





**Analysis of Site
Constraints and
Opportunities**

APPENDIX

Appendix - Analysis of Site Constraints and Opportunities

1. Access and Movement

The Northern Arc, to the north of Burgess Hill is well located to make use of the existing principal highway connections towards the A23 in the west and Haywards Heath in the north. The delivery of a new highway link between the A273 Isaac's Lane and A2300 forms a key principle of the site to provide an alternative corridor to the existing route via Sussex Way. Integration of the development with the wider Burgess Hill will be a key priority with new pedestrian and cycle links proposed across the site as well as the continuation of the Green Circle. A public transport strategy will be developed to ensure that the development is well integrated with the Town and provides sustainable connections to key destinations such as the Town Centre and railway stations.

Highways

The Northern Arc is well located in highways terms with the site being bound or bisected by the A2300 and A273 (Jane Murray Way) in the west and the A273 (Isaac's Lane) in the east providing strategic connections towards the A23 in the west and Hayward's Heath to the north. These links also connect with other routes providing connections into Burgess Hill.

The eastern part of the site (Freeks Farm) does not have vehicular access and therefore access will be taken over MSDC land onto Maple Drive.

Public Transport

The closest bus stops to the Site are located along the A273 which borders the Site to the south, at The Saffrons, St Paul's Catholic College and on Sussex Way. Stops are also provided on Maple Drive at its junctions with Dumbrills Close and Leylands Woods. These stops are located at a distance greater than 400m from the majority of the development and routes serving the stops nearest to the site generally feature a low frequency, especially on weekends. Therefore a comprehensive public transport strategy will form a key principle for development of the site.

Wivelsfield railway station is located 1.7 kilometres to the east of the site, and Burgess Hill railway station 2.3 kilometres to the south east. Both stations are therefore outside of a reasonable walking distance but within a reasonable cycling distance. Both stations are located on the Brighton to London mainline, with access to services to Eastbourne, Bedford, Brighton, London and the immediate stations including Gatwick Airport. Burgess Hill railway station is accessible by bus from the stops nearest the development using the Burgess Hill Town services 36A and 36C. Connections between the site and railway stations will form a key part of the public transport strategy.

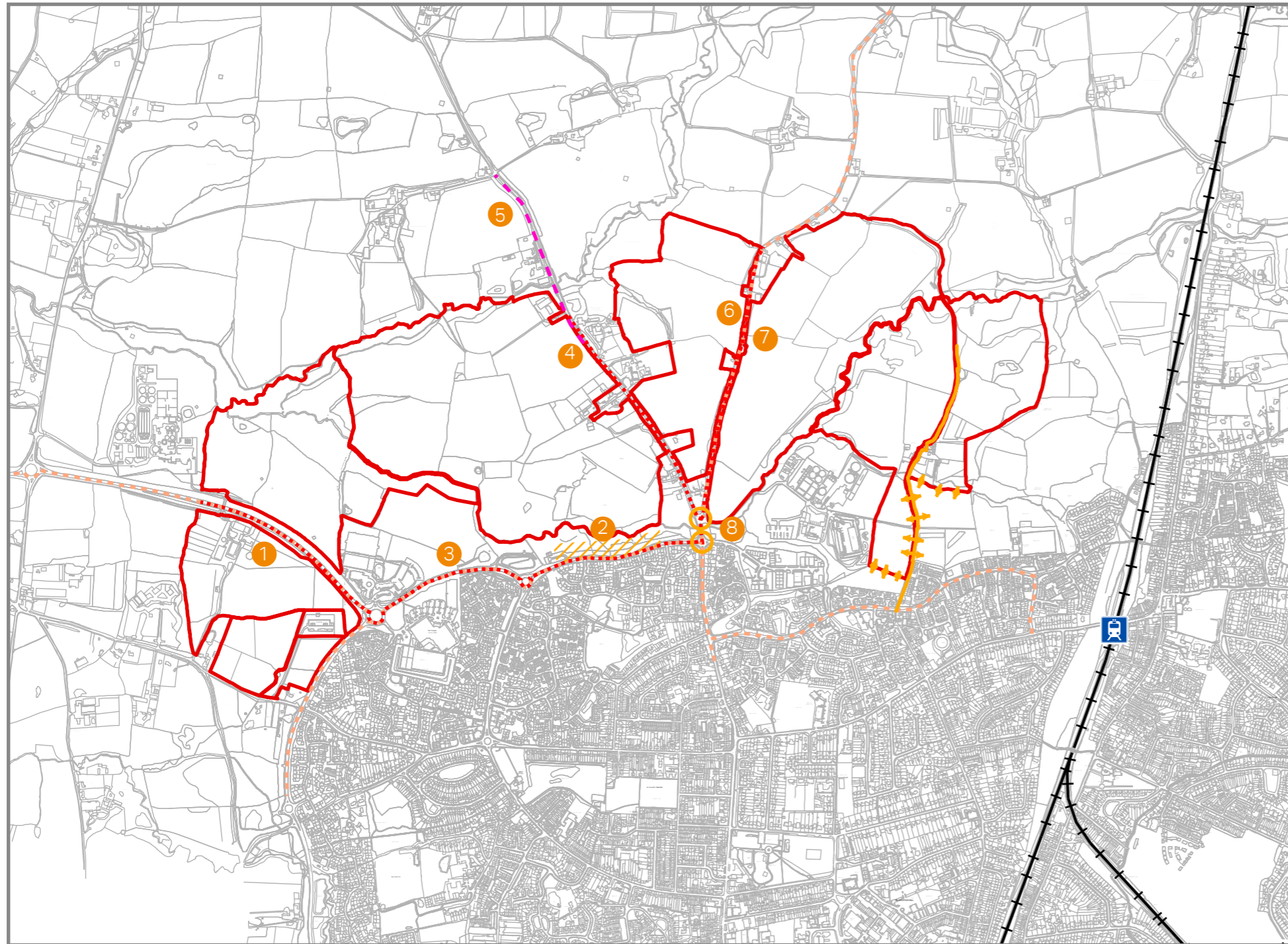
Walking and Cycling

Due to the Site, for the most part, not being developed and located on the fringes of the urban area of Burgess Hill, limited facilities for pedestrians and cyclists are provided within the Site boundaries. Facilities for pedestrians along the roads which bound the Site to the south or intersect the Site are limited with only a footway provided along the eastern side of the B2036 Cuckfield Road and along the southern side of the A273 Sussex Way. However, there are public rights of way along Freeks Lane and along the field boundary on the northern side of the A2300.

There are no formal cycling facilities on the roads in the immediate vicinity, however the roads to the south of the Site are residential in nature and conducive to cycling.

The town centre and railway stations, along with a number of existing retail, leisure and employment areas are within reasonable cycling distance of the development Site, such that trips by sustainable modes over the use of the private car could be encouraged, should the links be improved and secured through any planning consent.

New pedestrian and cycle connections will be created to provide links to and from the site and wider Burgess Hill area. Strategic connections to the town centre and railway stations will also be investigated. The on-site infrastructure will include provision for all modes with the Green Circle continued through the development.



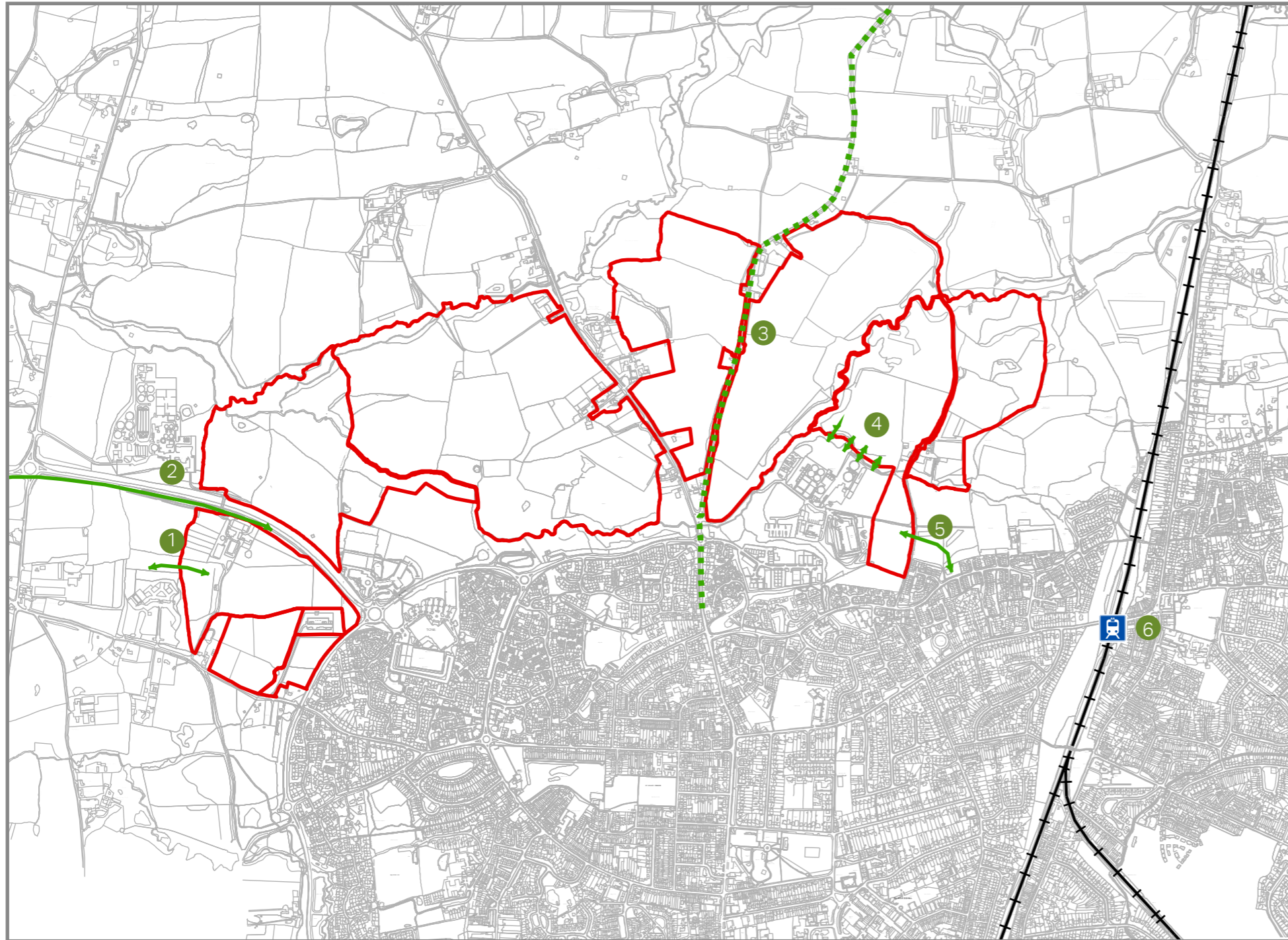
Constraints

- ① Limited pedestrian/cycle provision
- ② Limited frontage to A273 for ped/cycle
- ③ Low frequency bus routes
- ④ Limited pedestrian/cycle provision
- ⑤ Rural route not suitable for large volumes of development traffic
- ⑥ Low frequency bus route
- ⑦ Limited pedestrian/cycle provision
- ⑧ Congested junction

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Key

- | | | | |
|--------------------|--------------------|------------------------------------|-------------------------|
| Site boundary | Railway station | Access through | Low frequency bus route |
| Congested junction | Railway track | Limited pedestrian/cycle provision | Limited frontage |
| | Rural route | | |
| | Freeks Lane narrow | | |








Opportunities

- ① Connectivity with The Hub
- ② A2300 dualling
- ③ Existing bus route
- ④ Access through Fairbridge Way
- ⑤ Access through MSDC land
- ⑥ Wivelsfield Railway Station

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Key

- | | | |
|---|--|---|
|  Site boundary |  Railway station |  Access through |
|  Railway track |  Low frequency bus route | |

2. Community Infrastructure

Strategic Allocation Policy DP9 of the Mid Sussex District plan stipulates that the strategic mixed-use development at the Northern Arc site should incorporate various social infrastructure facilities such as two new primary schools, a secondary school, a Centre for Community Sports and space for leisure, recreation and community uses. Policy DP7, which sets out the principles for strategic development in Burgess Hill, outlines the requirement for new and improved community, educational, health, recreation and other facilities to supplement development and encourage strong integrated communities and healthy lifestyles. In addition, Policy DP25 states that on-site provision of new community facilities is required on large developments, secured through planning obligations/conditions.

Further to this, a development of this scale and nature is likely to result in an extra need for supporting community services such as healthcare facilities, emergency services, educational provision, sports and recreation space, extra care facilities, library services and other community services. The following baseline examination helps set the context for each category of social infrastructure, identifying existing provision and gaps in capacity likely to be affected by the development at the Northern Arc.

The baseline context study examines a wider impact area of 6 miles around the site, and an inner impact area of 3 miles. This is considered a reasonable catchment and area of impact for a development of this size.

Education

Pupil population will increase with the development and this will put pressure on existing provision. Whilst it is intended to provide new school campuses on site, it is important to understand the existing provision and where surplus capacity is available to absorb residents in the early phases of development as well as how the development might build on existing provision effectively to service the needs of wider areas beyond the site. The baseline examination looks at early years facilities, primary schools, secondary schools, further education and special educational needs facilities. The information presented is derived from publicly available data via Edubase as of July 2018.

Early Years

There are 7 children's centres within 6 miles of the site that are open. The capacity and surplus is unknown, however developments of scale generally produce a need for 4 early years facilities (50 place nurseries). While there are several children's centres that could absorb this requirement, the catchment for early years facilities is relatively small and therefore provision of new facilities as part of the Primary School campuses would be beneficial to serve the site.

Primary Education

There are 42 schools that serve the district and 32 that are within the site's impact zone. There are 7 primary schools in Burgess Hill town which can serve the site; the indicative surplus capacity for primary schools within a serviceable distance of the site is 786 pupils (or 4 form entries). However, the 7 primary schools within the inner impact area are deemed to be at capacity or over capacity. In addition, the catchment for primary schools is low and therefore indicating new provision is required. It is understood that Hurst Farm Primary Free School has an agreed sponsor and planning permission, which can help absorb early needs produced by development at Freeks Farm. The Mid Sussex Infrastructure Delivery Plan (2016) identifies the planned delivery of new primary schools worth £12 million, but does not identify where and how this will be spent.

Secondary

There are 16 secondary schools within the site's impact zone, 2 of which are within the inner impact zone serviceable to the site. The overall surplus for these schools is 994 places, which is enough to support the additional capacity required from early phases however a new secondary school will be required. St Paul's Catholic College is located adjacent to the south western site boundary; however this is currently 48 places over capacity. The Mid Sussex Infrastructure Delivery Plan (2016) also identifies the need for a 1,200-student secondary school and sixth form with £30 million funding to come from developers/central government, highlighting potential to provide this on site.

Further Education

There are 6 facilities with further education facilities within the impact zone of the site, however only 1 dedicated further education facility (Plumpton College). The overall indicative surplus capacity for these facilities is 185 places, however 2 of the 6 facilities are over capacity. There is clear need for extra further education provision to serve the development at the Northern Arc, where there is potential to deliver this further provision on site as part of the Secondary School campus.

Special Educational Needs (SEN)

Currently the catchment area's need for special schools is served by Woodlands Meed in Burgess Hill town centre.

Woodlands Meed currently has a surplus deficit of -4, indicating it is over capacity and that to support pupil population increase, extra provision of SEN facilities are required. It is considered that severe cases for SEN could be served by Woodlands Meed, while less severe cases can be served by additional facilities delivered as part of the Primary School campuses on site.

Healthcare

The healthcare baseline analysis looks at primary healthcare provision, social and extra care, and acute healthcare facilities serviceable to the site and within the 6 mile impact radius. The analysis draws on publicly available data from NHS Choices and reflects information at a point in time.

GPs and Dentists

There are 12 GP practices and 18 dental practices within the wider impact area. 2 GP's are operating at a surplus deficit, Northlands Wood Surgery and Lindfield Medical Centre respectively. The indicative surplus capacity is 2738 which is not enough to support new requirements. This indicates a new surgery or significant expansions to existing surgeries will be required to support growth.

Care Homes

There is a good existing provision of care homes within the wider impact area. 18 facilities with nursing included, and 21 without nursing. These facilities provide 1282 beds, however the surplus capacity is not known. Additional extra care bed are planned to be incorporated in the affordable housing provision on-site, thus servicing additional requirement generated by the development.

Acute Health

The site is served by the Brighton and Sussex University hospitals, which has 2 sites comprising of Royal Sussex County Hospital in Brighton and Princess Royal Hospital in Haywards Heath. The trust has a total 1,069 beds between the facilities broken down as follows:

- 484 Medical beds (438 Inpatient, 46 day case)
- 360 Surgical beds (338 Inpatient, 22 day case)
- 105 Children's beds (79 Inpatient, 26 day case)
- 79 Maternity beds (79 Inpatient, 0 day case)
- 41 Critical Care beds (41 Inpatient, 0 case)
- 25 A&E beds (CQC inspection report 2017)
- Princess Royal Hospital is approximately 3.5 miles from the Northern Arc site.

The site is also served by Nuffield Hospital Haywards Heath which is a private hospital approximately 3.8 miles from the site. The hospital has 27 beds.

£2 million has been identified in the Mid Sussex Infrastructure Delivery Plan (2016) for health infrastructure, however specifications are not provided.

Community and Civic Assets

Community and civic assets includes multi-use community facilities open for use by the public, libraries and emergency facilities. These are assets considered to be vital to achieving an integrated, social and sustainable community and therefore it is essential to understand the existing condition of these assets around the Northern Arc site.

Libraries

There are 4 libraries within the wider impact zone, and 1 within the inner impact zone. The nearest library is currently Burgess Hill Library followed by Haywards Heath library. The Museum Libraries Archives Council recommends a figure of 30square metres per 1,000 population as a benchmark, therefore it is considered extra provision of library space in some capacity is required.

Community Facilities

There are 9 community centres within the wider impact area, 2 of which are within the inner impact zone in Burgess Hill Town Centre. An initial forecast of need indicates a requirement for 1,285sq.m of community space, suggesting extra provision of community facilities on-site.

Emergency Services

Fire and Rescue services – the site benefits from stations in Burgess Hill, Haywards Heath and Hurstpierpoint providing responses from multiple directions.

Police Stations

The wider impact area is served by stations in Burgess Hill and Haywards Heath.

Ambulance Stations

The site is served by stations in Burgess Hill and at Princess Royal Hospital both within/near the inner impact zone.

Sports and Recreation

Children's Play Space

Children's play space is defined as designated areas containing a range of facilities and an environment to provide focused opportunities for outdoor play comprising casual or informal playing space within housing areas. There is a shortage of formal registered play space in Burgess Hill, with only 5 registered sites in the wider impact area. There is opportunity for the Northern Arc to provide play space and contribute a significant growth in this area of social infrastructure.

Outdoor Sports Pitches and Facilities

The site is well served by existing provision of playing pitches. There are several pitches within the inner impact area in Burgess Hill Town centre as well as at St Paul's College adjacent to the site. The triangle provides tennis courts within the inner impact area, as well as an existing golf course already within the site boundary.

Indoor Sports

There is strong provision of indoor sports infrastructure within the inner impact area, with multiple facilities attached to schools in Burgess Hill as well as the Triangle centre which provides swimming pool space, health suite and indoor courts adjacent to the site.

Constraints

Education

- 1 No identified investments planned for further education. There might be further provision coming forward as part of Central Sussex College reopening in Haywards Heath, however this cannot be relied on at present to service additional requirement generated by development.
- 2 Primary schools within the inner impact zone of the development are over capacity, and there early residents are reliant on Hurst Farm Primary Free School coming forward and soaking up additional need.

Healthcare

- 3 Surplus capacity of existing provision is not enough to support the increased requirement generated by development
- 4 Surrounding area's requirement will take up inner impact area provision, making extra GP provision on-site essential.

Community and Civic Assets

- 5 The site will require functional and accessible routes for emergency services to safely and efficiently serve it. Current accessibility is poor, particularly the eastern part of the site and there is much debate over potential road/highway systems for the masterplan.

Sports and Recreation

- 6 Power Cables on proposed playing field site of existing masterplan – these need to be diverted or new location for sports pitches must be agreed.
- 7 There is an existing golf course on site already which is part of the strategic allocation. This will be lost to housing and therefore existing provision reduced. This course will need to be replaced at a new location within the inner impact zone of the site to maintain baseline provision.

Opportunities

Education

- 1 Opportunity to use St Paul's Catholic College and its associated facilities to create a Catholic Hub as suggested by the council, this will also align with sports and recreation.
- 2 The indicative surplus deficit for primary schools within a serviceable distance of the site is 786 pupils (or 4 form entries).
- 3 New secondary school for 1,200 students has been identified in the Mid Sussex IDP (2016) – opportunity for this to be built on site.
- 4 A new sixth form should be provided with the new secondary school to support on site requirement.
- 5 Opportunity to align on site provision with wider surrounding areas need, with a new secondary on the site reducing the need for residents to travel to facilities further afield.

Healthcare

- 6 A new GP surgery will be key infrastructure to provide on-site or within the inner impact zone, which is an anchor facility for a development of this size and nature.
- 7 The Inner Impact Area was found to have surplus GP/patient capacity which could support initial development on the site. However there are separate proposals for development within the Inner Impact Area, outlined in the Masterplanning baseline, which may provide/ require capacity.

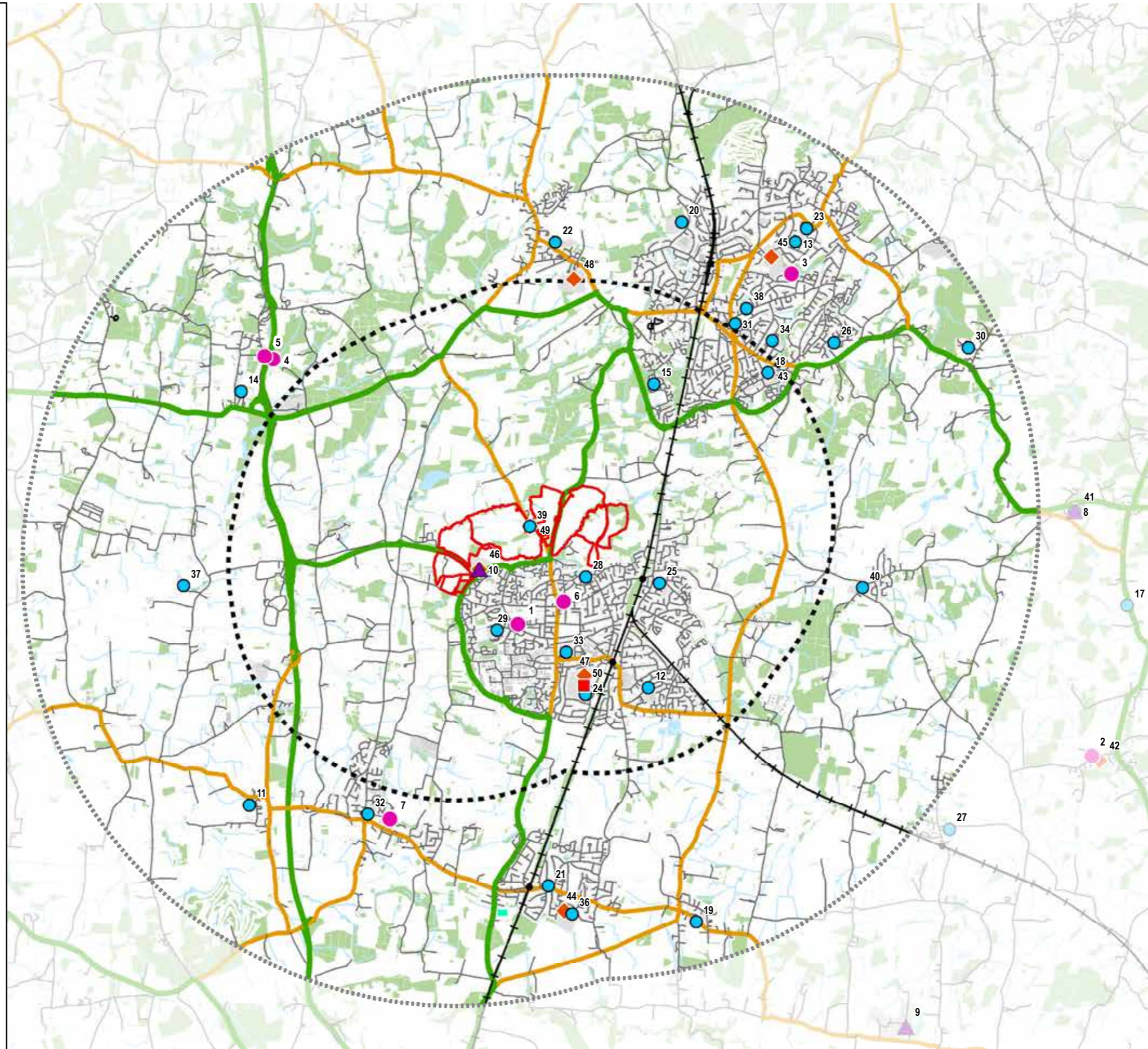
Community and Civic Assets

- 8 Through the provision of Community Facilities there is potential to create a distinct 'hub', acting as a base and catalyst for the creation of community essential in a development of this size. This can be designed to co-locate key community assets with new and improved public transport schemes to increase the accessibility of new and existing communal facilities for both new and existing residents.
- 9 Opportunity to use the existing St Paul's College and the Triangle to centre a community hub around.

Sports and Recreation

- 10 Opportunity to build on strong existing provision in outdoor and indoor sports facilities.
- 11 The area around the Triangle and St Paul's College can possibly be turned into a recreation hub, opportunity to use existing provision and build new provision here as is highlighted in policy DP9.
- 12 To ensure place-making and healthy resident objectives the promotion of shared use, co-located social infrastructure and open space within the site is essential. This should aim to make the best use of land available, existing pedestrian and walking networks and ensure the utilisation and viability of new and existing facilities.
- 13 Potential to provide additional, larger Children's Play spaces, supplementing existing provision and helping integrate the proposed site with surrounding communities.

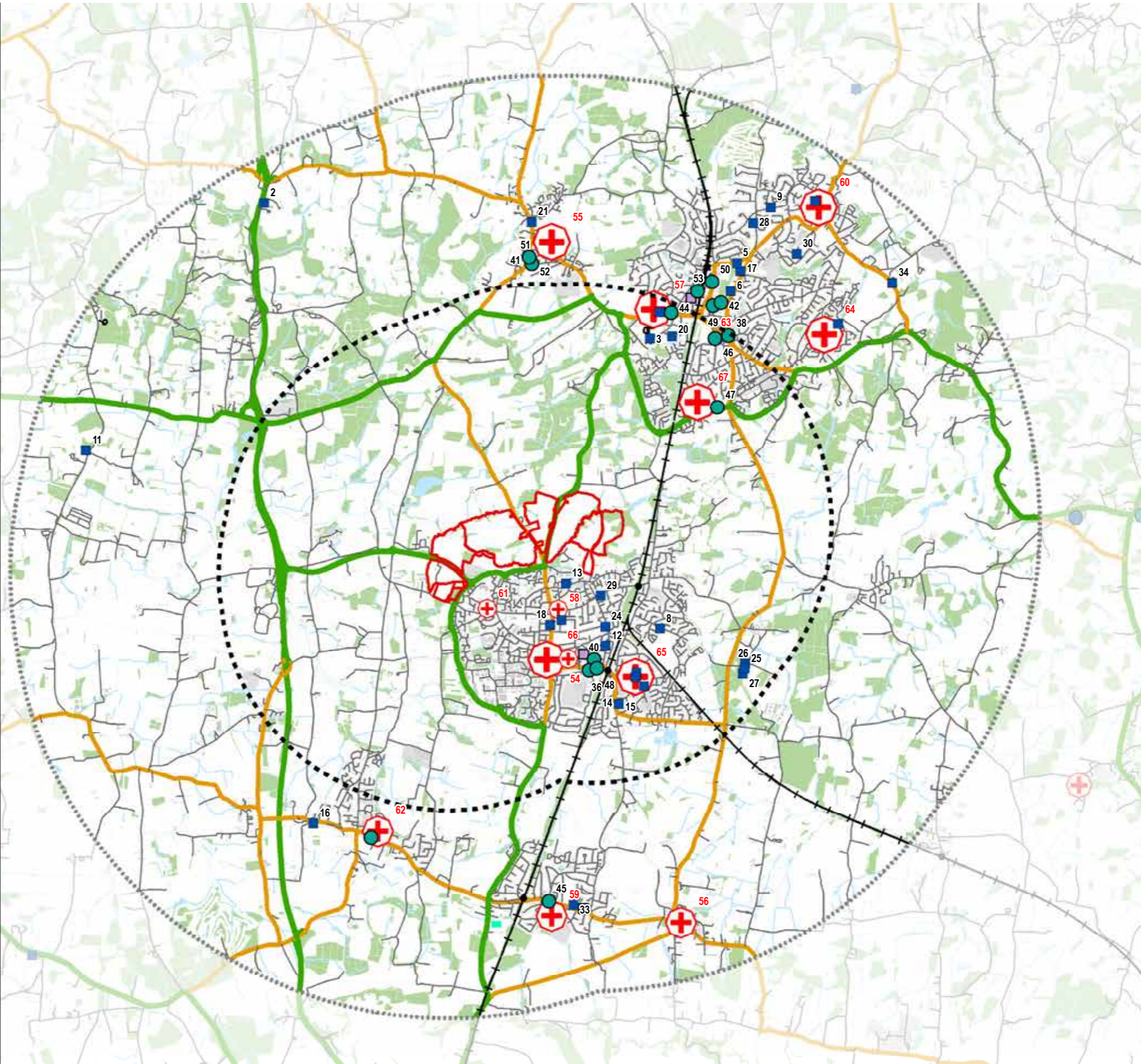
- Early Years**
 1 - Burgess Hill (The Gattons) Children and Family Centre
 2 - Chailey Children's Centre
 3 - Haywards Heath Children & Family Centre
 4 - Mid Sussex Rural North Children & Family Centre
 5 - Rural Haywards Heath Children & Family Centre
 6 - Sidney West Children & Family Centre
 7 - Sussex Downs Children and Family Centre
- Further Education**
 8 - Chailey Heritage School
 9 - Plumpton College
 10 - St Paul's Catholic College
- Primary School**
 11 - Albourne CofE Primary School
 12 - Birchwood Grove Community Primary School
 13 - Blackthorns Community Primary Academy
 14 - Bolney CofE Primary School
 15 - Bolmore Village Primary School
 16 - Chailey Heritage School
 17 - Chailey St Peter's Church of England Primary School
 18 - Chalkhill Education Centre, Chalkhill Hospital
 19 - Ditchling (St Margaret's) Church of England Primary School
 20 - Harlands Primary School
 21 - Hassocks Infant School
 22 - Holy Trinity CofE Primary School, Cuckfield
 23 - Lindfield Primary School
 24 - London Meed Community Primary School
 25 - Manor Field Primary School
 26 - Northlands Wood Primary Academy
 27 - Plumpton Primary School
 28 - Sheddingdean Community Primary School
 29 - Southway Junior School
 30 - St Augustine's CofE Primary School
 31 - St Joseph's Catholic Primary School
 32 - St Lawrence CofE Primary School
 33 - St Wilfrid's Catholic Primary School
 34 - St Wilfrid's CofE Primary School
 35 - The Gattons Infant School
 36 - The Windmills Junior School
 37 - Twineham CofE Primary School
 38 - Warden Park Primary Academy
 39 - West Sussex Alternative Provision College
 40 - Wivelsfield Primary School
- Secondary School**
 41 - Chailey Heritage School
 42 - Chailey School
 43 - Chalkhill Education Centre, Chalkhill Hospital
 44 - Downlands Community School
 45 - Oathall Community College
 46 - St Paul's Catholic College
 47 - The Burgess Hill Academy
 48 - Warden Park School
 49 - West Sussex Alternative Provision College
- Special Educational Needs**
 50 - Woodlands Meed



- Legend**
- Site Boundary
 - Inner Impact Area (3km)
 - Outer Impact Area (6km)
 - Building
 - Waterbody
 - Woodland
 - A Road
 - B Road
 - Minor Road
 - Railway Track
 - Railway Station
 - Early Years
 - Primary School
 - Secondary School
 - Further Education
 - Special Educational Needs (SEN)

Education

- 1 - Adelaide House Nursing Home
- 2 - Aniska Lodge
- 3 - Ashton House
- 4 - Beech Hurst
- 5 - Birchwood Grove
- 6 - Bletchingley
- 7 - Compton House Christian Nursing Home
- 8 - Coppice Care
- 9 - Crossways Healthcare Limited
- 10 - Disabilities Trust - 128 Beech Hill
- 11 - Eastridge Manor EMI Nursing and Residential Home
- 12 - Edward House
- 13 - Ernest Kleinwort Court
- 14 - Firgrove Nursing Home
- 15 - Hilgay Care Home
- 16 - Ladymead Care Home
- 17 - Nursing Home
- 18 - Oak House & Maple Lodge
- 19 - Oaklodge Nursing Home
- 20 - Oakwood Court
- 21 - Pelham House Residential Care Home with Dementia
- 22 - Rookwood Residential Home
- 23 - Rosewood
- 24 - St Annes Residential Care Home
- 25 - St Clare's Care Home
- 26 - St Mary's Care Home
- 27 - St Rita's Care Home
- 28 - Summerlands
- 29 - Sussex Oakleaf Housing Association Limited, 54 Leylands Road
- 30 - The Goldbridge
- 31 - The Willows
- 32 - Tripletrees
- 33 - Villa Adastra
- 34 - Walstead Place Residential Care Home
- 35 - Woodlands Nursing Home
- 36 - Anand, Sachin
- 37 - Battersby, Susan Jane
- 38 - Brown, Andrew Mark
- 39 - Burgess Hill Dental Care Limited
- 40 - Church Road Dental Care Ltd
- 41 - Cuckfield Dental Practice
- 42 - Dehlsen, Thomas
- 43 - GATEWAY DENTAL BURGESS HILL
- 44 - Gresham Dental Practice
- 45 - Jadidi, Nina Manijeh
- 46 - Mr S A Butt & Mr S Butt
- 47 - mydentist, Bolding Way, Haywards Heath
- 48 - Queens Crescent Dental Practice Ltd.
- 49 - Sussex Community NHS Trust
- 50 - The Clinic Dental Facial Ltd
- 51 - The Gallery 2 Dental Practice
- 52 - The Gallery Dental Practice
- 53 - Total Orthodontics, Haywards Heath



Legend

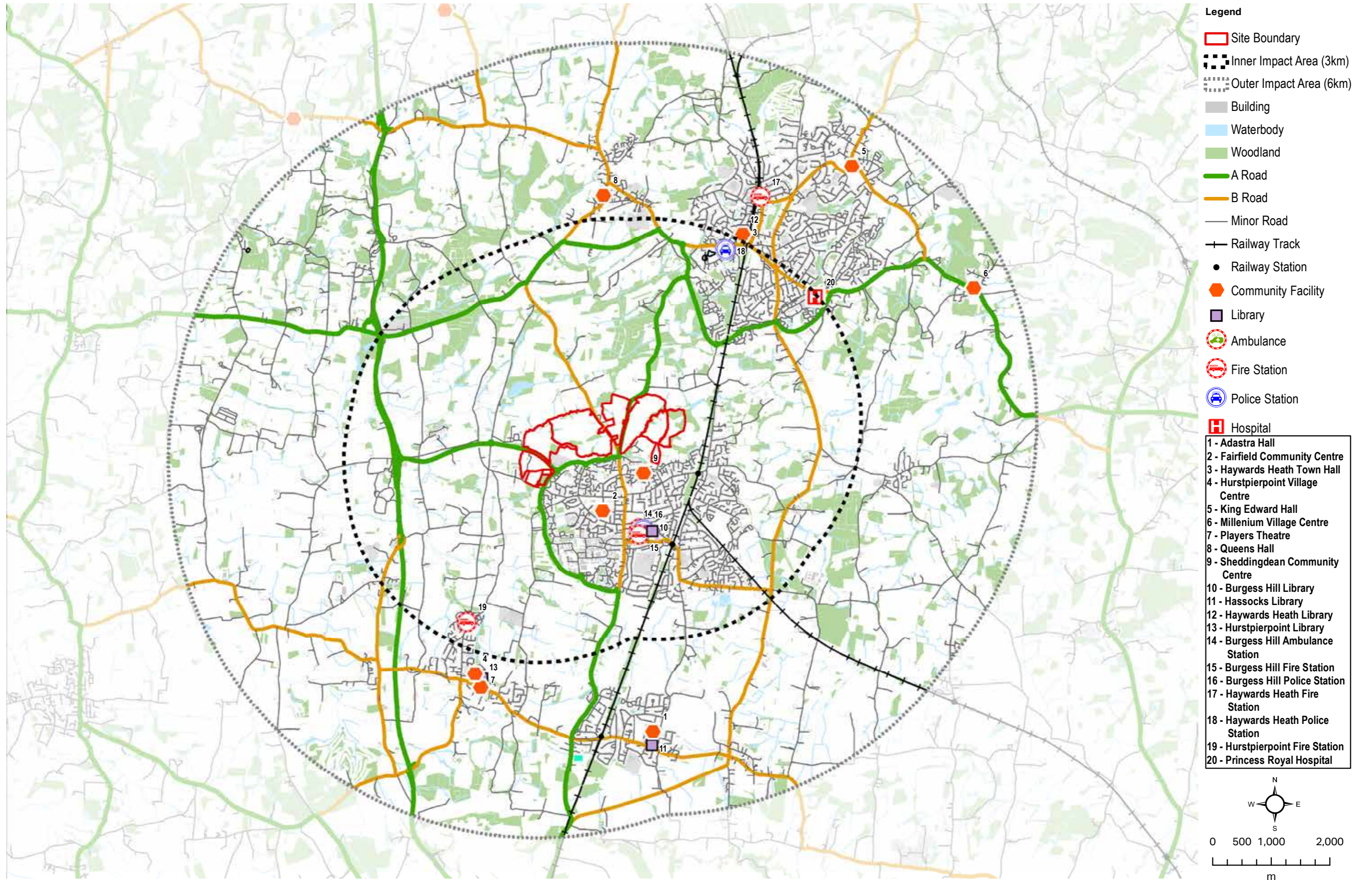
- Site Boundary
- Inner Impact Area (3km)
- Outer Impact Area (6km)
- Building
- Waterbody
- Woodland
- A Road
- B Road
- Minor Road
- Railway Track
- Railway Station
- Care Home
- Dentist

GP Capacity

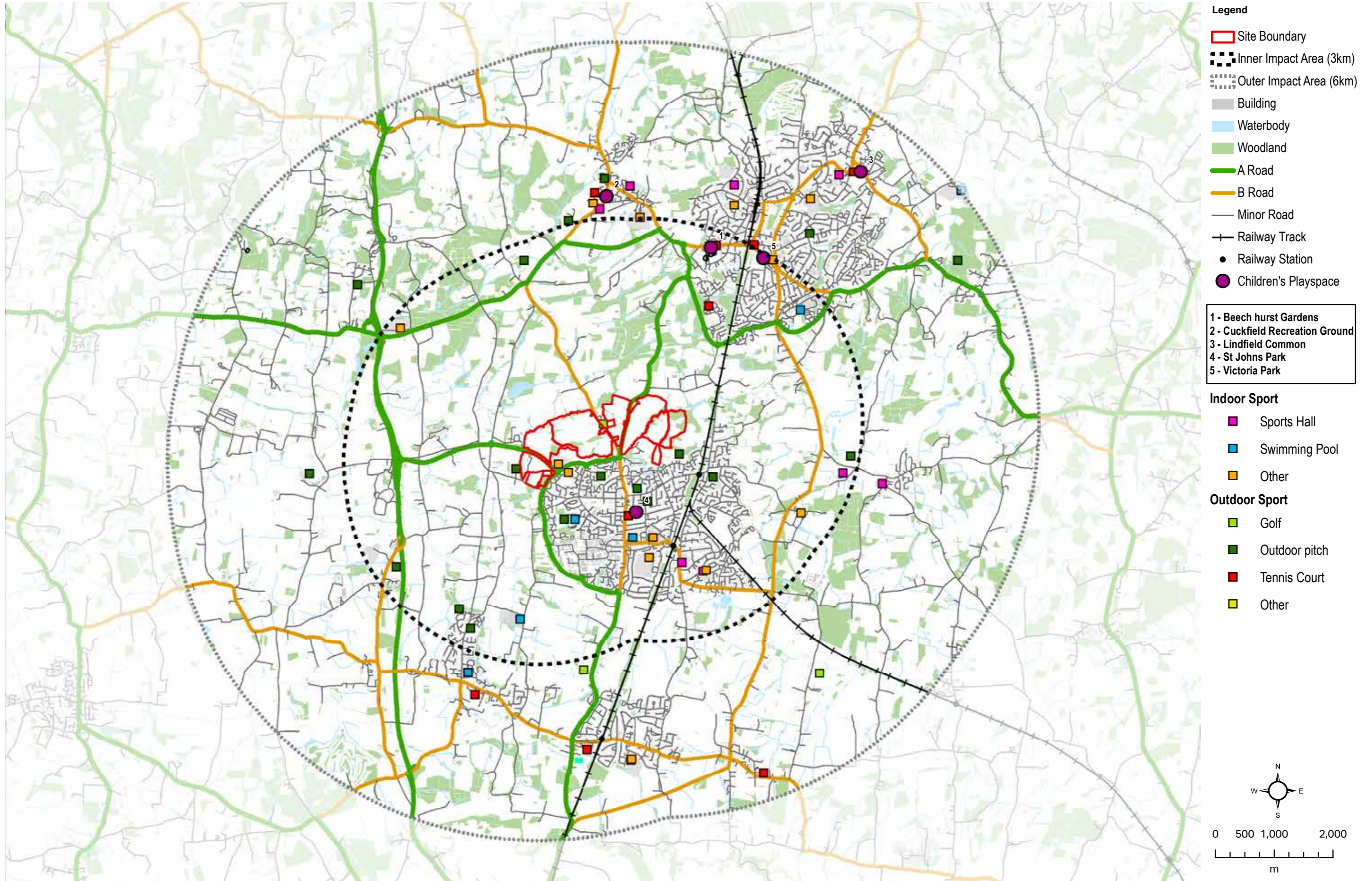
- + <1300
- + 1301 - 1400
- + 1401 - 1600
- + 1601 - 1700
- + >1700

- 54 - Brow Medical Centre
- 55 - Cuckfield Medical Centre
- 56 - Ditchling Health Centre
- 57 - Dolphins Practice
- 58 - Dr R Miarkowski And Partners
- 59 - Hassocks Health Centre
- 60 - Lindfield Medical Centre
- 61 - Meadows Surgery
- 62 - Mid Sussex Health Care
- 63 - Newtons Practice
- 64 - Northlands Wood Surgery
- 65 - Silverdale Practice
- 66 - The Avenue Surgery
- 67 - Vale Surgery

0 500 1,000 2,000
m



Communities and Civic Assets



Sports and Recreation

3. Landscape

Topography and Watercourses

The site is crossed by two watercourses which influence the landform, associated with a number of other small water bodies. The first watercourse flows from the north eastern part of the site in a south westerly direction towards the northern edge of Burgess Hill, before turning north west to form a broad 'U' shape. This watercourse is a tributary of the River Adur, which is located approximately 5km west of the site. The second watercourse flows along the northern boundary of the Site, converging with the first watercourse at the site's north western edge.

The steepest parts of the site are associated with these watercourses, as they form narrow valleys through the landscape with a gentle fall of between 10m and 15m across the site. The valley sides are more steeply rolling than the rest of the site, which generally comprises a rolling landform with gentle hills, except for in the central part of the site, where the landform is flatter and more gently undulating.

Geology and Soils

Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils.

Vegetation

Large areas of mature woodland, including some ancient woodland, are common and often connected by woodland shaws and mature hedgerows. These elements provide a sense of enclosure and a well-defined landscape structure to the medium-scale field pattern. The valleys through the site are particularly wooded, with riparian vegetation and wet woodland lining the watercourses. This notably increases the sense of enclosure from within the site. Individual trees are scattered across the site, either in the middle of fields or marking field boundaries.

Historic hedgerows with hedgerow trees are present across the site, and include a variety of deciduous species. These hedgerows appear well maintained and regularly include mature trees that further the sense of enclosure.

Landscape Character

The character is heavily influenced by the combination of rolling hills and mature woodland and hedgerows across the landscape providing intrinsic natural beauty, structure and pattern, contributing to the overarching rural character of the area.

Key landscape characteristics of the site:

- Gently undulating low ridges provide variation between openness and enclosure across the site.
- Small to medium scale, irregular shaped field sizes, often post-medieval.
- Crossed by sparse network of north-south narrow rural lanes through the site and large trunk roads on the peripheries.
- Pattern of mature woodlands, woodland shaws and hedgerows with hedgerow trees defining field boundaries and settlement fringes, often ancient, often creating a sense of enclosure.
- Mosaic of small ponds, streams, meadow and wetland interspersed between mixed agricultural land and woodland.
- Infrastructure in the form of pylons and overhead cables both on site and the wider landscape.
- Well wooded and vegetated landscape creates a rural and verdant characteristic.



Grazing pasture on sloping ground enclosed by hedgerows



Arable farmland defined by woodland and trees



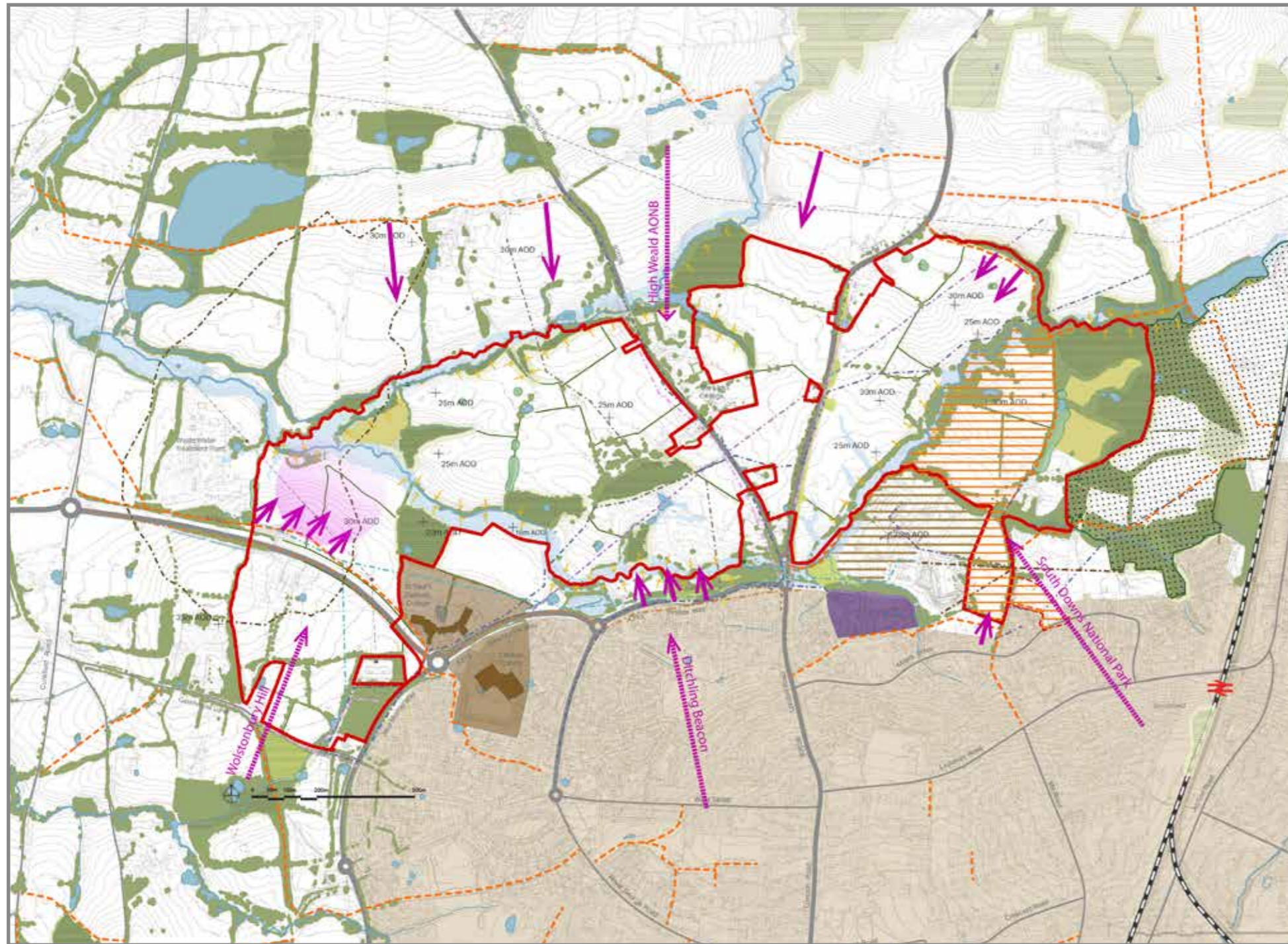
Elevated plateau grassland enclosed by mature woodland



Low lying hay meadow pasture defined by mature hedgerows



Rolling hills with medium scale irregular sized fields defined by mature hedgerows and hedgerow trees with well wooded backdrop



Key

- Existing road
- Railway line
- Public right of way
- Business park
- Existing settlement
- Woodland
- Ancient woodland
- Unimproved grassland
- Local nature reserve
- Hedgerows
- Water courses
- Maximum flood zone
- Odour contour
- HV Powerline
- Virgin media
- BT
- Gravity sewer
- Gas line
- Rising main
- Water main
- Steep topography
- Theoretical close distance views
- Theoretical long distance view
- Theoretical area of high visibility

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Constraints

Designations

- 1 Several Ancient Woodlands within the site.
- 2 High Weald AONB is approximately 2.2km to the north.
- 3 South Downs National Park is approximately 3km to the south east.
- 4 The potential visual impact on these statutory designations should be considered.

Vegetation

- 5 Hedgerows and clumps of woodland on site provide structure to the landscape and are considered important assets which should be retained and protected within the masterplan but constraint development capacity.

Severance

- 6 The A273 may limit integration and connectivity of the Northern Arc development to Burgess Hill.
- 7 Topography and watercourses:
- 8 Slopes may limit retention of vegetation and integration of development. Flood areas may limit function of open spaces.

Ambient

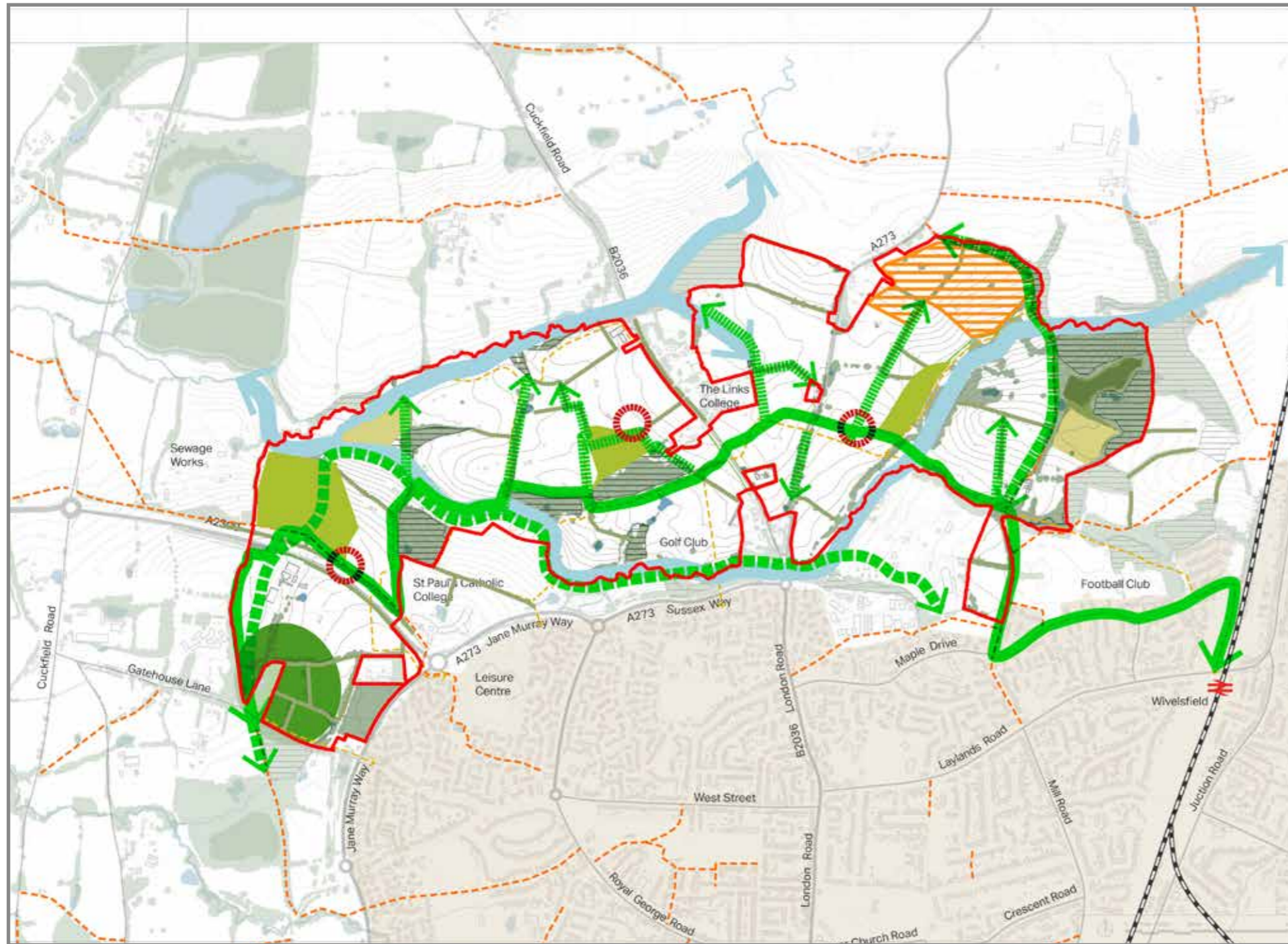
- 9 Noise and smell from waste sites.

Character

- 10 High level of perceived naturalness and a rural characteristic.
- 11 Large amount of woodland cover and mosaic of shaws, hedgerows and meadows contribute strongly to the essence of the landscape.
- 12 Pockets of rich biodiversity are vulnerable to loss and change.
- 13 Integration of the development within the landscape and reflect local distinctiveness.

Views

- 14 Parts of the site are exposed to views from the South Downs National Park with a consequently high sensitivity to the impact of new development and the cumulative visual impact of buildings and other structures. This should include Wolstonbury Hill and Ditchling Beacon in the South Downs National Park.
- 15 The High Weald AONB is approximately 2.2km to the north at its closest point.
- 16 Development should sit below the skyline, designed with minimum impact on views from the Downs and surrounding landscape.



Key

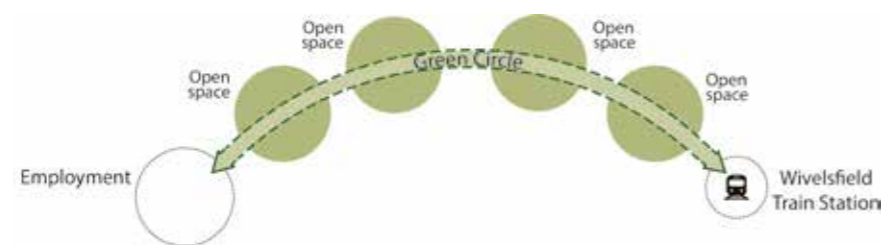
-  Site boundary
-  Potential schools
-  Potential sport area
-  Existing road
-  Railway line
-  Public right of way
-  Potential pedestrian & cycle routes
-  Potential open spaces
-  Water courses
-  Woodland
-  Ancient woodland
-  Unimproved grassland
-  Hedgerows
-  Potential Green Circle
-  Potential Green Super Highway
-  Potential Green Corridors
-  Potential Freek's Lane Green Spoke
-  Potential social nodes

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Opportunities

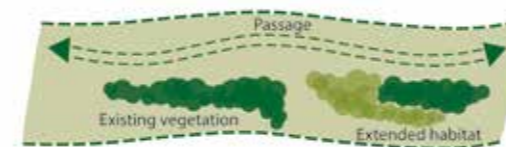
Connectivity

- 1 Create open spaces and centres as core nodes of the development, providing a sense of arrival and identity connecting to the existing sense of place.
- 2 Develop connectivity to the wider area without an emphasis on the use of cars.
- 3 Provide a 'green spine' as a primary sustainable movement corridor (Green Circle) with footways and cycleways from Wivelsfield Station, through green spaces and the development, linking to the employment corridor to the west.
- 4 Provide secondary foot and cycle ways (Green Spokes) along hedgerows and woodland edges to connect the wider development to the primary route.
- 5 Integrate and enhance existing landscape features such as woodlands, shaws, hedgerows and trees to create connections across the area, reducing habitat fragmentation, enhancing biodiversity and providing recreation opportunities.
- 6 Provide connection to nature to promote sense of wellbeing and foster stewardship of the landscape.



Vegetation Patterns

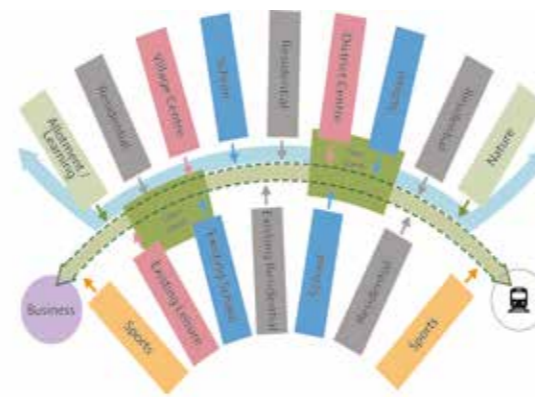
- 7 Maintain and enhance existing vegetation to provide setting for high quality development that sits well within the landscape and to maintain the strong landscape pattern and local distinctiveness.
- 8 Use the constraint posed by ancient woodland and hedgerows as a means of integrating the primary and secondary foot and cycle ways into the development.
- 9 Use the existing hedgerows and vegetation to break up views of and mitigate the effect of the development on the visual amenity of the area.
- 10 Retain and enhance the historic pattern of key landscape features including woodland, hedgerows, sense of containment and medium scale pattern to provide a strong sense of place to the development.



- 11 Conserve, strengthen and manage existing hedgerows and hedgerow trees, filling in gaps and planting hedgerow trees to maintain succession.

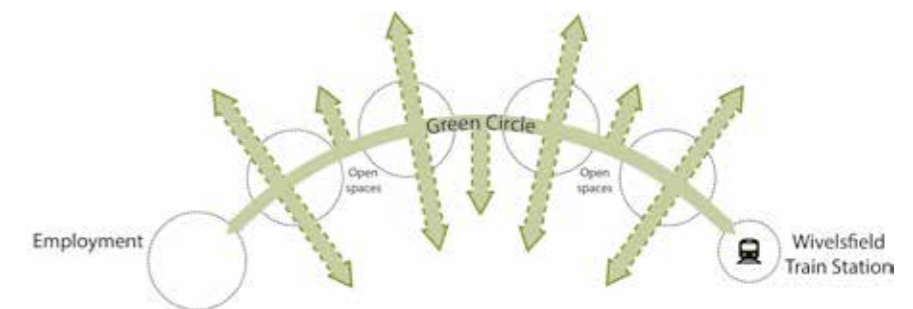
Macro-Connectivity

- 12 Connect all community destinations with the Green Circle or Green Spokes.



- 13 Locate the secondary school on the eastern side of the development to benefit from the improved connectivity to sustainable movement routes and development centres.

- 14 Use existing infrastructure to access the community by car, focus more on providing sustainable movement corridors associated with the rural landscape features to promote a healthy lifestyle.
- 15 Enrich opportunities linked by sustainable movement corridors, such as allotments, local landscape, amenities, sports and leisure.



Water

- 16 Develop a site wide SuDS strategy to connect to the flood plain and enhance biodiversity and provide recreation opportunities and reinforce sense of place.
- 17 Maintain ponds and streams and improve and manage their margins for biodiversity and nature conservation.

Biodiversity and Habitat

- 18 Expand and connect semi-natural habitats to benefit biodiversity
- 19 Maintain and enhance unimproved grassland and meadows
- 20 Integrate landscape buffers to enhance existing habitats, providing a new mosaic of woodland, hedgerows and hedgerow trees, individual trees and meadows.
- 21 Manage existing woodlands, woodland shaws and hedgerows to promote long term woodland regeneration.

4. Ecology

A Phase 1 habitat survey undertaken by AECOM in August 2018 has identified that the proposed development site includes a network of habitats including ancient woodland, species-rich hedgerows, semi-improved grassland, water courses, ponds, extensive arable land and a golf course. Desk study data analysis, including review of ecological survey work previously undertaken within the proposed development, has confirmed that the site supports (or has potential to support) hazel dormouse, great crested newt, foraging, commuting and roosting bats, breeding bird species, invertebrate species and badgers. As a consequence, and in accordance with planning policy, the design of the proposed masterplan has been informed by the mitigation hierarchy with avoidance of impacts taking precedence. Buffers have been included within the design, to avoid impacts on ancient woodland which is the most important ecological feature within the site. Where impacts on other habitats are unavoidable, mitigation and compensation have been provided within the network of retained (including ancient woodland and species-rich hedgerows) and newly created habitats within the development. The network of habitats within the Masterplan is intended to “future proof” the design and create linkages across the landscape that add to the resilience of retained habitats.

Designated Wildlife Sites and Habitats

There are no internationally designated sites within 2km of the Site. One Site of Special Scientific Interest (SSSI) and two Local Nature Reserves (LNR) are within 2km of the Site, one of which (Bedelands Farm) is adjacent to the boundary of the Site. In addition, two Local Wildlife Sites (LWS) are located adjacent to the boundary of the Site.

Deciduous woodland, ancient and semi-natural woodland and ancient replanted woodland are Priority habitat listed on Section 41 of the NERC Act (2006) which are present within the area defined by the Proposed Development.

Protected and Notable Species

Within the 2km radius desk study data obtained from Sussex Biodiversity Records Centre there are records of at least nine bat species, great crested newt, hazel dormouse, European water vole and nine species of birds listed under annex 1 of the Birds Directive.

From review of magic.gov.uk Natural England European Protected Species Mitigation Licences (EPSML) have been granted as follows:

- Great crested newt licence (2010-2011) located in proximity to St Paul's Catholic College located adjacent to the Site.
- Great crested newt licence (2016-2026) located in proximity to Fairbridge Way and the water treatment works located adjacent to the Site.
- Bat (2014-2017) located within/ immediately adjacent to the Site.

Survey work undertaken by Aspect Ecology with the Freeks Farm area in the east of the Masterplan area has confirmed presence of various protected species including great crested newt (within Lowlands Farm), hazel dormouse (along Freeks Lane), roosting bats (within buildings on Lowlands Farm), foraging and commuting bats. Small populations of slow worm and grass snake were recorded within Freeks Farm and Lowlands Farm respectively.

Habitats

An extended Phase 1 habitat survey and River Habitat Survey was undertaken by AECOM during late July and Early August 2018.

Grasslands

The Phase 1 habitat survey has identified that the Proposed Development is predominantly comprised of arable fields, cattle pasture, horse pasture and hay meadows. The vast majority of the pasture fields typically comprise either improved grassland with few wildflower species or species-poor semi-improved (SI) grassland.

The few habitats considered to be species-rich SI grassland had greater herb species-richness, with common meadow species including black knapweed, agrimony and birds-foot trefoil all established within the sward.

Woodlands

A network of small and medium sized broadleaved woodlands are present on site with many connected by species-rich hedgerows, dense scrub and river corridors. Generally, the woodlands within the Site are comprised of mature English oak and ash with a mosaic of scrub dominant and open ground-flora rich understories. Coppiced hazel was frequently found across most woodland habitats as was blackthorn, hawthorn and bramble scrub. Other common tree species include field

maple, hornbeam and alder. In several of the woodlands species that are typically indicative of ancient woodland habitat were recorded including enchanter's nightshade, dog's mercury and wood melick.

Hedgerows

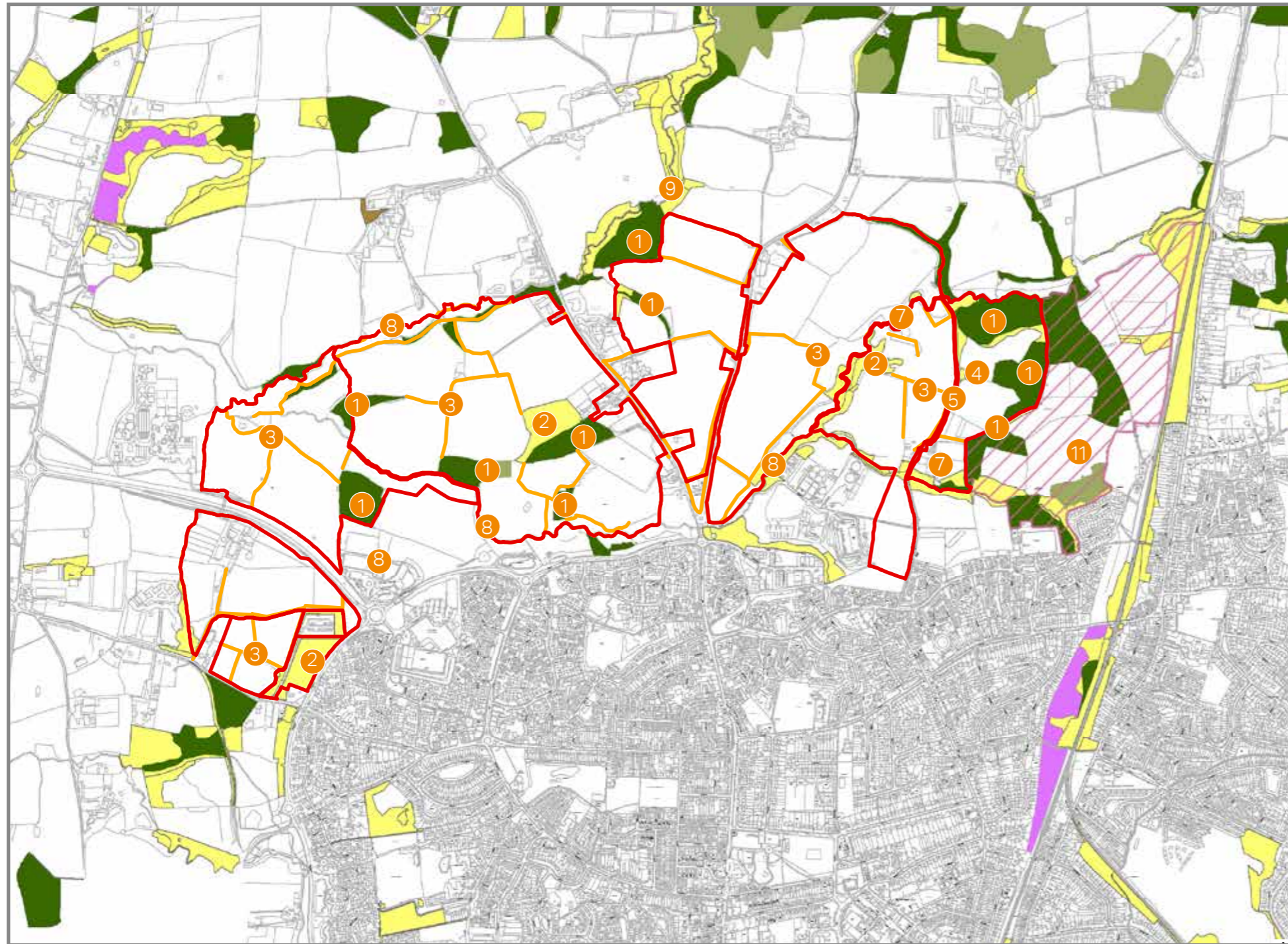
A network of hedgerows, with a range of semi-mature and mature trees growing throughout, extend across all sections of the Site. The majority of the hedgerows are species-rich with a minimum of five woody species being recorded, with all hedgerows containing at least blackthorn and hawthorn. Elder, alder, field maple, hazel and dog rose were all frequently recorded. Purging buckthorn, spindle, dogwood, honeysuckle, wild privet, holly, pear, apple, plum, guelder rose, whitebeam and sweet chestnut were also recorded but less frequently. English oak and ash were the predominant tree species found throughout.

Rivers

Water courses within the Proposed Development are highly modified, and affected by increased sedimentation associated with surrounding land use of improved grassland and cultivated land. There are some natural features including with meanders, vegetated side bars, natural berms and areas of shading. However, the lack of flow variation suggests potential downstream impoundment of which is an impact to fish migration and longitudinal connectivity. Additionally, the lack of fluvial habitat diversity reduces diversity of macrophytes, macroinvertebrates and fish. Low flow velocity increases fine sediment deposition which reduces habitat availability for macroinvertebrates and spawning habitat for fish species.

Ponds

Several ponds were identified within the Site which included ponds managed for their amenity value within the golf course. In addition to these ponds, one large pond was present located on the verge of an arable field within the land west of Cuckfield Road. This pond was surrounded by semi-mature willows and supported little marginal vegetation and some duckweed.



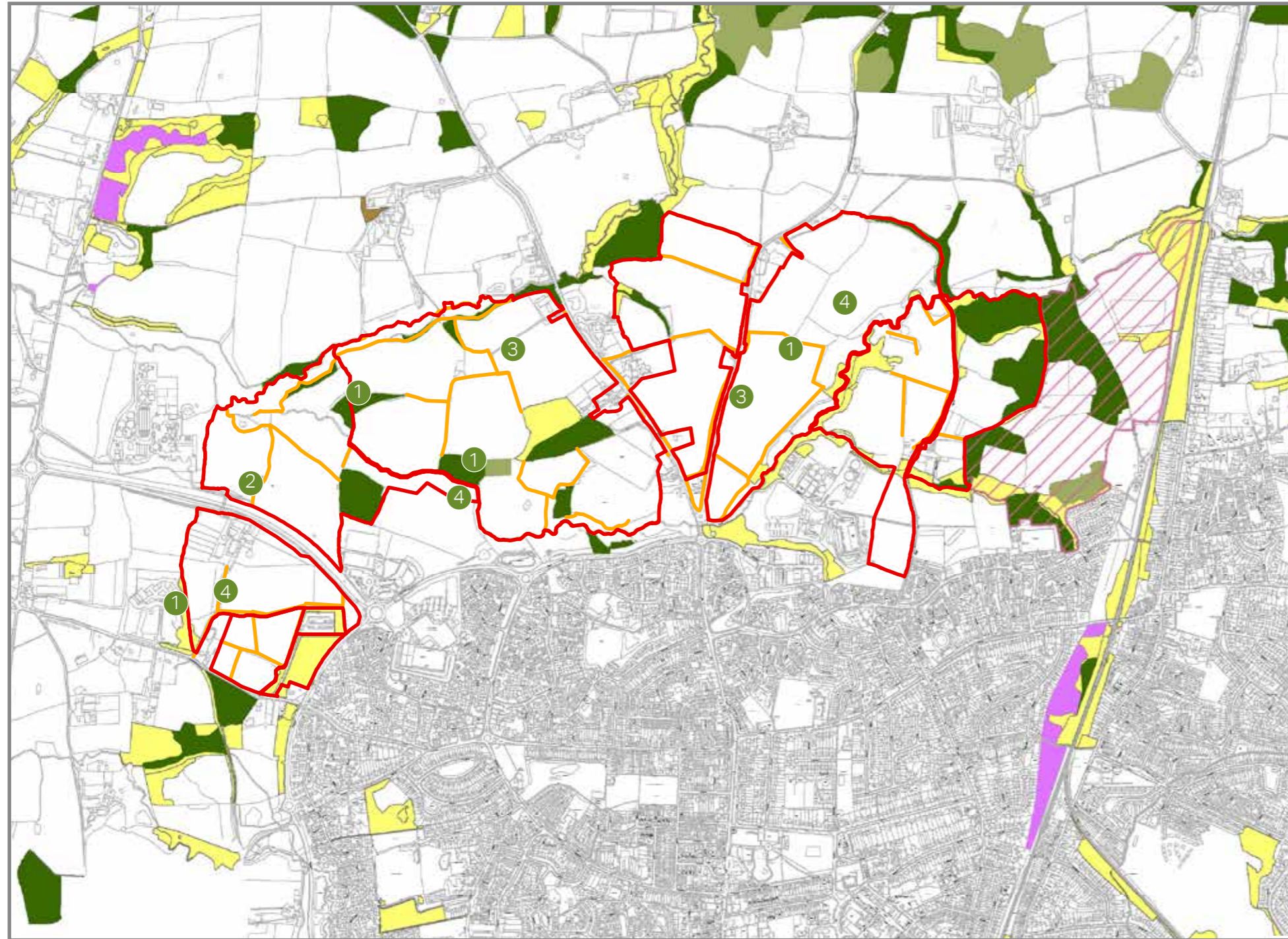
Constraints

- ① Ancient woodland
- ② Priority woodland
- ③ Species-rich hedgerows
- ④ GCN pond Lowlands Farm
- ⑤ GCN pond School site
- ⑥ Confirmed hazel dormouse Freeks Lane
- ⑦ Confirmed bat roost Lowlands Farm
- ⑧ Water courses
- ⑨ Local Wildlife Site - Great Wood & Copyhold Hanger
- ⑩ Local Wildlife Site – Bedelands (also designated as Bedelands Farm Local Nature Reserve)

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Key

- | | | | |
|-----------------------|---------------------------------|--------------------|---------------------|
| Site Boundary | Ancient & Semi-Natural Woodland | Deciduous Woodland | Traditional Orchard |
| Local Nature Reserves | Ancient Replanted Woodland | Improved Grassland | High Constraint |




Opportunities

- ① Retained woodland, hedgerow, grassland and water courses provide the basis of an extensive network of green infrastructure within the development, that can be designed / enhanced to be of value to biodiversity and provide other ecosystem services
- ② Under power lines - Potential for habitat creation/enhancement within areas identified as sports pitches and allotments
- ③ Potential for habitat creation within grounds of proposed primary schools which could be a synergy with curriculum
- ④ Cyclepaths designed to achieve biodiversity net gain. For example, tarmac path but also areas of linear wildflower meadow, hedgerow and mosaic habitat included in the design without sacrificing functionality

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Key

	Site Boundary		Ancient & Semi-Natural Woodland		Deciduous Woodland		Traditional Orchard
	Local Nature Reserves		Ancient Replanted Woodland		Improved Grassland		High Constraint

5. Arboriculture

The Site

The Site is generally rural in nature and contains large areas of mature broadleaved trees, typically as woodland or hedgerow features bordering roads and fields along with notable isolated individual mature trees. Many trees are likely to be of high or moderate quality. Oak appears to be the dominant mature tree species however other tree species observed include silver birch, horse chestnut, willow and ash. Hedgerows are often formalised (e.g. managed as a low field boundary hedge) and appear to be formed of mixed broadleaved species including blackthorn, hazel and hawthorn with scattered mature trees, typically oak, interspersed.

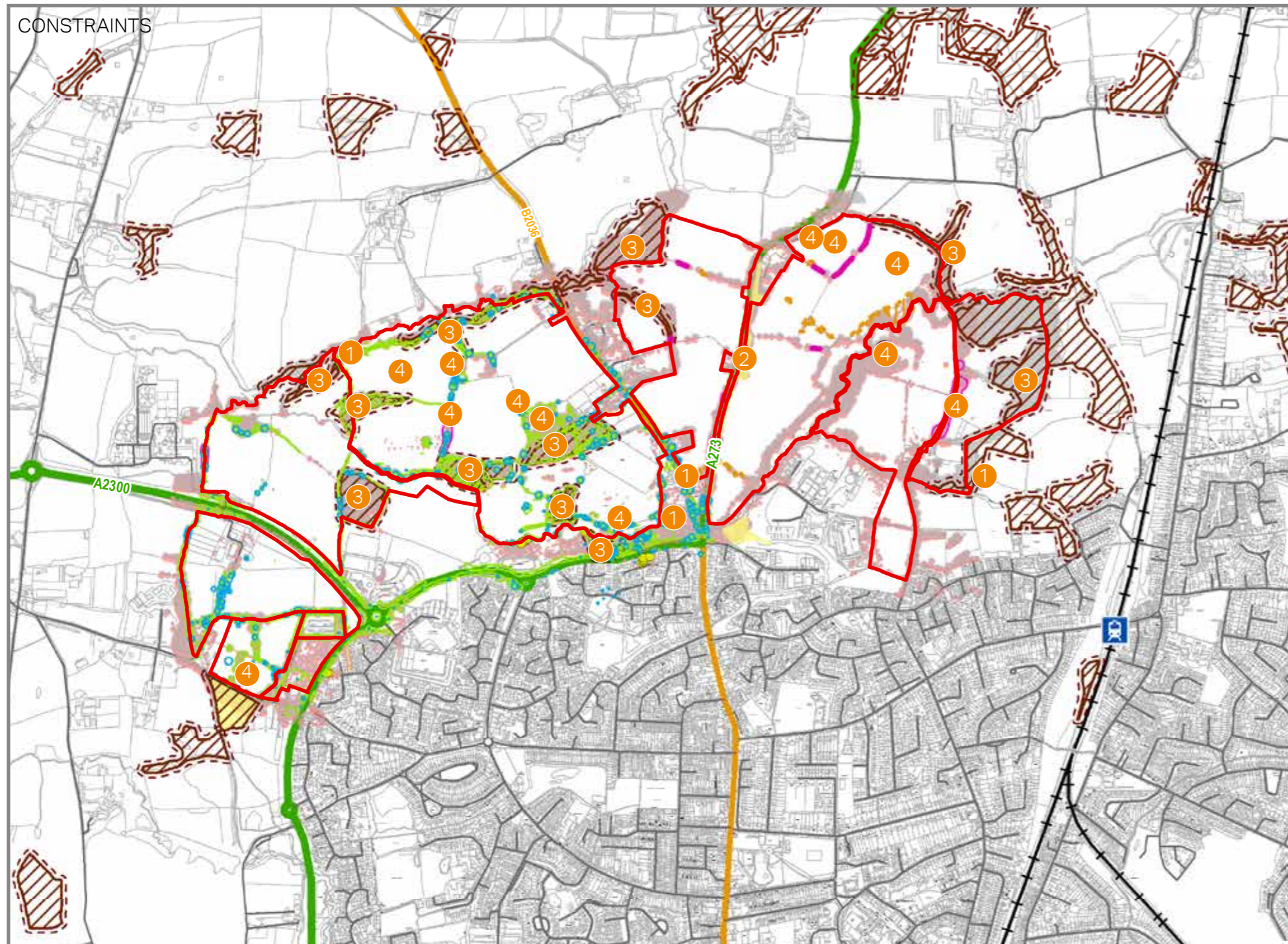
There are no Conservation Area designations within or immediately adjacent to the Site, however, there are a number of trees subject to individual or area tree preservation orders (TPO) both within and immediately outside of the site boundary.

There is an Area TPO in force protecting trees along Isaacs Lane which runs from north to south through the Site. Immediately outside of the Site boundary are a number of individual and area TPOs to the south of the Site boundary.

A number of areas of designated Ancient Woodland are located within the Site. These are not subject to statutory protection but are a significant material consideration within the planning process and are afforded significant weight by the National Planning Policy Framework and standing advice from Natural England and the Forestry Commission. There are a number of veteran or potentially veteran trees within the Site. Both veteran trees and ancient woodland are considered to be irreplaceable habitat.

Many of the woodland areas and tree groups within the Site are classed as Deciduous Woodland which is a priority Biodiversity Action Plan (BAP) habitat. There is a Local Nature Reserve to the east of the Site but this is well clear of the Site boundary and no trees within this area have the potential to be affected by potential development within the red line boundary.

A high level assessment of the tree stock has been based on Ordnance Survey base mapping and the National Tree Map (NTM) data set. Notional buffer zones have been applied to trees based on indicative heights and canopy spread information. Tree shading arcs have also been added based on tree height data. Where existing tree survey information is available this has been added to refine tree constraint information as fully as possible to provide the most comprehensive baseline information available at this stage.



Constraints

All high and moderate quality trees on site represent a constraint and should be retained and incorporated into the design wherever feasible however the key known or assumed constraints are highlighted below.

- 1 Potential veteran trees which are considered and irreplaceable habitat.
- 2 Trees protected by a Tree Preservation Order have been identified by the LPA as being of significant amenity value.
- 3 Ancient woodland is considered an irreplaceable habitat.
- 4 Trees and tree groups identified as being of particular value during AECOM site walkover (not exhaustive).

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Key

Site Boundary	Railway Station	B Road	Ancient Woodland 15 Buffer	Approximate Root Protection	Existing Survey RPA (Forbes-Laird July 2015)
Ancient Woodland	Railway Track	Minor Road	Trees which could be removed	Tree Preservation Order-Group	
Likely High Value Trees	A Road	Existing Survey Canopies	Approximate Shading Analyses	Tree Preservation Order-Individual	
	B Road	Potential Access Points (as per SJA 2015)			



Opportunities

All areas of open space set back from moderate and high quality trees represent the easily developable space from an arboricultural perspective.

The high quality treed environment present across the Site will provide instant maturity and amenity to the Site, promote well-being and deliver a wide range of ecosystem services.

New planting and proactive management of existing trees will help to improve the diversity and resilience of the tree stock into the future.

- ① Replanted ancient woodland, other ancient woodland sites and veteran trees (see key) may benefit from proactive management (subject to detailed assessment).
- ② Existing well-spaced trees and open areas form a good potential parkland and play area.
- ③ Potential access points in hedgerows for new roads and access routes.
- ④ Areas of lower quality trees (as recorded by 2014 Tree Surveys by others and AECOM walkover) which are not likely to represent a significant constraint.

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Key

Site Boundary	Railway Station	B Road	Ancient Woodland 15 Buffer	Approximate Root Protection	Existing Survey RPA (Forbes-Laird July 2015)
Ancient Woodland	Railway Track	Minor Road	Trees which could be removed	Tree Preservation Order-Group	Arboriculture Opportunity
Likely High Value Trees	A Road	Existing Survey Canopies	Approximate Shading Analyses	Tree Preservation Order-Individual	
	B Road	Potential Access Points (as per SJA 2015)			

6. Drainage and Flood Risk

Existing Drainage

The majority of the site drains towards the River Adur and Copyhold Stream, which flow west through the site to meet at a confluence at the north western boundary. The far east of the site is crossed by an unnamed tributary of the River Adur. The far west of the site drains to Pook Bourne, a tributary which joins the River Adur near Wineham. The River Adur is classified by the Environment Agency as a main river within the site.

Most of the site is underlain by the Weald Clay formation, which is likely to be of low permeability, limiting the amount of water which can infiltrate into the ground.

Flood Risk

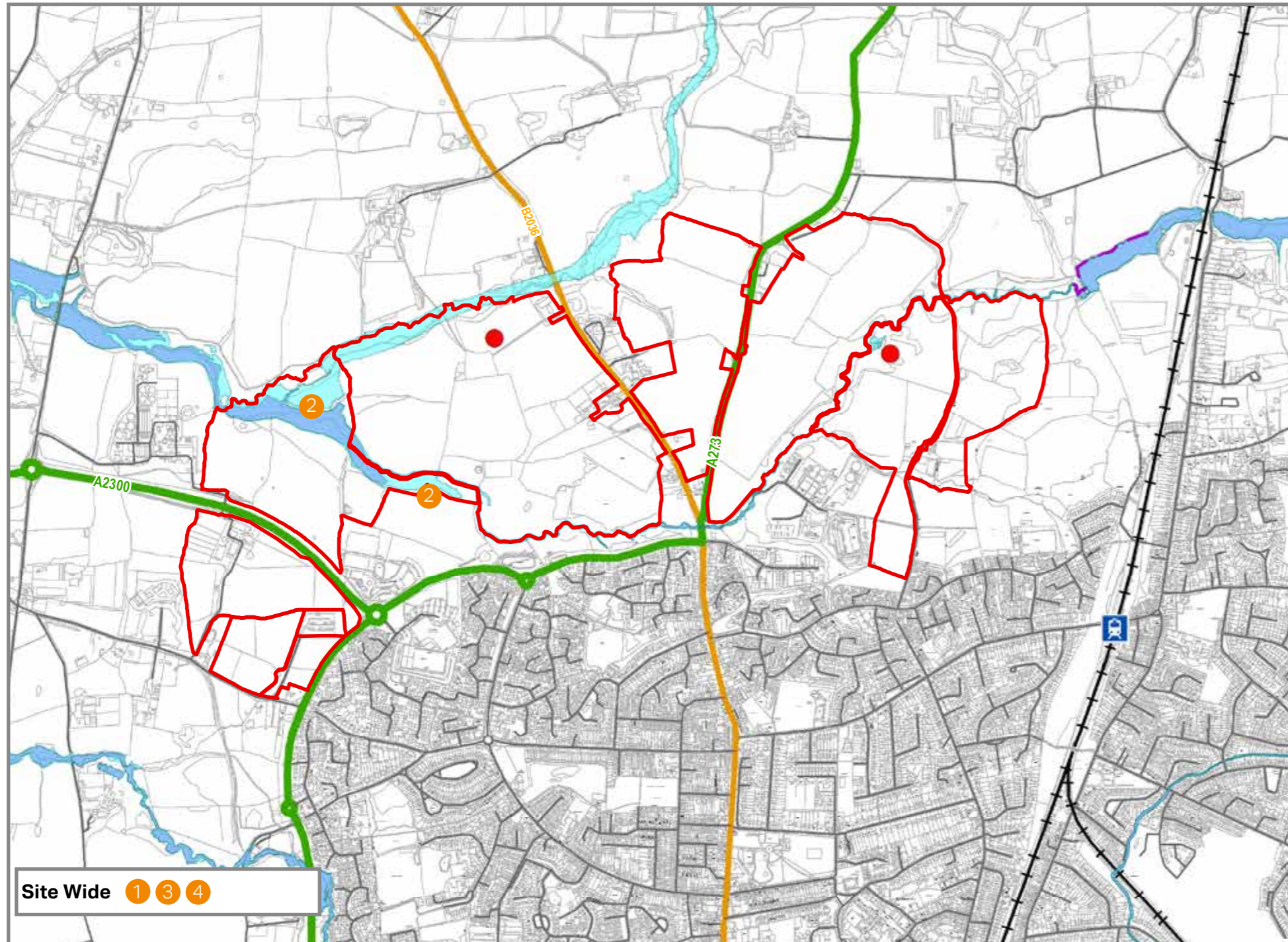
Environment Agency flood maps show that the majority of the site is located in Flood Zone 1. This indicates a probability of flooding from rivers or the sea in any given year of less than 1 in 1000. The land alongside Copyhold Stream is shown as Flood Zone 2. This indicates a probability of flooding in any given year of between 1 in 100 and 1 in 1000. The land adjacent to the River Adur in the west of the site is shown as Flood Zone 3. This indicates a probability of flooding in any given year greater than 1 in 100.

The risk of surface water flooding is shown by the flood maps at isolated points throughout the site, probably local low points, and immediately alongside the existing watercourses.

Water Management

The site is currently largely greenfield, with only small isolated areas of development present. When the proposed site development takes place, the proportion of hard surfaces present will increase significantly. The resultant increase in the volume and rate of surface water runoff will need to be managed through the use of Sustainable Drainage Systems (SuDS)

Due to the low permeability of the site's underlying geology, infiltration drainage is not likely to be possible. The best opportunities for surface water management on site are likely to involve attenuation features such as ponds and wetlands, which would hold and slowly release the urban runoff. These features can be designed to complement the landscape, amenity and biodiversity aspects of the development.



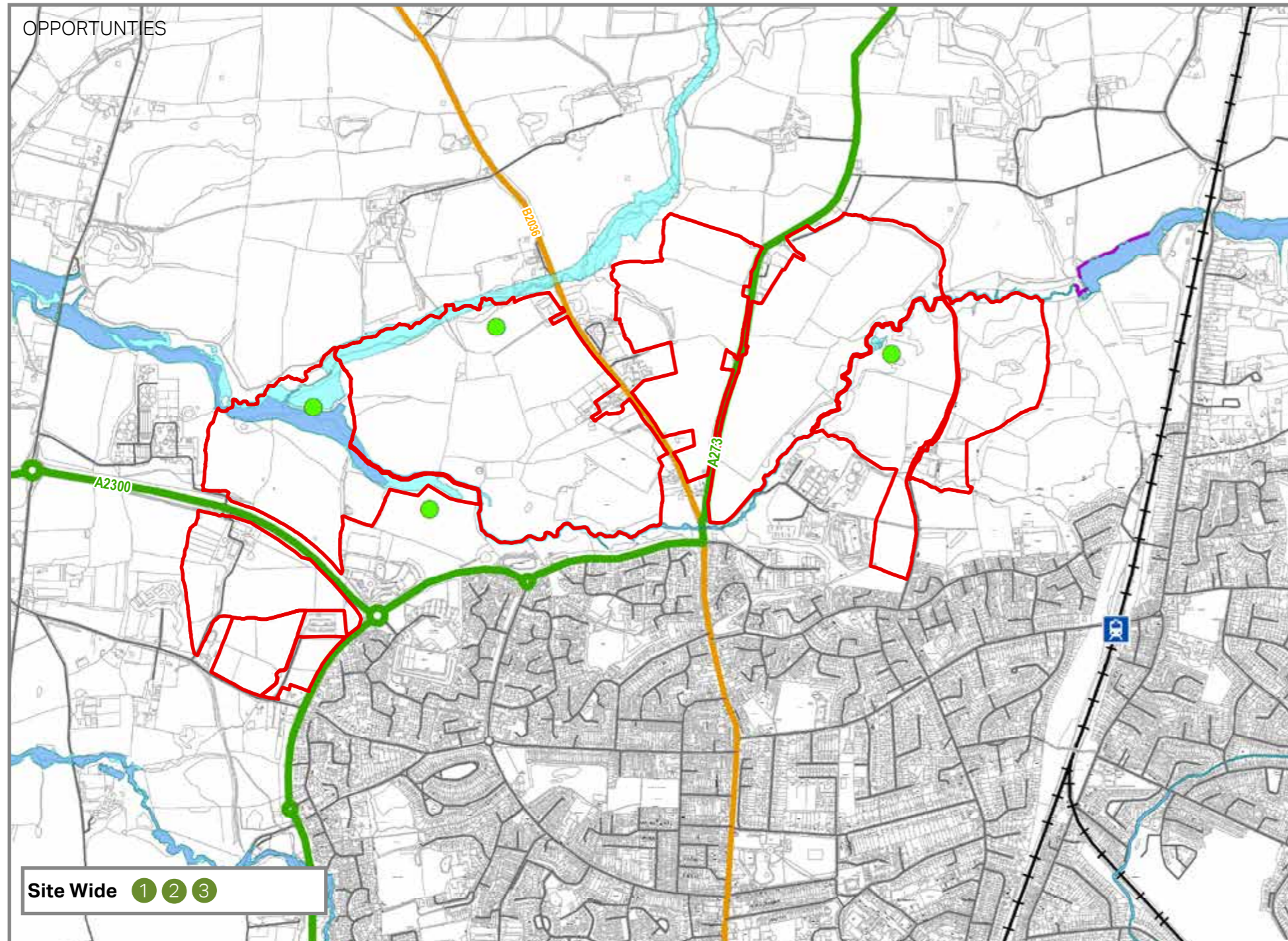
Constraints

- ① The site is currently greenfield with limited existing drainage infrastructure.
- ② The site is crossed by the River Adur, Copyhold Stream and other minor tributaries. Development must not encroach on these watercourses or their floodplains.
- ③ The underlying geology of the site is likely to be of low permeability.
- ④ Surface water runoff from the site must be restricted to the appropriate greenfield rate. This will necessitate the provision of attenuation features on site, such as ponds and wetlands.

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Key

Site Boundary	Railway track	Minor Road	Flood zone 3
Railway station	A Road	Defences	Flood zone 2
	B Road		Flooding constraints



Opportunities

- 1 The existing watercourses crossing the site provide outfall opportunities for the surface water drainage system.
- 2 Surface water attenuation features can complement and enhance the development, providing landscape, amenity and biodiversity benefits in addition to their role in water quantity and quality management.
- 3 Smaller-scale measures such as green roofs, tree pits and rain gardens can be integrated into the urban landscape design, reducing the amount of land required for surface water attenuation ponds and wetlands.

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Key

Site Boundary	Railway track	Minor Road	Flood zone 3
Railway station	A Road	Defences	Flood zone 2
	B Road		Flooding opportunities

7. Noise, Air Quality and Odour

Noise and Vibrations

A desk-based appraisal of the local noise and vibration constraints that could potentially affect the design of the masterplan has been carried out by AECOM. This included a desk based review of aerial imagery to identify the likely noise and vibration related implications that may constrain the proposals.

It is not considered that there are any notable risks or constraints associated with any future mixed use residential-led proposed development, subject to the findings of a detailed noise and vibration survey. Nevertheless, the following considerations may need to be addressed during development of the masterplan, which represent good acoustic design:

- Locating residential areas and other noise sensitive areas away from existing or proposed sources of noise;
- Locating outdoor amenity areas so they are screened from nearby noise sources by proposed buildings; and
- Locating new link/ on-site roads as far from existing sensitive receptors as practicable.

Overall, there are no significant constraints likely to affect the masterplan proposals. However, the following mitigation considerations may need to be addressed during concept and detailed design:

- Implementation of high performance acoustic glazed elements, use of acoustics ventilators as alternative means of ventilation to opening windows;
- Localised acoustics barriers and careful design of site layout in order to achieve reasonable noise levels within the external amenity spaces; and
- Detailed construction noise and vibration management of plant taking into consideration of phased development and cumulative impacts.

Air Quality

AECOM conducted a desk-based appraisal of the local air quality, in which it reviewed existing data and sources of information to identify the likely air quality related implications of the proposals for the Northern Arc. The main points which have been identified include:

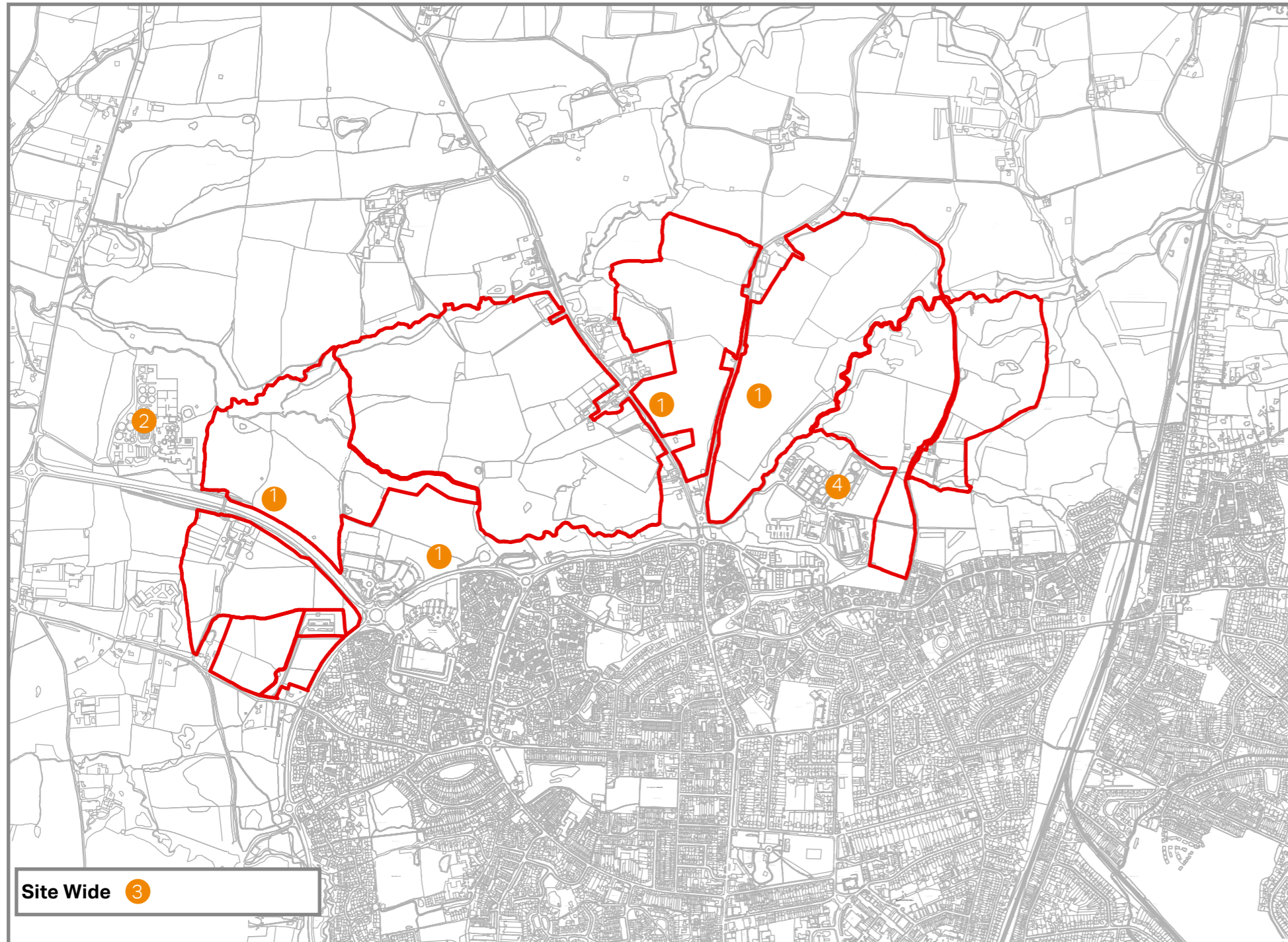
- Air quality monitoring – no air quality monitoring is being undertaken in the vicinity of the site and background pollutant concentrations in the area are typical of rural locations.
- Air pollution sources – a number of sources are present within 1km of the site boundary. Sources include farming practices, the Goddards Green Waste Water Treatment works, a waste handling facility and transfer station, and numerous (predominantly local) roads.
- New emissions to air associated with the construction and operation of the Northern Arc development – residential properties located up to 350m beyond the site boundary may be susceptible to amenity and health impacts from dust and road traffic emissions generated during construction. A range of mitigation options are available and these can be explored further as part of further detailed assessments.
- Consideration should be given to the potential cost of mitigation of emissions generated by the Proposed Development, as advised by the Sussex Air Guidance.

Overall, whilst the appraisal identified some air quality constraints, it has not identified anything that is likely to have a major effect on the masterplan proposals. However, measures which should be incorporated into the design include, but are not limited to, the following:

- Locating residential areas and other air quality sensitive areas away from existing or proposed sources of air pollution, including nearby public road sources, potential existing odour emissions and any energy generation facilities; and / or,
- The consideration of measures for inclusion within a green travel plan to reduce road traffic emissions associated with the construction and operation of the proposed development.

Odour

In accordance with the The Mid Sussex District Plan 2014 – 2031, as the development is within 800m of a waste water treatment works, an odour assessment was been undertaken in 2012 by SKM Enviros. This showed that odours from the treatment processes impose a constraint on the development of land to the east of the site for odour-sensitive uses including residential. The SKM Enviros assessment methodology was agreed between the developers, Southern Water and the Council's independent specialist advisers (Arup) and the results have been agreed as an accurate reflection of the odour constraints. An odour contour produced with additional mitigation installed prevents a small area being used for sensitive uses such as residential. Development outside of this zone should not experience nuisance from the WWTW.



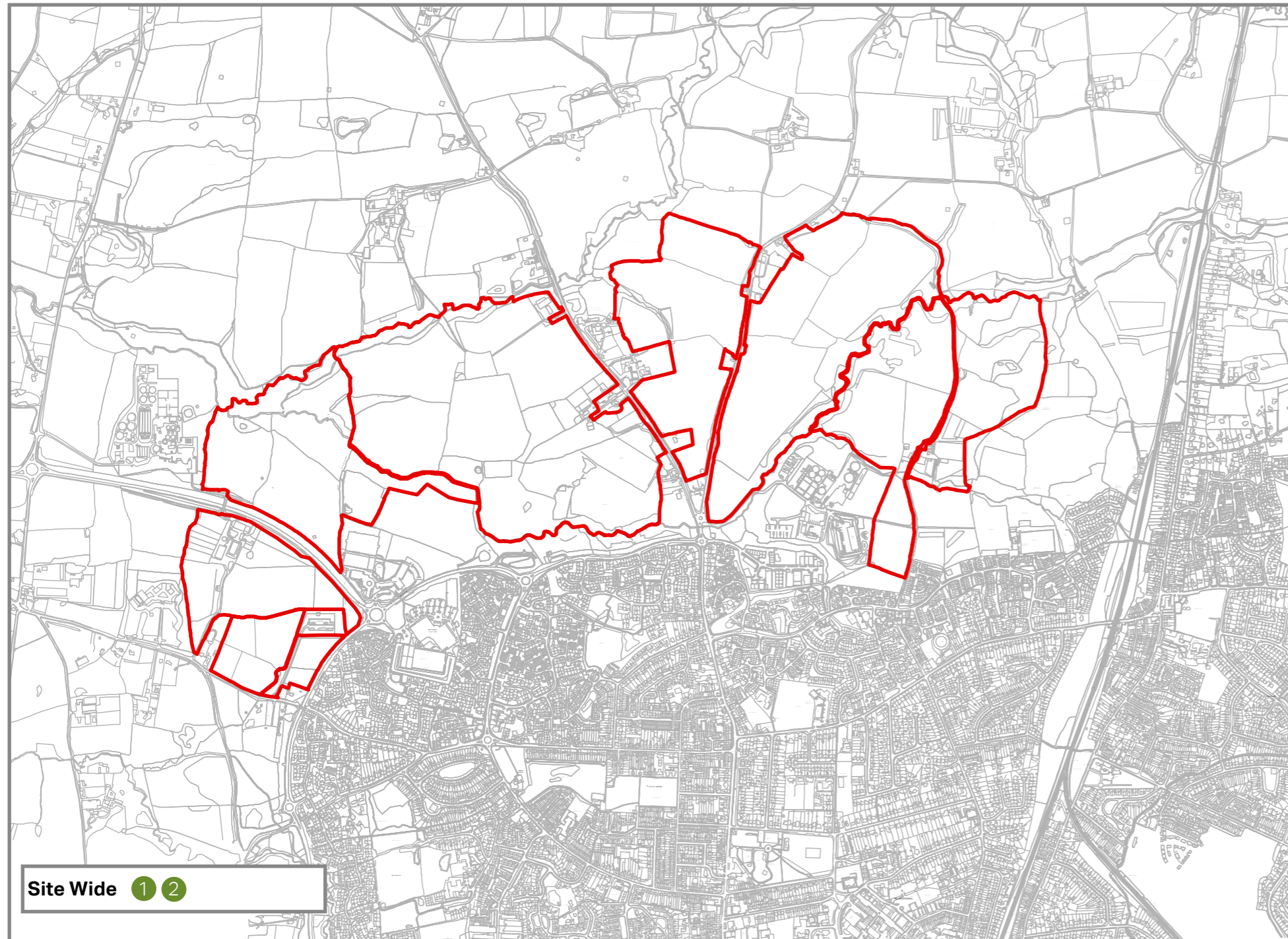
Constraints

- ① Road traffic emissions from the nearby public road network, including the A273, A2300 and the B2037.
- ② Goddards Green Wastewater Treatment Works immediately to the west of the site.
- ③ Proposed emissions associated with the operation of the site itself, including additional vehicle movement emissions, particularly in Burgess Hill Town Centre.
- ④ The waste recycling and transfer station facilities to the southeast of the site

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Key

 Site Boundary



Opportunities

- ① Opportunity to create and implement a green transport plan to encourage sustainable modes of transport, including the use of electrical vehicles.
- ② Opportunity to design a site-wide energy strategy that utilises modern technology to reduce emissions and optimise plant performance.

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Key

 Site Boundary

8. Archaeology and Built Heritage

A high level archaeological and historic baseline was established from data obtained from the West Sussex County Council (WCC) Historic Environment Records (HER) in preparation for the Burgess Hill – Northern Arc Synthesis Workshop in July 2018.

There are no scheduled monuments, registered parks and gardens, or registered battlefields within the study area.

There are 11 listed buildings within 500 m of the red line boundary, all grade II listed. Those nearest to the red line boundary include Bridge Farm to the north and Firlands to the south. Listed farmhouses are located on the high ground within the northern extent of the study area. Further listed buildings within the study area are located in the northern part of the town of Burgess Hill, to the south of the Site.

The Fairfield and St John's Conservation Areas in Burgess Hill are located to the south of the study area. The St John's Conservation area is the closer of the two, located approximately 60 m south of the study area at its closest point. Both conservation areas relate to the 19th century development of Burgess Hill and post-date the agricultural landscape of the Site and the associated listed farmhouses.

An Archaeological Notification Area (ANA) bisects the eastern portion of the Masterplan. It is defined as the probable location of the remains of the London to Brighton Way, a Roman road that remains poorly understood in this area. Although not statutorily protected, this asset is considered of local and regional significance and highlights the possible presence of unknown Roman remains within the proposed development.

There are five non-designated heritage assets within the Masterplan, all of which date to the 17th and 18th century and form part of the post-medieval agricultural landscape identified as part of the 'Historic Farmsteads and Landscape Character in West Sussex' Project. A further 24 non-designated HER assets are recorded within the wider study area.

Evidence of prehistoric occupation in the study area is attested by a number of lithic scatters identified in field walking surveys and Late Iron Age material recovered during archaeological evaluations at Theobald's Road 1 km east of the Site.

In addition to the Roman road running through the east of the Site, further evidence of Roman activity has been reported at Goddard's Green 300 m northwest of the Site, and at Eastland's Farm and Locks Manor 1 km south of the Site.

The Historic Landscape Characterisation (HLC) study undertaken by English Heritage identifies the region in and around the Masterplan as composed mainly of fieldscapes and woodlands originating in the medieval and post-medieval periods. The potential for archaeological remains within the Site is therefore highest for these two periods.

Evidence for medieval activity is attested within the Masterplan by the site of a Fuller's Mill in the northeast corner of the Site. Surviving historic hedgerows located on ancient field boundaries are also likely to relate to this period. Residual finds recorded at Grasmere, Seven Fields, West End Farm, Goddard's Green, and Theobald's Farm also evidence of the medieval agricultural landscape within the wider study area.

The post-medieval period is well represented within the study area, in large parts due to the efforts of the 'Historic Farmsteads and Landscape Character in West Sussex' project. This project identified four non-designated archaeological assets within the Masterplan and a further 20 non-designated archaeological assets within the study area dating to the post-medieval period. In addition to this, two 'designed landscapes', highlighted by the HLC, and two 'buildings of merit', identified by the Burgess Hill Neighbourhood Plan, lie within the study area.

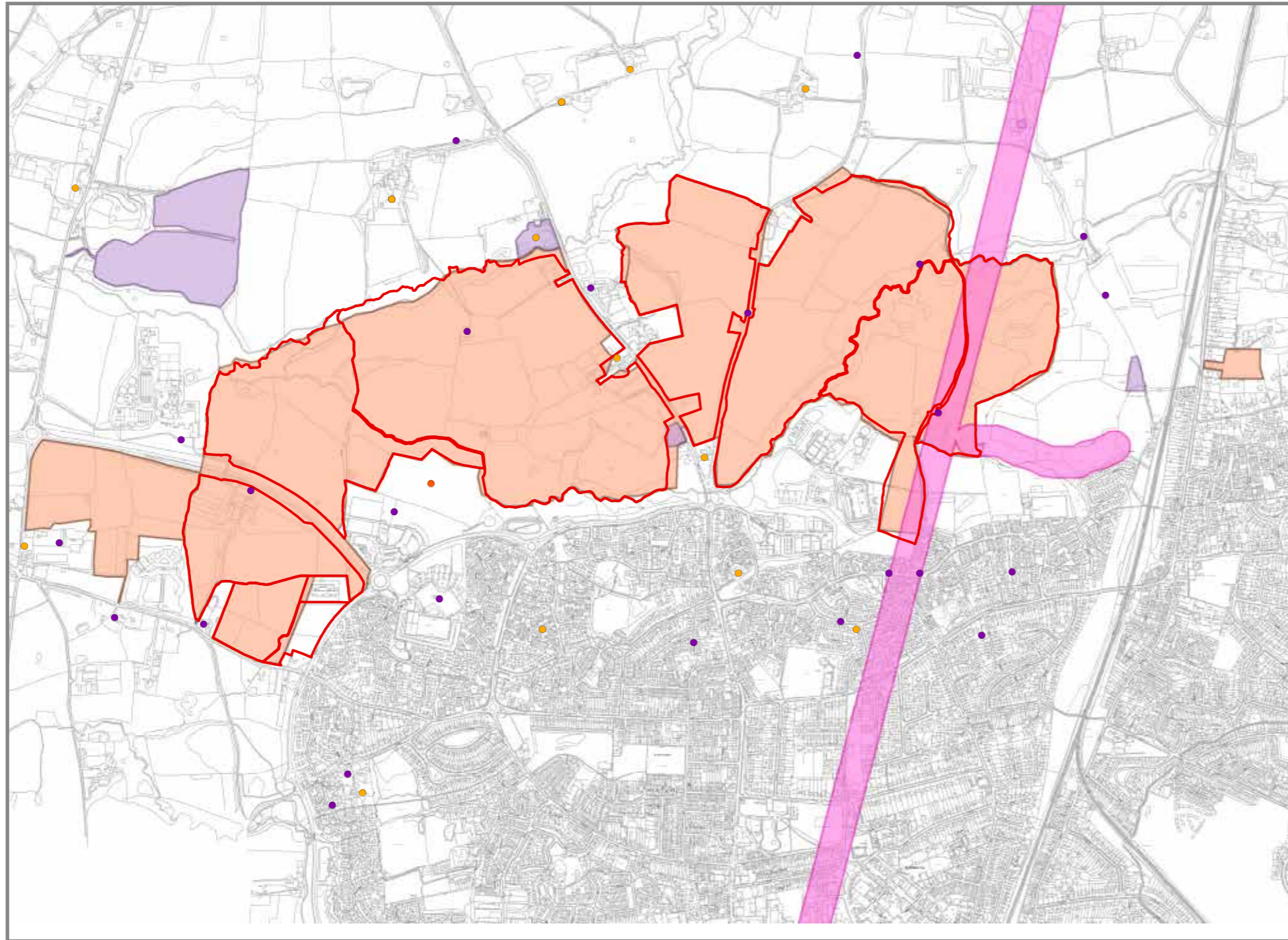
Together with the listed buildings, these assets demonstrate the rural and agricultural character of the Masterplan area and suggest that there is high potential for further archaeological remains from the post-medieval period within the Site.

There is also the potential for the existence of other non-designated built heritage assets both within the Masterplan boundary and within the study area. A study of historic maps suggests that non-designated post-medieval built heritage assets are likely to be located within the Site footprint at Lowlands Farm on Freek's Lane, and close to the Site boundary at Woodfield Lodge on Isaac's Lane, Bridgehall Farm, and Webb's Park on Cuckfield Road.





Overall, the work to date has not identified any items of such significance as to limit the potential for the allocation's delivery in line with national planning policy objectives and the site's scale would provide phasing flexibility in the event that finds are recorded.

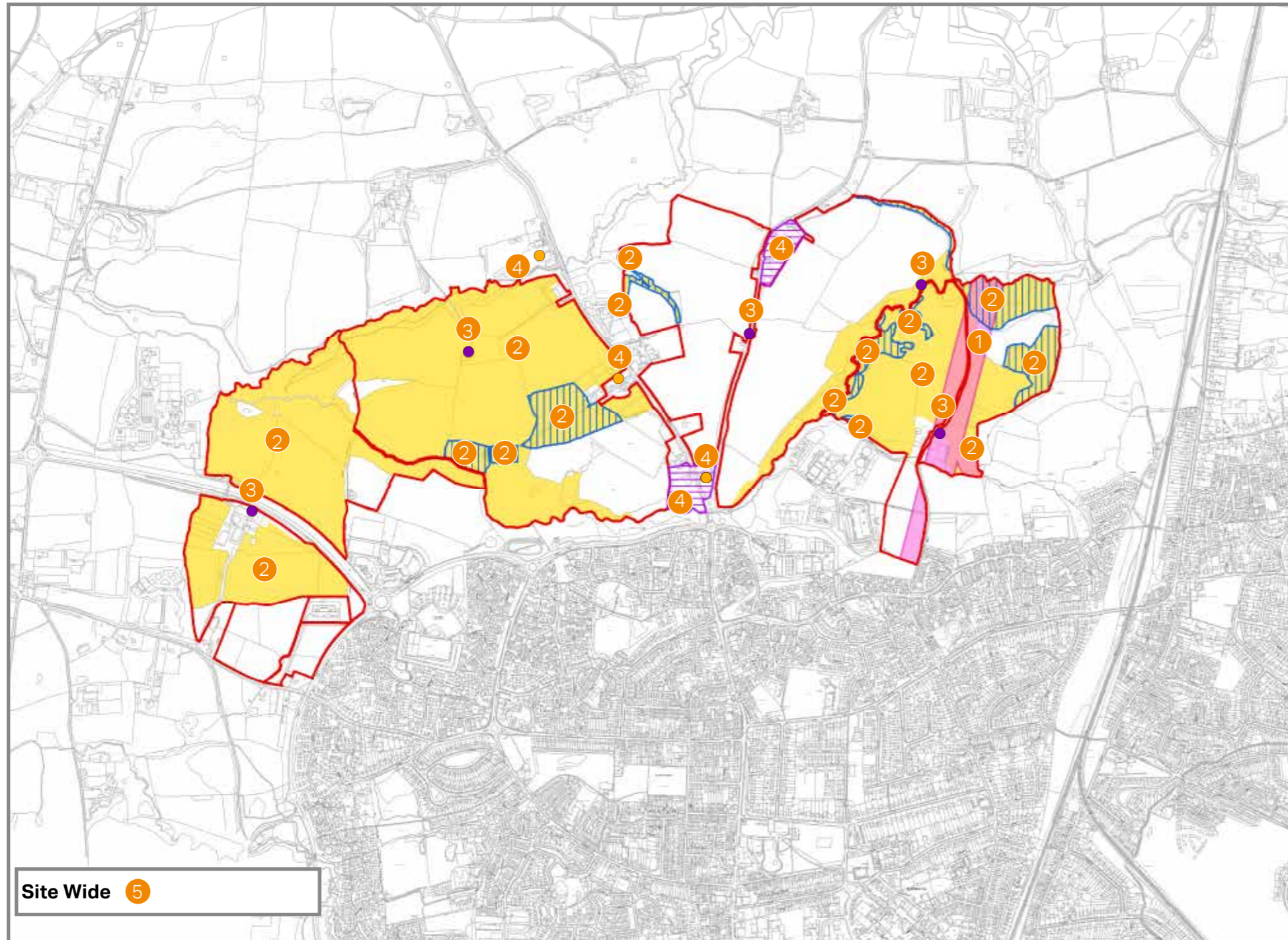
The presence of the built heritage assets provide several opportunities for developments to create a sense of place through sympathetic design that incorporate and enhance local character and histories. It is important to note, however, that many of the opportunities that the site presents will only become evident at the detailed design stage.

A full Desk Based Assessment (DBA) will be completed that will include a detailed assessment of the significance of designated and non-designated assets, their significance, setting and the contribution of that setting to the significance.



Key

- | | |
|--|---|
|  Site Boundary |  Historic environment record point |
|  Archaeological notification area |  Listed building |






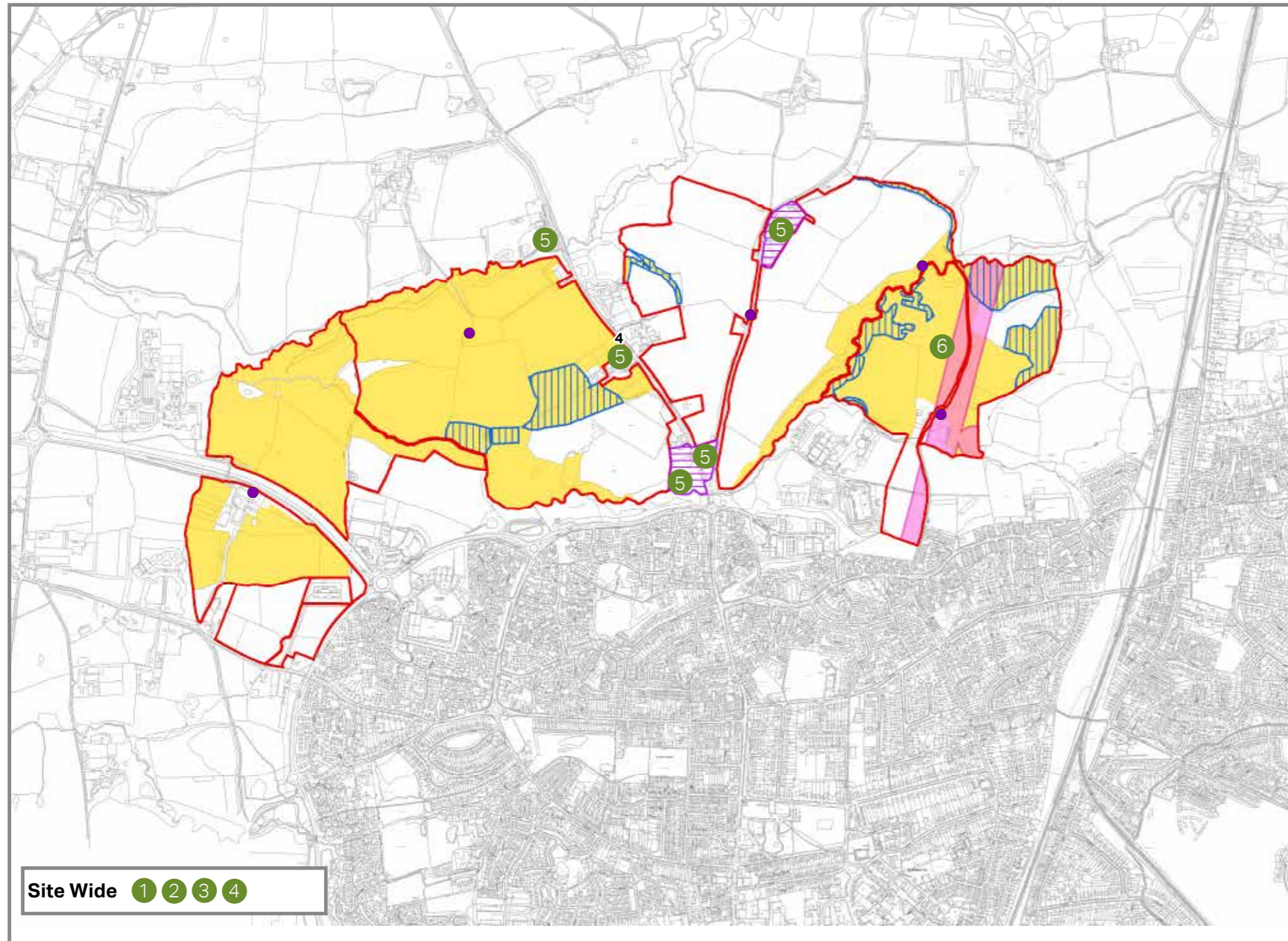
Constraints

- 1 Archaeological Notification Area - Roman road
- 2 Medieval landscape / fieldscape
- 3 Probable non-designated medieval to post-medieval assets
- 4 Settings of listed buildings and designed landscapes adjacent to propose development
- 5 Potential effects on the significance of Burgess Hill Conservation area to the south of the development

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Key

 Site Boundary	Historic landscape	Possible post-medieval archaeological remains	Historic building/park setting
 Archaeological notification area	 Medieval landscape	 HER point	 Designed landscape
	 Ancient semi-natural landscape		 Listed building






Opportunities

- ① Place making
- ② Education and training
- ③ Research
- ④ Community engagement
- ⑤ Existing landscape design and character of designed landscapes and listed buildings incorporated into the development design
- ⑥ Roman road incorporated into development layout

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Key

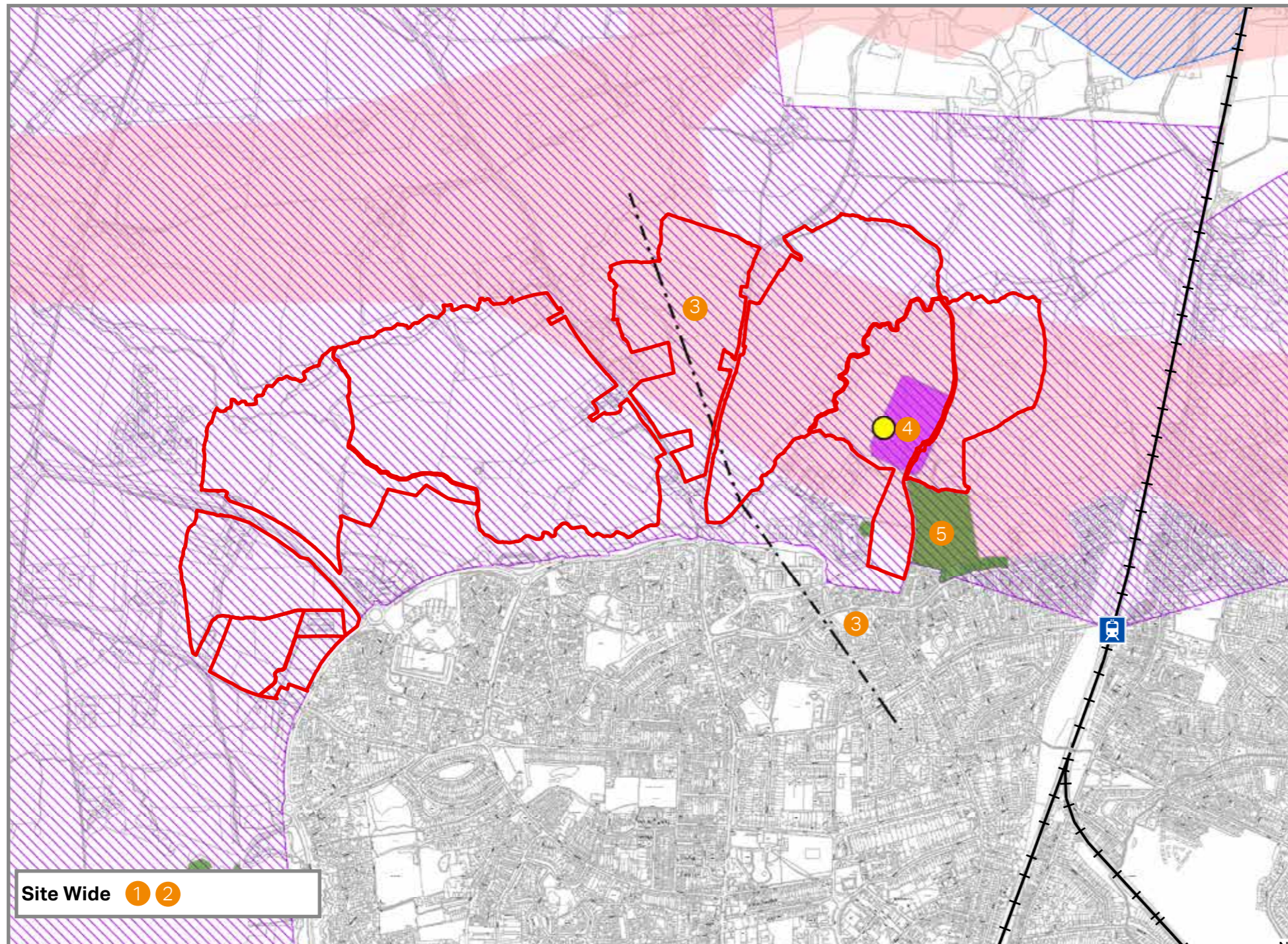
 Site Boundary	Historic landscape	Possible post-medieval archaeological remains	Historic building/park setting
 Archaeological notification area	 Medieval landscape	 HER point	 Designed landscape
	 Ancient semi-natural landscape		 Listed building

10. Ground Conditions

An Environmental Constraints Report was undertaken as a desk-based study looking at the likely ground conditions and any potential for ground contamination arising from historical or current on-site or off-site activities.

The main findings include:

- The site geology comprises Weald Clay Formation (mudstone), overlying Upper Tunbridge Well Sand (sandstone and siltstone).
- In the eastern part of the Site, the geology is affected by the Burgess Hill Fault with the near surface geology becoming the Horsham Stone Member (sandstone) together with Weald Clay Formation.
- Superficial deposits are generally shown as absent within the study area, with the exception of elongated outcrops of Alluvium over the Weald Clay Formation, associated with river floodplains, and localised outcrops of River Terrace Deposits.
- BGS records show shallow groundwater to have been encountered on-site at between 1.80m and 5.50m bgl within the fissured Weald Clay.
- The Environment Agency's (EA's) website classifies the Alluvium, the River Terrace Deposits, Horsham Stone member and Upper Tunbridge Well Sand as Secondary A aquifers, whereas the Weald Clay is an Unproductive Aquifer.
- The Site is not located within a groundwater Source Protection Zone (SPZ) for the protection of potable water supply abstractions.
- The main watercourses in the study area are the River Adur East and Copyhold Stream; both likely in hydraulic continuity with groundwater within the superficial deposits of the Alluvium beneath the site.
- The site is within the County Council's Mineral Safeguarding Area (MSAs) for brick clay and building stones, as shown on Appendix E: Mineral Safeguarding Areas in the West Sussex Joint Minerals Local Plan (July 2018).
- The Site is (and was) mainly agricultural land where there is the potential for bomb strikes to go unnoticed and be poorly mapped out.
- Waste including scrap metal, vehicles, agricultural machinery/ vehicles, unspecified tanks, tyres, and what appears to be the back of a fuel container lorry have been discarded to the west of Freek's Lane and along the track.
- Possibility of potential constraints on site including ground stability, infilled ground, historical landfill site, area of discarded waste, potential for shallow groundwater, ground gas and volatile chemicals to originate from the site given the presence of infilled land/landfill site and also potential for volatile chemicals in groundwater to have migrated beneath the site;
- A low to moderate potential identified for complete source-pathway-receptor pollutant linkages.
- An expected mitigation measure for the site would be to carry out an intrusive ('Phase 2') Site Investigation to evaluate the quality of shallow soil and groundwater, as recommended in the Environmental Constraints Report. The Phase 2 Investigation would allow for soil, groundwater, and gas monitoring to be carried out on the site; and could also be combined with a geotechnical assessment to assist with foundation design. An UXO assessment is recommended prior to intrusive investigation. Further recommendations include clearance of the area identified along and to the west of Freek's Lane.



Constraints

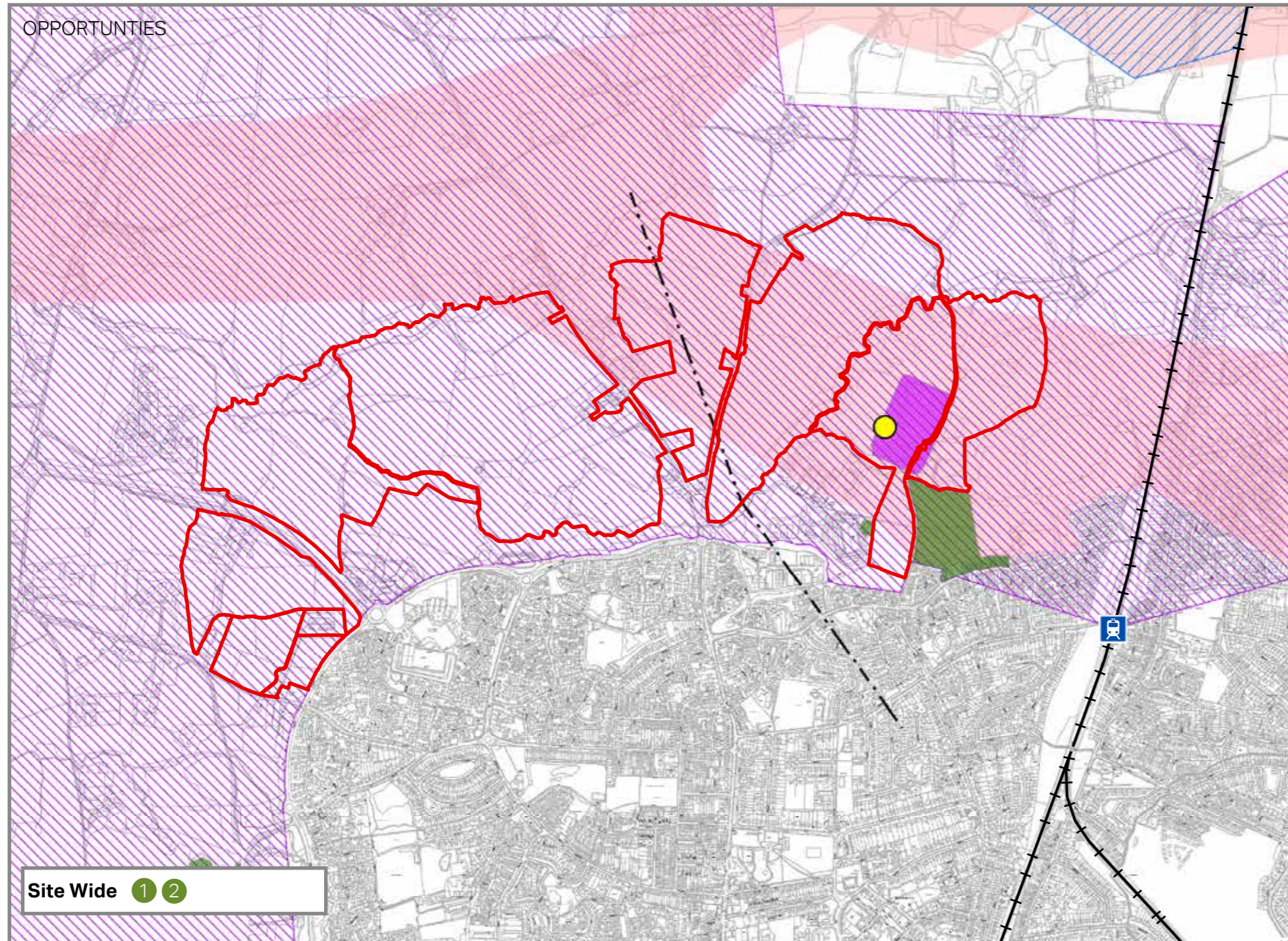
- 1 The site falls within County Council's Mineral Safeguarding Areas (MSAs) for brick clay and building stones, designed in West Sussex Joint Minerals Local Plan (July 2018)
- 2 The site is (and was) mainly agricultural land where there is the potential for bomb strikes to go unnoticed and be poorly mapped out. Therefore, the presence of Unexploded Ordnance (UXO) cannot be discounted.
- 3 Disturbed ground may be present around the fault bisecting the site together with irregular groundwater flow and direction.
- 4 Waste has been discarded to the west of Freek's Lane and along the track.
- 5 Historical landfill site has been identified in the eastern part of the site.

Site Wide 1 2

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Key

- | | | | | |
|--|--------------------------------------|---------------------------------|---|--|
| Site Boundary | Railway Track | Indicative waste discarded area | Indicative brick clay resource mineral safeguarding area (MSA) | Indicative building stone mineral safeguarding area (MSA) |
| Local authority recorded landfill site | Burgess Hill fault line (indicative) | Historic landfill site | Wadhurst clay including 250m buffer | Building stone including 250m buffer |
| Railway station | | | Weald clay including 250m buffer | |



Opportunities

- 1 It may be worth considering alternatives to off-site waste disposal, which could bring significant cost savings and raise the sustainability credentials of the Proposed Development.
- 2 The existing topsoil resources may be suitable for reuse in proposed gardens and landscape areas.

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Key

- | | | | | |
|--|--------------------------------------|---------------------------------|---|--|
| Site Boundary | Railway Track | Indicative waste discarded area | Indicative brick clay resource mineral safeguarding area (MSA) | Indicative building stone mineral safeguarding area (MSA) |
| Local authority recorded landfill site | Burgess Hill fault line (indicative) | Historic landfill site | Wadhurst clay including 250m buffer | Building stone including 250m buffer |
| Railway station | | | Weald clay including 250m buffer | |

11. Infrastructure and Utilities

Constraints

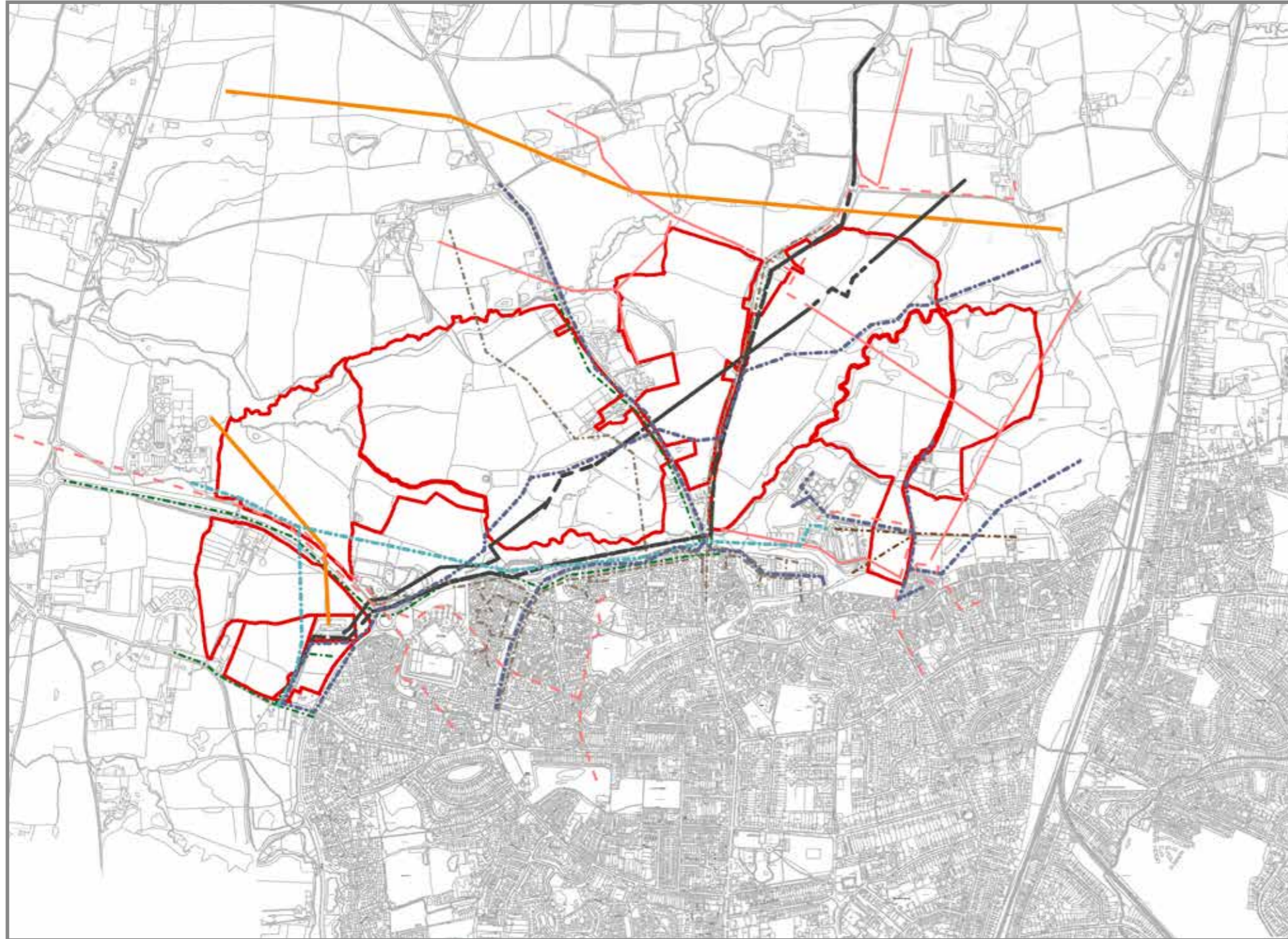
- 1 The stand-off distance for overhead power lines is recommended at 30m for 132kV overhead cables, and 60m for 275-400kV overhead cables. This affects the site in two locations. The recommended precautionary stand-off distances should be confirmed with the Government's advisory body, the Stakeholders Advisory Group on Extremely Low Frequency Electric and Magnetic Fields (SAGE), before further action is taken. Diversion of the overhead electricity line can be costly and may impact the programme.
- 2 No development/building works will be permitted to be constructed over or within 3 metres of either side of the SGN pipeline. Diversion of the gas main is costly and time consuming.

The close proximity of the IP gas main will have to be taken into account when the masterplan is finalized.
- 3 Easement would need to be provided for the water main. Additional demand likely to require network upgrades.
- 4 The existing foul sewer has no capacity for additional flow. Upgrading the sewer infrastructure will be the responsibility of the water company, according to the recent regulation in effect from April 2018. However, there is likely to be implications with the phasing and programme. Ultimately the cost for upgrade work would likely to be transferred in to the infrastructure charge during new connection process.
- 5 Proposed spine road would cross the river Adur at two locations requiring highway structures i.e. bridge. The extent of the bridge is dependent of the river section and extent of flood plain. A hydraulic modelling is likely to be required to assess any impact on the flooding.
- 6 The road design is likely to require backfilling to achieve the design road levels.
- 7 New road network with additional traffic likely to have impact on the existing roads. Additional traffic control measure would be required.












Opportunities

- 1 Diversion of the overhead electricity line would allow more flexibility to the masterplanning.
- 2 New primary sub-station and upgrade to the existing UKPN primary substation would benefit the UKPN network and would provide a backup.
- 3 Diversion of the gas main along the verge of any highway would allow flexibility to the masterplanning.

Upgrade to the sewer network would benefit the wider catchment area in reducing sewer flood risk and may provide further capacity for any future development.
- 4 Increased capacity of the sewer network may reduce the overflow in to the river providing betterment to the river water quality.
- 5 Sufficient pollution treatment is to be provided within the proposed SuDS Management Train, minimising risk to water quality to the watercourse.
- 6 Opportunity to create safe and convenient pedestrian and cycle facilities within the development, and integrate with improved links to key destinations in Burgess Hill, such as the railway stations where cycle parking will need to be improved.
- 7 Improvements to Freeks Lane PRow to enhance connections with the existing urban area.
- 8 Provision of a pedestrian and cycle link between Burgess Hill and Haywards Heath, following Freeks Lane, Roman Road, public footpaths with a link into Bolnore village.
- 9 Extension of a number of Green Circle Network Routes.
- 10 Opportunity to improve traffic conditions.
- 11 Opportunity to improve the fluvial flood risk by implementing mitigation measures as part of the roads and bridge construction.
- 12 Opportunity to use cutting material from the development to use as backfill for the road construction.



Key

- | | | | |
|---|---|---|---|
|  Site Boundary |  Rising main |  Underground electricity 33kV |  Overhead electricity 33kV |
|  Gas |  Water main 400mm diameter |  Underground electricity 11kV |  Overhead electricity 11kV |
|  Telecom |  Foul water |  Electricity 132-400V | |

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