

Hoodlands Farm, Harry Stoke South Gloucestershire

Jubb

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1 Project Information

1.1 Project Information

Client BoKlok

1.2 Project Details

Project Name Hoodlands Farm, Harry Stoke

Location Harry Stoke, South Gloucestershire

Jubb Project Number 21164

1.3 Report Details

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1.4 Project Authorisation

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2 Introduction

2.1 Preamble

- 2.1.1 Jubb have been commissioned by BoKlok to provide transport and highways advice relating to a proposed residential development on land located to the north of Hambrook Lane on the northern edge of Bristol. This land ('the site') forms part of the wider strategic housing development known as the East of Harry Stoke New Neighbourhood (EHSNN).
- 2.1.2 The site lies to the north of Hambrook Lane, and forming an area of approximately 1.8ha is accessed by way of an existing track that extends for approximately 190m from Hambrook Lane to the southern boundary of the site.
- 2.1.3 Full planning permission is being sought for the proposed development, which would deliver 50 dwellings and would therefore contribute towards South Gloucestershire Council's (SGC) housing need, importantly facilitating the earlier delivery of part of the EHSNN.
- 2.1.4 It should be noted that the site is bounded to all directions by land forming part of the EHSNN; indeed, to the south, east and north the site is bounded by land with outline planning permission for mixed-use development.
- 2.1.5 This outline planning permission (**PT16/4782/O**), for the development of up to 1,290 dwellings including an extra care facility, community facilities, and a mixed-use local centre was granted in March 2020 and was obtained by Crest Nicholson. This committed development is hereafter referred to as 'the Crest development' for the remainder of this Transport Statement (TS).

2.2 Previous Application

- 2.2.1 The site is the subject of a separate, undetermined outline planning application (**P19/13908/O**) for the development of up to 49 dwellings; this is hereafter referred to as the 'previous application'. Whilst undetermined, the consultation responses provided by the Highways Officer in relation to the previous application have informed the proposals and indeed the preparation of this TS.
- 2.2.2 A Transport Assessment (TA) was submitted in support of the previous application, as prepared by Connect Consultants (2019).
- 2.2.3 A review of the Highways Officer's consultation response in relation to the previous application, attached at **Appendix A** for ease of reference, demonstrates that the Highways Officer reached the following conclusions with regard to transport impact and accessibility:
- "The transport impacts generated by this proposal have been incorporated into Transport Assessment submitted for the wider East of Harry Stoke allocation of 2,000 dwellings"; and
 - "Being centrally located within the New Neighbourhood the site will benefit from the sustainable infrastructure being provided as part of the overall allocation which will result in good pedestrian, cycle and public transport connections to the nearby employment, education, retail, leisure and health facilities both within the new neighbourhood and in the surrounding Stoke Gifford area".

2.2.4 This demonstrates that, whilst the previous application is undetermined, the Highways Officer considers that the site is suitably located for residential development and that the anticipated traffic impact of the site has been considered as part of the assessment of the EHSNN. Based on the latter it is understood that the proposed development would be required to contribute, proportionally, to the Infrastructure Delivery Plan (IDP) which sets out the infrastructure identified as required to support the EHSNN.

2.3 Scope of Report

2.3.1 This TS examines the transport and highways matters pertinent to the site, and in doing so demonstrates the suitability of the site for residential development.

2.3.2 The structure of this TS is as follows:

Section 3 Sets out the location of the site and considers site accessibility;

Section 4 Details the development proposals and associated parking and access arrangements;

Section 5 Sets out the anticipated trip generation of the proposed development; and

Section 6 Presents a summary and conclusion of the TS.

2.3.3 The TS demonstrates that the proposed development is suitably located to be accessed by sustainable modes and is not forecast to result in a severe residual cumulative impact as defined within the National Planning Policy Framework (NPPF) on the highway network.

2.3.4 As such, it is considered that there are no highways or transport matters to prevent the proposals from being approved.

3 Existing Conditions

3.1 Site Location

3.1.1 The site lies within the EHSNN as identified in Policy CS27 'East of Harry Stoke New Neighbourhood' in the *South Gloucestershire Local Plan: Core Strategy 2006 – 2027* (adopted 2013, hereafter 'the Core Strategy').

3.1.2 Policy CS27 identifies that the EHSNN will comprise a major mixed-use development with provision for approximately 2,000 dwellings. The Stoke Gifford Transport Link (SGTL) lies to the west of the site and forms part of the Bristol North Fringe Rapid Transit route, conceptualised to improve accessibility by sustainable modes of transport and reduce congestion.

3.1.3 **Figure 3.1** below shows the location of the EHSNN.

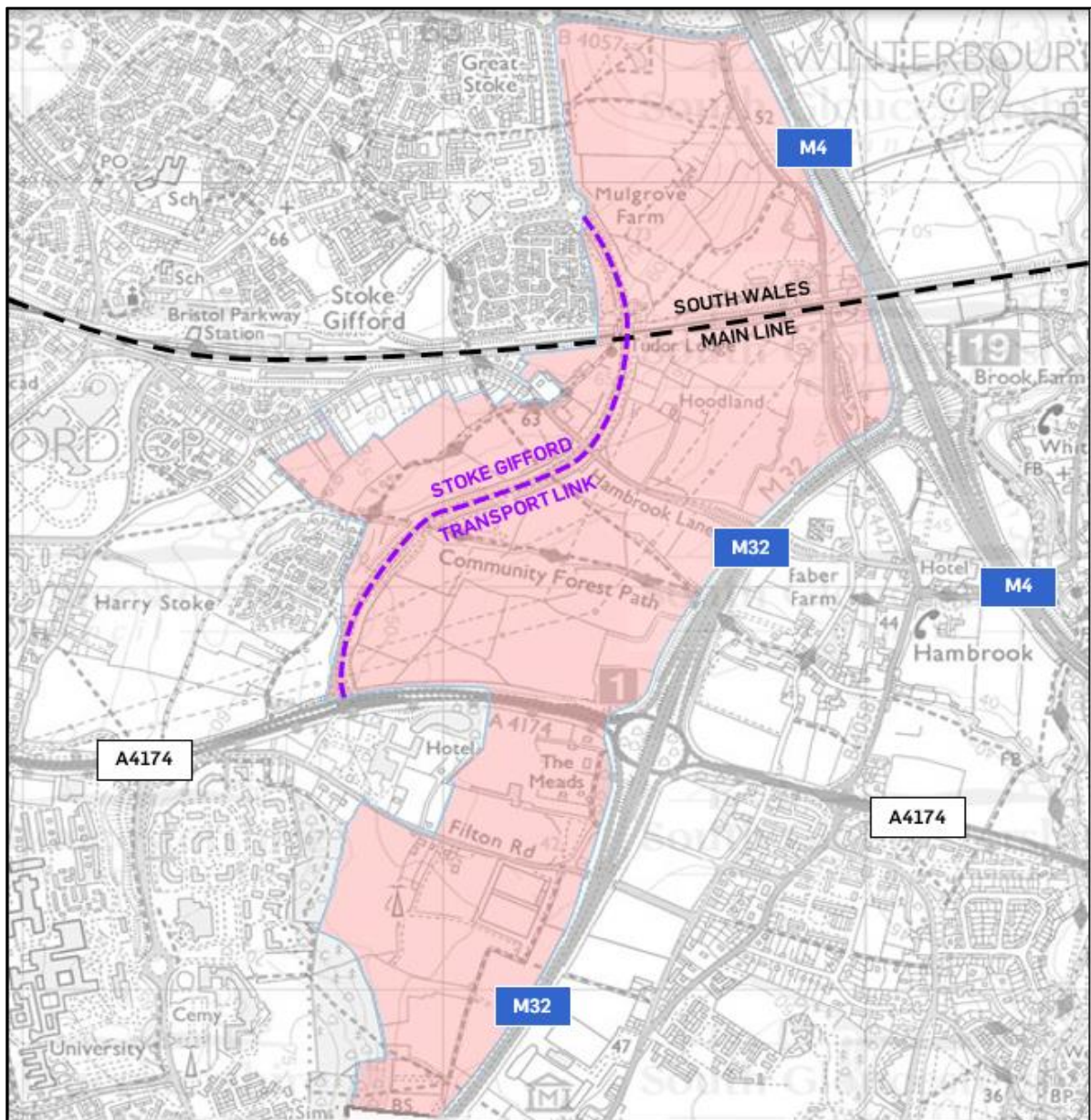


Figure 3.1 – EHSNN (Source: extract from SGC's Policies Map)

- 3.1.4 The site itself lies centrally within the EHSNN; **Figure 3.2** below shows the location of the site as well as that of the Crest development for context.

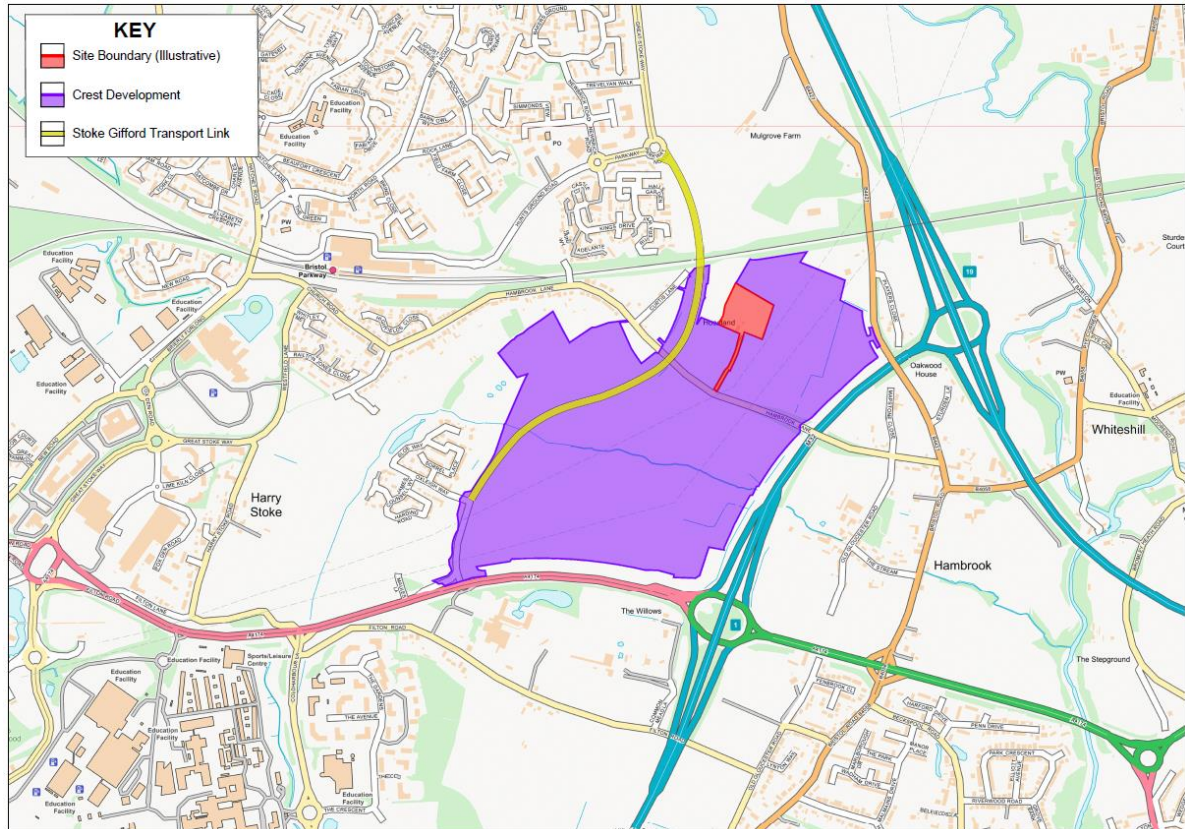


Figure 3.2 – Site Location

- 3.1.5 As shown, the site occupies an area of approximately 1.5ha and is bounded by the Crest development, which has outline planning permission, to the north, east and south. The existing track provides a connection between the site's southern boundary and Hambrook Lane, and serves the single existing dwelling that currently occupies the site.

3.2 Local Facilities and Services

- 3.2.1 A wide range of facilities, services and employment opportunities, which serve the daily needs of the existing residents of Stoke Gifford are located within walking and cycling distance of the site.
- 3.2.2 As the site is positioned in close proximity to a range of facilities and services, as well as centrally within the EHSNN, it is clear that there will not be a reliance on the use of the private car for daily journeys to these destinations. Indeed, the Highways Officer's consultation response in relation to the previous application, as attached at **Appendix A**, notes the following of the site:

"Being centrally located within the New Neighbourhood the site will benefit from the sustainable infrastructure being provided as part of the overall allocation which will result in good pedestrian, cycle and public transport connections to the nearby employment, education, retail, leisure and health facilities both within the new neighbourhood and in the surrounding Stoke Gifford area".

- 3.2.3 When considering the sustainability credentials of a site, guidance from the Institution of Highways and Transportation (*IHT, Guidelines for Providing for Journeys on Foot, 2000*) is of importance; this guidance identifies 2km as the maximum suggested acceptable walking distance for pedestrians without a mobility impairment.
- 3.2.4 Indeed, this distance was identified in the former *Planning Policy Guidance 13: Transport (2011)* as a distance within which walking offers the greatest potential to replace short car journeys. Whilst superseded in planning terms this guidance is still widely considered as applicable in terms of accessibility.
- 3.2.5 Therefore, the accessibility of the site has been assessed with weight given to this distance as 'reasonable' for walking.
- 3.2.6 **Figure 3.3** below sets out a 2km walking isochrone from the site, which roughly equates to a 25-minute walk. This isochrone therefore demonstrates the area that can be reached from the site within the distance identified as 'reasonable' for walking in the aforementioned guidance.
- 3.2.7 This figure also identifies a number of existing facilities, services and employment opportunities that are located within this walking distance; this is however not an exhaustive summary.

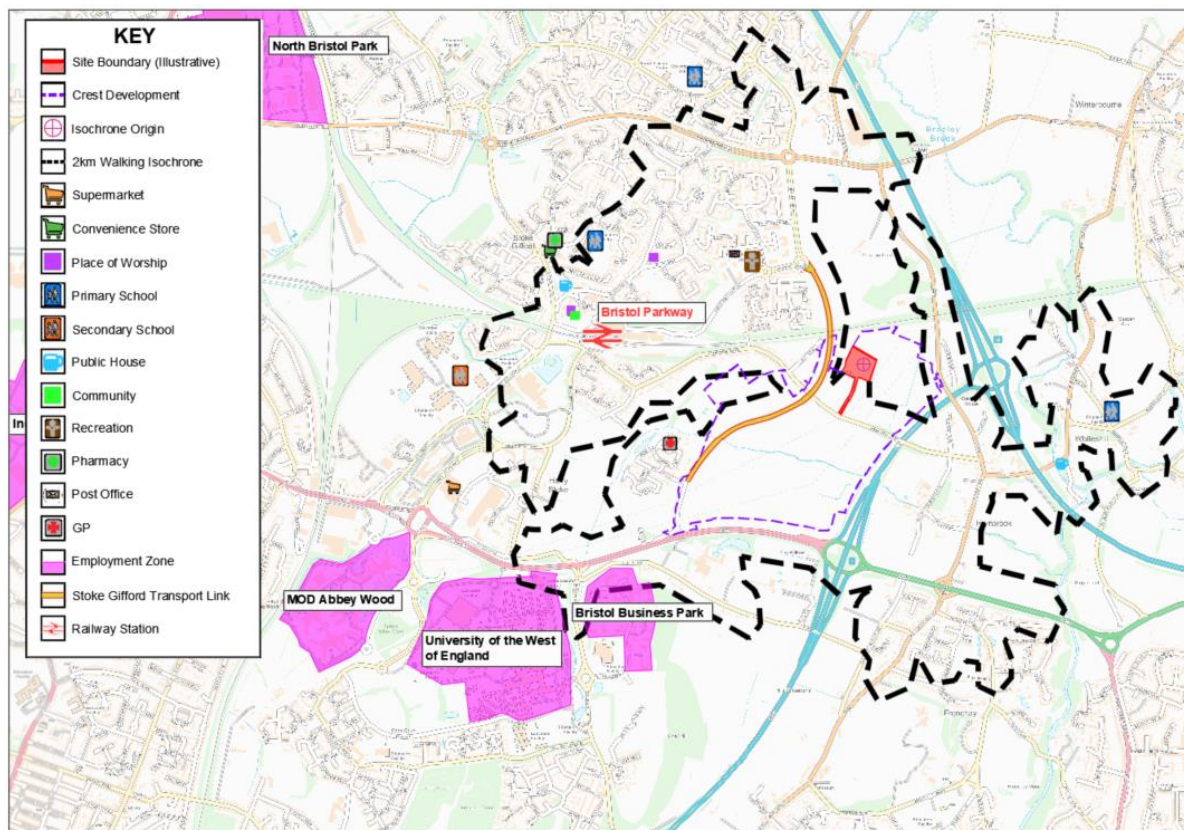


Figure 3.3 – Accessibility to Local Facilities and Services

- 3.2.8 As shown in **Figure 3.3**, there is a range of existing facilities that are reachable within a 2km walking of the site. In addition, the wide-ranging employment opportunities just to the south of the A4174 are located within walking distance of the site. These facilities and services are listed below:

- Primary schools;
- Secondary school;

- Convenience store;
- GP surgery;
- Post office;
- Business Park;
- Place of worship;
- Public Houses;
- Community Facility;
- Recreation facility.

3.2.9 The distances and estimated journey times, for walking and cycling, from the site to the identified facilities, services and employment opportunities are set out in **Table 3.1** below. Distances are rounded to the nearest 10 metres.

3.2.10 These distances have been measured from the centre of the site, and the estimated journey times are calculated based on a walking speed of 1.4 metres per second (abstracted from IHT, 2000) and a cycling speed of 4 metres per second.



Service/Facility	Location		Walking Distance (metres)		
				(minutes)	(minutes)
Retail					
Post Office	Simmonds View	BS34 8HR	1400	17	6
Tesco Express	Hatchet Road	BS34 6TU	2170	26	9
Sainsbury's	Fox Den Road	BS34 8SS	2420	26	10
Education					
Hambrook Primary School	Moorend Road	BS16 1SJ	1810	22	8
St Michael's Primary School	Ratcliffe Drive	BS34 8SG	2000	24	8
Baileys Court Primary School	Breaches Gate	BS32 8AZ	2390	28	10
Abbey Wood Community School	New Road	BS34 8SF	2470	29	10
Health					
GP Consultancy	Winterbourne	BS34 8AJ	1200	14	5
Jhoots Pharmacy	Ratcliffe Dr	BS34 8UE	2200	26	9
Public House					
The White Horse	Bristol Road	BS16 1RY	1370	16	6
The Beaufort Arms	North Road	BS34 8PB	1980	24	8
Community					
St Michael's Centre	North Road	BS34 8PD	1840	22	8
Place of Worship					
Stoke Gifford Church	Rock Lane	BS34 8PF	1550	18	6
St Michael's Church	Stoke Gifford	BS34 8PD	1970	23	8
Recreation					
Nuffield Health (Gym)	Hunts Ground Road	BS34 8HN	1520	18	6
Transport					
Bristol Parkway	Stoke Gifford	BS34 8PU	1910	23	8

Table 3.1 – Distances to Local Services and Facilities

- 3.2.11 As such a range of facilities, services and employment opportunities lie within walking distance of the site; it should also be noted that with the site being centrally located within the EHSNN the supporting sustainable infrastructure being delivered will be readily accessible from the site, resulting in high quality connections to these destinations.
- 3.2.12 Furthermore, the development of the EHSNN will provide some additional services and facilities that residents of the site would be able to access via walking or cycling. For example, the Crest development includes provision for a mixed-use local centre and community facilities, whilst Policy CS27 of the Core Strategy identifies that the EHSNN will deliver approximately 3 forms of entry at primary education level.
- 3.2.13 Given the above assessment, it is reasonable to conclude that the site is well-related to the surrounding area and the wide range of facilities, services and employment opportunities that it offers. These destinations lie within a 'reasonable' distance of the site and as such there is the opportunity for day-to-day journeys to local facilities to and from the site to be made sustainably.
- 3.2.14 Therefore, the assessment of the accessibility of the site shows that there will be no need to rely on the use of the private car for day-to-day journeys to local facilities and services, with a range of daily needs being located within walking and cycling distance of the site; this is therefore consistent with the conclusions of the Highways Officer in relation to the previous application as attached at **Appendix A**.

3.3 Pedestrian Accessibility

- 3.3.1 When considering the pedestrian infrastructure connecting the site to the wider network the infrastructure being provided as part of the Crest development is of importance; to this end **Appendix B** contains the *Parameter Plan: Movement* approved as part of that outline application (**PT16/4782/O**).
- 3.3.2 As shown, Hambrook Lane to the south of the site will be 'downgraded' as part of the Crest development as part of a traffic calming scheme. A subsequent reserved matters application (**P20/13948/RM**) for the strategic infrastructure of Phases 1 and 2 of the Crest development, which was approved in February 2021, included a *General Arrangement* drawing (attached at **Appendix C**) which shows the works that will be undertaken to 'downgrade' Hambrook Lane.
- 3.3.3 As shown, this involves the creation of footway and shared-use path connections to connect to the SGTL to the west. At this point a signal-controlled crossing will be provided to facilitate the crossing of the SGTL by pedestrians and cyclists. This crossing therefore connects into the existing, established network that continues through Stoke Gifford to destinations such as Bristol Parkway Railway Station.
- 3.3.4 As shown on the *Parameter Plan: Movement* to the southeast Hambrook Lane will similarly be 'downgraded' to provide a walking and cycling route towards Hambrook.
- 3.3.5 As also shown the STGL is flanked by a shared-use path, facilitating north-south connectivity, and similarly the wider Crest development will be permeated by a range of routes including segregated cycle paths, 'safe routes to school' and Public Rights of Way.
- 3.3.6 Should the proposed development come forward in advance of the Crest development, there is an existing footway that runs to the south of Hambrook Lane and provides a connection to the SGTL, whilst to the east there is a continuous footway along Hambrook Lane through to Old Gloucester Road, whereafter connections continue through to Hambrook Primary School.

3.3.7 As such, it is clear that with the strategic infrastructure being delivered to support the EHSNN there will be excellent opportunities for walking between the site and local services and facilities. These services, facilities and employment opportunities are within walking distance making the site accessible for pedestrians. Should the proposed development come forward ahead of the Crest development there are existing connections along Hambrook Lane that connect the site to the wider network to the west and east.

3.4 Cyclist Accessibility

3.4.1 Cycling is recognised as one of the most sustainable modes of transport (in line with *CIHT's Planning for Cycling*, 2015) and as a result has the potential to replace the use of private car for day-to-day trips. As such, cycling should be encouraged in new residential developments.

3.4.2 Indeed, the former *Planning Policy Guidance 13: Transport* (2011) identifies 5km as a distance within which cycling offers the greatest potential to replace car journeys, with this distance widely recognised as a 'reasonable' cycling distance. Whilst this guidance has been superseded in planning terms it is still considered as applicable with respect to accessibility.

3.4.3 A large area of Bristol lies within cycling distance of the site, as well as Winterbourne. As such, a wide surrounding area can be reached within a 'reasonable' cycling distance; thus, a wider range of facilities, services and employment opportunities can be reached via bicycle. **Figure 3.4** below shows the coverage of a 5km cycling isochrone from the site.

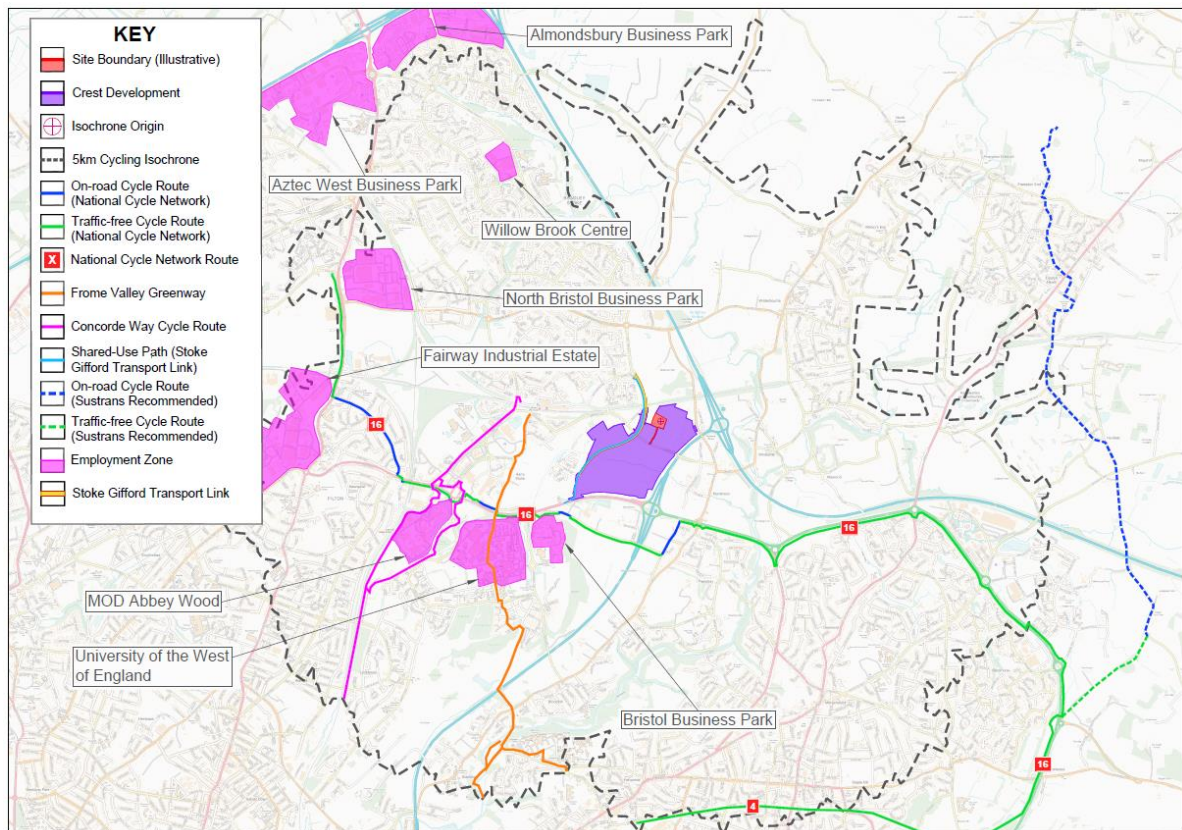


Figure 3.4 – 5km Cycling Isochrone

- 3.4.4 Importantly, several employment zones all lie within a 'reasonable' cycle distance of the site and provides a range of employment opportunities. The locations of the employment sites are shown above in **Figure 3.4**, these include; Bristol Business Park, University of the West of England, MoD Abbey Wood, Fairway Industrial Estate, North Bristol Business Park and Willow Brook Centre. Aztec West Business Park and Almondsbury Business Park lie on the northern periphery of the 5km isochrone.
- 3.4.5 As shown in the *Parameter Plan: Movement* at **Appendix B**, cycle infrastructure will also be delivered as part of the Crest development. Importantly, with the cycle infrastructure to be delivered on Hambrook Lane to the west of the site, the existing shared-use path alongside the SGTL, and the signal-controlled crossing facilities on the A4174 there will be a continuous connection between the site and National Cycle Network (NCN) Route 16.
- 3.4.6 Conveniently, as part of the SGTL, a shared use path for pedestrians and cyclists has been constructed. This provides a direct link to Filton Road in the south and gets within 200m of NCN route 16.
- 3.4.7 NCN route 16 is a short section of the NCN that runs from Patchway to Chandos Lodge and travels via Filton, Harry Stoke, Hambrook, Frenchay, Black Horse, Lower Soundwell, Woodstock, Stone Hill and Chandos Lodge. At Soundwell the route links to NCN Routes 4 and 410; Route 4 continues to the west towards Bristol's city centre as well as to the southeast towards Bath.
- 3.4.8 NCN Route 4 is a long-distance cycle route that spans from London to Fishguard in west Wales. Locally the route passes by areas such as Fishponds, Eastville, Easton, Bristol City Centre and Clifton.
- 3.4.9 'Better by Bike' website also provides information on local cycle routes that run along greenways and quietways, these are included above in **Figure 3.4**. The Frome Valley Greenway, which begins near Bristol Parkway approximately 1.6km west of the site, provides a quiet north east link connecting to Stoke Gifford, Stapleton, and Bristol City Centre. Concorde Way is the other local route, this route also begins near Bristol Parkway approximately 1.8km west of the site, this is an urban route to north Bristol that provides access to Stoke Gifford, Filton and Bristol City Centre.
- 3.4.10 In addition, there are a number of additional routes which SGC have identified as suitable for cyclists, these can be seen in **Appendix D**; as shown there is a dense network of routes within Stoke Gifford that link to the wider network.

3.5 Public Transport Accessibility – Bus

- 3.5.1 The site is located within walking distance of a new MetroBus stop and as such future residents of the site will have access to an excellent level of public transport provision.
- 3.5.2 This new MetroBus stop, which will be delivered as part of the Crest development, is located to the west of the site on the SGTL, as shown on the *Parameter Plan: Movement* at **Appendix B**; as such these MetroBus stops would be located within approximately 400m walking distance of the site (measured from the centre of the site) which broadly equates to a 5-minute walk.
- 3.5.3 The SGTL carries the m1 service which runs between Cribbs Causeway and Hengrove Park; **Figure 3.5**



Figure 3.5 – West of England MetroBus Map (Source: <https://travelwest.info/metrobus>)

3.5.4 MetroBus forms a high-capacity form of bus rapid transit, offering faster, more frequent and more reliable services with direct routes between key destinations. The passenger experience is also augmented, for example through modern vehicles equipped with USB sockets and free Wi-Fi.

3.5.5 **Figure 3.6** on the next page shows the location of these forthcoming MetroBus stops as well as the route of the m1 service.

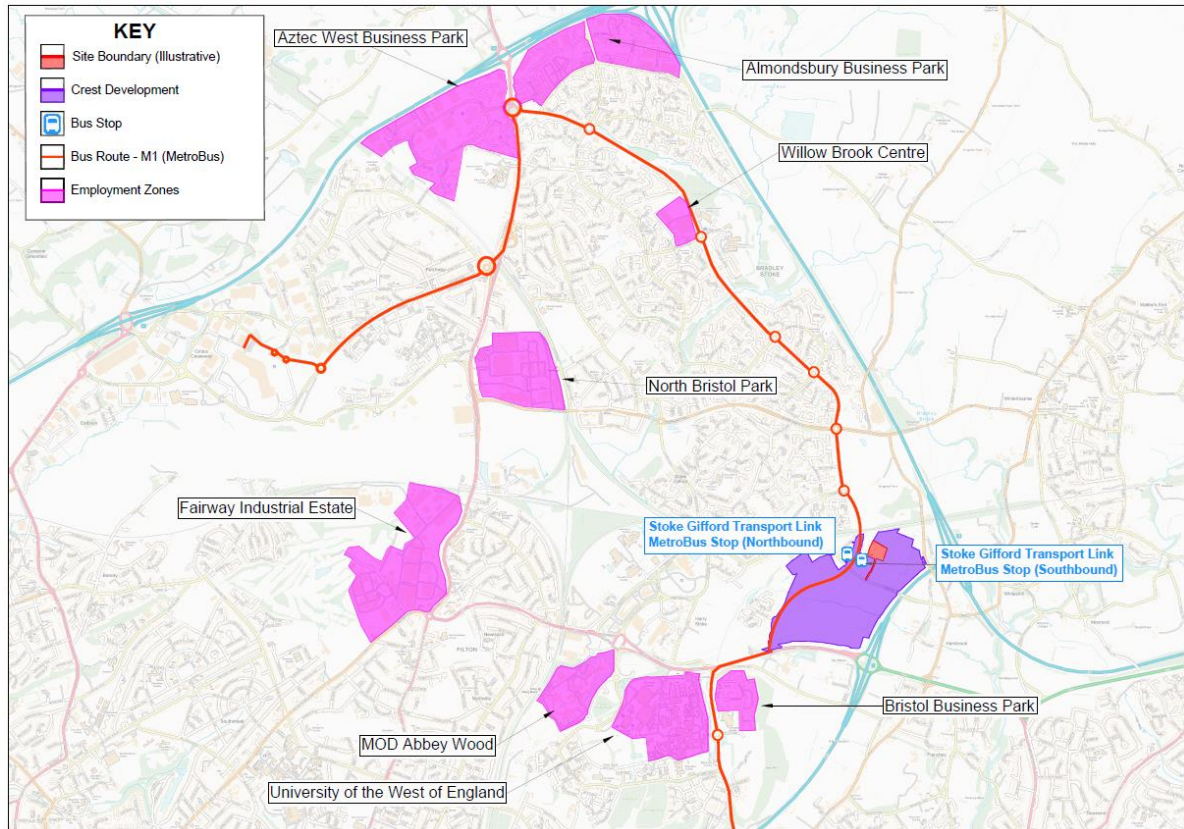


Figure 3.6 – Bus Accessibility

3.5.6 M1 service will connect with Bristol City Centre also passing through various areas of Bristol and settlements of South Gloucestershire. The frequency of these bus services is shown in **Table 3.2** below and the full timetables are attached at **Appendix E**.

Service	Route	Weekday	Saturday	Sunday
M1	Cribbs Causeway – Bristol Centre - Hengrove	10 mins	20 mins	30 mins

Table 3.2 – Summary of Bus Services serving the forthcoming bus stops

3.5.7 The MetroBus m1 service provides an excellent service frequency of 10-minutes and runs from 06:13 – 00:04 during weekdays. This service also runs on a Saturday every 20 minutes and every 30 minutes on a Sunday which gives the excellent opportunity and flexibility for leisure travel and for journeys outside of the traditional commuting periods.

3.5.8 It is therefore clear that the site is well-located with respect to public transport services, with the m1 service running along the SGTL and providing an excellent level of service to destinations in northern Bristol as well as towards Bristol’s city centre and Hengrove. It is therefore considered that the existing bus services present provide a genuine alternative to the use of the private car for day-to-day journeys to and from the site.

3.6 Public Transport Accessibility – Train

3.6.1 The nearest railway station to the site is Bristol Parkway Railway Station, which is located approximately 1.2km west of the site; as set out in **Table 3.1** the station can be reached within a 1910m walk of the site. The location of the railway station is shown in **Figure 3.7** below.

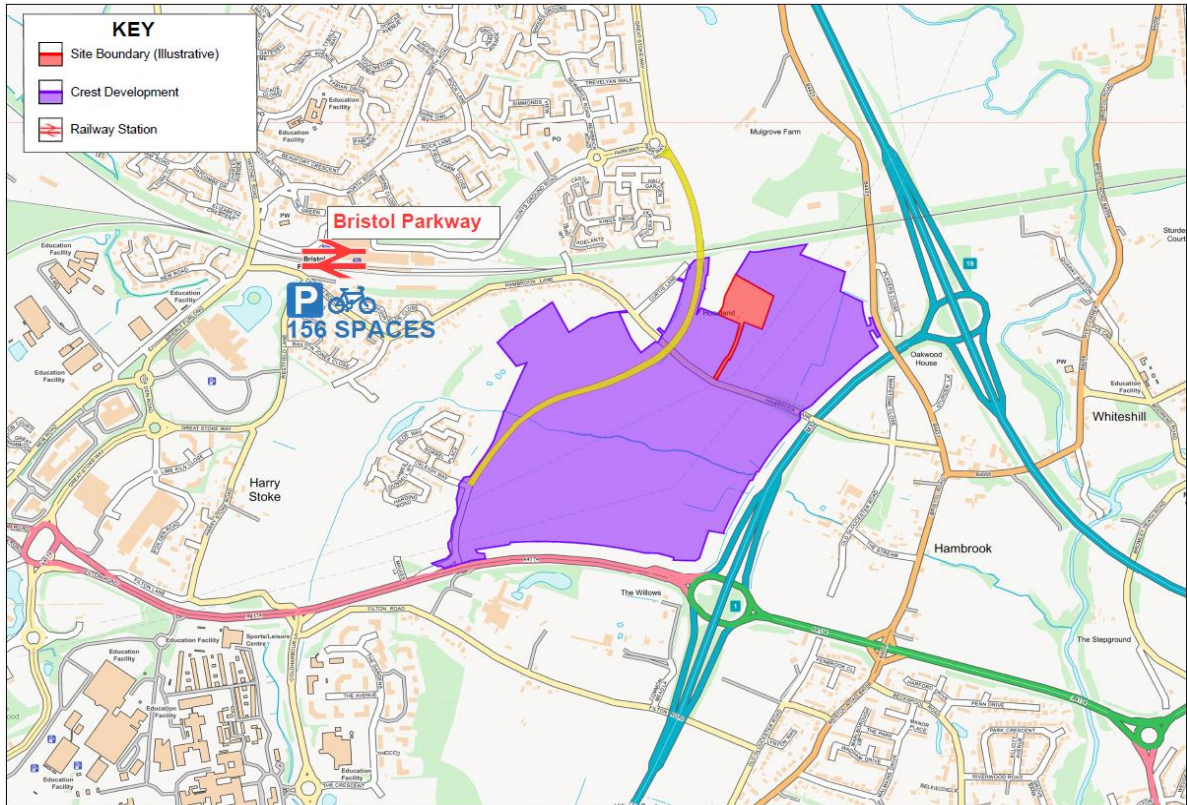


Figure 3.7 – Location of Bristol Parkway Railway Station

3.6.2 Bristol Parkway Railway Station can be reached from the site on foot or cycle by way of the surrounding pedestrian and cycle network. Therefore, the first and last 'leg' of journeys by rail can be undertaken actively. Bristol Parkway Railway Station is operated by Great Western Railways and is on the South Wales Main Line. Importantly, to the front of the station there are 156 sheltered cycle parking spaces which are monitored by CCTV.

3.6.3 The station is served by regular services to a range of destinations. **Table 3.3** below sets out a summary of the services from Bristol Parkway Railway Station and their destinations, approximate journey time and approximate frequency.

Destination	Approximate Journey Time	Approximate Frequency
Bristol Temple Meads	10 minutes	20 minutes
Cardiff	30 minutes	60 minutes
Cheltenham Spa	40 minutes	50 minutes
Birmingham New Street	1 hour 20 minutes	70 minutes
London Paddington	1 hour 20 minutes	30 minutes
Plymouth	1 hour 25 minutes	100 minutes

Table 3.3 – Summary of Train Services from Bristol Parkway Railway Station

3.6.4 As shown in **Table 3.3**, Bristol Parkway Railway Station offers regular direct services to destinations including London, Cardiff, Plymouth and Birmingham. As the station lies within walking and cycling distance of the site there is a clear opportunity for day-to-day journeys to be undertaken sustainably, with the first and last 'leg' of such journeys made actively for onwards travel by rail.

3.7 Highway Safety

3.7.1 To assess the safety level of the adjoining highway network and thus identify any potential highway safety issues, a review of the latest available 5-year personal injury records between 2016 and 2020 was undertaken using Crashmap – www.crashmap.co.uk. The location and severity of the recorded incidents are illustrated in **Figure 3.8** below:

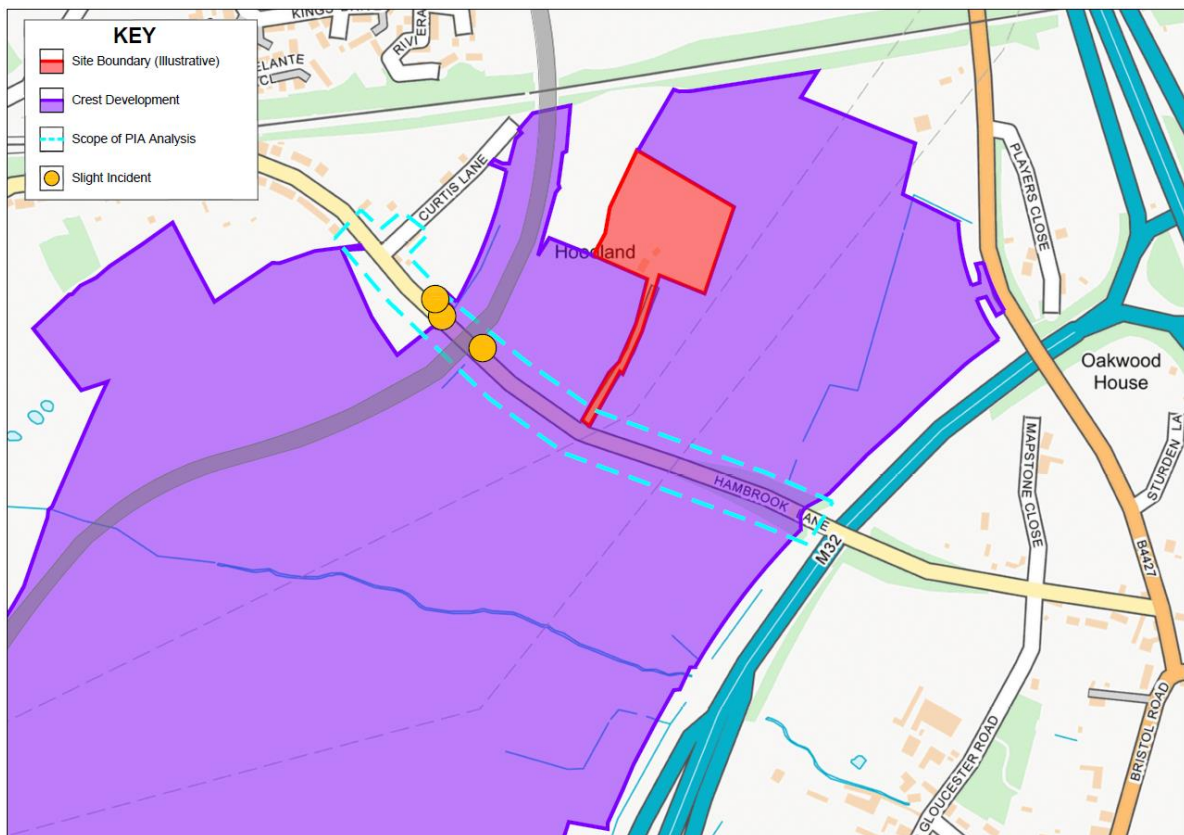


Figure 3.8 - Location and severity of recorded incidents (www.crashmap.co.uk)

3.7.2 In total 3 collisions were reported within the study area all of which are defined as slight in severity. This is equivalent to less than 1 incident per year. A yearly breakdown of the reported incidents is in **Table 3.4** below:

Year	Slight	Serious	Total
2016	0	0	0
2017	0	0	0
2018	1	0	1
2019	1	0	1
2020	1	0	1
Grand Total	3	0	3

Table 3.4 - Yearly Accident Profile

3.7.3 In view of this, taking into account the relatively low number of collisions recorded on the immediate highway network, it is reasonable to conclude that there are no underlying highway safety issues within this study area. Furthermore, as discussed later in this report, the traffic impact of this development is likely to be insignificant and is therefore unlikely to have a material impact on highway safety.

3.8 Summary

3.8.1 This section has considered the opportunities for day-to-day journeys to and from the site to be undertaken sustainably, showing that there is a range of facilities and services located within walking distance of the site and that there are alternative options to the use of the private car.

3.8.2 Importantly, the site is well-related to the existing facilities and services locally, including schools, leisure facilities, healthcare offerings and employment areas.

4 Development Proposals

4.1 Introduction

4.1.1 This section of the TS sets out the proposals for the development of the site, the strategy for vehicular and non-vehicular access, and the standards for calculating the level of parking that the development would need to provide.

4.2 Development Proposals

4.2.1 The proposed development would see the delivery of 50 dwellings at the site. Attached at **Appendix F** is the *Site Layout* for the proposed development; for ease of reference an extract is presented in **Figure 4.1** below.



Figure 4.1 – Site Layout (Extract from **Appendix F**)

4.3 Vehicular Access

Strategy

- 4.3.1 To facilitate the earlier delivery of part of the EHSNN the proposals for the provision of vehicular access to the site have been carefully considered, and the strategy comprises a two-pronged approach.
- 4.3.2 As mentioned earlier in this TS the site is bounded to the north, east and south by the Crest development. It should be noted that under the signed S106 agreement relating to the outline planning application (**PT16/4782/O**) that the Crest development is obligated to provide connections, built to an adoptable standard, to the boundary of the site; indeed the approved *Parameter Plan: Movement* at **Appendix B** shows that 'Secondary Vehicular Route' connections are proposed to the northern and eastern boundary.
- 4.3.3 Crests Phasing Plans (which are yet to be approved and will be subject to change as the development progresses) indicate that the north and eastern land parcels will be delivered between 2024 to 2029.
- 4.3.4 Notwithstanding the approved Parameter Plan (identifying the northern and eastern access into the application site from Crest Land), to assist with the earlier provision of an access to the site, the latest proposals for the Crest development include for a connection to the southern boundary of the application site. Whilst conflicting with the approved *Parameter Plan: Movement* this would facilitate the earlier delivery of a connection to the boundary of the site.
- 4.3.5 The *Phase 1 and 2 Plan* attached at **Appendix G** shows that, whilst indicative, this access is earmarked for completion by 2025. There are however clear uncertainties with this, for example programme.
- 4.3.6 As such it is clear that whilst access to the site will be provided through the Crest development in time, this may not be for a number of years and there is no certainty over the timing of the delivery of these accesses.
- 4.3.7 Therefore, and so as to facilitate the earlier delivery of part of the EHSNN, it is proposed that the site initially be served by way of a vehicular access off Hambrook Lane, which would see the existing track (hereafter referred to as 'Hoodlands') upgraded.
- 4.3.8 This would facilitate vehicular, pedestrian and cyclist access to the site initially, facilitating the development of much-needed housing, before the connections through the Crest development come 'online'.
- 4.3.9 At this point the access by way of Hoodlands would be 'downgraded' to function as a 'green corridor', accommodating the movement of pedestrians and cyclists, and vehicular access would be provided by way of the Crest development.
- 4.3.10 As such, the internal layout of the site shown in the *Site Layout* at **Figure 4.1** has been designed so as to 'futureproof' the site, facilitating access initially by way of Hoodlands and thereafter the conversion of this to a 'green corridor', with vehicular access then provided through the Crest development.
- 4.3.11 It is important to note that whilst the longer-term strategy is clearly to connect into the Crest development, facilitating the creation of a well-integrated and well-connected EHSNN, so as to facilitate the earlier delivery of much-needed housing in the EHSNN access is initially proposed by way of Hoodlands.

Hoodlands

- 4.3.12 As mentioned above, it is proposed that the site initially be served by way of vehicular, pedestrian and cyclist access along Hoodlands. Whilst this access will be, to all intents and purposes 'temporary', it may well serve the site for a number of years (before the connections through the Crest development come 'online') and as such, in line with the NPPF, will need to provide "safe and suitable access" to the site for all users.
- 4.3.13 The proposals have been carefully considered with input from structural and arboricultural disciplines to ensure the road is safe for pedestrians and suitable for refuse vehicles whilst ensuring suitable construction of the road in the context of nearby trees/vegetation which need to be protected.
- 4.3.14 The approved *General Arrangement* drawing at **Appendix C**, submitted as part of a reserved matters application (**P20/13948/RM**) for the strategic infrastructure of Phases 1 and 2 of the Crest development, is clearly of importance for any access by way of Hoodlands. As shown, the works approved will see Hambrook Lane closed to 'through' traffic, with the internal vehicular routes of the Crest development crossing north-south.
- 4.3.15 A section of Hambrook Lane is however retained for use by vehicles, to maintain access to Hoodlands and thereafter the site, which is currently occupied by a single dwelling. As shown this ties into the 'secondary vehicular route' approved as part of the early phases of the Crest development as the minor arm at a priority junction.
- 4.3.16 As such, the proposals would formalise the arrangement approved as part of the Crest works, with Hambrook Lane realigned onto Hoodlands, with this bend forming a raised table to limit vehicle speeds; this is shown in drawing **21164_SK_T_001** at **Appendix H**.
- 4.3.17 The proposed access along Hoodlands would comprise of varying carriageway widths, ranging from 5.5m to 4.1m. Approximately 30m from Hambrook Lane a priority narrowing feature is proposed, comprising a build-out, in the locality of the existing oak tree. This would see traffic travelling northwards on Hoodlands cede priority to traffic travelling southwards, with a width of 3.8m through the build-out. Cross-sections of the access road in the vicinity of the trees to be retained are attached at **Appendix I**.
- 4.3.18 The proposed access along Hoodlands would be flanked to the west by a footway; this would be 1.8m in width, though with a localised narrowing to 1.5m proposed through the priority narrowing feature. In line with *Inclusive Mobility* (2005) 1.5m width is sufficient for a wheelchair user and a pedestrian to pass, and in tandem with the relatively short distance over which this narrowing is required, this is considered to be appropriate.
- 4.3.19 An uncontrolled crossing facility, comprising dropped kerbs complemented with tactile paving, is proposed to connect to the footway to the south of Hambrook Lane.
- 4.3.20 Swept path analysis has been undertaken to show that the proposed access can accommodate the two-way movements of a car and a 7.5t box van, as well as that of a refuse vehicle. This is shown in the drawings attached at **Appendix J**.

Crest Development

- 4.3.21 Once the connections to the site through the Crest development come 'online', the vehicular access by way of Hoodlands will be converted to a 'green corridor' that would cater for active travel. A proposal for the downgrade of the access road is attached at **Appendix K**; treatment to prevent vehicle access would be in the form of bollards or barriers.
- 4.3.22 From this point, vehicular access to the site would be provided by way of the Crest development; as shown in the Site Layout in **Figure 4.1** the layout has been designed to future-proof these connections to the southern and eastern boundaries.
- 4.3.23 The internal carriageway leading up to the future connection to the east will have a width of 5.5m and 2m footways either side, whereas the future connection to the south will have a width of 5.5m and a 2m footway along the eastern edge of carriageway.
- 4.3.24 The proposed connections meet adoptable standards. Whilst constraints in relation to root protection zones and site levels along the western perimeter mean that the future southern access is flanked by a single footway, this is considered an appropriately balanced solution.

4.4 Pedestrian and Cyclist Access

- 4.4.1 Considering pedestrian access to the site, initially a footway will flank the proposed vehicular access along Hoodlands, tying into the footway on Hambrook Lane to be delivered as part of the Crest development. This footway would generally be 1.8m in width (though with a localised narrowing to 1.5m) and would provide dropped kerbs and tactile paving to facilitate crossing.
- 4.4.2 Cyclists will be able to access the site by way of the proposed vehicular access along Hoodlands.
- 4.4.3 When the vehicular accesses through the Crest development come 'online', pedestrian and cyclist access will also be provided to the southern and eastern boundaries of the site by way of cycling on-carriageway and footways flanking these connections, whilst the conversion of the vehicular access along Hoodlands to a 'green corridor' will accommodate journeys on foot and by bicycle.
- 4.4.4 As shown in the *Site Layout* at **Figure 4.1** additional points of pedestrian access to the eastern and northern boundaries of the site could also be provided.

4.5 Internal Road Layout

- 4.5.1 The design of the internal road layout will be engineered to meet standards specified in MfS guidance and 'East of Harry Stoke, Design Code Phase Two' document, with a particular focus on the creation of safe routes around the site encouraging accessibility for pedestrians and cyclists.
- 4.5.2 The internal road network will be designed to reflect the volume and nature of trips anticipated on each link, as well as the number of dwellings accessed. The following would likely be sought:
- A speed limit of 20mph;
 - The site access road would comprise of a 5.5m carriageway with 2m footway on each side;
 - All internal road layout will be designed to accommodate access by both refuse vehicles and emergency services.
- 4.5.3 The roads have been designed to be adoptable standards. A proposed adoption plan and street lighting strategy plan are attached at **Appendix L**.

4.6 Parking Provision

4.6.1 The proposals for the provision of on-site parking will be determined with reference to SGC's *Policies, Sites and Places Plan* ('the PSP Plan') which was adopted in 2017. Policy PSP16 'Parking Standards' sets out the parking standards for new development proposals, which aim to encourage travel by sustainable means whilst acknowledging that levels of car ownership must be accommodated to prevent indiscriminate parking.

Car Parking Standards

4.6.2 The PSP Plan contains minimum parking standards for residential developments within South Gloucestershire, including an allowance for visitor spaces. These are set out in **Table 4.1**. However, we note that these should be applied flexibly in highly sustainable, urban locations such as the EHSNN.

Number of Bedrooms	Minimum number of car parking spaces	Visitor Spaces
1 Bedroom	1	0.2
2 Bedroom	1.5	0.2
3 Bedroom	2	0.2
4 Bedroom	2	0.2
5+ Bedroom	3	0.2

Table 4.1 – Minimum Car Parking Standards for Residential Developments

4.6.3 Based on the *Site Layout* shown in **Figure 4.1** and the above minimum standards the car parking requirement for the proposed development has been calculated. The car parking provision is set out in **Figure 4.2**.

4.6.4 **Table 4.2** below sets out the calculations for the car parking requirement and the proposed provision of the proposed development.

Number of Bedrooms	Number of Units	Parking Standard Per unit	Minimum Provision	Proposed Provision	Proposed Visitor Provision
2	19	1.5	29	26	5
3	31	2	62	61	5
Total	50	-	91	87	10

Table 4.2 – Car Parking Provision



Figure 4.2 – Car Parking Provision

4.6.5 As shown, based on the minimum parking standards a total of 91 spaces, and 10 visitor spaces is required.

4.6.6 The proposals include 87 spaces and 10 visitor spaces. It is considered, given the urban setting and the proven accessibility of the development to local services and facilities by walking cycling and public transport that the proposed level of parking spaces is suitable to support the development.

Cycle Parking Standards

4.6.7 Minimum cycle parking standards for residential development are set out in the PSP Plan. Minimum standards are defined to provide an alternative to the use of the car, by making cycle parking readily available and as such encouraging modal shift. These standards are set out in **Table 4.3** below.

Dwelling Type	No. of Bedrooms	Cycle Parking Provision
With Garage	1 bed	1
	2+ beds	2
Without Garage	1 bed	1
	2+ beds	2

Table 4.3 – Minimum Cycle Parking Standards for Residential Developments

4.6.8 It is noted that the spaces should be secure, undercover spaces and therefore garages designed to the minimum internal dimensions will be appropriate as a secure, undercover space.

4.6.9 Based on the *Site Layout* shown in **Figure 4.1** and the above minimum standards the cycle parking requirement for the proposed development has been calculated.

4.6.10 **Table 4.4** below sets out the calculations for the cycle parking requirement of the proposed development.

Number of Bedrooms	Number of Units	Parking Standard Per unit	Minimum Provision	Proposed Provision
1	-	1	-	-
2+	50	2	100	100

Table 4.4 – Cycle Parking Provision

4.6.11 As shown, based on the minimum parking standards a total of 100 cycle parking spaces are required.

4.6.12 The proposals include 100 cycle parking spaces and are therefore in line with the parking standards.

5 Development Traffic Generation

5.1 Trip Rates

5.1.1 To forecast the traffic generation of the proposed development, trip generation has been calculated using the 'House Privately Owned' category of the 'Residential' land use category of the TRICS database (using version 7.8.1)

5.1.2 Given the setting of the site, and the anticipated number of dwellings that would be delivered, the results were filtered as follows:

- Sites within England (excluding Greater London);
- Sites with between 10 and 100 dwellings;
- Only Surveys undertaken on weekdays;
- 'Suburban Area' and 'Edge of Town' sites; and
- Sites without a Travel Plan.

5.1.3 It is noted that the site will include a proportion of affordable housing; as such using the 'Houses Privately Owned' Category to forecast the trip generation of the entire quantum provides a robust approach. Furthermore, sites without a travel plan have been selected as they generally generate more trips than sites with a travel plan and therefore providing a worst-case scenario for a thorough approach.

5.1.4 **Table 5.1** below sets out the resulting trip rates for the proposed residential development, with the full TRICS output attached at **Appendix M**.

Time	Arrivals	Departures	Total
AM	0.141	0.375	0.516
PM	0.324	0.152	0.476

Table 5.1 – Vehicle Trip Rates (Houses Privately Owned)

5.2 Trip Generation

5.2.1 To forecast the trip generation of the proposals, the number of dwellings that would be delivered is applied to the trip rates set out in **Table 5.1**. **Table 5.2** below sets out the anticipated peak hour arrival and departure trips for the site based on 50 dwellings.

Time	Arrivals	Departures	Total
AM	7	19	26
PM	16	8	24

Table 5.2 – Vehicle Trip Generation (50 dwellings)

5.2.2 As shown, it is anticipated that the proposed residential development at the site would generate a maximum of 26 two-way trips in the AM & PM peak hour.

- 5.2.3 This equates to approximately 1 additional trip on the highway network every 2 minutes during the respective peak hours.
- 5.2.4 Again, it should be recalled that this provides a robust assessment, making no allowance for the dampening effect of a Travel Plan nor the lower rate of trip generation for affordable housing.
- 5.2.5 As such, the proposed development is not anticipated to generate a significant number of new trips, and accordingly is not likely to have a material impact on the highway network.
- 5.2.6 Therefore, it is not forecast that the proposed development would result in a severe residual cumulative impact as defined within the NPPF.
- 5.2.7 Indeed, the Highways Officer's consultation response in relation to the previous application, as attached at **Appendix A**, notes the following of the site:
- "The transport impacts generated by this proposal have been incorporated into Transport Assessment submitted for the wider East of Harry Stoke allocation of 2,000 dwellings";
- 5.2.8 It is understood that the proposed development will be required to contribute, proportionally, to the IDP which sets out the infrastructure identified as required to support the EHSNN.

6 Summary and Conclusions

6.1 Summary

- 6.1.1 This TS has provided a review of the transport and highways matters related to the proposed development of 50 dwellings at Hoodlands Farm, Harry Stoke.
- 6.1.2 The site is well-located to access a range of facilities, services and employment opportunities, and is in a position to link into existing walking routes, cycle routes and excellent public transport services. As a result, there is the opportunity to travel to and from the site by sustainable modes of transport.
- 6.1.3 It is proposed that vehicular access to the site initially be provided by way of Hoodlands, with the existing track upgraded. Pedestrian access to the site would be provided by way of a footway along the western side of the proposed vehicular access. The design of the access has been carefully considered with structural and arboricultural input to demonstrate constructability; swept path analysis to ensure refuse and delivery vehicles are able to enter and exit the site safely and in forward gear and suitable visibility at the junction with Hambrook Lane.
- 6.1.4 Once the connections through the neighbouring Crest development are constructed to the boundary of the site and come 'online', vehicular access would be provided by way of the Crest development and the initial access by way of Hoodlands would be 'downgraded' to provide a 'green corridor' accommodating active travel. There will be multiple points of access for pedestrians and cyclists, including the 'green corridor' along Hoodlands as well as through the Crest development.
- 6.1.5 The forecast trip generation of the proposed development (based on 50 dwellings) indicates that a maximum of 26 two-way trips would be generated in each peak hour. This equates to approximately 1 additional trip on the highway network every 2 minutes during each peak hour and accordingly the proposed development is not anticipated to result in a material impact on the highway network.

6.2 Conclusions

- 6.2.1 The site is located to the north of Hambrook Lane, Harry Stoke, and based on this location there is opportunity for day-to-day journeys to be undertaken by sustainable modes of transport.
- 6.2.2 It has been shown that the proposed development would not generate a significant number of trips and as a result is not forecast to result in a material impact on the highway network.
- 6.2.3 It is therefore considered that there are no highways or transport matters to prevent the proposals from being approved.

Appendix A: Consultation Response

Application Number:	P19/13908/O	Grid Reference:	363537 179433
Date Registered:	7th October 2019	Consultation Response Date:	17 th October 2019
Location:	Land At The Hoodlands Hambrook Lane Hambrook Bristol South Gloucestershire BS16 1RL		
Proposal:	Erection of 37 no. dwellings with associated works (outline) access to be determined, all other matters reserved.		
Applicant:	Hoodlands (Harry Stoke) Ltd		

Dear Helen.

Please see initial comments below.

The site falls within the wider East of Harry Stoke New Neighbourhood Core Strategy Policy CS 27 and the subsequent SPD for the area. As such a comprehensive development of the whole allocation is required. This includes an access strategy for each part of the allocation which enables development to be carried out on adjacent sites included within the SPD. The adjacent land to the east, west and south of this site is part of the main Crest development planning application PT16/4782/O for which there is an approved Movement parameter Plan. This indicates secondary road connections to this site to the north and east of the developable land. The existing Hoodlands Farm access track is outside of the Crest Application site.

Off site- Impact.

The transport impacts generated by this proposal have been incorporated into Transport Assessment submitted for the wider East of Harry Stoke allocation of 2,000 dwellings.

Being centrally located within the New Neighbourhood the site will benefit from the sustainable infrastructure being provided as part of the overall allocation which will result in good pedestrian, cycle and public transport connections to the nearby employment, education, retail, leisure and health facilities both within the new neighbourhood and in the surrounding Stoke Gifford area. These include the employment areas around Hunts Ground Road, Vantage Park, Brierley Furlong and Bristol Business Park. Two new primary schools, one within the allocation and one at the approved Harry Stoke development and senior schools at Winterbourne and Abbeywood plus the University of the West of England. New retail facilities are to be included at the District Centre located in the southern part of the allocation. A community centre and several sports pitches are to be provided as part of the main Crest development just to the south of Hambrook Lane. Health facilities are located in Stoke Gifford at the existing Doctor's Surgery.

As part of the Policy and SPD requirement for a comprehensive development the infrastructure necessary to support the allocation has been apportioned to each development site within it. This development should therefore contribute towards the Infrastructure Delivery Plan in accordance with the apportionment table agreed for the main Crest site PT16/4782/O.

Access.

It is proposed to widen and reconstruct the existing access track onto Hambrook Lane to provide access for all modes of travel. The proposed access road varies in width from 5.8m to 4.8m with three narrow sections each 3.6m wide. A 1.8m wide footway is proposed on the western side.

The tracking drawing shows an 11.3m long waste collection vehicle in the key, however the vehicle shown on the drawing is only 10.13m long. Can this be checked please and a revised tracking drawing submitted with different colours showing the swept path of the body and the wheels of the vehicles.

For the access road to be delivered within the site red line boundary it needs to be realigned to show a clear 0.5m margin between the edge of the road and footway and the site boundary. This is required to enable the hedge to be cut back and the roots removed to allow the construction of the road and provide a margin clear of the existing hedge so that it does not encroach on the carriageway and the footway which are both narrower in width than the standard 5.5m and 2m respectively.

Indicative cross sections along the access road commentary.

- A. The sections of hedge to be removed should extend to 0.5m beyond the edge of the footway and carriageway.
- B. The removal of the existing hedge on the east side is beyond the site boundary.
- C. The sections of hedge to be removed should extend to 0.5m beyond the edge of the footway and carriageway.
- D. The sections of hedge to be removed should extend to 0.5m beyond the edge of the footway and carriageway. Hedge removal on the eastern side requires land outside of the site boundary.

I note that the proposed finished level have not been provided other than at the tree 30m north of Hambrook Lane. If there are any differences in level between the existing and proposed surface levels the impact on the hedges would be greater.

The construction detail of the road narrowing adjacent to the large tree approximately 30m north of the junction with Hambrook Lane shows the road surface raised by approximately 0.5m. It is not clear what affect this will have on the tree and adjacent hedges. Please can a cross section be provided for this location? To provide for the maximum 1 in 3 embankment a margin of 1.5m will be required on both sides of the road clear of any vegetation. This requires land outside of the application site on the east side of the road. The proposed permeable surface highway construction detail around the tree has not been agreed. The following construction will be required for the road to be adopted.

Carriageway.

Surface *	40 mm / Asphalt Concrete Close Graded Surface Course Recipe Mix with a 10mm aggregate to Clause 912 of SHW Mix Designation – AC 10 Surf 40/60 rec (CI 912)	
Binder	70 mm / Heavy Duty Asphalt Concrete bin (design) with a 20mm aggregate to clause 929 of SHW Mix Designation – AC 20 HDM bin 40/60 des (CI 929)	
Base	100 mm / Heavy Duty Asphalt Concrete base (design) with a 32mm aggregate to clause 929 of SHW Mix Designation – AC 32 HDM base 40/60 des (CI 929)	
Sub-base	CBR>5%	300 mm Type 1 granular sub-base
	2 -5%	225 mm Type 1 + 350 capping layer
	<2%	225 mm Type 1 + 600 capping layer

Footway.

Surface	25 mm / Asphalt Concrete Dense surf with a 6mm aggregate to clause 909 of SHW Mix Designation – AC 6 dense surf 40/60 (CL 909). See Note 7 re 100/150 pen
Binder	60 mm / Asphalt Concrete Dense bin (recipe) with a 20mm aggregate to clause 906 of SHW Mix Designation – AC 20 bin 40/60 rec (CL 906). See Note 7 Re 100/150 pen
Sub-base	225 mm Type 1 granular sub-base

Hambrook Lane.

As per my pre-application advice Hambrook Lane should be widened to 5.5m at the junction with the access road and this width extended for approximately 20m to the west subject to the revised waste vehicle tracking.

A 2m wide footway is required on the south side of Hambrook Lane to link the site to the existing footway to the west constructed as part of the Stoke Gifford Transport Link. It maybe that some or all of this footway is constructed as part of the main Crest site however a suitable condition should require its provision prior to occupation of dwellings on this site.

Road Safety Audit.

A stage 1 Road Safety Audit has been carried out on the proposed access arrangements. A Designer Response has also been submitted. My commentary on the Designers response is as follows.

1.4. I agree that a suitable condition would secure the necessary visibility splays. A condition preventing occupation until Hambrook Lane is closed and improved in accordance with the approved Crest phase 1 infrastructure drawing would reduce the length of visibility splays required to 2.4m x 20m in both directions.

2.1. Street lighting will be required on the access road and on Hambrook Lane between the access and the Stoke Gifford Transport Link.

Indicative internal layout.

The spurs off the main road could be 6m wide shared surfaces.

The link path to the east should be widened to 3m to provide a route for cyclists as well as pedestrians.

The visitor spaces to the front of plots 28 and 29 appear a bit short. They should be 6m long plus the splays.

Tracking should be provided with any RM application to demonstrate that the waste vehicle can pass a box van at intervisible points.

The secondary road link to the north is agreed subject to tracking.

Travel Plan.

As the site is within the wider East of Harry Stoke New Neighbourhood adjacent to a congested part of the network and is of a size where the influence of a Travel Plan would be significant I recommend that a Residential Travel Plan is secured in the S106 Agreement under the same terms as the S106 and Framework Travel Plan for the main Crest South Site Planning Application PT16/4782/O. There are two options for the Travel Plan:

1. A contribution of £315 per dwelling to the Council who will then implement a detailed Travel Plan in accordance with the approved Framework Travel Plan for the main Crest site.
2. The Developer / Owner submits a detailed Travel Plan in accordance with the East of Harry Stoke New Neighbourhood Framework Travel Plan, implements that Travel Plan and pays the Council a monitoring contribution equivalent to £15 per dwelling.

With both options the Travel Plan will need to include:

- Engagement Measures,
- Sustainable Travel Vouchers (STV')
- An Intervention Fund used to further promote STV's if the 80% target is not met following the third annual monitoring report.
- A Contingency Fund used to provide additional travel planning measures if the Travel Plan targets are not being met following the third annual monitoring report.

Kind regards

Chris Rose

Senior Engineer

























Transport Development Control

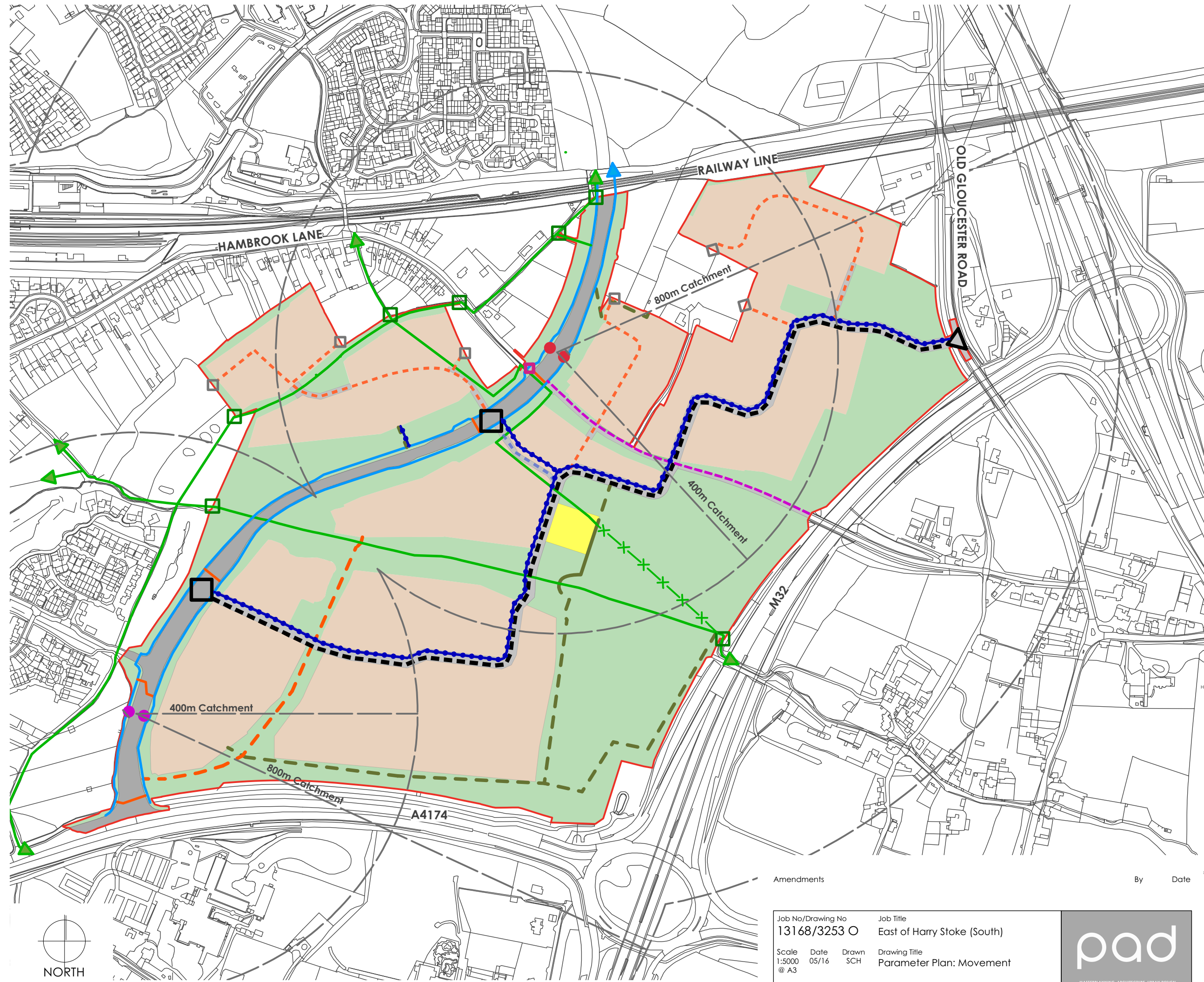
Strategic Transport & Environmental Policy

Department of Environment & Community Services

South Gloucestershire Council

Appendix B: Crest Development - Parameter Plan

- Key**
-  Site Boundary
 -  Proposed Built Form
 -  Community Hub
 -  Stoke Gifford Transport Link (SGTL)
 -  Highway Infrastructure
 -  Primary Access from SGTL
 -  Secondary Access
 -  Connection to Adjoining Land Parcel (subject to detailed design)
 -  Left in/Left out Junction at Hambrook Lane and SGTL
 -  Pedestrian Access along Public Right of Way
 -  Primary Vehicular Route/
Potential Bus Route/
segregated
Cycle Path
 -  Primary Vehicular Route
 -  Secondary Vehicular Route
 -  Hambrook Lane (traffic
calming scheme)
 -  New MetroBus Stop
(400m & 800m Isochrone)
 -  Existing MetroBus Stop
(400m & 800m Isochrone)
 -  Existing Public Right of Way
(PRoW)
 -  Diverted PRoW
 -  Proposed PRoW diversion route
 -  SGTL Foot/Cycle Way
(part of safe route to school)
 -  Pedestrian and Cycle Crossing
 -  Key Pedestrian Route
 -  Foot/Cycle Route
 -  Safe Route to School



Amendments		By		Date	
Job No/Drawing No	Job Title				
13168/3253 O	East of Harry Stoke (South)				
Scale	Date	Drawn	Drawing Title		
1:5000	05/16	SCH	Parameter Plan: Movement		
© A3					
All Dimensions to be checked on site					
pad Design Ltd - The Tobacco Factory - Raleigh Road - Bristol BS3 1TF - Tel. 0117 9530059 - www.pad-design.com					

Parameter Plan: Movement

Appendix C: Crest Development - General Arrangement



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Appendix D: South Gloucestershire Regional Cycle Map