called Mindenhurst, and for the purposes of this document and those that will accompany and follow on from it, the future development of Princess Royal Barracks, Deepcut will be referred to by this name.

This document has been prepared by Nicholas Pearson Associates with input from JTP and Odyssey Markides on behalf of Skanska.

The purpose of this code is to inform and guide the first phase of Infrastructure development within Mindenhurst, which comprise all non-residential development within the first phase, as follows:

1 Mindenhurst Road
2 Northern Access Roundabout (NAR)
3 Village Green
4 Central SANG
5 Swales and attenuation within the above

NOTE: The Site-wide Design Code makes reference throughout to Mindenhurst Road. This is the proposed name for the most significant new vehicular route to be created through the development, running from the new Northern Access Roundabout on Deepcut Bridge Road southwards through the Mindenhurst site, to the location of the existing junction of Brunswick Road and Deepcut Bridge Road.

This proposed route is detailed in other material already submitted to the local authority and has been previously been referred in most instances as 'The Spine Road'. For the purposes of this Code, and those that will follow it, Mindenhurst Road is to be taken to refer to this same route

## LIST OF ABBREVIATIONS

| ABBREVIATIONS | DESCRIPTION |
|---|---|
| A1, A2, A3, A4, A5, B1(a), D1, D2 | Land use classes |
| ANGSt | Accessible Natural Greenspace Standards |
| DAS | Design and Access Statement |
| ha | Hectare |
| LAP | Local Area for Play |
| LEAP | Local Equipped Area for Play |
| MUGA | Games Area |
| NEAP | Neighbourhood Equipped Area for Play |
| OPA | Outline Planning Application |
| POS | Public Open Space |
| PRB | Princess Royal Barracks |
| RM | Reserved Matters |
| SANG | Suitable Alternative Natural Greenspace |
| SHBC | Surrey Heath Borough Council |
| SPA | Special Protection Area |
| SPD | Supplementary Planning Document |
| SCC | Surrey County Council |
| SSSI | Site of Special Scientific Interest |
| SuDS | Sustainable Drainage System |
| SWDC | Site-wide Design Code |
| TPO | Tree Preservation Order |

* Application Reference - 12/0546 (as amended); The original permission has been subject to a Section 73 planning application to vary two conditions.

Phase 1 Infrastructure Design Code Submission: 27 June 2016

# PREFACE

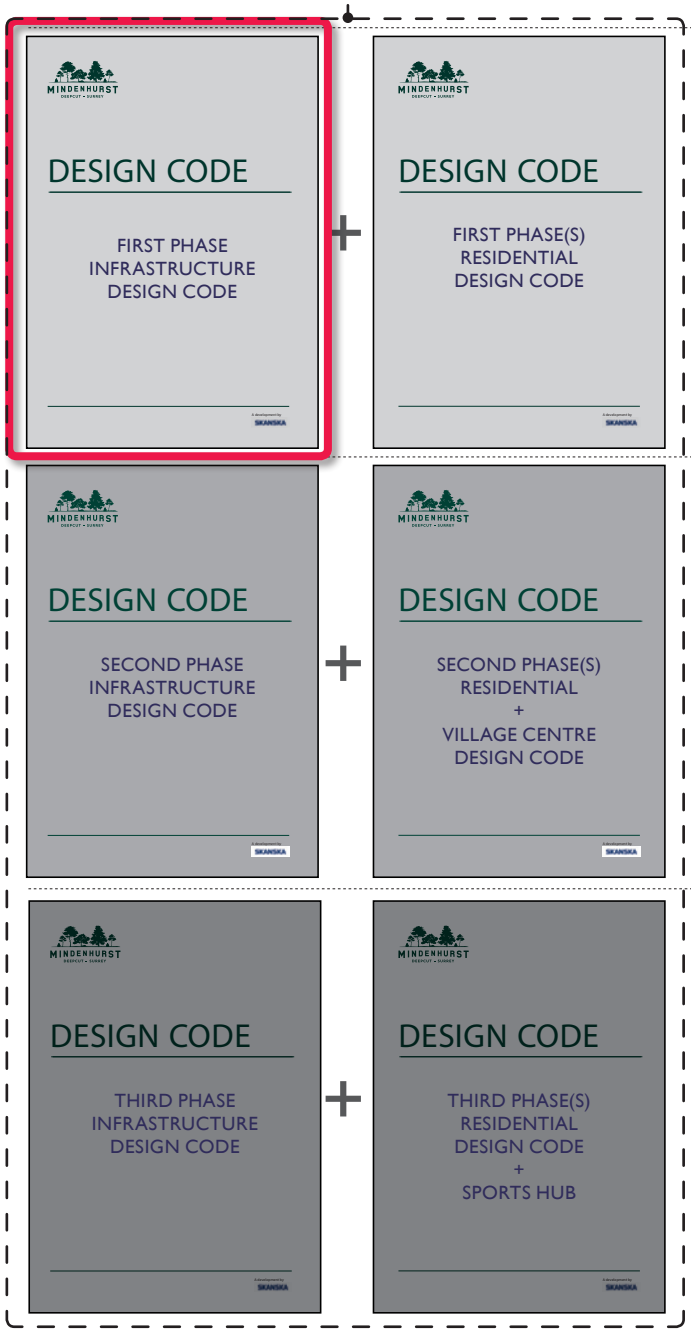
## 1 DESIGN CODING


### 1.0 DESIGN CODE SCHEDULE

The Phase 1 Infrastructure Design Code forms part of a staged series of submissions in response to Condition 3 of the 12/0546 (as amended by 12/0546), the Hybrid Planning Permission for the redevelopment of Deepcut.

Together the suite of Design Codes will form a comprehensive set of design and technical guidance covering the entire approved development.

The proposed structure of Codes, with the Site-wide Design Code as the overarching document, is illustrated below, with an indication of how these will relate to the envisaged phasing of development at Mindenhurst.




Areas covered:

Infrastructure
- Mindenhurst Road
- Village Green
- Northern Access
- Central SANG

Residential
- Parcel east of Headquarters of Director of Logistics
- Parcels south of Village Green

STAGE 1 CODE SUBMISSIONS

Areas covered:

Infrastructure:
- Village Centre
- St Barbara's Church
- Primary School/Nursery
- Public House
- Commercial / Retail

Residential:
- Village Centre
- Parcel east of Deepcut Bridge Road
- Parcel north of Village Green
- Parcel north of Dettingen Park

STAGE 2 CODE SUBMISSIONS

Areas covered:

Infrastructure:
- Sports Hub
- Southern SANGs
- Blackdown
- ANGSt (Alma and Bellew Woods)
- Commercial / Retail

Residential:
- Minden Ridge and Slopes
- Minden Plateau
- Sergeants' Mess
- Headquarters of Director of Logistics
- Officers' Mess

STAGE 3 CODE SUBMISSIONS

The Phase 1 Infrastructure Design Code sits within the mandatory framework for Mindenhurst which is set out by the Site-Wide Design Code. The Regulatory Plan which accompanies the Site-Wide Design Code provides a comprehensive, scalable graphic representation of this framework. All detailed Code submissions and Reserved Matters Applications including the Phase 1 Infrastructure Design Code are expected to conform to the parameters it sets.

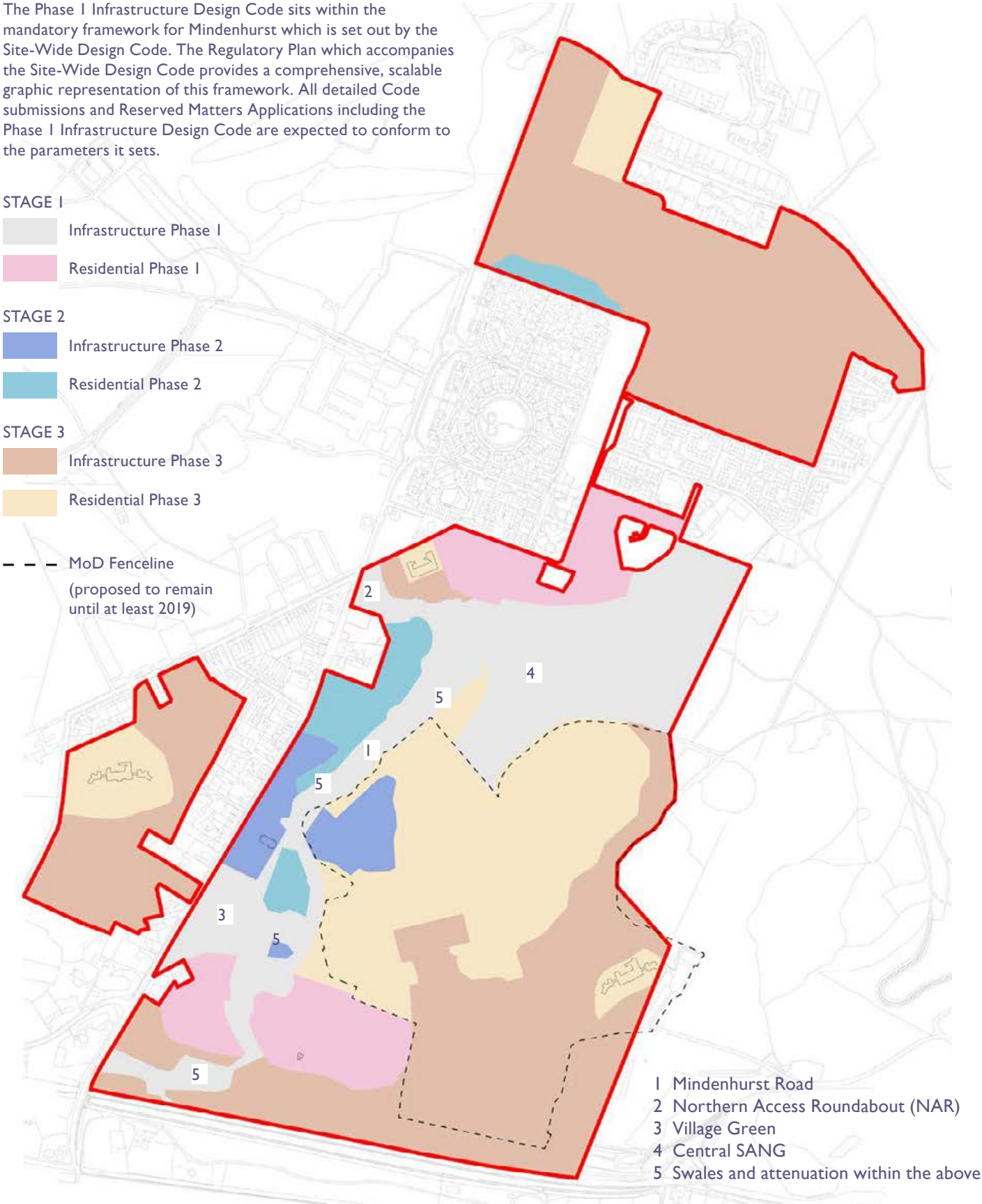



Figure 2: Indicative Design Code Schedule Plan

# PREFACE

## 1 DESIGN CODING

### 1.1 EXTENT

The Phase 1 infrastructure includes the following areas, these are indicated on the red line plan overleaf.

1 Mindenhurst Road

2 Northern Access Roundabout (NAR)

3 Village Green

4 Central SANG

5 Swales and attenuation within the above

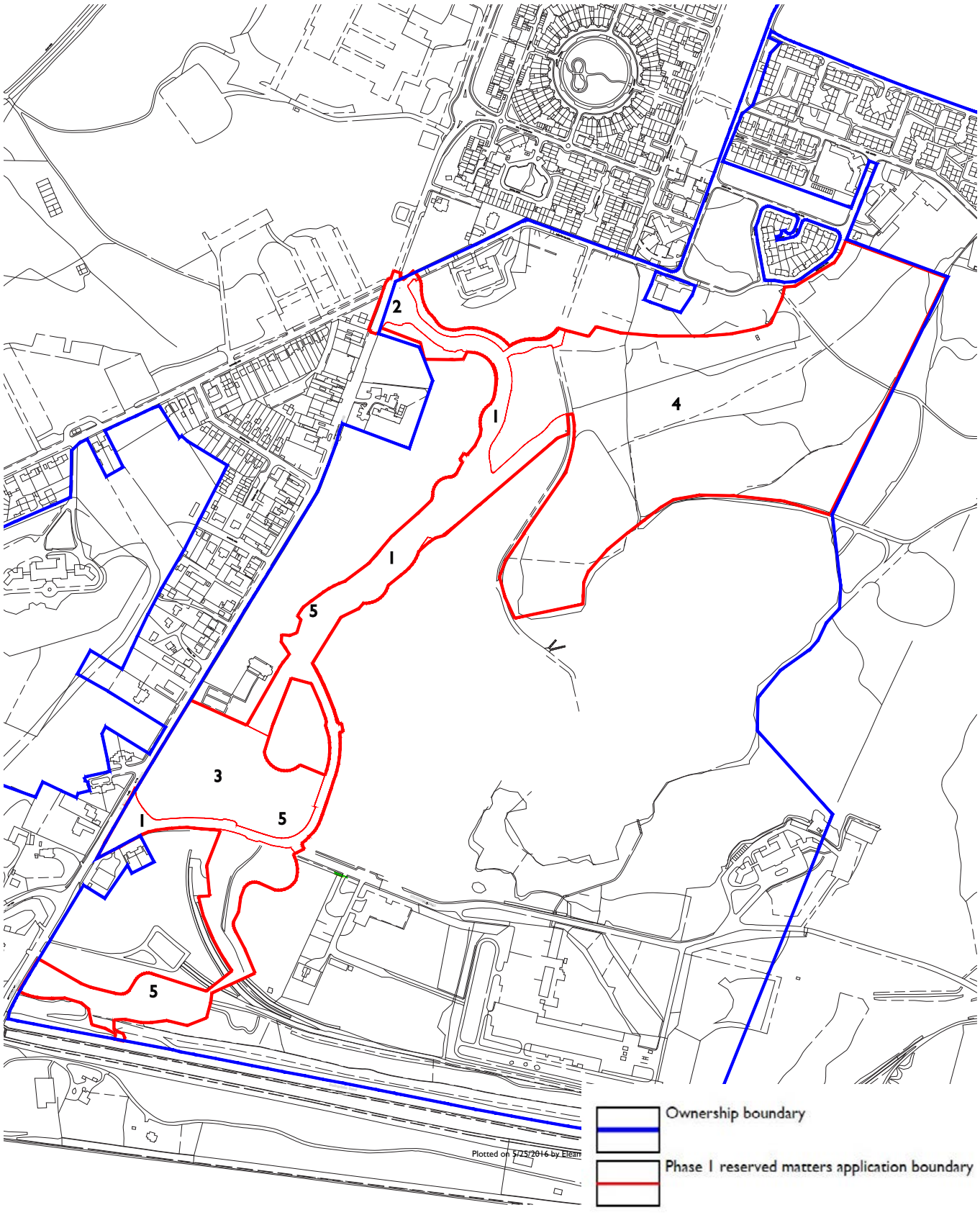



Figure 3 Phase 1 Infrastructure Location Plan

# MINDENHURST ROAD & NAR

PART B STRATEGIC ELEMENTS



PART C DETAILED ELEMENTS

# PART B: STRATEGIC ELEMENTS

## 2 MINDENHURST ROAD & NAR

### 2.0 OVERVIEW

The Mindenhurst Road (defined as a secondary route with the SPD) provides a link through the development from the proposed Northern Access Roundabout to Deepcut Bridge Road / Brunswick Road junction. The street passes to the southern side of the proposed village centre which acts as a central hub with pedestrian and cycle links to Deepcut Bridge Road shops, St. Barbara's Church and the Village Green. The Mindenhurst Road will connect into Deepcut Bridge Road and provide the key links into residential areas, whilst serving a number of local facilities.

A strategic diagram of the Phase 1 Infrastructure including Mindenhurst Road and the NAR is shown in Figure 4.

### 2.1 OUTLINE DESIGN PROPOSALS

The following qualities and features are integrated into the design of the Mindenhurst Road and Northern Access Roundabout and should be implemented through the detailed design of the road and its immediate context:

- Provide the primary access route into the development off Deepcut Bridge Road via Brunswick Road in the south and the Northern Access Roundabout to the north.
- Maintain a green, soft character whilst accommodating relatively high levels of pedestrian, cycle and vehicular movement.
- Provide amenity green spaces and verges of varying width to thread alongside the road corridor.
- Use of a combination of shaped woodland and a curved road corridor to add to drama, and convey sense of housing being within the heathland / woodland.
- Retention of mature Scots Pines and new pine tree planting implemented alongside the Mindenhurst Road to create strong landmark features.
- Link SANG to the Northern Access Roundabout giving heathland character from point of entry.
- Provide a sustainable network of walking and cycling links which connect the Mindenhurst Road to the surroundings and promote pedestrian movement.
- Provide an improved bus link with appropriate bus stops to benefit the surrounding community.
- Provide visual links across the site to public open space, feature buildings and landmark features.
- Provide clear legibility of the site through signage, design and material finishes.
- Provide a range of materials and planting which deliver a visual character similar to those found in Surrey villages.
- Provide the route for main attenuation swales and drainage features required for the site.
- Provide adequate lighting to meet Surrey County Council (SCC) requirements.

St Barbara's Church

Director of Logistics HQ

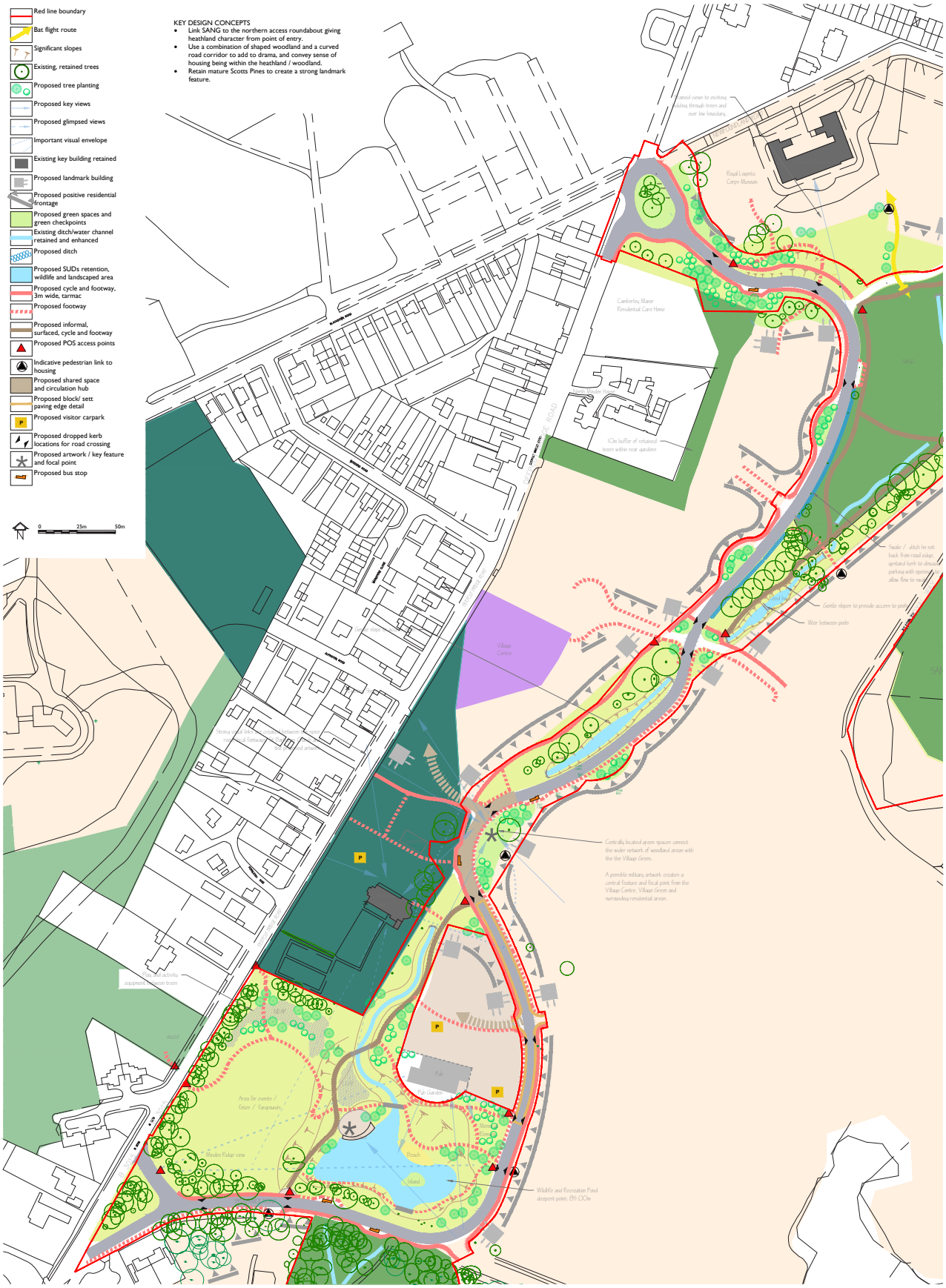



Figure 4 Phase 1 Infrastructure Strategy Diagram

## 2.2 KEY VIEWS

Key views to existing site features which will be experienced travelling along Mindenhurst Road include views to the St. Barbara's Church spire, identified in the SPD as being visible in glimpses and wider views from many directions, and the Director of Logistics Head Quarters, noted in the Deepcut SPD as a building of Merit. Further to these, key views will include:

Travelling north:

- Minden Ridge, its green swathe and focal point
- Village Green, pond and pub

Travelling South:

- SANG Woodland
- School building
- Green corridor into Brunswick Woods

The road design must provide opportunities for and enhancement of these views. The noted features should remain strong visual elements within the local area and act as focal points and wayfinding attributes.

## 2.3 CHARACTER

Mindenhurst Road passes through a series of seven character areas identified within the Deepcut SPD and Princess Royal Barracks DAS. These character areas are listed below. The locations of these character areas are shown on Figure 4.

1 Village Green
2 Minden Ridge and Slopes
5 Minden Valley South
6 Minden Valley North
7 Deepcut Bridge Road East
8 Newfoundland Road
12 Brunswick Woods

The character of Mindenhurst Road should be designed to respond and reinforce the landscape character of these areas.

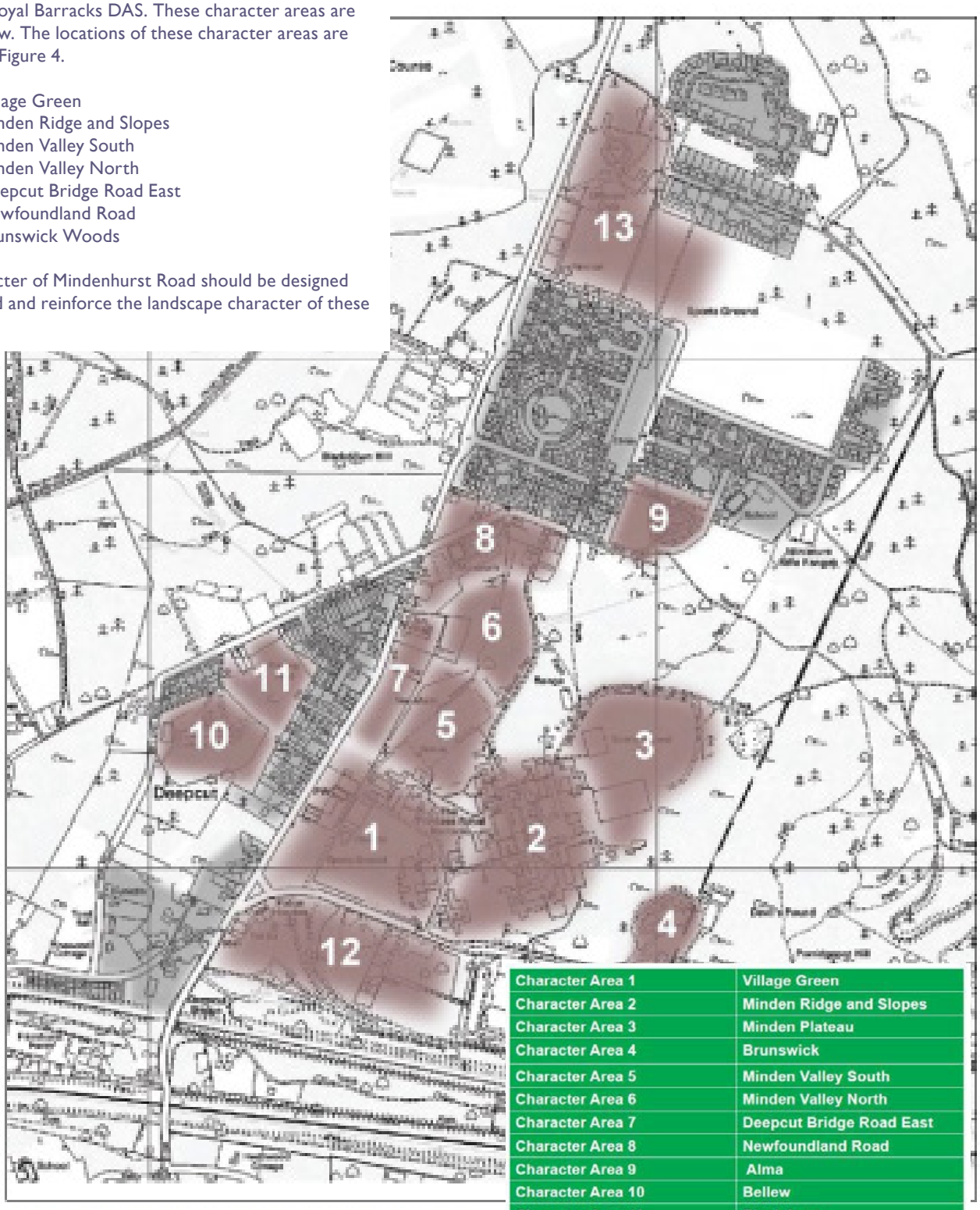



Figure 5 Character areas in Deepcut, extract from SPD

## 2.4 CONNECTIVITY AND LINKS

The Mindenhurst Road acts as the primary route within the proposed development which connects directly to Deepcut Bridge Road and to secondary streets which provide wider access across the development.

Figure 6 shows the Mindenhurst Road and its connections to the wider circulation network and identifies key views provided along the route.

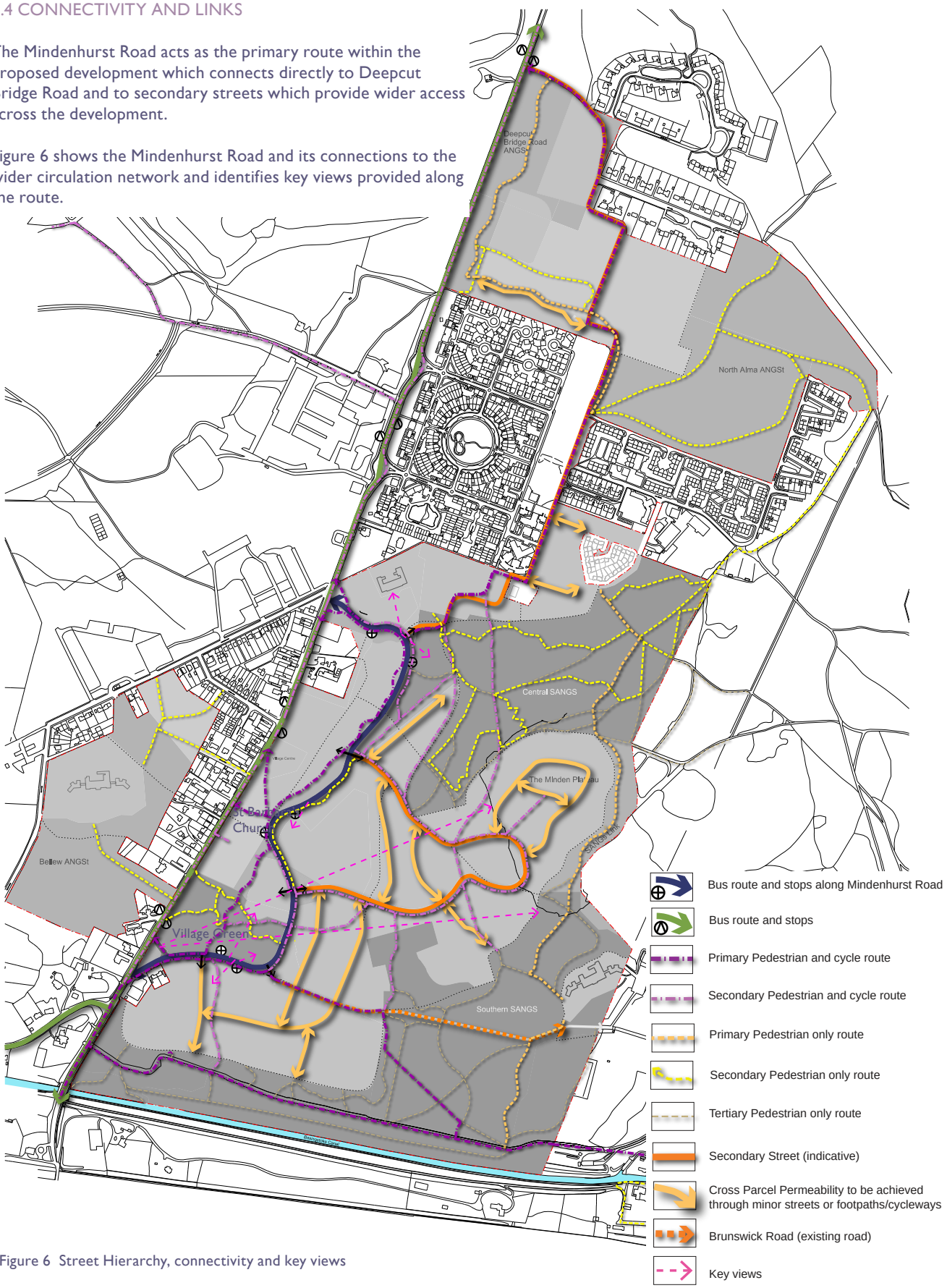



Figure 6 Street Hierarchy, connectivity and key views

## 2.5 BOUNDARIES

The Mindenhurst Road shares boundaries with a variety of green spaces and types of development. These include the Village Green; residential areas; St Barbara's Church; Central SANG; Village Centre. The treatment of the boundaries and threshold spaces will respond to the specific location.

## 2.6 ECOLOGICAL CONSTRAINTS

The main ecological sensitivities associated with the delivery of Mindenhurst Road and Northern Access Roundabout (NAR) is the tree removal at the northern extent of the site and the potential of severance to commuting routes, for a nearby brown long-eared bat maternity roost, to the Central SANG. There is also the potential for trees, due to be felled, to contain bat roosts. These will be subject to surveys and appropriate mitigation implemented should roosts be identified.

The key biodiversity objectives for the Primary Street and NAR are to:

- Minimise tree loss and habitat damage;
- Identify and protect retained habitats and ecological features from accidental/ unnecessary damage;
- Mitigate for the loss of habitat by planting native trees/ grassland of local provenance and enhancing retained habitats;
- Retain wildlife corridors to maintain connectivity within site and to adjacent habitats;
- Protect nesting birds during site clearance and construction; and
- Provide additional roosting/nesting opportunities for bats and birds post-construction.

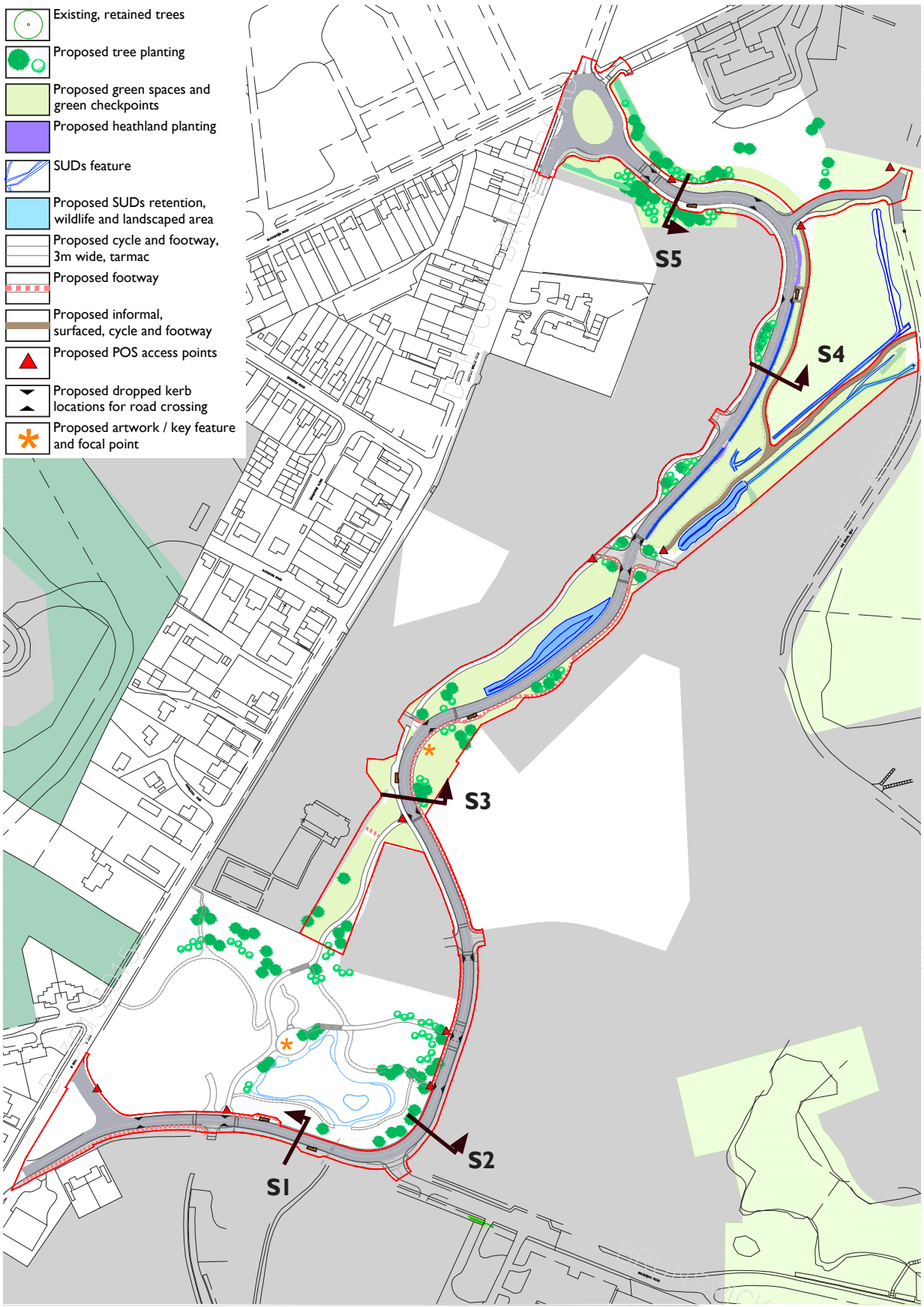



Figure 7 Mindenhurst Road and NAR Illustrative Masterplan with section locations

## 3.0 STREET DESIGN

The road is designed for a maximum vehicle speed of 20mph, junctions are provided for main residential streets and minor residential streets to give access to the various development parcels or open spaces.

The road layout and widths are designed to accommodate bus routes with buses stopping on-carriageway. The layout also provides off-carriageway cycleway and footway facilities linking the existing off road shared cycleway on Deepcut Bridge Road through the development to Brunswick Road and Deepcut Bridge Roads.

At the Northern Access Roundabout a toucan crossing is provided to ensure a safe crossing point for pedestrians and cyclists just south of the roundabout between the on-site green transport links with existing off-site links. The Mindenhurst Road has informal crossing points at suitable locations throughout.

Cycle routes will be typically constructed as a shared footway/ cycle way of minimum 3m width, located either adjacent or near to the Mindenhurst Road. Footways will be 2m minimum width, combined cycle routes will be 3m minimum width.

The design of the road responds to the character area through which it passes, this is illustrated on the following pages. Indicative sections and images provide a typical example of the arrangement and appearance of the street.

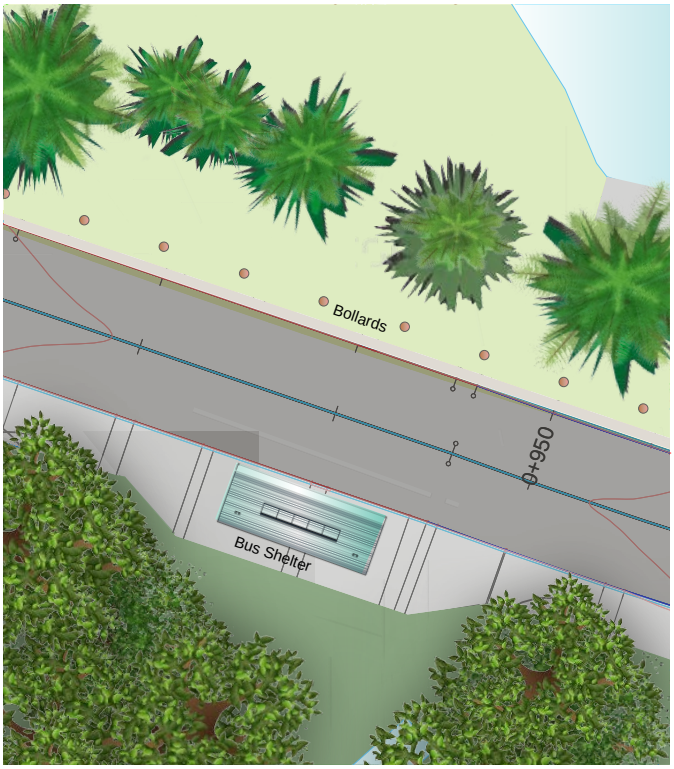
Figure 7 shows an illustrative masterplan of Mindenhurst Road and the NAR. Cross sections and illustrations on the following pages illustrate the proposed design and boundary treatments as the Mindenhurst Road passes through different character and development areas.

## 3 MINDENHURST ROAD & NAR

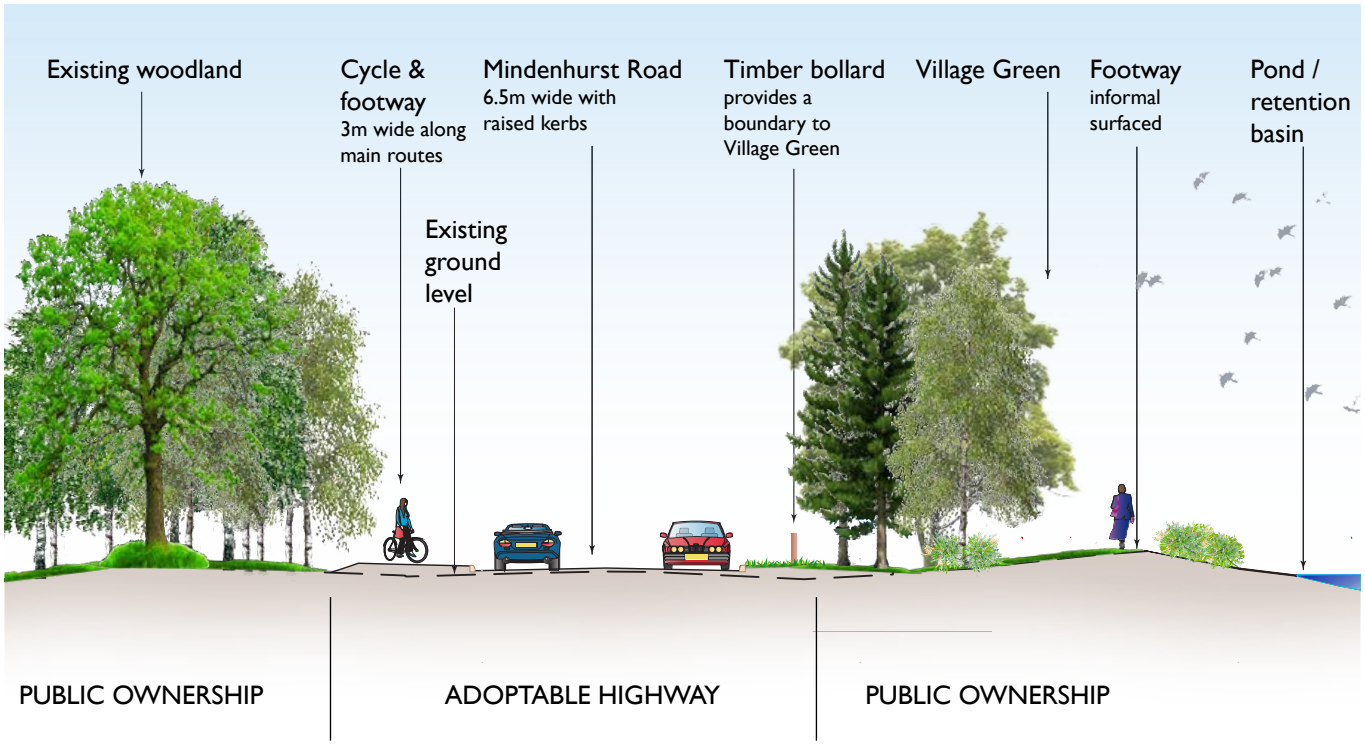
### 3.0 STREET DESIGN

Mindenhurst Road through Village Green and Brunswick Woods Character Area (Character Area 1 and 12).

Bordered by existing trees and overlooked by proposed housing development. Green space dominates the scene. A retained area of Brunswick Woods and low intensity development contribute to the rural character. Some direct frontage access contributes to traffic calming. New tree planting within the park and new street and shrub / hedgerow planting within front gardens, contribute to a green street scene.




Typical plan image of Mindenhurst Road through Brunswick Woods and Village Green character areas

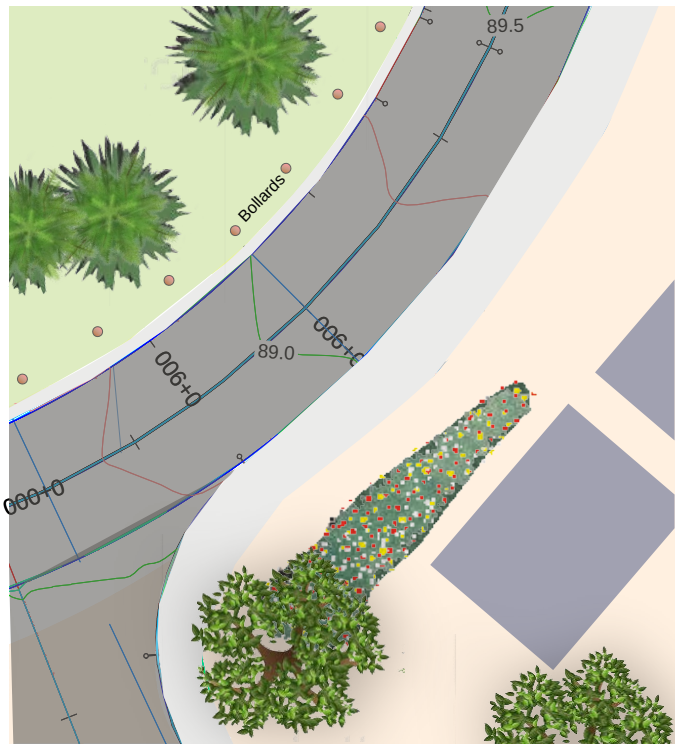



Section 1 - Mindenhurst Road through existing woodland and Village Green

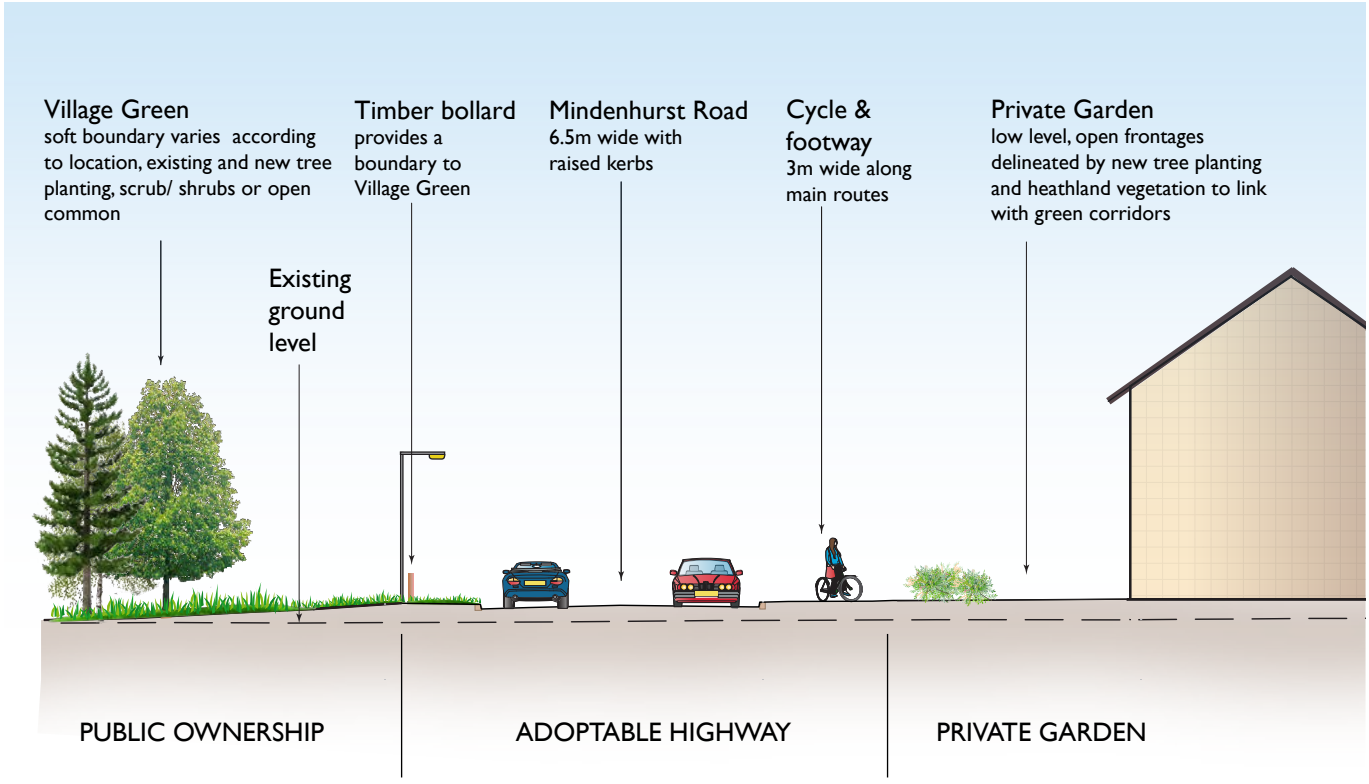
## 3.0 STREET DESIGN

Mindenhurst Road through Village Green and Brunswick Woods Character Area.

Bordered by existing trees and overlooked by proposed housing development. Green space dominates the scene.
Some direct frontage access contributes to traffic calming. New tree planting within the park and new street and shrub / hedgerow planting within front gardens, contribute to a green street scene.




Typical plan image of Mindenhurst Road through Village Green character area opposite residential development



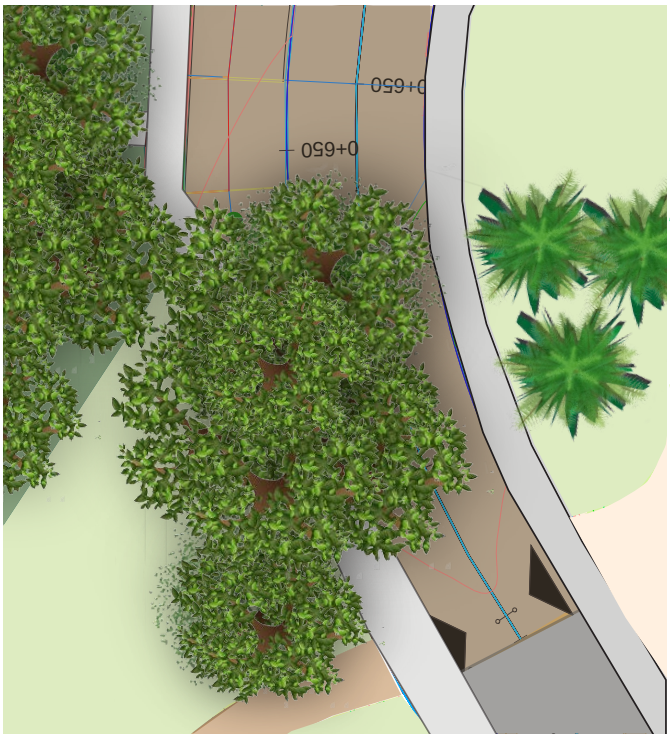

Section 2 - Mindenhurst Road facing Village Green

## 3 MINDENHURST ROAD & NAR

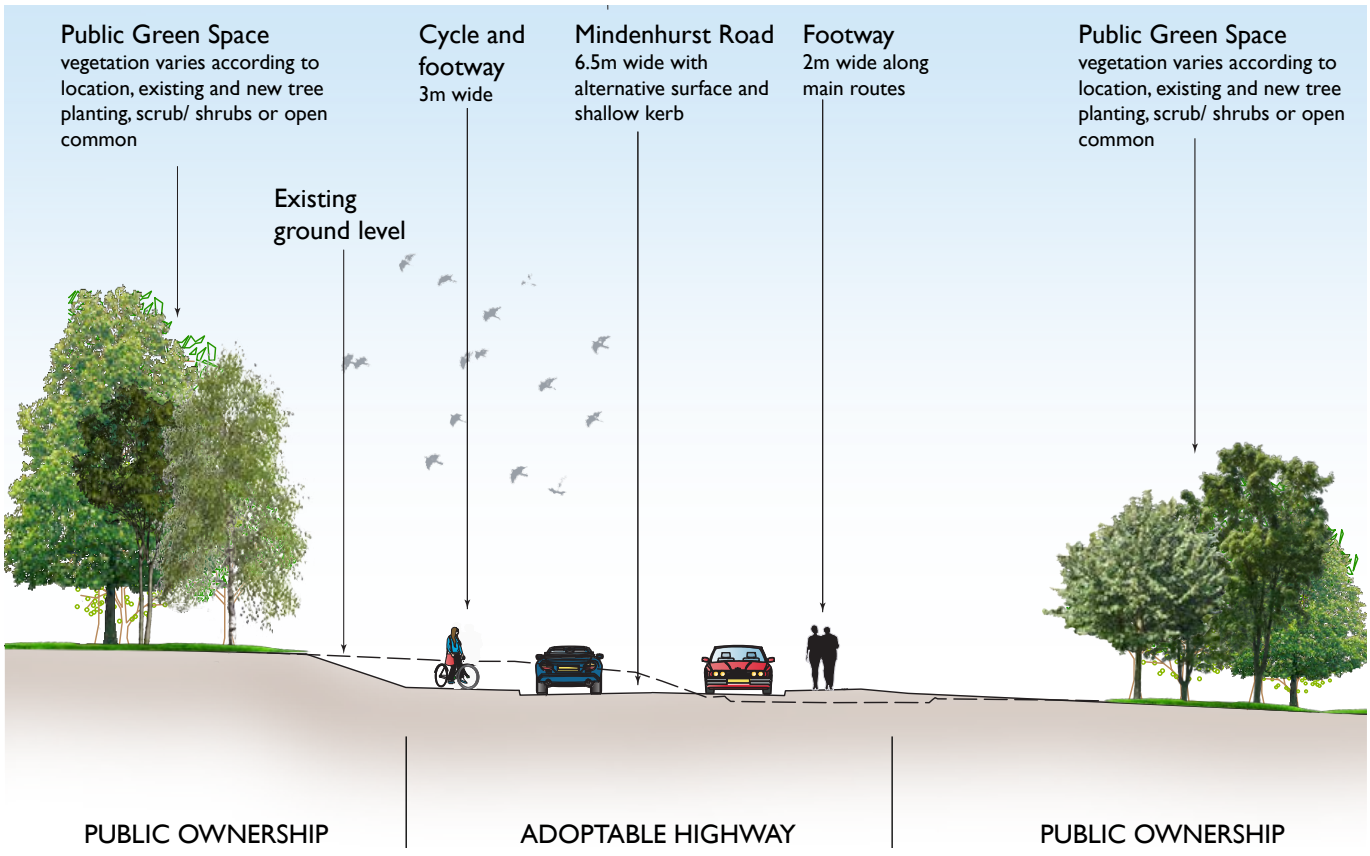
### 3.0 STREET DESIGN

Mindenhurst Road in locality of proposed school site (as indicated on the Regulatory Plan) and St Barbara's Church.

A shared space section of the street through centre of development. Bordered by residential development and small scale public green spaces. Tree planting within green spaces, including green check points, contributes to a green street character. Positive frontage overlooks the street. A change in surface and a lower kerb height defines the shared space street.




Typical plan image of Mindenhurst Road through Village Centre

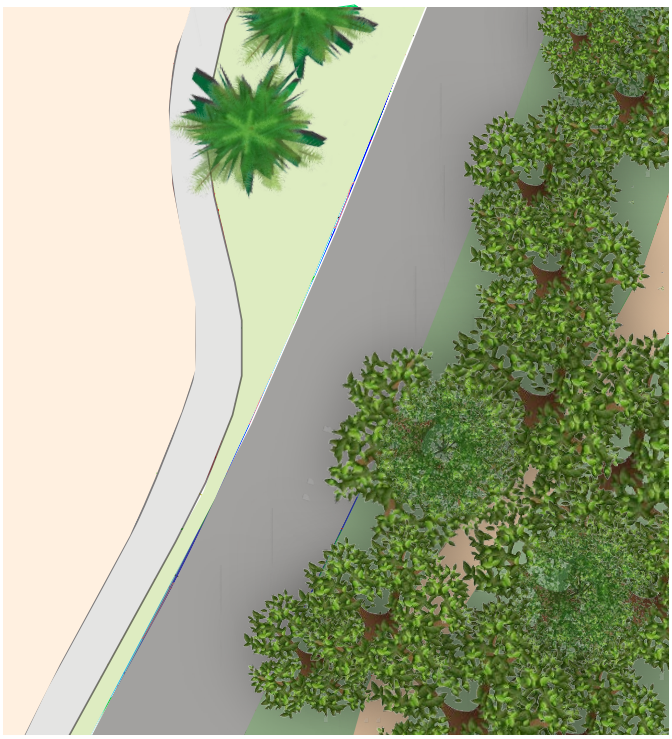



Section 3 - Mindenhurst Road in locality of school site

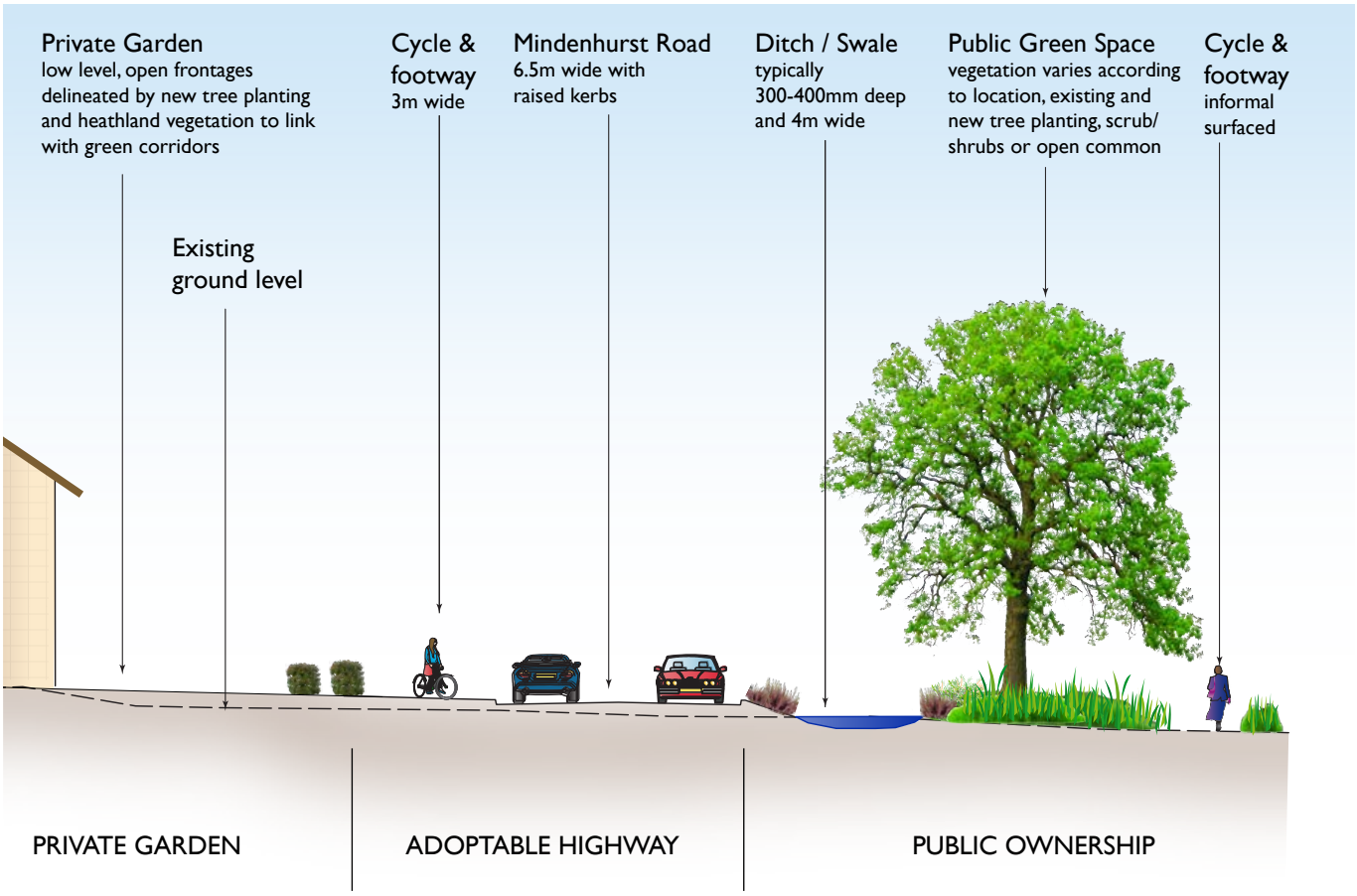
## 3.0 STREET DESIGN

Mindenhurst Road through Minden Valley North, South and Deepcut Bridge Road East Character Area.

Bordered by existing trees within adjacent public green spaces including the Central SANGs, and overlooked by proposed housing development. Green space dominates the scene. New tree planting within these green spaces and new tree and shrub / hedgerow planting within front gardens, contribute to a green street setting.



Typical plan image of Mindenhurst Road through Minden Valley character area



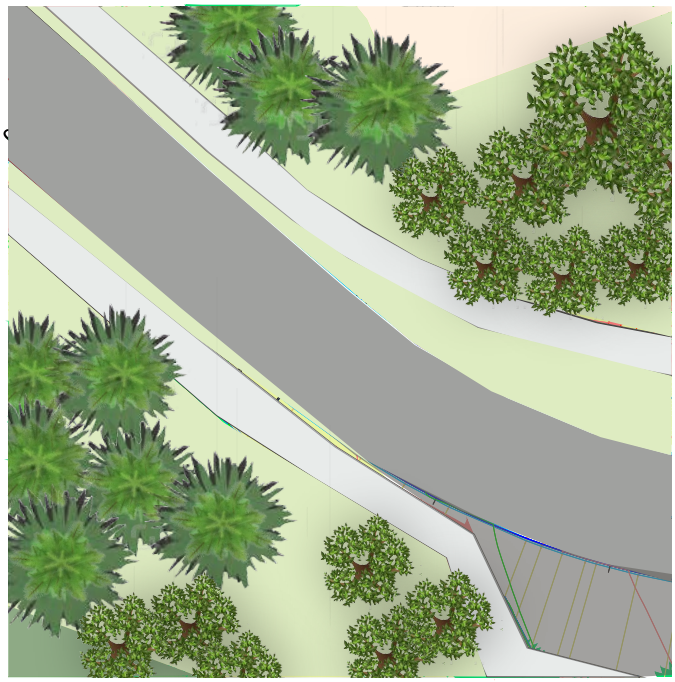

Section 4 - Mindenhurst Road facing natural green space

## 3 MINDENHURST ROAD & NAR

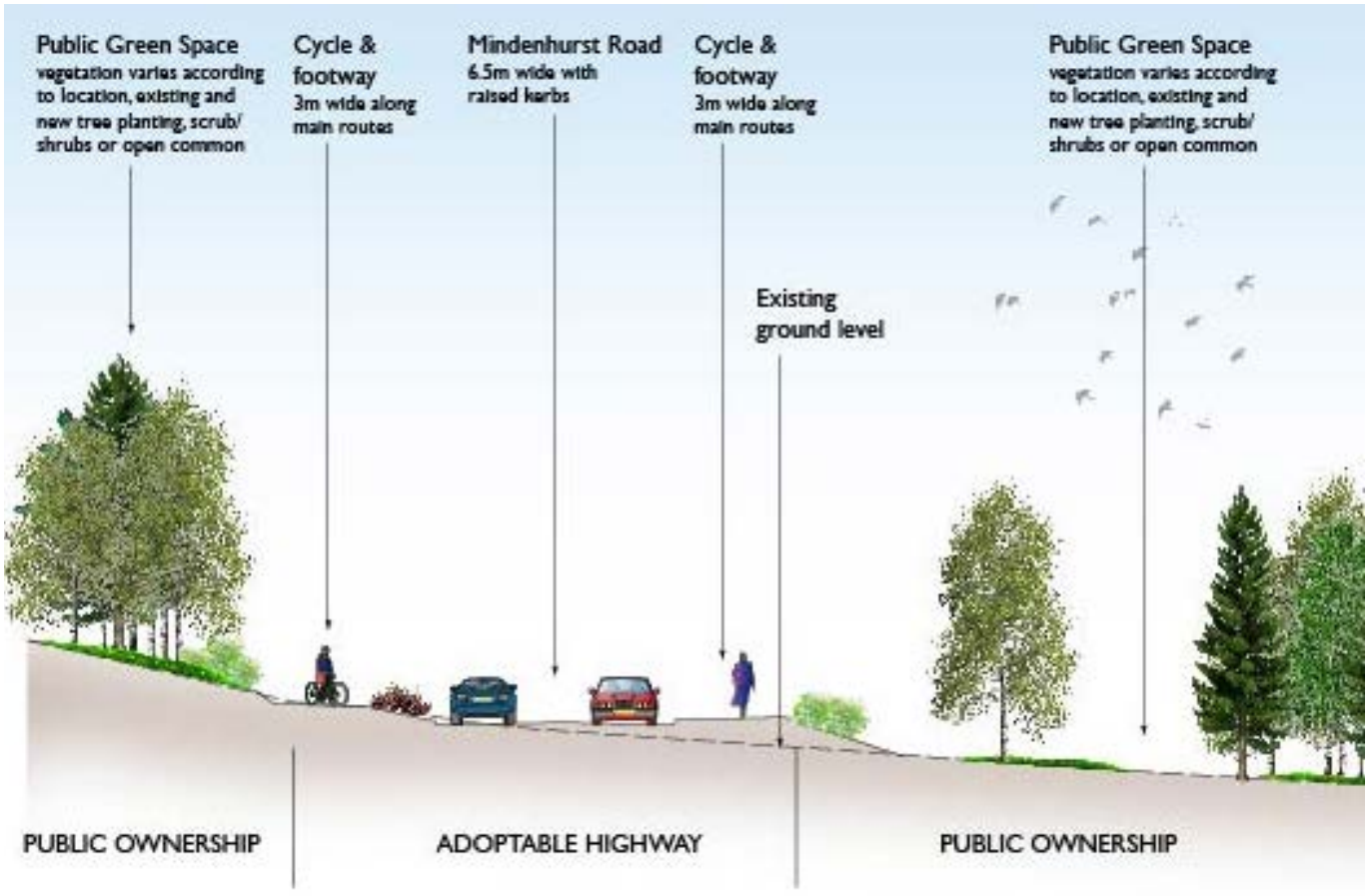
### 3.0 STREET DESIGN

Mindenhurst Road in Newfoundland Road Character Area.

Bordered by trees within adjacent public green spaces, green space dominates the scene. New tree and shrub planting alongside existing retained trees within these green spaces, contribute to a green street scene.



Typical plan image of Mindenhurst Road through Newfoundland Road character area




Section 5 - Mindenhurst Road through green space

Page left blank intentionally

## 3 MINDENHURST ROAD & NAR

### 3.0 STREET DESIGN

#### Existing vegetation and proposed soft landscaping

New soft landscaping and the retention of existing trees and woodland, where appropriate, will provide a soft character to the Mindenhurst Road.

Areas of existing woodland and new tree planting alongside the roadside will help assimilate the road into a heathland landscape. Incidental green spaces will be provided to one or both sides, for the length of the Mindenhurst Road. This will provide a continuous visual connection with greenspace.

The types of green space and vegetation adjoining the Mindenhurst Road will include:

- Existing trees and natural landform – utilised to create green spaces that weave naturally through the residential development – helping the site integrate with the landscape;
- Green 'checkpoints' – irregularly shaped green spaces formed by the intersection of historic routes and paths, as seen within typical Surrey villages. These will provide local refuge and visual amenity, e.g. the junction of Deepcut Bridge Road and Brunswick Road which creates a southern gateway to the village (see bottom left image);
- Planted privacy strips – located along building frontages to maintain security and privacy.

The incidental green spaces alongside Mindenhurst Road will respond to the character of their location. In the central area and adjacent to the School site, the green spaces will take on a Surrey village vernacular, integrating with their immediate proposed surroundings. Whilst in Woodland Edge areas, adjacent to the SANGs and closer to the fringes of the development they will take on a natural aesthetic, seamlessly merging with the adjoining landscape and habitats.

Existing green checkpoint at southern gateway to Deepcut village and mature pine trees for retention within the Mindenhurst Road design.

Example roadside, green space with a focal feature for a village centre location.

Example green space checkpoint with tree planting created within road reservation, to contribute to green infrastructure along the Mindenhurst Road.

## 3.1 STREET FURNITURE

The public realm will be detailed to a high quality and will be attractive, safe and accessible. Street furniture specified along Mindenhurst Road and at the NAR will contribute to the intended character of the street scene. The design of the various street furniture elements should be simple, robust, contemporary and coordinated with the surrounding context. The materials and style of the furniture selected will complement the open space design in terms of purpose, scale and design, as defined by the Site-wide Design Code.

### Bollards

Bollards will be kept to a minimum whilst providing adequate resources to meet the requirements of the community and local authority. Bollards are utilised at the edge of the central SANG, to help prevent parking up on kerbs and within the green space. These will be FSC certified timber to achieve a natural finish.

Timber bollards

### Bus stops

Bus stops will be provided with timber bus shelters and associated cycle parking facilities. Provision will be made for installation of real time bus information systems.


Timber bus shelter

### Road signage

Highway / road signage will be kept to an absolute minimum to minimise visual impact, whilst adequately informing road users of regulations or traffic matters and complying with prevailing standards.

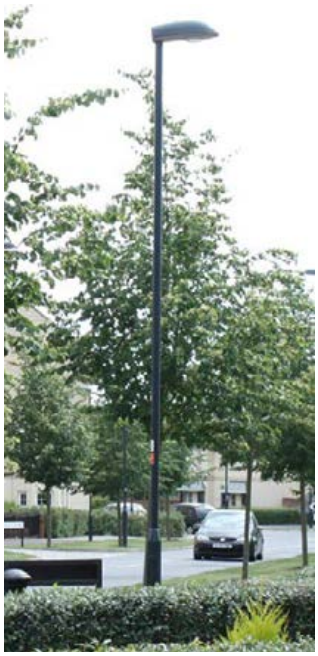
### Lighting

Lighting of the NAR, Mindenhurst Road and adopted paths will be in accordance with the adopting authority requirements with the emphasis on the minimum use of lighting columns.

Lighting columns around the Northern Access Roundabout will be SCC "Standard" to continue the type found along Deepcut Bridge Road. Lighting columns along Mindenhurst Road must meet SCC standards, whilst they are proposed to be a black finish to co-ordinate with the site-wide strategy for the street lighting aesthetic.

Where there are bat flight routes crossing the road, the position of lighting must be carefully designed. Lit footpaths should be aligned to minimise the requirement for lighting. Lanterns and fixtures should be selected to minimise light spill and maintain dark corridors.

Minimal road signage



Lighting column to meet highway requirements

## 3.2 HARD LANDSCAPE SURFACES

### Surface Materials and Kerbs

The quality, appearance and durability of materials used in surfacing public routes and spaces play a crucial role in the creation of a high quality public realm and a characterful wider environment. The selection of such materials will need to be made in recognition of the Deepcut Vision where a high quality of design and environment is described. Choices will also need to be influenced by expectations for future maintenance and adoption, whilst ensuring that the safety and ease of movement for all users is directly addressed.

The Mindenhurst Road road surface shall be asphalt (bituminous material) to adoptable standards. At the edge of the carriageway half battered kerbs will be provided throughout to discourage vehicle over-running of footways or verges. Typically kerbs will have an upstand of approximately 120mm, through the village centre this will reduce to 70mm. The upstand will allow reliable detection by white stick users. Through the Village Centre channel blocks will be provided at the carriageway edge to contribute to street character and encourage lower vehicle speeds.

Footways and cycleways adjacent to the adopted highway will be constructed of tarmac or similar approved material and meet the requirements of Surrey County Council (SCC) design standards including lighting.

Footways within non adopted areas, away from kerb edges should be constructed of either a 'self binding' or well consolidated loose granular material in a 'buff' or similar colour.

Edging should be provided in the form of timber or concrete EF type.

Paths should be constructed with a cross fall of between 1 in 40 and 1 in 60 to allow adequate drainage.

All roads, footways and cycleways will be constructed to SCC adoptable standards.

The following lists the proposed materials to be used along the Mindenhurst Road and adjoining footways.

- Carriageway – tarmac (EU name: asphalt concrete)
- Combined footpath and cycle way adjacent to adopted highway – tarmac or similar approved material by the adopting authority. The preference for path material in adopted areas will be for a coloured tarmac or other bound coloured stone surface course (proprietary or other) to the approval of the adopting authority.
- Non adopted shared paths - self binding granular loose material of a buff or similar colour.
- Footpath edge - timber or concrete EF type.
- Kerbs between carriageway and pavement - square edge / half battered, a relatively square profile is chosen in order to dissuade parking on the kerbs and verges.
- Central section of carriageway in locality of proposed school site - block paving to indicate pedestrian priority.
- Kerb to central section of carriageway in locality of proposed school site - reduced height, to indicate a shared surface zone.
- In carriageway edging detail through central section (in locality of proposed school site)- natural texture square sett laid flush
- Demarcation of crossings at junction – concrete tactile paving to SCC standards.
- Pedestrian crossings – a mix of formal and informal unsignalled crossings, with a toucan crossing adjacent to the NAR.
- Kerb for pedestrian cycle crossing or pavement crossover - concrete kerb/setts natural texture kerb/sett laid flush.
- Adopted carriageway demarcation edging detail to back of footway - concrete setts/kerbs to SCC standards.
- Raised tables at crossing points - block paving / alternative colour surface to indicate pedestrian priority.

Tarmac footway

Concrete block paving

Coloured asphalt

## 3.3 SOFT LANDSCAPE PALETTE

The soft landscaping alongside the Mindenhurst Road is designed to reinforce and extend the heathland and wooded character of the adjoining natural green spaces. It includes the following areas and landscape treatments:

Retained trees: A large quantity of existing mature trees and younger trees including heathland species are being retained along the route with the route alignment itself often steered to keep key specimens and groups. This will result in an immediate sense of maturity, sense of place, wayfinding and providing local heathland character identity.

Areas of greens space within and surrounding the northern access roundabout: Naturalistic planting of native tree and shrub groups. Tree planting includes Birch and Pine species to reflect those found within the local area and heathland. Some ornamental species of shrubs utilised for year round interest and ecological benefit. Acid grassland and meadow grassland within verges to respond to location and local character.

Areas of the Central SANG, east of the Mindenhurst Road: Acid grassland to correspond with the existing vegetation, with strips of heathland planting immediately adjacent to the road so extending this character right up to the built environment.

Heathland planting: This will contribute to a heathland character along the Mindenhurst Road whilst also acting as a deterrent to parking in combination with timber bollards and will require minimal maintenance. The heathland planting will include native marginal and marsh plant species appropriate for damp and wet areas and will be suitable cover for the roadside swale within the verge.

Shrub species typically used alongside the Mindenhurst Road and Northern Access Roundabout:

Spindle (Euonymous europaeus)

Holly (Ilex aquifolium)

Hazel (Corylus avellana)

Dogwood (Cornus sanguinea)

## 3.3 SOFT LANDSCAPE PALETTE

Green checkpoints and pockets at junctions: Naturalistic planting to visually soften and reinforce heathland character at regular locations along the Mindenhurst Road include locally found tree species, including birch and pine, with species rich meadow grass below providing ecological benefit.

Green spaces to east and west of Mindenhurst Road, within Minden Valley South: These areas retain existing mature trees where possible and supplement with new tree planting to complement the existing species. Shade tolerant meadow grass and low maintenance grass will be utilised according to the anticipated use of the area.

Wetland areas swales and ditches: These features are seeded with damp meadow grass and planted with groups of marginal and marsh planting with the intention for these groups to spread and establish naturally. The roadside ditch/ swale will be planted over with heathland and native marginal and marsh plant species as previously described.

Example shrub species for planting alongside the Mindenhurst Road and Northern Access Roundabout:

Goat willow (Salix caprea)

Hawthorn (Crataegus monogyna)

Hazel (Corylus avellana)

Buckthorn (Rhamnus cathartica)

## 3.3 SOFT LANDSCAPE PALETTE

The following lists provide examples of the species which will be included:

### Tree planting:
Betula pendula
Crataegus monogyna
Euonymous europaeus
Ilex aquifolium
Pinus nigra
Pinus sylvestris

### Shrub planting
Corylus avellana
Crataegus monogyna
Cornus sanguinea
Euonymous europaeus
Ilex aquifolium
Prunus spinosa
Rhamnus cathartica
Rosa canina
Sarcocca hookeriana
Salix caprea
Sambucus nigra
Skimmia
Ulex europaeus

### Heathland planting
Calluna vulgaris
Erica cinerea
Erica tetralix
Ulex europaeus
Ulex gallii

### Marginal planting:
Alisma plantago aquatic
Butomus umbellatus
Caltha palustris
Glyceria maxima
Hottonia palustris
Iris pseudacorus
Nasturtium officinale
Sagittaria sagittifolia
Sparganium erectum

### Marsh planting:
Filipendula ulmaria
Lythrum salicaria
Ranunculus flammula
Mentha aquatica
Myosotis scorpioides
Veronica anagallis aquatic
Veronica beccabunga

### Submerged planting:
Ceratophyllum demersum
Callitriche stagnalis
Myriophyllum spicatum

### Grass mixes as appropriate to location:
Low maintenance grass mix
Meadow grass mix
Damp meadow grass mix
Shade tolerant grass mix
Acid grassland

Example heather species for planting in verges alongside the Mindenhurst Road:


Calluna vulgaris


Erica carnea

## 3.3 SOFT LANDSCAPE PALETTE

Tree species for planting alongside the Mindenhurst Road and Northern Access Roundabout:

Birch tree groups (Betula pendula)

Pine tree groups (Pinus sylvestris)

## 3.4 SuDS DESIGN

Sustainable drainage systems (SuDS) are located within the greenspaces alongside Mindenhurst Road and will include highway swales and swales and ditches within the wider greenspaces.

### HIGHWAY SWALES

Highway swales located alongside Mindenhurst Road will:

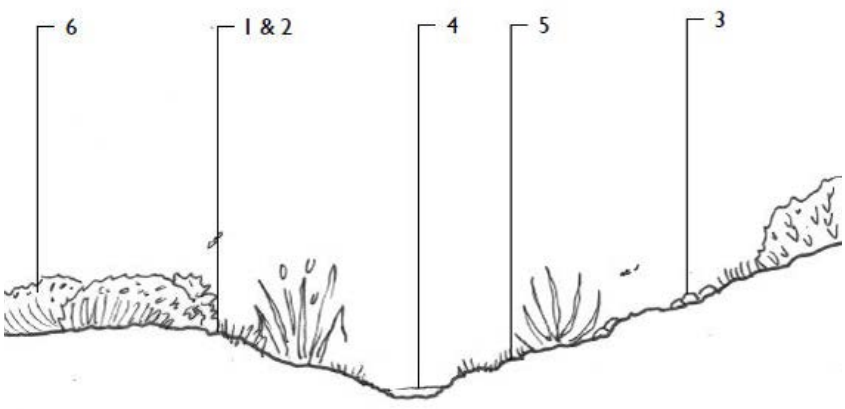
- Operate as dry or wet, dependent on rainfall and surface water run-off;
- Be typically 300-400mm deep x maximum 4m wide;
- Be vegetated with heather planting shall be implanted along this edge to provide a cover to the verge and ditch.

### SWALES & DITCHES WITHIN GREENSPACES

Existing swales and ditches within the site will be will be enhanced and new ditches will add to the site wide SuD system. The ditches will have the following features:

- Operate as dry or wet, dependent on rainfall and surface water run-off;
- Typically be 1-1.5m deep x 7-8m wide;
- Include widening existing ditches and contouring new swales;
- Use berms to form attenuation areas;
- Incorporation of attenuation areas using existing and re-profiled topography in woodland areas and other greenspaces;
- Widen channels in some parts to increase capacity and provide a shallow slope for safety and wildlife benefit;
- Install dams or timber weirs in some locations, part way along the ditch to slow flow and reduce erosion, whilst providing opportunity for wetland habitat;
- Contour and regrade on route to ensure the features appear natural;
- Be seeded and planted with groups of marginal and marsh planting to allow for natural vegetation succession.

Example swale features




Example section through SWALE/ ditch

### SWALE DESIGN PRINCIPLES

1. Shallow slopes allow easy access for wildlife.
2. Varied levels and gradients create damp habitat for invertebrates when water levels fluctuate.
3. Pebbles and stones on bank sides provide habitat for amphibians and insects.
4. Low flow channel meandering where possible and scrapes provide damp habitat across the seasons.
5. Damp meadow grass seeding with planted pockets of native wetlands species, wetland vegetation allowed to colonise naturally along banks of swale.
6. Areas of vegetation provide cover for wildlife.

## 3 MINDENHURST ROAD & NAR

### 3.5 HERITAGE / ARTWORKS

An overview of the Public Art strategy for the site is set out within the Site - wide Design Code.

Future detailed information of the proposed Public Art and design fixes will be set out as part of the Public Art strategy developed in response to the Section 106 Agreement (17 April 2014).

An opportunity for a heritage or artwork feature has been identified within a public spaces adjacent to the Mindenhurst Road. This location is within a greenspace adjacent to the School site and opposite the access route linking with the Village Centre.

The feature will provide a point for pause and interaction within the landscape and will be unique and responsive to the Village Centre location. The feature will create a focal point and act as a landmark, contributing to wayfinding.

The feature has the opportunity to have natural heritage qualities, memorial or cultural qualities relating to the military history of the site, or a combination of these. The feature also has the opportunity to integrate multiple functions, such as integrating play, usable green space, street furniture or SuDS design.

Example art features

Page left blank intentionally

# VILLAGE GREEN

PART B STRATEGIC ELEMENTS



PART C DETAILED ELEMENTS

## 4 VILLAGE GREEN

### 4.0 OVERVIEW

The Village Green is located to the east of Deepcut Bridge Road, north of Brunswick Road and south of the St Barbara's Church, cemetery and proposed village centre. It is identified as a character within Deepcut Regulation 19 SPD and Princess Royal barracks DAS, with Brunswick Woods character area located to the south and Minden Ridge and Slopes located to the east.

The area currently comprises and open area of regularly mown amenity grassland with some areas of hard standing and MoD buildings. The ground level of the Village Green gradually rises to the north and north west with a distinct engineered grass bank dividing the area into north and southern zones. A key feature of the Green are the stands of mature trees, including pines, alongside Deepcut Bridge Road, Brunswick Road and along the cemetery boundary which also has an established hedgerow.

Mindenhurst will require a Village Green around 2ha in size. This should provide a hub to the Village and enshrine the natural heathland character found within the surrounding area.

Figure 8 below shows a strategic plan indicating the extent of the Village Green and its key features.

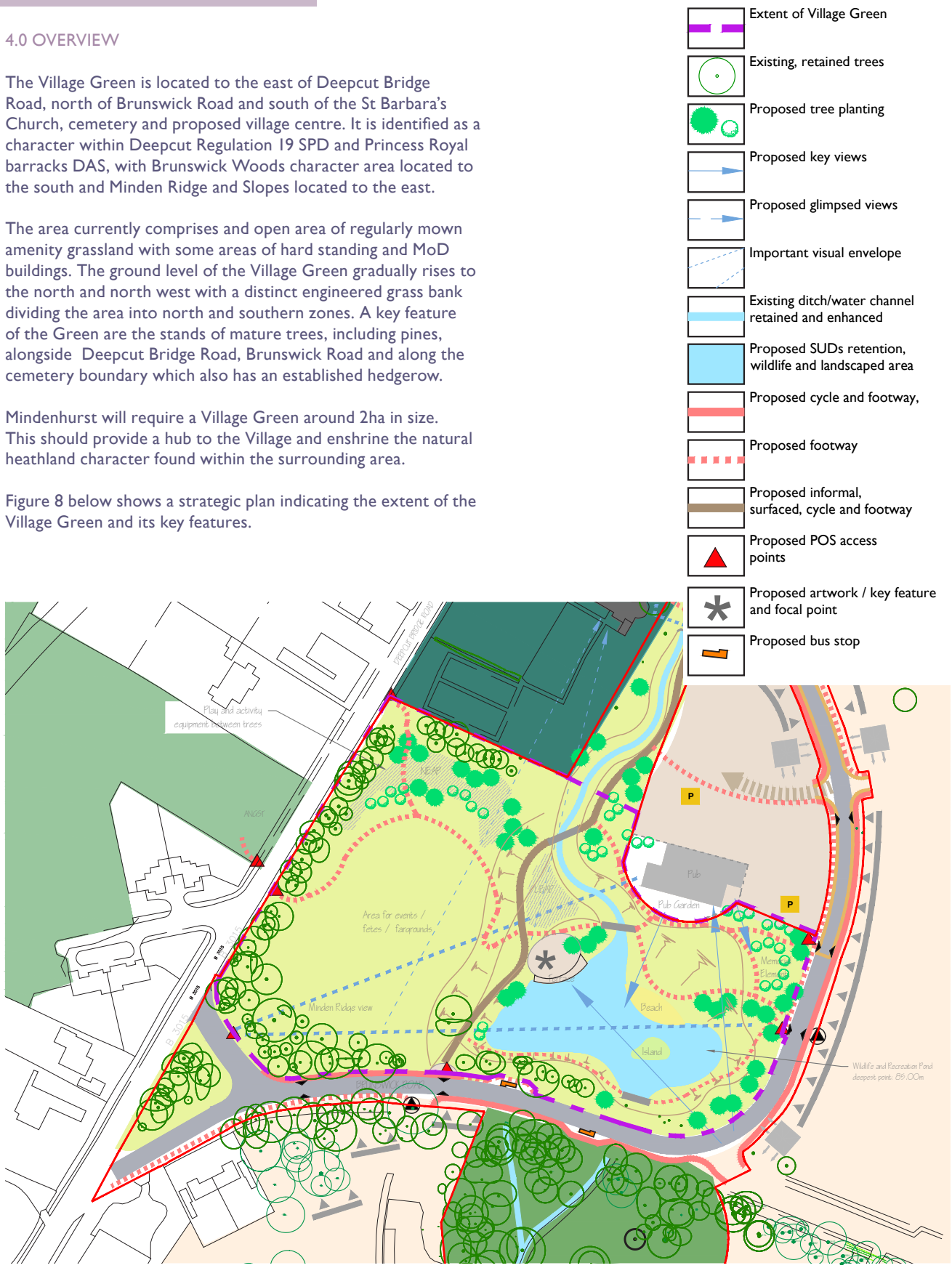



Figure 8 Strategic Diagram indicating extent of Village Green

## 4.1 KEY FEATURES

Key existing characteristics of the Village Green are identified within the SPD. The future design of this space will seek to retain and enhance these characteristics:

- The largest, publicly visible green space which adjoins Deepcut Bridge Road.
- Predominantly open grassland with a number of buildings and mature trees and hedges along Deepcut Bridge Road and in the park adjacent to the church.
- Key view to Minden Ridge focal point from Deepcut Bridge Road near the intersection with Brunswick Road, up to the Minden Ridge.
- Vehicle and pedestrian access from Deepcut Bridge and Brunswick Roads.
- Pedestrian access via a route alongside the cemetery to Deepcut Bridge Road.
- A rural approach from the south characterised by established woodland.

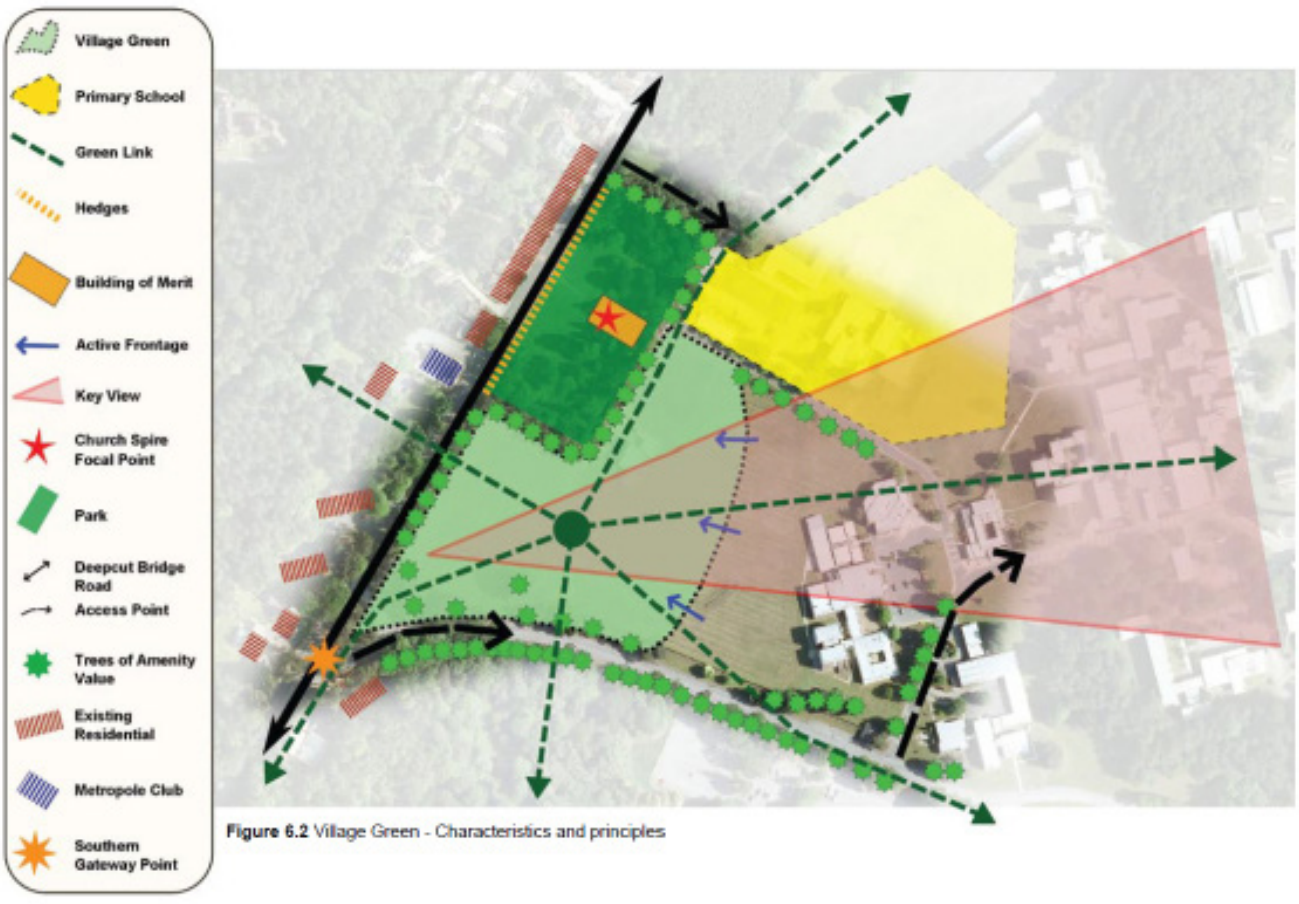



**Figure 6.2** Village Green - Characteristics and principles

Figure 9 Extract from SPD - Village Green Characteristics and Principles

Page left blank intentionally

## 4.2 PROPOSED CHARACTER AND ROLES

The character of the Village Green will respond to roles as set out within the existing SHBC guidance. The design for the Village Green and key proposals have been formulated in response to the character area features and to incorporate the following:

- A key community hub which is capable of accommodating community events;
- Enable protection of the fore and middle ground components of the Minden Ridge View;
- A highly visible space at the meeting point of a number of access routes;
- A hub for informal recreation such as picnicking, playing, walking, sitting, meeting people and observing life;
- Accommodate children's play space;
- An accessible and safe space through which people move, either by walking or cycling via green corridors, links and amenity spaces that connects to the area;
- The focus of the green amenity space, pedestrian and cycling networks;
- A focal point for the SuDS network;
- The Village Green is expected to be at the meeting point of a number of roads. The green space will spill over the roads which will partially fragment the green into separate parcels. However, a large central space capable of accommodating periodic community events such as fetes or travelling shows must be maintained;
- Consideration should be given to meeting the local community's aspirations for the space, paying particular regard to the inclusion of a water feature and siting of a traditional pub within the immediate surrounding area;
- The Village Green is expected to be loosely enclosed in keeping with traditional Surrey village greens. Green links and amenity green spaces will be expected to run into the Green in a number of places. Firmer enclosure will be provided by built form, orientated in a manner to actively engage with the space. Plot sizes are expected to be varied with several high status buildings acting as focal points;
- High quality landscape treatments and materials that reflect the local context should be used;
- A mix of uses is expected to front onto the Village Green. Investigation of residential and small scale retail and community activities should be encouraged;
- Preserve and enhance the character of Minden Ridge View – achieved by the retention of a broad green swathe within the foreground, narrowing up the hillside to a focal point on the ridge. The hillside will be cloaked in residential buildings with retained and new tree planting providing a strong green component within the scene;
- Responsive topography – the design will respond to the existing topography by positioning water / SuDS features at the lower points of the Village Green and retaining existing open level areas to the west of the green for recreation and preservation of Minden Ridge View;
- Provide a centralised 'hub within a hub' at the centre of the Village Green as a focal and meeting point.

Photos of existing Village Green character

## 4.3 OUTLINE DESIGN PROPOSALS

The Village Green design will incorporate the following key features:

1. Key View - The key view from the south western corner looking eastwards towards the Minden Ridge is retained by keeping the central area of the green largely open.

2. Tree Belt – The existing tree belt of largely mature Scots Pine will be conserved and enhanced with proposed replacement trees of the same species set in appropriate locations to ensure longevity. Elsewhere, occasional trees will be planted in informal groups and seek to frame views and create spaces. The trees along the western end of the northern boundary will be enhanced with further planting to form a strong boundary to the adjacent cemetery and church beyond.

3. Naturalistic Character – The current 'engineered' nature of the existing mown grass and uniform straight bank dividing the grass area into distinct western and eastern zones will be softened through remodelling of the contours to blend the two areas together by grading back the steep slope and varying the line of the level change. Around the outer edges of the green, areas of acidic grasslands and heath will be established to create a more natural landscape typical of the Surrey Heaths.

4. Play Spaces – Both a LEAP and a NEAP are proposed sited far enough away from the proposed housing areas but casually overlooked to allow for surveillance and linked to the path network. The LEAP design theme is to provide a natural play setting in the landscape by use of carefully designed boundaries and play equipment of predominantly wood . For the NEAP the theme is to provide a trail of more demanding interlinked equipment carefully selected to suit and fit within the wooded edge.

5. Event Space and Informal kick around space – The western zone will be provide a flatter open grass area suitable for holding events such a fairs and fetes. This will also act as a kick around area close to the NEAP. Additional land drainage will be provided to make this area more usable all year round.

6. Pond feature with island (detailed in the following section).

7. Pub and Pub Garden – Adjacent to the eastern end of the northern boundary, a pub and pub garden is proposed which will face onto the green and help provide the Surrey Village Green character.

8. Central Hub - Providing a central, gathering space at the heart of the Village Green with space for an art feature / focal point. A hard surfaced central space provides opportunities for gathering and temporary stalls. The LEAP and pond adjoin this area.

9.Opportunity for a memorial element such as memorial trees.


Figure 10 Village Green Masterplan

## 4.4 POND DESIGN PROPOSALS

The Village Pond is located within the lowest part of the Village Green, the following design and construction principles will be integrated within the design:

Water source: the pond will be fed by surface water flowing from the north ditch network and with an outfall on its southern side with the ditch network continuing through Brunswick Wood and to the Basingstoke Canal.

Form and shape: the pond would be constructed in an informal shape with gently sloping sides to allow views to its surface and to ensure it blended naturally into the contours.

Edge design: the pond will lined and be carefully designed to ensure the liner will be hidden at all times of the year with reeds beds established around most edges and 'soft' engineering details at key access points.

Access: a gravel 'beach' will allow people contact with the water's edge.

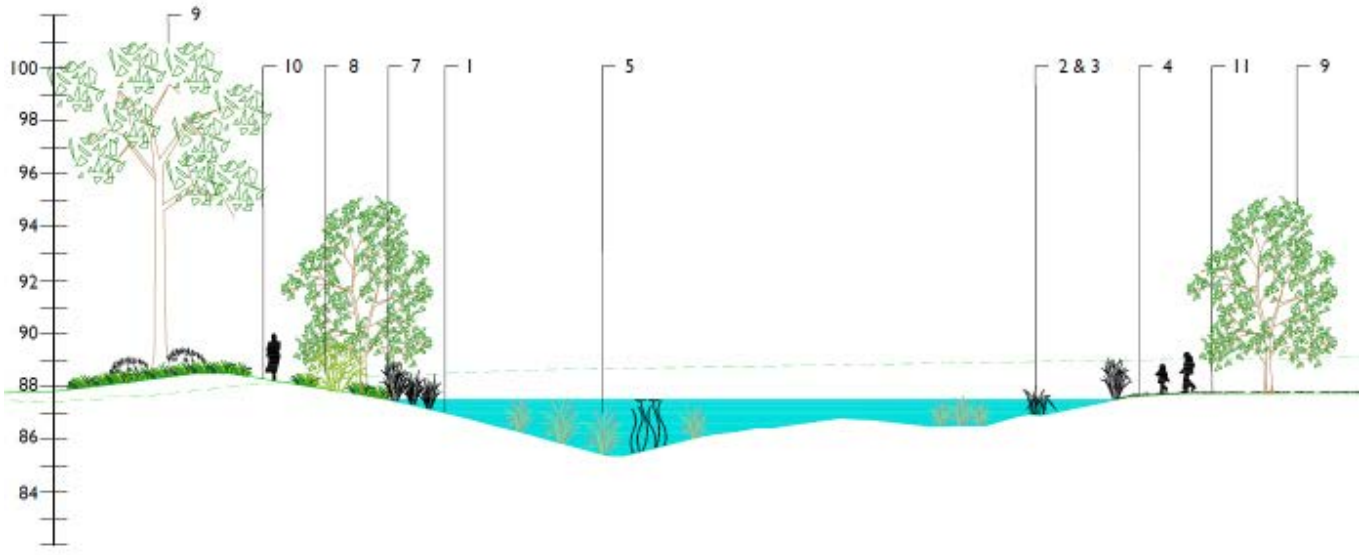
Water depths: will extend to 2.0m plus in places to ensure an ecologically stable water body.

Island: a small island will provide a wildfowl refuge, with feeding and nesting opportunities.

Flood attenuation: extra flood attenuation space in the event of a large flood event will be provided by gently lowering the land to the north of the pond.

## POND DESIGN PRINCIPLES:

1. Shallow slopes allow easy access for wildlife.
2. Varied levels and gradients give extended draw zone areas in places, providing opportunities for wildlife, marginal and shallow water plant species and damp habitat for invertebrates.
3. Naturalistic hummocks and hollows within the draw zone provide damp areas as the water level fluctuates.
4. Pebbles and stones on bank sides provide habitat for amphibians and insects.
5. Deep areas ensure a more stable water body as temperature fluctuation is reduced. The varying depths provide a range of opportunities for submerged plant species and associated habitat for invertebrates. These areas benefit fish (which may colonise naturally) and wetland bird species.
6. Island provides a more secure habitat as predators such as fox cannot access, with feeding and nesting opportunities for birds, as on Figure 6.
7. Damp meadow grass seeding with planted pockets of native wetlands species, wetland vegetation allowed to colonise naturally along banks of swale.
8. Areas of native shrub and tree vegetation provide cover for wildlife.
9. Occasional tree planting around pond edge, alongside the existing retained trees, provides some shelter and shade whilst maintaining open views to the pond and Village Green.
10. Permeable footpath allows drainage to pond.
11. Gravel beach and timber platform provide access to the pond whilst preventing severe erosion.



Page left blank intentionally

## 4.5 CONNECTIVITY AND LINKS

A network of paths crosses the site connecting to the surrounding existing highway, cycleway and footpath network, as well as the proposed new residential and village centre.

The Village Green is designed to provide a hub within Mindenhurst development and is directly connected to the wider site by a cycleway, footpaths and roads. The sustainable transport network will directly link to the central hub within the Village Green – the 'hub within the hub' via a shared cycle and footway.

Deepcut Bridge Road Brunswick Road and the Mindenhurst Road run adjacent to the Village Green to the south, east and west. These provide vehicle access to the Village Green including bus links. A bus stop will be located near the main entrance to the Village Green to facilitate access.

Pedestrian routes alongside Deepcut Village Road and the Mindenhurst Road allow extensive pedestrian access to the Village Green via defined entrances and through permeable boundaries. The radial pattern of paths all connecting to the Village Green hub will also provide pedestrian links to the proposed Mindenhurst Village via routes to the residential areas as well as to the interlinking network of open spaces and green infrastructure which themselves link to wider areas beyond the development.

## 4.6 ECOLOGICAL CONSTRAINTS

Currently, the area proposed for the Village Green has low ecological value as it mostly comprises closely mown amenity grassland with a mature coniferous tree line along the southern and western boundaries. The tree line was identified to be used by commuting bats from Brunswick Woods to the south and the grassland could provide a foraging area for local badger populations. Both of these features are to be retained.

The key biodiversity objectives for the village green are:

- Maintaining dark corridors along the southern and western boundaries to promote a link from the southern SANG to the north and west for bats;
- Retaining open grassland;
- Provision of a permanent pond feature.

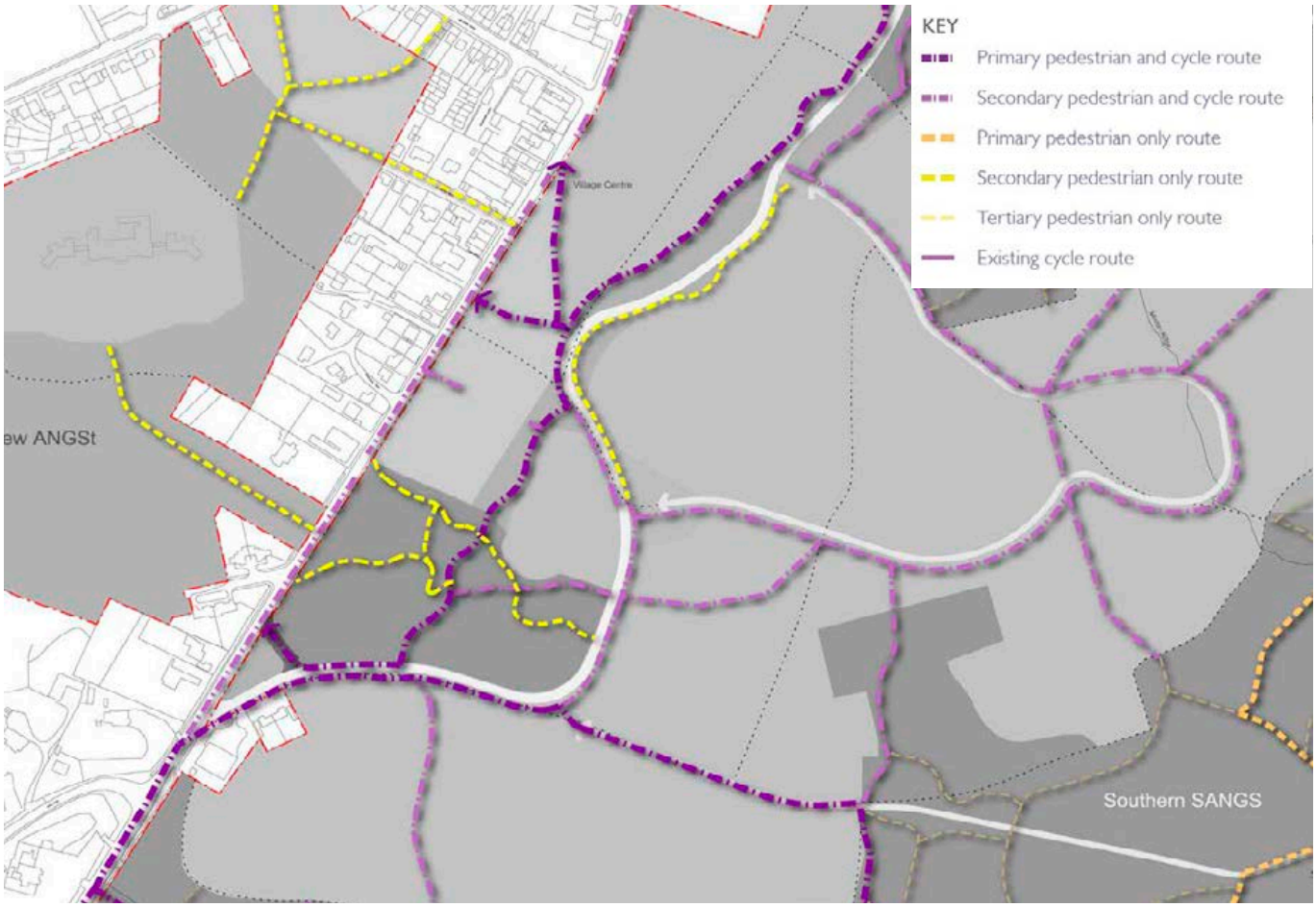



Figure 11 Diagram of cycle and pedestrian links

## 4.7 BOUNDARIES

The Village Green shares boundaries with St Barbara's Church and cemetery, proposed residential development and the Village Pub to the north east, proposed housing within Minden Ridge and Slopes character area to the east, and proposed housing development within Brunswick Woods character area to the south.

The boundary treatments seek to allow maximum accessibility for pedestrians and visual permeability to allow a safe environment. The treatment of the edge of the Village Green will seek to prevent parking on verges and within the greenspace whilst allowing this permeability.

The arrangement of the boundary treatments is as follows:

Northern boundary to St Barbara's Church - existing hedgerow and mature trees are to be retained to provide enclosure and privacy to the cemetery. New tree planting will supplement the existing to provide a more wooded character. A wide corridor of greenspace is allocated between St Barbara's Church and the development parcel to the east. This will provide a green setting to the church. Existing ditch features located here will be retained and enhanced.

Northern boundary with proposed Village Pub - a permeable boundary will be provided between the pub and the Village Green. A pub garden with defined low boundary will be located to the north of the Village Green to allow movement via gates and passive surveillance over the Village Green.

South and east boundary to Mindenhurst Road and new residential development - new properties positioned adjacent to the Mindenhurst Road are to be orientated to overlook the Village Green and provide a positive street frontage. Buildings along these boundaries will have a varied and sometimes irregular alignment to achieve a less formal arrangement, as suggested within the Deepcut SPD.

West boundary to Deepcut Bridge Road- the existing bank and tree belt are to be retained along this edge. New tree planting will supplement this tree line in a few locations, whilst the boundary will remain open beneath tree canopy level to retain views up to Minden Ridge.

See Section 2.4 for sections of the boundary treatment between the Village Green and Mindenhurst Road.

Village Green northern boundary to St Barbara's Churchyard

Northern boundary to St Barbara's Church

Western boundary to Deepcut Bridge Road

Southern boundary to Brunswick Road

# PART C: DETAILED ELEMENTS

## 5 VILLAGE GREEN

### 5.0 PLAY DESIGN

A variety of play opportunities will be provided within the Village Green, including provision for formal play, informal recreation and incidental play.

### CENTRAL LEAP (LOCAL EQUIPPED AREA FOR PLAY)

This is 'an area of open space specifically designated and laid out with features including equipment for children who are beginning to go out and play independently…' (Planning and Design for Outdoor Sport and Play, Fields in Trust). The LEAP will provide an opportunity for formal and informal play through the provision of play equipment and features to provide a minimum of 6 play experiences.

### LEAP DESIGN PRINCIPLES:

- Positioned beside a well-used pedestrian route.
- Occupies a well drained, level surface with grass or hard surface.
- Minimum of 400sqm activity zone.
- Buffer zone of 20m minimum between activity zone and the nearest building façade.
- Varied planting within the buffer zone to provide scent, colour and texture.
- Minimum of six play opportunities to provide a stimulating and challenging play experience.
- Space within LEAP to play active 'chase' games.
- Seating and bins to be provided.
- Signage to indicate this is an area for children's play and dogs are not welcome.
- Im high fencing to provide a boundary and protection to the nearby ditch and adjacent cycle and footway.
- Predominantly timber play equipment with some colourful elements, fixtures or features for interest and stimulation.





Example LEAP play equipment

## 5.0 PLAY DESIGN

### WOODLAND NEAP (NEIGHBOURHOOD EQUIPPED AREA FOR PLAY)

The NEAP is 'an area of open space specifically designed, laid out and equipped mainly for older children but with play opportunities for younger children as well.' (Planning and Design for Outdoor Sport and Play, Fields in Trust).

The woodland NEAP provides opportunities for activities and play amongst the trees located at the north-west periphery of the Village Green. New tree planting will supplement the existing to enhance and contribute to a woodland edge character.

### NEAP DESIGN PRINCIPLES:

- Positioned beside a well-used pedestrian route.
- Occupies a well drained, level surface with grass or hard surface.
- Minimum of 1000sqm activity zone.
- Buffer zone of 30m minimum between activity zone and the nearest building façade.
- Varied planting within the buffer zone to provide scent, colour and texture.
- Play elements and features to provide a stimulating and challenging play experience.
- Space within NEAP to play active 'chase' games.
- Seating and bins to be provided.
- Convenient and secure parking for bicycles.
- Predominantly timber play equipment and natural play features to achieve a naturalistic feel and character.





Example NEAP play equipment

# PART C: DETAILED ELEMENTS

## 5 VILLAGE GREEN

### 5.1 PARKING PROPOSALS

Parking for the Village Green is available within a public car park off Deepcut Bridge Road, behind St Barabara's Church and adjacent to the proposed Village Pub.

### 5.2 PARK FURNITURE

The public realm will be detailed to a high quality and will be attractive, safe and accessible. Street furniture will contribute to the intended character of the Village Green. The design of the various elements should be simple, robust, contemporary and coordinated with the surrounding context. Materials and style of furniture will complement the public open space design in terms of purpose, scale and design, as defined by the Site-wide Design Code.

#### Bollards

Bollards will be kept to a minimum whilst providing adequate resources to meet the requirements of the community and local authority. Bollards will be utilised along sections of the Village Green boundary to provide a barrier to vehicles and prevent parking within the greenspace. These will be FSC certified softwood to achieve a natural finish.

#### Seating

Seating will be provided at appropriate locations within the Village Green including the central hub, the south west corner (from where the Minden Ridge View is appreciated), the NEAP and LEAP.

A range of seating will be provided including benches with back rests and more natural features within the recreation and play areas such as boulders and logs. Benches provided will be mainly FSC certified timber to tie in with the proposed natural heathland character of the Village Green.

#### Bicycle stands

Bike stands will be provided near entrances and at the central hub within the Village Green. These will be typically classic, steel or black painted finish. Bicycle stands also provide an opportunity for artwork.

#### Litter Bins

Bins should be located within high use areas and entrances to the Village Green. These will include main entrances and the central hub. The location of general litter bins should be co-ordinated with dog litter bins. Bins should be timber or a black colour finish to co-ordinate with seating and bike stands.

Bike stands

Litter bins


Bollards

Seating

### Lighting

Lighting of the Village Green will be minimal. The Mindenhurst Road and associated cycle and footway, which wrap around the south and west boundary of the green will be lit in accordance with highway standards. This will provide an accessible lit pedestrian and vehicle route which links with the wider circulation network.

The cycleway which passes through the centre of the green to the hub is suggested to remain unlit / have minimal lighting to maintain the rural heathland Village Green character. There is opportunity for low level bollard lighting along this route subject to agreement with the local authority.

### Signage

Two types of signage will be provided within the green: 1) Information boards and 2) Education boards.

1. Information boards

Information boards at the man entrances to the park: these will include a plan of the Village Green, general information and a notice board for announcements, safety information relating to the pond. The information provided should identify the sustainable transport network and green space network within the Village.

Information boards next to the LEAP: will state that the area is for children's play and dogs are not welcome, the name and telephone number of the facility operator with an invitation to report any incident or damage to the LEAP or play equipment, the location of the nearest telephone.

Information board at the central hub, adjacent to the pond: will provide health and safety information.

2. Education boards

Education boards will be located at selected entrances to the Village Green and at the central hub, adjacent to the pond. These will provide information regarding flora and fauna, habitat and wildlife.

## 5.2 BRIDGES

Bridges are used within the Village Green to provide access over the drainage ditch. The width of the bridge will match or exceed that of the path in which it aligns. The access to the bridges will be flush with the path surface. The bridges will be accessible to all and steps will not be used as fluid access must be achieved for pedestrians and cyclists.

The fabric of the bridge will be predominantly timber with some metal elements where the design requires for fixings. The surface of the bridge must be sufficiently anti-slip to omit and avoid slips.

Sackler Bridge Kew



Example timber pedestrian bridges

## 5.3 HARD LANDSCAPE SURFACES

The quality, appearance and durability of materials used in surfacing public routes and spaces within the Village Green play a crucial role in the creation of a high quality public realm and a characterful wider environment. The selection of such materials will need to be made in recognition of the Deepcut Vision where a high quality of design and environment is described. Choices will also need to be influenced by expectations for future maintenance and adoption, whilst ensuring that the safety and ease of movement for all users is directly addressed.

Paths and hard surface areas within the Village Green are chosen to provide a suitable surface according to quality, appearance and use. Surfaces are used to the minimum extent in order to maintain the natural heathland, Village Green character.

The shared cycle and footway, and the main paths adjoining the key site entrances will be surfaced in a suitable bound all weather material due to potential gradients, such as asphalt, coloured asphalt or Fiberdeck with a concrete edge.

Informal paths around the pond edge and secondary pedestrian routes will be constructed of 'self binding' granular material of a 'Buff' or similar colour, with a timber edge.

The central hub area will be hard surfaced to provide an accessible space for meeting, seating, art features and opportunities for stalls and other community activities. This will be surfaced in a durable, permeable surface such as resin bound gravel. The outer edge of this space will be softened by indentations of soil with heather planting to provide a naturalistic edge.

Surfacing within the LEAP will comprise areas of grass, reinforced grass/ grass matts, bark and sand. These are to be used as impact absorbing surfaces where applicable, in accordance with RoSPA guidance. Surfaces should be designed in accordance with the associated play feature and critical fall heights. Reinforced / mat areas will also help withstand wear and tear. A hard surfaced path through the LEAP will facilitate wheelchair access.

Gravel footpath

Resin bound gravel

Asphalt path

Bark play surface

## 5.4. SOFT LANDSCAPE PALETTE

Village Green Key Species:

The Village Green planting comprises species selected to enshrine a natural, heathland character which is in keeping the surrounding vegetation character.

The types of planting found within the Village Green will include:

- Locally found tree species;
- Areas of open general purpose grassland for recreational use;
- Meadow grass at margins and in low use areas;
- Damp meadow grass on ditch banks;
- Areas of heathland planting;
- Groups of shrub planting;
- Marginal and wetland planting around the pond.

The following lists are examples of the species for planting within the Village Green.

Tree planting:
Acer campestre
Betula pendula
Castanea sativa
Pinus sylvestris
Prunus avium
Quercus robur
Sorbus aucuparia
Tilia cordata

Shrub planting:
Corylus avellana
Crataegus monogyna
Rosa canina
Ilex aquifolium
Rhamnus cathartica

Heathland planting:
Calluna vulgaris
Erica cinerea
Erica tetralix
Ulex europaeus
Ulex gallii

Grass mixes as appropriate to location:
Low maintenance grass mix
Meadow grass mix
Damp meadow grass mix
Shade tolerant grass mix
Acid grassland

The following lists are examples of the species for planting within the Village Green pond, ditches and surrounding banks:

Marginal Planting:
Alisma plantago aquatic
Butomus umbellatus
Caltha palustris
Glyceria maxima
Hottonia palustris
Iris pseudacorus
Nasturtium officinale
Sagittaria sagittifolia
Sparganium erectum

Marsh planting:
Filipendula ulmaria
Lythrum salicaria
Ranunculus flammula
Mentha aquatica
Myosotis scorpioides

Veronica anagallis aquatic
Veronica beccabunga

Submerged planting:
Ceratophyllum demersum
Callitriche stagnalis
Myriophyllum spicatum

Example pond side planting

## 5.4. SOFT LANDSCAPE PALETTE

Example shrub species for planting within the Village Green:

Dogwood (Cornus sanguinea)

Buckthorn (Rhamnus cathartica)

Spindle (Euonymous europaeus)

Holly (Ilex aquifolium)

Hazel (Corylus avellana)

Hawthorn (Crataegus monogyna)

## 5.4. SOFT LANDSCAPE PALETTE

Example tree species for planting  within the Village Green:

Field Maple (Acer campestre)

Rowan (Sorbus aucuparia)

Goat Willow (Salix caprea)

English Oak (Quercus robur)

Example grassland:

# PART C: DETAILED ELEMENTS

## 5 VILLAGE GREEN

### 5.5 HERITAGE / ARTWORKS

A public art strategy for the site is described within the site wide design code.

An opportunity for an art or heritage feature has been identified within the central hub of the Village Green. Here, a suitable art piece will be provided as a focal point within this key space.

The feature will provide a point for pause and interaction within the landscape and will create a focal point and act as a landmark.

The artwork should be unique and responsive to the Village Green location. It has the opportunity to provide natural or cultural heritage and creative qualities. The feature also has the opportunity to integrate multiple functions, such as opportunities for play, interaction, shelter, cycle storage or seating.

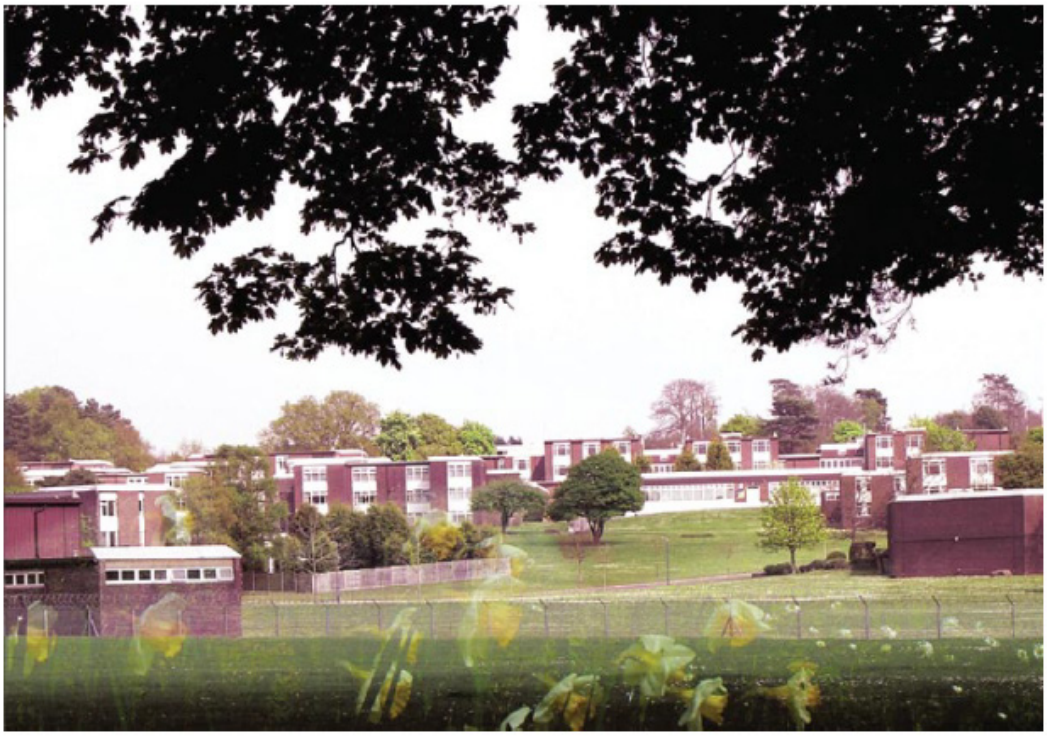
To the north east of the Village Green an area has been identified as having opportunity for a memorial feature. This has potential to be a location for memorial trees in a formal or informal arrangement.

### 5.6 MINDEN RIDGE VIEW

Allocation, design and layout of the Village Green has sought to preserve and enhance the character of Minden Ridge View by providing a broad green swathe within the foreground, whilst residential buildings cloak the distant hill. New tree planting supplements the existing whilst retaining a green swathe receding into the distance.

The illustrative view overleaf shows the retention of the green swathe and the influence of existing and proposed green infrastructure in this key view across the site.

Example art features



Existing view to Minden Ridge, extract from SPD

Illustrative view to Minden Ridge

# CENTRAL SANG

# PART B: STRATEGIC ELEMENTS

## 6 CENTRAL SANG / MINDEN WOODS

### 6.0. OVERVIEW

The Central SANG is part of Minden Woods, approximately 13ha in size, it lies centrally within the development and borders the eastern boundary of the site. The western woodland of the Central SANG is designated as a Site of Nature Conservation Interest (SNCI).

The layout and arrangement of the Central SANG should accord with the land use defined within the Regulatory Plan and should be delivered as part of Phase 1 Infrastructure.

The detailed design of the Central SANG should be implemented to deliver the design vision of the SPD and DAS. It will seek to achieve and deliver the following:

- Create a SANG 13 hectares in area;
- Create a mosaic of habitats by the sensitive thinning of coniferous woodland in areas to allow for the natural regeneration of heathland;
- Create a 2.3km circular walkway where users will experience a variety of habitats, woodland glades and rides;
- Ensure a feeling of naturalness for the user;
- Provide a parking area and SANG information hut.

### 6.1. PROPOSED CHARACTER AND ROLES

The SANG will consist of a mosaic of different habitats including broadleaved woodland, mixed woodland, heathland and acidic grassland. The existing character of these spaces will be enhanced to create a variety of new habitats and different experiences. Selective thinning of small trees and scrub in dense areas will encourage natural regeneration and more diverse ground flora, while selective thinning of conifers to form new glades and rides will allow regeneration of heathland and acid grassland habitats.

The function of the SANG is to provide a suitable area of green space, designed to attract users away from the SPA. The SANG will aim to provide members of the public with a relaxing area of natural habitat to use that contrasts distinctly with developed areas.

These areas will retain a natural feel and will be managed to promote biodiversity with a variety of habitats. Access will be unrestricted and will include a 2.3km route that will allow for dogs to roam freely off the lead.

### 6.2. ECOLOGICAL CONSTRAINTS

The main ecological sensitivities associated with delivering the Central SANG is the presence of breeding birds, reptiles at the woodland edge and the potential for bat roosts within trees. Sensitive working methods will be employed to reduce the risk of harm or disturbance to these protected species. Once trees are identified for removal, they will be assessed for potential roosting features for bats and surveyed accordingly. Bat mitigation will be incorporated within the Central SANGs visitor hut.

The key biodiversity objectives for the Central SANG are:

- Encourage the long-term sustainability of the woodland habitat through ecological diversity enhancement, protection and conservation;
- Control/ eradication of invasive species
- Maintenance of connectivity with habitats in the wider landscape;
- Thinning of coniferous woodland to encourage regrowth of acid grassland and heathland;
- Retention of large/ significant mature trees;
- Protection of important species within the area from disturbance from people and dogs.

Images of existing on-site SANG

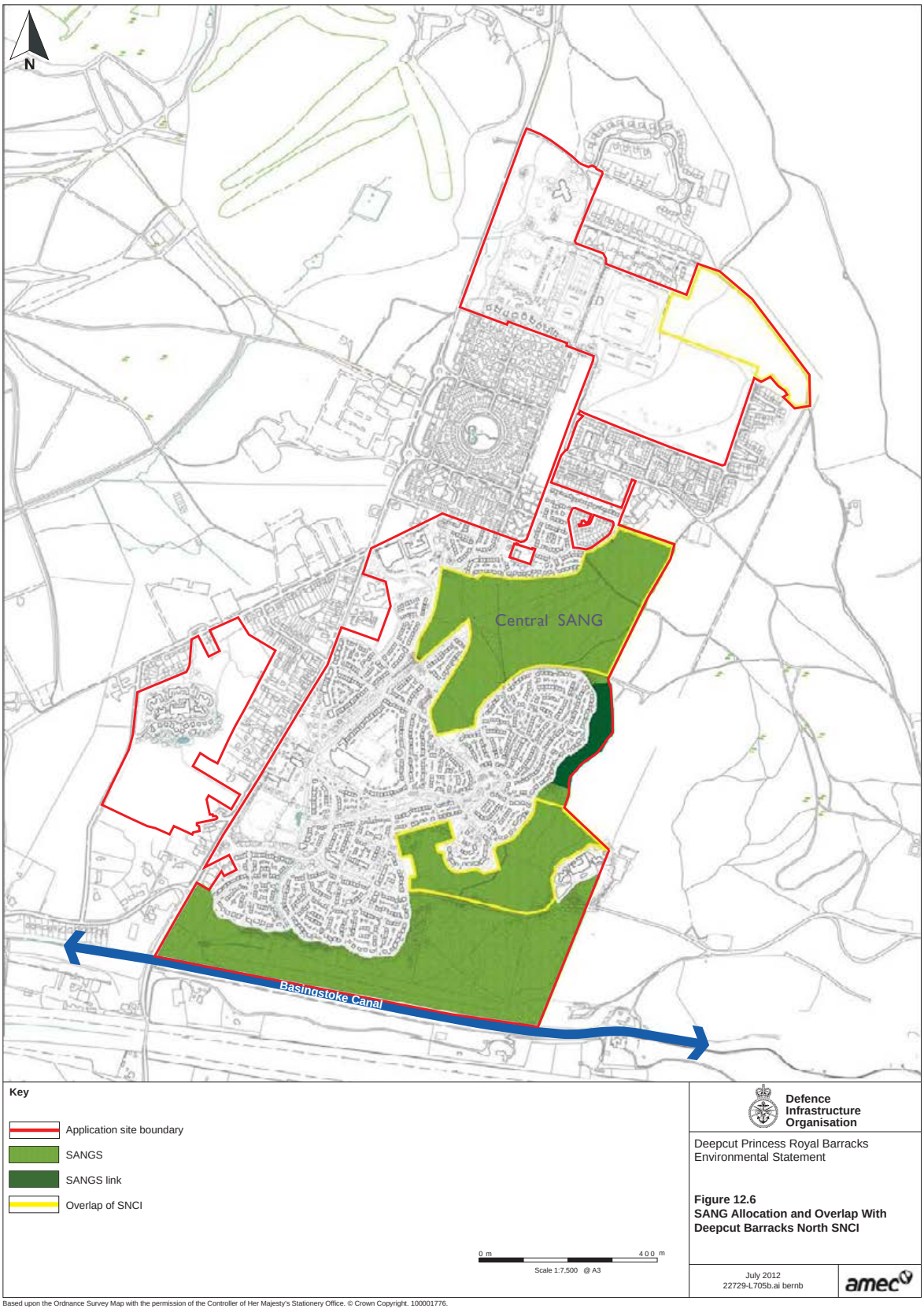



Figure 12 SANG allocation plan

## 6.3 CONNECTIVITY AND LINKS

The Central SANG will be connected by the 'SANG link' to the Southern SANG, with additional areas of Public Open Space readily accessible.

The existing network of informal routes, which wind through the woodland, will be retained to provide a variety of recreation routes. Giving opportunities for users to experience a different route each visit.

Suitably surfaced informal footpaths/cycleways will be provided to connect to the future network of footpath/cycleways beyond the SANGs located in the Mindenhurst Road, POS and proposed future housing areas.

At key entrances, information boards will be provided along with recycling and litter bins and dog waste bins

## 6.4 BOUNDARIES AND KEY FRONTAGES

The Central SANG shares boundaries with Mindenhurst Road to the west, areas of proposed residential development to the north and south. The area of Minden Woods extends further to the east.

The treatment of boundaries to Mindenhurst Road and development parcels to the north and south should seek to convey and reinforce the existing natural character of the SANG. Existing vegetation should be retained as far as possible and further enhanced with new planting.

Alongside Mindenhurst Road and development parcels the edge treatment should aim to prevent parking within the SANG or on the verge.

This may be achieved through the combined use of appropriately selected kerbs, planting and bollards.

## 6.5. OUTLINE DESIGN PROPOSALS

The Central SANG will retain existing areas of mixed, broadleaf and coniferous woodland, this habitat occurs frequently throughout the local area. The denser areas of plantation will be thinned to allow for the regeneration of heathland and acidic grassland in clearings, thus creating a more open habitat.

Coniferous woodland has some ecological and aesthetic value and is frequently found with the locality, often associated with the acidic, heathland habitat. This habitat should be managed to allow for the regeneration of heathland areas creating a mosaic of habitats and experiences for the residents. Open glades and heathy rides will be interspersed with a mix of coniferous and broadleaved woodland.

The existing Royal Way road crosses in a north-south direction through the western part of the SANG. This road will be retained and downgraded in order to solely provide vehicular access to a proposed gravel surfaced car park within the Central SANG. The road is aligned with ruderal vegetation on along the edges of the woodland and is particularly characteristic of the Western Surrey landscape character area. It also provides an attractive winding vista through the middle of the woodland which is of important amenity value.

The circular footpath within the Central SANG will avoid the boundaries in order to limit views to development.

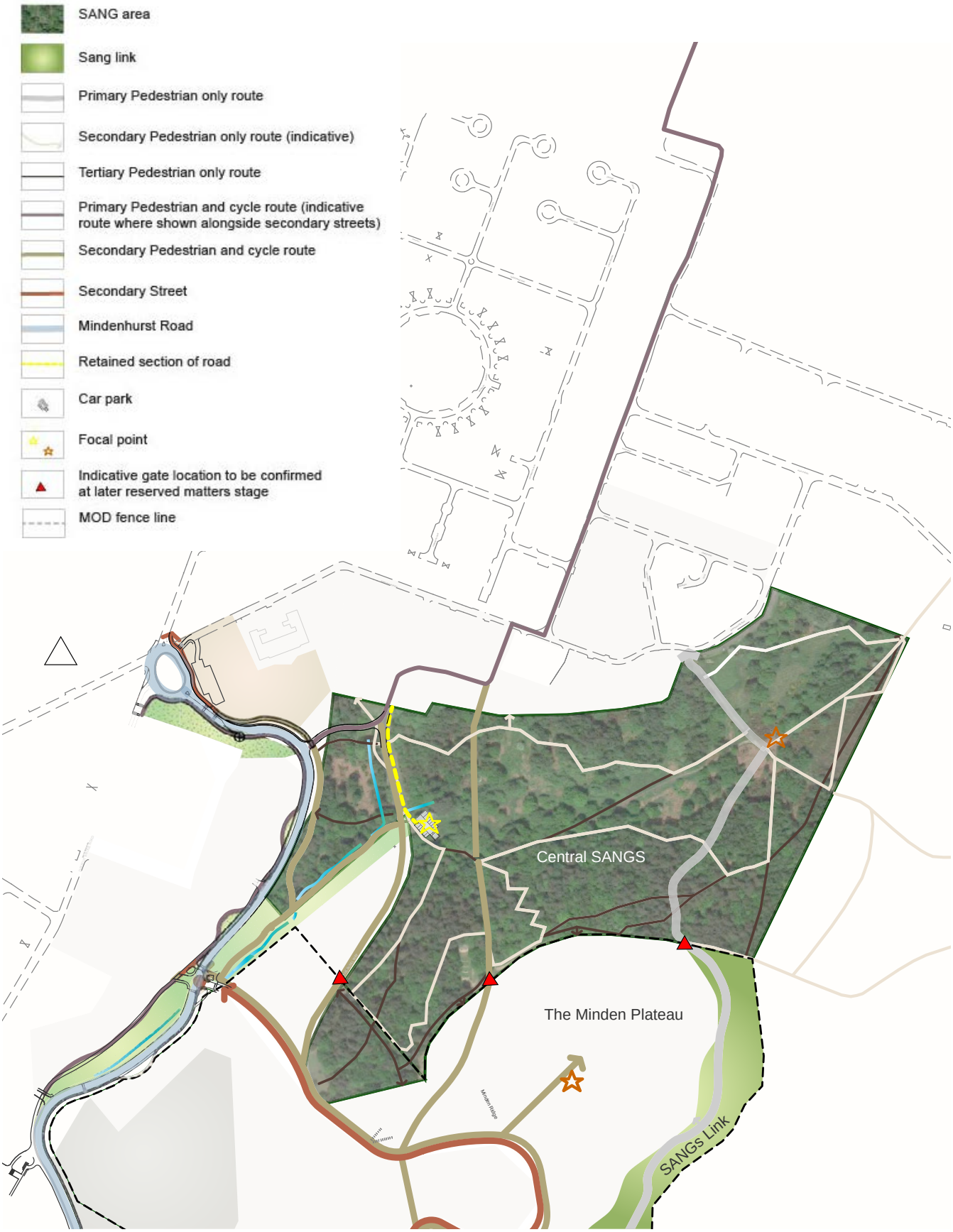



Figure 13 Central SANG Illustrative Masterplan

## 6.6 PLANNING FOR WILDFIRE

As the Mindenhurst Village site is located within an area of heathland and pine woods, there is a risk that fires may break out and spread to the residential areas.

Through discussions with SHBC, areas where fire breaks may be required will be identified. These breaks would be incorporated within the SANGs, ANGSt or other public open spaces where practicable. Materials used as suitable fire break include strips of gravel, bare ground and maintained grassland. These strips may have a hawthorn hedgerow planted alongside its outer edge as living 'green' material doesn't burn well and can act as a flame barrier. Proposals will be required to consider visual impact to ensure they are integrated with the surrounding landscape.

Appropriate defensible space should be created to reduce fire spreading. Combustible materials should be avoided on buildings and associated structures where located adjacent to the SANGs, ANGSt or open space. Fire-rated materials may be required in some locations. In areas which are at risk, wooden fencing should be avoided, or masonry should be introduced between the fence and the building to stop the spread of flames.

Footpaths, routes and trails will be designed to steer people away from high fire risks area. Providing sufficient access for fire and rescue services, through design of streets and verges, adequate signage, along with good access to water, including natural water sources will aid in dealing with wildfires.

Woodland should be maintained to reduce the risk of wildfire spreading. Vegetation should be kept to a minimum below the canopy. Trees may require regular pruning to prevent branches from overhanging roofs.

Refer to section 7.6 for more detail.

# PART C: DETAILED ELEMENTS

## 7 CENTRAL SANG / MINDEN WOODS

### 7.0 ACCESS AND PARKING

Access to the Central SANG has been determined through the use of the established routes on site.

Footpaths will largely follow existing routes and desire lines, some new footpaths however will be created in order to create circular routes.

A car park providing eleven parking spaces and two disabled spaces will be provided.

A small carefully designed timber clad secure office with WC and washing facilities will be provided adjacent to the car park. Bat mitigation will be incorporated within the hut. Bollards will provide protection from vehicles.

Car parking and footpaths will be designed to make use of existing levels be non-intrusive and natural in appearance in order to blend into the landscape thus enhancing the semi natural feel of the SANG.

A speed limit of 10mph will be determined by signage.

### 7.1 STREET FURNITURE

Street furniture specified within the Central SANG will contribute to the intended character of the natural green space. The materials and type of furniture selected will complement the SANG design in terms of purpose, scale and design, as defined by the Site-wide Design Code. Street furniture will be minimal and will include the following types and finishes:

Bollards
Minimal number of naturalistic bollards or a cleft timber post and rail fence and gateway, where necessary to prevent vehicle access into the SANG;

Information Boards
An information board provided at principal visitor entrance points with a map indicating circular routes through the SANG;

Way Markers
Directional timber way markers along circular routes;

Seating
Simple timber benches positioned along circular routes at appropriate points.

Bins
Note, visitors will be encouraged to take litter home however a general litter and dog litter bin will be provided at principal visitor entrance points.

Timber bollards

Timber post and rail fencing

## 7.2 HARD LANDSCAPE SURFACES

Hard landscaping within the Central SANG will be kept to a minimum and will comprise the following:

- Footpaths throughout the SANG: generally unsurfaced. These footpaths may be reinforced with aggregate where required as is currently practiced across the site.
- Areas with greater footfall (such as immediately surrounding visitor entrance points and around the SANG Hut) and areas where greater accessibility is to be encouraged: surfaced with self binding gravel (Breedon Golden Amber Gravel or similar and approved). These will be un-edged so that the surfacing bleeds naturally into the landscape.
- Main cycle tracks: surfaced with self-binding gravel, hoggin, crushed brick or similar aggregate surfaces, while other informal routes and footways remain unmade.
- Sections of the cycle/footpath which are highly trafficked or have a steep gradient: to be set in reinforced plastic mesh to prevent gully and channel erosion of surface.
- Sections of footpath within tree root protection areas: must utilise an appropriate no-dig construction method.
- Car park and roads: to be surfaced with self binding gravel (Breedon Golden Amber Gravel or similar and approved) laid according to manufacturers guidelines.
- Road edges: to utilise reclaimed natural stone kerbs from the point at which they meet tarmacadam roads outside of the SANG up to the entrance point to the SANG.
- Road and car park edge within the SANG: these should be un-edged so that the surfacing bleeds naturally into the landscape.

Informal, unsurfaced footpaths

Informal, unedged footways

Self binding gravel cycle way

## 7.3 SOFT LANDSCAPE PALETTE

A mosaic of habitats will be created by the sensitive thinning of coniferous woodland in areas to allow for the natural regeneration of heathland. This area will include a 2.3km circular walkway where users will experience a variety of habitats, woodland glades and rides.

Vegetation will be cleared to a height of 3m above footpaths and 0.5m to the side of footpaths.

Planting to the edges of footpaths and car parks is to be reflective of the habitat which surrounds it. No ornamental planting is to be encouraged.

Species for removal: Japanese Knotweed, Cherry Laurel, Rhododendron. Coniferous trees and non-natives such as sycamore.

Species to be encouraged: Mature specimens of Oak and Common Beech with understorey of Holly & Rowan.

## 7.4 MANAGEMENT

The following management activities should be carried out to achieve the desired character:

Broadleaved Woodland:

- Initial management to thin out areas, particularly within the Southern SANG.
- Year one to two - thinning/removal of dense areas - eradication of invasive species, with annual monitoring to ensure that the removal programme has been successful.
- Some of the dead wood should remain and be used to create habitat for invertebrates and reptiles.
- On-going management of the broadleaved woodland would be minimal, with possible occasional thinning/coppicing required or removal of dangerous branches/trees.

Coniferous Woodland (found within Mixed Woodland):

- Thinning of denser areas of coniferous plantation within the Central SANG to form new glades and rides and to allow the regeneration of heathland and acidic grassland. Thinning also to take place adjacent to the pathways.
- Annual monitoring to assess heathland establishment, including the possibility of thinning to increase light ingress and/or supplementary seeding of heathland species.
- Bracken control may be required.
- Scrub control will be required likely every two years, subject to reassessment if growth is vigorous.
- Removal of coniferous and young regenerated broadleaved species in the first instance.
- Ongoing monitoring for the possibility of supplementary planting.

Semi-improved Grassland (Acidic Grassland) with Scrub and Tree Planting.

- Acidic grassland will be created in patches across the SANGs.
- A limited seed bank may be present but this will be enhanced by additional seeding using a local provenance seed mix.
- A more sensitive management practise across the site is likely to result in the re-establishment of additional areas of acidic grassland.
- Annual monitoring to assess the acidic grassland indicator species present within the sward. Supplementary planting may be required.

Coniferous woodland

Grassland

- Areas should be mown on a rotational basis on different years. Annual cut to occur in July/August and all arisings to be removed to reduce nutrient increase.
- Some topsoil (acidic in character) and additional seeding may be required.
- Trees and scrub will be planted in certain areas to provide a visual barrier.
- Ongoing management required to prevent scrub encroachment, however a range of vegetation types and heights should be maintained.
- Mowing should be limited and management is only required if and when necessary, and may not be required every year. All arisings from cuts to be removed.

Dry Sward Shrub Heath – Acid (Heathland)

- Up to two hectares could be recreated in different areas throughout the Central SANG, creating open glades and a mosaic of habitats.
- Heathland can require a substantial amount of management. Scrub encroachment will need to be controlled, including thinning of dense stands of bracken and gorse. This should be monitored annually. The heather will need to be mown on a biennially rotational basis to create a heathland mosaic of varying ages.
- In areas where natural regeneration does not occur, additional seeding may be required to aid in the establishment. Only seeds from a local provenance should be used.

Heathland planting

## 7.5 SuDS DESIGN

Existing ditches located within the Central SANG form part of the existing drainage network. The development shall utilise and adapt the existing ditches and on-site watercourse systems to provide strategic surface water routes in the southern catchment area. Figure 14 shows the SuDs Strategy for the Phase 1 Infrastructure.

The strategic surface water drainage corridor including that within the Central SANG will follow the existing topography, incorporating the existing ditches and utilising existing surface water flow paths, routes and ditches.

Swales / ditches located within public open space or SANG will operate as dry or wet, dependent on rainfall and surface water run-off. They will be typically 1-1.5m deep x 7-8m wide.

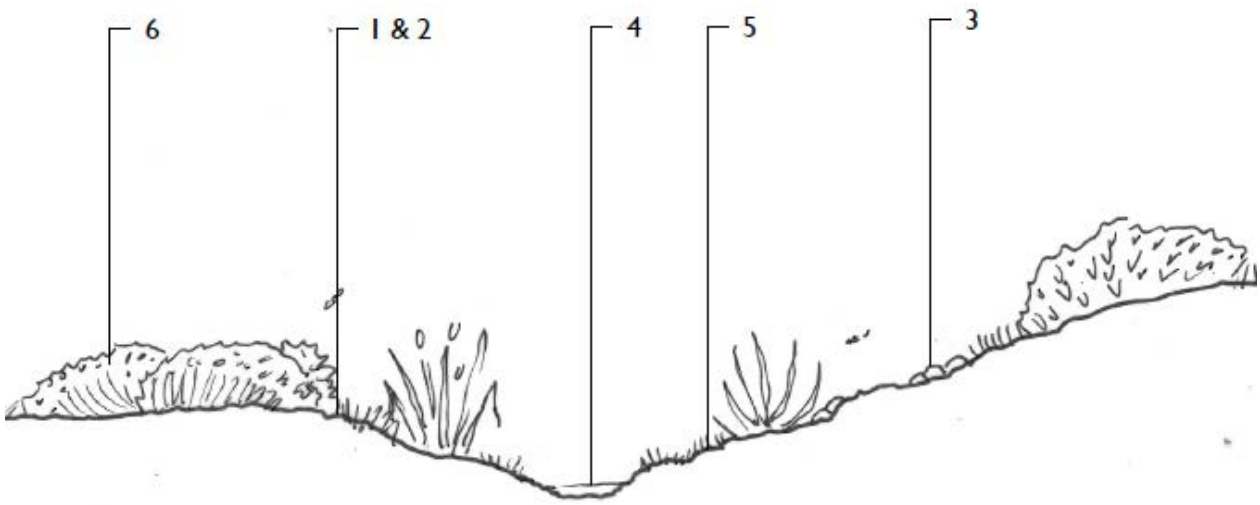
The existing drainage system will be enhanced in appropriate locations through the following:

- Widening and contouring new swales;
- Use of berms in new and existing ditches to form attenuation areas;
- Provision of attenuation areas using existing and re-profiled topography in woodland areas;
- Widening of channel in some parts to increase capacity and provide a shallow slope for safety and wildlife benefit;
- Installation of check dams or timber weirs part way along to slow flow and reduce erosion, whilst providing opportunity for wetland habitat;
- Modifications on route to ensure the features appear natural;
- The ditches will be seeded and planted with groups of marginal and marsh planting to allow for natural vegetation. succession.

Heathland ditches

### SWALE DESIGN PRINCIPLES

1. Shallow slopes allow easy access for wildlife.
2. Varied levels and gradients create damp habitat for invertebrates when water levels fluctuate.
3. Pebbles and stones on bank sides provide habitat for amphibians and insects.
4. Low flow channel and scrapes provide damp habitat across the seasons.
5. Damp meadow grass seeding with planted pockets of native wetlands species, wetland vegetation allowed to colonise naturally along banks of swale.
6. Areas of dense vegetation provide cover for wildlife.




Typical section through SWALE / ditch

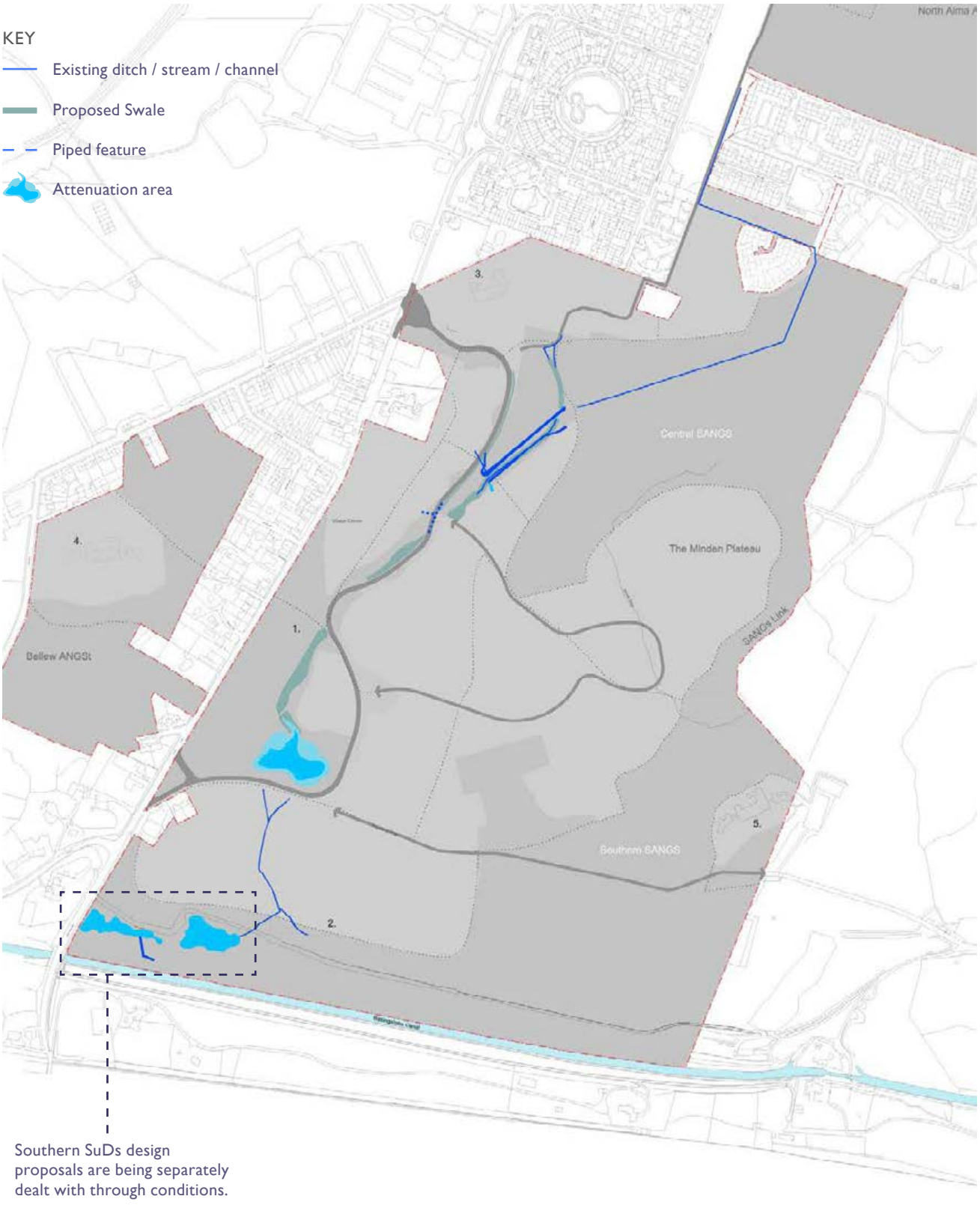



Figure 14 Phase 1 Infrastructure SuDS Strategy

## 7.6 PLANNING FOR WILDFIRE

Overarching Guidance

The seven stages for planning wildfire are:
1. Scoping
2. Survey
3. Analysis
4. Synthesis
5. Implementation
6. Monitoring
7. Review

Opportunities for building wildfire resilience into the established woodland should where possible include prevention measures built upon the existing natural features such as streams, marshes and wetlands so that they fit naturally into the landscape. Features such as fire breaks and fire belts should be incorporated into the overall forest design, rather than being seen as separate components. Shape and scale are important considerations, and should always relate to the surrounding landscape character. Where possible, wildfire resilience measures in the woodlands should make a positive contribution towards the visual diversity of a forest.

Overall management should seek to balance the need to provide and where possible, increase wildfire resilience whilst also meeting other objectives such as habitat and wildlife conservation and enhancement, public access and amenity.

Overview of Plan

1. Scoping

At the Scoping stage, management objectives are defined and stakeholders identified. Wildfire resilience should always be considered at this stage even if it is later decided that it is not relevant for a particular forest or woodland.

Management objectives for forests and woodlands will be set out within the framework of national, regional and local strategies and policies. For sites where there is a high risk of wildfire, wildfire resilience should be stated as an objective of the woodland management plan. It is useful to consider 'critical success factors' at this stage. These should be developed so that the effectiveness of any wildfire resilience measures can be assessed during monitoring and to determine whether objectives have been met.

Identifying stakeholders

Key stakeholders might include the local wildfire group, fire and rescue services, police and relevant landowners. For larger sites, consider the local resilience forum – a multi-agency partnership made up of representatives from local public services, including the emergency services, local authorities, the NHS, the Environment Agency and others. Consulting stakeholders early in the planning process will help to:
- identify hazards;
- quantify risks;
- understand the impact of forest management plan proposals;
- generate a combined, collaborative solution;
- contribute resources (information, skills, staff, money).

2. Survey

The Survey stage is a comprehensive exercise to collect and map all the information about a site and its location, including any statutory constraints that might apply. If wildfire resilience has been identified as relevant at the Scoping stage, then the most important information to gather will be that needed to produce a wildfire management plan – which will include the information needed to carry out a risk assessment prioritise areas for wildfire management and develop a wildfire response plan.

This information will include, for example, details of site location and topography, existing land use and vegetation type, site designations (e.g. for natural or cultural heritage), prevailing climate, impact of past weather events, and forest and tree health. Information may come from a range of sources, such as records and reports of previous wildfire incidents or through consultation with stakeholders and residents, or from personal and professional experience.

3. Analysis

The Analysis stage is a distillation of the key pieces of information gathered during the survey. For areas of high wildfire risk, the analysis of the survey information should primarily be used for the development of the wildfire management plan, but the results should also feed into the overall management planning process to ensure that wildfire resilience is built into the woodland design. An understanding of the factors that can influence fire behaviour together with site information gathered during the survey can be used to identify critical points where fire behaviour may change . The aim should be to highlight areas where extreme fire behaviour could be triggered and to identify suitable locations from where a wildfire could be effectively and safely managed and suppressed.

4. Synthesis

At the Synthesis stage, the design concept is developed and the draft management plan drawn up. This is an iterative process that uses management objectives and the analysis to refine the woodland management plan before it is finalised and submitted for approval. The aim at this stage should be to ensure wildfire resilience is balanced with other objectives and to ensure that prevention measures are financially sustainable. The wildfire prevention measures developed at this stage should be integrated with the design proposals for the woodland management plan.

The aim of wildfire prevention measures in planning wildfire resilience is to reduce the risk of wildfires occurring and to minimise the impact of any wildfires that do occur. Planning should start at the largest scale and work down to the smallest scale (e.g. landscape, woodland management unit, compartment) to be fully effective. The proposals should now also clearly define specific fire prevention measures such as wildfire management zones and other control measures, where applicable, and these should be detailed in the wildfire management plan.

A number of forest management techniques can be used to build

wildfire resilience into woodlands. These include:
• Managing vegetation and fuels;
• Creating fire breaks and fire belts;
• Improving woodland design;
• Building silvicultural resilience;
• Planning for people;
• Planning for an incident response.

5. Implementation

At the Implementation stage, operational plans are developed from the woodland management plan and work programmes are prepared. For areas at high risk of wildfire, and where a specific wildfire management plan has been drawn up, wildfire prevention measures should now be implemented. Priorities will be determined by the requirements of wildfire management zones, where these have been used to protect assets and infrastructure. Active management to reduce fuel loadings and ongoing maintenance in wildfire management zones A and B will increase effectiveness of wildfire prevention measures.

6. Monitoring

Monitoring the effectiveness of wildfire resilience measures should be part of the woodland management plan review cycle. Indicators of progress should be checked at regular intervals and data collected and recorded to evaluate delivery. In wildfire management planning, the critical success factors set at the beginning of the planning process should be regularly monitored to assess whether the objectives have been met during plan development and delivery. These factors should be re-evaluated if necessary. For effective monitoring, it is important that woodland managers can refer to their own accurate wildfire incident records, as well as data from their local fire and rescue services.

7. Review

At the Review stage, work on the woodland management plan is recorded and at regular intervals (usually 5 or 10 years) the plan is updated. Reviewing the wildfire management plan as part of this cycle will allow changes to be incorporated and provide an opportunity for new staff to familiarise themselves with wildfire management issues and any wildfire prevention measures that have been implemented.

Proposed Woodland Management Techniques

Wildfire resilience within the Central and Southern SANGS can be achieved through a number of woodland management techniques, which should be considered during the woodland management planning process. These to specifically include:

- Edges of woodlands adjacent to residential areas, to be managed to provide a predominantly deciduous woodland buffer which has a lower fire risk. Actively remove areas of high risk vegetation such as densely planted, even age conifers where located adjacent or close to planned residential areas, replacing with deciduous woodland planting.

- Undertake management of woodland edge to ensure there is a varied mixed woodland with varied height. Remove dead wood, manage the ground flora to provide a low risk vegetative mix predominantly deciduous shrubs such as hawthorn.

- Use of Royal Way, existing and proposed paths, and existing and proposed drainage ditches and watercourses as fire breaks, with the vegetation adjacent to each side managed to reduce the risk of fire.

- Fire breaks in low fire risk vegetation to be minimum 10m width. In areas of high fire risk to be 3X height of vegetation.

- Seek to manage the Central and Southern SANGS primarily as large areas of woodlands with separating fire breaks designed along the existing and proposed pedestrian and cycle routes. The aim is to keep the fire breaks landscape character as natural as possible avoiding straight lines. Paths may not therefore be central within the break.

- Where woodland abuts areas of existing heathland which has a higher fire risk, manage the woodland to retain and increase the areas of deciduous woodland and reduce areas of higher risk conifers such as densely planted even age conifers.

- On the outer boundaries of the Central SANG, seek to manage the understorey and ground cover as low fire risk areas. This to include removal of higher risk vegetation such as gorse, dry grass areas, lying dead timber, dead and poor health trees, fallen trees. Instead, manage to maintain and increase the areas of deciduous shrubs.

- Provide occasional areas of grassland acting as fire breaks on edges adjacent to planned residential areas and manage to maintain as low risk grasslands with removal of higher risk scrub such as gorse.

- Ensure residential properties close to the Central SANG actively overlook the area thus reducing the risk of fly tipping which increases the risk of fire.

- Retain existing ponds, wetlands, ditches and watercourses within the Central SANG which act both as a natural fire break, but also a potential source of water for fire-fighting.

- Where providing new swales, design to act both as fire break and a damp area. Seed with Damp Meadow Grass seed mix. Keep banks free of higher risk vegetation such as gorse.

- Ensure there are fire hydrants located within the proposed adjacent residential areas and infrastructure. These are to be clearly identifiable to aid fire-fighting. Consider the provision of Fire Protection including manual and automatic systems.

- Proposed SUDS ponds and watercourses in areas of POS adjacent to the Central SANG should be encouraged as these can supplement water for fire-fighting. However, they should not be considered as the primary source for water supply as they are likely to be subject to drying out in periods

of drought.

- Emergency access and egress should be considered during the detailed design stages, including consideration of the following: Road widths appropriate for emergency vehicles; Gradients; Limiting dead ends; Fire appliance access; Parking and emergency evacuation of residents; Means of opening locked gates or systems allowing for lock breaking.

- Increase vegetation management and establish fire-resilient species and habitats in areas of high public access and around facilities such as picnic sites to provide a buffer zone. Remove or mulch branches and fallen deadwood, and remove litter or any other flammable material in these areas.

- Ensure that staff, contractors, neighbours and visitors are aware of wildfire risk and the appropriate actions to take in the event of a wildfire. Provide effective signage and adequate marked orientation points so that the location of a fire and the direction of spread can be accurately reported.

- Undertake education and awareness-raising programmes, for example with local schools or youth groups, and encourage volunteering and community participation in woodland activities. This will generate a sense of shared ownership and respect for woodlands as well as improving the overall forest management planning process.

- Engage with visitors and recreational users through posters, leaflets and signs about safe forest use. For maximum impact, posters and signs should only be used at times of high wildfire risk; they should be taken down promptly when conditions return to normal.

- Appropriate access and building separation, especially those adjoining rural or open space areas or at risk from 'fire spotting' or 'ember attack' as well as direct fire transfer.
- Wildfire proofing to be considered during construction and phased development.

- Consideration of the need for community safety and awareness for new and existing communities. Production of Wildfire Response Plan / Community Emergency Plan.

Planning conditions could be added to relevant Reserved Matters planning permissions for site specific wildfire protection measures.

NICHOLAS PEARSON ASSOCIATES

ENVIRONMENTAL PLANNERS • LANDSCAPE ARCHITECTS • ECOLOGISTS

The Farm House,
Church Farm Business Park,
Corston,
Bath,
BA2 9AP
+44 (0)1225 876990

www.npaconsult.co.uk