PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS

JD RUDKIN (BUILDERS) LTD

PROPOSED RESIDENTIAL DEVELOPMENT AT FORMER BRICKET WOOD SPORT & COUNTRY CLUB / PAINTBALL SITE, LYE LANE, BRICKET WOOD, AL2 3TF

TRANSPORT ASSESSMENT

January 2023 Update

T:0208 780 0426 E:paul.mew@pma-traffic.co.uk W: www.pma-traffic.co.uk

Contents

Appendices

1.0 INTRODUCTION

1.1 Paul Mew Associates has been instructed by JK Rudkin (Builders) Ltd to provide an initial Transport Assessment in relation to the proposed development of land at Lye Lane, Bricket Wood, Hertfordshire, AL2 3TF. The site location and context are shown in Appendix A.

1.2 As part of the new St Albans District Council's Local Plan 2020-2038 consultation process, a 'Call for Sites 2021' has been made, inviting the submission of information on potential sites where new development could be carried out.

1.3 The following extract from the Council's website explains the background to the process;

'St Albans City and District Council is in the process of preparing a new Local Plan 2020-2038. The 'Call for Sites' is an early opportunity for individuals, landowners and developers to suggest sites within the District for development over the next 15-20 years. The site suggestions received by us will be used to inform the preparation of the new Local Plan 2020-2038.

You are invited to put forward any new sites that you would like the Council to consider in its Housing Economic Land Availability Assessment (HELAA). These should be capable of delivering 5 or more dwellings, or economic development on sites of 0.25 hectares or more (or 500 square metres of floor space or more).

The Council will take account of the Strategic Housing Land Availability Assessment (SHLAA) submissions previously received since 2009 and therefore there is no need to resubmit these unless circumstances have changed. Sites from previous SHLAAs will form part of the Council's assessment. Proposed land uses can include: Housing, Gypsy & Travellers, Mixed Use, Employment, Renewable and low carbon energy and heat, Biodiversity Improvement / Offsetting, Green Belt Compensatory Land, Land for Tree Planting and Other'

1.4 From information supplied by the client's agent, the approximate 6.5-hectare site would comprise 3.3 hectares for Woodland and 3.2 hectares of land designated for development. Of the 6.5 hectares in the ownership of the client, it is expected that the 3.2 hectares of brownfield land will be developed to deliver up to 115 dwellings, although the current proposed layout shows 109 dwellings of mixed sizes and tenures compromising of 21 x one-bedroom, 35 x two-bedroom, 34 x three-bedroom, 12 x four-bedroom and 7 x five bedroom dwellings. The scheme will implement the Local Plan's requirement for parking, open space and play areas. The proposal will also include; a new vehicular access, footpath improvements linking the site to Bricket Wood and additional planting of hedgerows and trees. The proposed site layout for the 109 dwelling scheme is shown in Appendix B.

1.5 Pre-application advice dated 04/04/22 relating to SA-11039 was provided by Hertfordshire County Council. In preparing this Transport Assessment update, the Council advice has been studied and relevant issues addressed.

1.6 Further Pre-application advice dated 01/12/22 relating to SA/14229/2022 was provided by Hertfordshire County Council. In preparing this Transport Assessment update, the Council advice has been studied and relevant issues addressed.

1.7 This Transport Assessment aims to address the pre-application comments / requirements and to demonstrate that the proposed development is satisfactory in highways terms.

2.0 LOCAL PLAN REVIEW & POLICY CONTEXT

2.1 With regard to policies relating to the relationship between new development and transport, the current means by which planning applications are assessed is set out in:

- 'District Local Plan Review' (Adopted 30 November 1994) - St Albans District Council.
- 'Revised Parking Policies and Standards' (January 2002) - St Albans District Council.
- 'Travel Plan Guidance' (May 2014) - Hertfordshire County Council.
- 'Local Transport Plan 2011-2031' (2011) - Hertfordshire County Council.
- 'Roads in Hertfordshire - Highway Design Guide' (2011) - Hertfordshire County Council.
- National Planning Policy Framework (July 2021) - Department for Communities and Local Government.

St Albans District Local Plan Review 1994

2.2 The existing Local Plan, adopted in 1994, is the subject of a current review which will result in a new Local Plan being adopted. As part of this the current Local Plan polices are liable to change, including on the issue of Green Belt development. However, the assessment of current Local Plan policies is considered relevant as they set out the general requirements that any future development may have to adhere to.

2.3 Policy 34 of the current Local Plan, Highways Considerations in Development Control, sets out that;

'Development likely to generate a significant amount of traffic, or which involves the creation or improvement of an access onto the public highway, will not normally be permitted unless acceptable in terms of the following highway considerations;

i. Road Safety. Particular requirements are adequate visibility, turning radii and provision for pedestrians and cyclists and for disabled and other disadvantaged people.
ii. Environmental impact of development, especially in residential areas.
iii. Road capacity including present and predicted future year assessments.
iv. Road hierarchy. New roads shall be of a design appropriate to their positions in the hierarchy. New accesses to primary roads and main distributor roads will normally be resisted, but where access is permitted a high standard of provision will be required
v. Car parking provision (see Policies 39-50)
vi. St Albans City Centre restraint on development (see Policy 30)
vii. Local Rural Roads

In assessing applications, account will be taken of the advice contained in current documents prepared by the Department of the Environment, Department of Transport, Hertfordshire County Council and this Council.'

2.4 As part of the new Local Pan, this policy may be amended or replaced but it is likely that the same general principles would be retained within any new policy.

2.5 With regards to Highways Improvements in Association with Development, Policy 35 of the current Local Plan sets out that:

'In order to mitigate the highways effects of development proposals the District Council, in conjunction with the County Council where appropriate, will seek highways improvements and / or improvements to the public transport system from developers whose proposals would otherwise result in detrimental highway conditions.'

2.6 Again, it is likely that as part of the new Local Plan, this policy may be amended or replaced but it is likely that the same general principles would be retained in any new policy.

2.7 With regards to public transport provision, Policy 36A – Location of New Development in Relation to Public Transport Network, sets out that;

'The District Council will generally encourage the use of public transport. In considering the impact of new development, account will be taken of its proximity to the public transport network and whether facilities will be provided within the development to cater for the use of the network'.

2.8 This sentiment is likely to be retained as part of the new Local Plan. As part of any proposed development at the Bricket Wood site, an assessment of local public transport has been carried out as reported in the following chapter.

2.9 Policy 39 of the current Local Plan, Parking Standards - General Requirements, sets out that development proposals should include off-street parking provision in accordance with specific advice for a variety of land uses detailed in subsequent Local Plan policies. It also sets out general advice / requirements of;

- Highways and environmental considerations,
- Underground car parking
- Changes of use and extensions
- Employee / staff numbers
- Fractions of parking spaces
- Bicycles and motor cycles
- Parking layout, and
- Parking for disabled people

2.10 Policy 40 details residential development parking standards.

St Albans District Local Plan Review 1994 -Saved & Deleted Policies Version (July 2020)

2.11 Continuing on from the Council's current Local Plan's parking policies, it is noted that Policies 34, 35, 36A, 39 and 40 of the 1994 Local Plan have been saved in the July 2020 version. The July 2020 version can be found at: https://www.stalbans.gov.uk/sites/default/files/documents/publications/planning-building-control/district-local-plan-review-1994/District%20Local%20Plan%20Review%201994%20Saved%20and%20Deleted%20Policies%20Version%20[July%202020].pdf

Travel Plan Guidance, March 2020

2.12 Hertfordshire County Council's 'Travel Plan Guidance' (March 2020) has been consulted with regards thresholds for the production of a Travel Plan. On the basis of the suggested level of development at the Bricket Wood site, a full Residential Travel Plan would be required.

Local Transport Plan 2011-2031

2.13 Challenge 1.2 of Hertfordshire County Council's Local Transport Plan which aims to support economic development and planned dwelling growth, sets out that:

'The key strategy therefore is to ensure new development is located and designed so that maximum use can be made of sustainable modes, including bus travel, to access services. Design and location can enhance existing passenger transport corridors improving levels of service so the bus provides a real alternative to the car. The provision of local services, located near to existing centres and employment opportunities, will help ensure that destinations can be accessed by walking and cycling.'

2.14 Policy 3.8 of the Local Transport Plan sets out that;

'The county council will:
A. Examine development proposals to establish whether their effects on the transport system can be accepted and to ensure that the access arrangements are constructed to an adequate and safe standard.
B. Ensure the transport and safety implications of development proposals are considered.
C. Assess development with regard to reducing the need to travel and ensure alternative modes of transport such as walking, cycling and the use of passenger transport are promoted.
D. Whenever possible, mitigate the effects of the movement demand generated by development with obligations from the promoters. The county council will seek to obtain the maximum private sector contribution compatible with Government guidelines and the county council's transportation objectives and, where appropriate, published local strategies.
E. Require a Transport Assessment and a Travel Plan for developments above certain thresholds.
F. Consider requiring a Transport Assessment or statement and/or a Travel Plan for smaller developments below general thresholds in sensitive locations.
G. Resist development where:
i. The proposals would increase the risk of accidents or endanger the safety of road or rights of way users.
ii. The proposals would cause or add significantly to road congestion, especially at peak travel times.
iii. The proposals would generate a significant change in the amount or type of traffic using local or rural roads or rights of way.
iv. The proposals would either significantly affect the rural or residential character of a road or right of way, or would significantly affect safety on rural

or local roads or rights of way especially amongst vulnerable users, or would be located by a poorly designed road.

H. New access to primary and main distributor routes will only be considered where special circumstances can be demonstrated in favour of the proposals. This will include consideration of why alternative proposals are not viable.'

2.15 The Local Transport Plan also sets out policy on travel planning and parking in relation to new development.

Roads in Hertfordshire - Highway Design Guide (2011)

2.16 With regards to specific highway design elements within the new development, advice given in Roads in Hertfordshire - Highway Design Guide would be adhered to.

National Planning Policy Framework

2.17 On a wider level, the National Planning Policy Framework (July 2021) is the relevant national policy pertaining to the development. The national policy has two key objectives: to facilitate economic growth by taking a positive approach to planning development; and to support reductions in greenhouse gas emissions and congestion and promote accessibility through planning for the location and mix development.

2.18 Relevant extracts from Section 9 'Promoting Sustainable Transport' of the NPPF (July 2021) are set out as follows:

104. Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:
a) the potential impacts of development on transport networks can be addressed;
b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;
c) opportunities to promote walking, cycling and public transport use are identified and pursued;
d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and
e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places.

105. The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.

108. Maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport (in accordance with chapter 11 of this Framework). In town centres, local authorities should seek to improve the quality of parking so that it is convenient, safe and secure, alongside measures to promote accessibility for pedestrians and cyclists.

111. Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

112. Within this context, applications for development should:
a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and
e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

2.19 In preparing this Transport Assessment, the above policy guidance, or its replacement, has been considered.

3.0 SITE & AREA AUDIT

3.1 The site is located approx. 4.5km south of St Albans, 4.5km east of Abbots Langley and 7km north of Watford. The site is bounded to the west by Lye Lane and to the south by the M25.

3.2 Lye Lane in Bricket Wood is within the St Stephen ward/electoral division, which is in the constituency of St Albans. The site can be accessed from Lye Lane which leads from the A405 North Orbital. The site can also be accessed from the south from the West Riding / Oak Avenue junction with Lye Lane.

3.3 The nearest train station to the site is Bricket Wood Station which is 1km south of the site. How Wood railway station is also a short distance away from the site around 1km to the north of the site.

Pedestrian and Cycle Access

3.4 The connectivity of a development site includes factors that relate to pedestrian and cycle access. In relation to the site and surrounding area, this relates to public rights of way and footways adjacent to local roads.

3.5 In terms of public rights of way, Appendix C shows an extract from Hertfordshire County Council's public rights of way map. Routes 60, 15 and 30 run south of the site towards Bricket Wood Station while Route 18 can be accessed to the north of the site. No formal pedestrian crossing facilities are currently provided where these routes cross the A405 North Orbital and Lye Road.

3.6 Table 1 shows a selection of key public rights of way linking the site to Bricket Wood.

Table 1. Key Public Rights of Way from Site to Bricket Wood

Right of Way Number	Type	Description
60 (St Stephens)	Footpath	Commences at junction with Lye Lane at Black Green thence NE to rejoin Lye Lane opposite Blackgreen Wood.
15 (St Stephens)	Footpath	Commences at junction with FP60 at Black Green thence SE to junction with county road (Lye Lane).
30 (St Stephens)	Footpath	Commences at junction with Lye Lane opposite Black Green thence SE across Black Green Wood to junction with Lye Lane at W corner of Smug Oak Green.
29 (St Stephens)	Footpath	Commences at junction with slip road to M25 Motorway at Grid Ref: TL1266 0298 thence SE skirting NE boundary of Lower Lyes to junction with Woodside Road and The Meads.
11 (St Stephens)	Bridleway	Commences from County Road (South Riding) thence E to a junction with BR12 (at TL13515 02155) thence SE over the railway via a bridge to the edge of Bricket Wood Common (at TL13575 02105) then across the Common to join the County Road (Station Road (at TL13590 02095) opposite Drop Lane. Minimum 2.5 metres between TL13515 02155 and TL13575 02105 4 metres between TL13575 02105 and TL13590 02095
12 (St Stephens)	Footpath	Commences at junction with BR 11 N of Bricket Wood Station thence NE along NW boundary of Railway to junction with county road (Lye Lane).

18 (St Stephens)	Footpath	Commences at junction with North Orbital Road W of Burston Manor Farm thence SW to junction with Lye Lane opposite Hospital.
94 (St Stephens)	Footpath	Hyde Lane. Commences as FP from Hyde Lane public road at TL 1445 0341 running SE for approx. 10m across level crossing to TL 1446 0341. Continues as RB SE for approx. 670m passing junctions with FPs 33, 33a, 26 and 35a, across ford at River Ver adjacent to the footbridge to join Hyde Lane public road at TL 1504 0312. Varies between 3m and 12m as shown on the Order Plan forming part of the Hertfordshire County Council (St Stephen 94) Modification Order 2011. Kissing gates at TL 1445 0341 and TL 1446 0341.

Source: HCC

3.7 Lye Lane south of the site does not feature footways. The local footway network to the south commences at the junction with West Riding / Oak Avenue. To the north of the site, again, there are no footways until Lye Lane reaches the A405 North Orbital Road. Park Street Lane (to the east of the site) has footway facilities south towards Bricket Wood but these are of poor quality. It is proposed to provide a footway link from the site to West Riding to the south of the site.

3.8 Within the site, a series of footways alongside the internal road layout will link the new development with the local footway on Lye Lane via. South of the site between the site access on Lye Lane and West Riding junction there is currently limited footpath access. This stretch of footpath will be upgraded to provide adequate and safe walking routes for pedestrians and cyclists.

3.9 In summary, while there are a number of local footpaths, the proposed development will be supplemented with extensions to current footpaths and or creation of new footpaths so that residents of the scheme have viable and practical means of walking from the site to Bricket Wood, the station or How Wood. Improved cycle access to local National Cycle Routes will also benefit future residents.

3.10 Local cycle routes are shown in a map extract in Appendix C and includes National Cycle Routes 6 and 61 which run as a combined route through the Colne Valley between Watford and St Albans. Locally this provides a mixture of traffic free sections and quiet roads linking the two towns with Park Street, How Wood, Bricket Wood and Garston.

Vehicle Access

3.11 There is an existing vehicle access to the site from the Lye Lane on the western side of the site. As part of the proposed development a new vehicle access will be provided on Lye Lane further to the north of the existing vehicle access. The existing vehicle access will be stopped up as part of the development.

Public Transport

3.12 Appendix C presents an extract of the County bus map for the Bricket Wood area. This shows at present 2 bus routes serve Bricket Wood calling at stops on Lye Lane, approximately 560m to the south of the site. A summary of services is presented in Table 2.

Table 2. Local Bus Services

Route	Nearest Bus Stop	To / From	Service Information
361	West Riding	Garston/Bricket Wood	Mon-Fri 07:25 to 17:12 - Up to 1 per hour Saturday 09:28 to 17:28 - 1 per hour
		To St Albans	Mon-Fri 08:25 to 17:46 - Up to 1 per hour Saturday 08:40 to 18:00 - 1 per hour
635	West Riding	Hitchin to Watford, via Stevenage & Hatfield	Mon-Fri 06:54 to 14:04 - 1 per hour Saturday 08:40 to 18:00 - 1 per hour
		Watford to Hitchin	Mon-Fri 07:07 to 15:49 - 1 per hour Saturday 09:28 to 17:28 - 1 per hour

Source: Intalink

3.13 The above assessment shows there are relatively good service levels to St Albans, Bricket Wood, Hatfield, Watford and Hitchin with 1 to 2 services per hour.

3.14 Rail services are available from Bricket Wood Station which is located 1km to the south of the site. Rail services available are detailed in Table 3 while Appendix C presents an extract of the local rail network map.

Table 3. Local Rail Services

Station	Towards	Times / Days	Frequency
Bricket Wood	St. Albans Abbey	06:00-22:44 Mon-Fri 06:24-22:44 Sat 08:15-23:27 Sun	1 per hour 1 per hour 1 per hour
	Watford Junction	06:22-22:59 Mon-Fri 06:37-22:57 Sat 08:37-23:41 Sun	1 per hour 1 per hour 1 per hour

Source: London North Western

3.15 At Bricket Wood station there is level step-free access s to trains. At Watford Junction, interchange is available to direct services to London Euston, southern, central and north western England and Scotland as well as to London Overground services.

Local Amenities

3.16 Within a short distance of the site, via Lye Lane, the village of Bricket Wood provides a wide range of local amenities including; a food store, pharmacy, cafes, restaurants and public houses, a library and schools. Sustainable access to these facilities would require improvements to footpaths / pedestrian routes.

Local Road Network

3.17 As previously set out the site is bounded to the west by Lye Lane, with Park Street Lane running east of the site and the M25 running south of the site.

3.18 Lye Lane continues north west to the junction with the A405 North Orbital Road and then on to the M25 or the M1, and south to Watlford. Exit 4 of the North Orbital Roundabout heads towards St Albans. Adjacent to the site Lye Lane varies in width between 4.3m and 5.8m, widening to 6.0m over the M25 overbridge. North of the site, Lye Lane narrows to 4.2m.

3.19 Within Bricket Wood village the junction of Lye Lane, West Riding and Oak Avenue is provided as a priority junction with Lye Lane forming the northern and eastern arm, Oak Avenue the southern arm and West Riding the western arm. West Riding / Lye Lane (east) is the through traffic movement with the other two arms giving way. Sightlines at this junction could be improved by maintaining vegetation growth on highways land

3.20 Lye Lane and West Riding / Oak Avenue in the vicinity of the junction are subject to 30mph speed limits, while Lye Lane to the east of the junction is subject to a 40mph speed limit.

3.21 Tables 4 and 5 show average weekday flows and 85th percentile speeds for Lye Lane adjacent to the development site.

Table 4. Lye Lane Average Weekday Traffic Flows

Time	Northbound	Southbound	Total
0000-0100	3	3	6
0100-0200	2	3	6
0200-0300	1	2	3
0300-0400	1	1	2
0400-0500	2	1	3
0500-0600	11	1	12
0600-0700	17	12	29
0700-0800	41	82	123
0800-0900	38	91	128
0900-1000	59	61	120
1000-1100	46	49	94
1100-1200	42	53	95
1200-1300	40	61	101
1300-1400	49	65	114
1400-1500	45	47	93
1500-1600	41	82	123
1600-1700	40	102	142
1700-1800	38	76	114
1800-1900	27	47	74
1900-2000	24	28	52
2000-2100	15	18	33
2100-2200	12	12	24
2200-2300	9	10	19
2300-2400	8	6	14
Total	609	914	1523

Source: DCA Monisyst Survey 25th to 29th April 2022

Table 5. Lye Lane Average 85% Speed

Time	Northbound (mph)	Southbound (mph)
1000-1100	30.6	31.6
1100-1200	31.0	31.8
1400-1500	31.1	31.3
1500-1600	29.8	30.0
Interpeak Average 85%ile	31	31

Source: DCA Monisyst Survey 25th to 29th April 2022
Notes: A four second headway has been applied to the ATC speed data. Weekday non-peak design speed is taken from 1000-1200 and 1400-1600 in accordance with CA185

3.22 In terms of congestion, Appendix C presents a series of extracts from Google traffic mapping showing key locations where weekday peak hour speeds are low.

This may indicate congestion or where traffic speeds are reduced due to narrow roads / bends.

3.23 In the morning peak, slow traffic speeds are observed on Lye Lane southbound as it leaves the A405 North Orbital Road, on Lye Lane southbound north of the development site and on Lye Lane southbound as it approaches the junction with West Riding and Oak Avenue. Slow traffic speeds are also observed on Lye Lane eastbound as it approaches Park Street Lane. It is suggested that these slow speeds do not necessarily indicate congestion as queue length surveys at these junctions (Appendix J) do not show queuing traffic.

3.24 In the afternoon peak, slow traffic speeds are observed on Lye Lane northbound as it approaches the A405 North Orbital Road and on Lye Lane westbound west of Park Street Lane. Again, these slow speeds do not necessarily indicate congestion as queue length surveys at these junctions (Appendix J) do not show queuing traffic.

Road Traffic Accidents

3.25 Appendix C presents updated map extracts showing road traffic accidents by severity for the 5-year period 2017 to 2021 in the area around the development site which resulted in all casualty types. This includes the following locations as requested by HCC:

- The area of Bricket Wood surrounded by the following roads, and including these roads themselves:
- West Riding;
- Oak Avenue;
- Park Street Lane west of Station Road (also referred to as Lye Lane east);
- Station Road;
- Mount Pleasant Lane.
- Lye Lane up to and including the junction with A405 North Orbital Road.

3.26 One 'serious accident' was reported in the vicinity of Park Street Lane / Lye Lane / Station Road Junction. The accident took place on 02/07/2020 in wet and dark conditions and has the Ref: 202041096642 7. The accident involved 1 vehicle with the driver leaving the carriageway while going ahead on a left hand bend and colliding with a tree. The casualty was the driver of the car and suffered serious injuries. As such the accident is unlike to be related to the proposed development site.

3.27 A second 'serious accident' was reported at the A405 North Orbital Road / Lye Lane Junction. The Accident took place on 05/04/2021 in dry / daylight conditions and has the Ref: 202141103509 and involved 3 vehicles with the drivers of two vehicles sustaining slight injuries and the driver of the third vehicle serous injuries. It is noted that the accident took place on the northbound carriageway of the A405 which is separated from the junction with Lye Lane by a central reserve. As such the accident is unlike to be related to the proposed development site.

3.28 Accident reports for the two serious accidents detailed above are presented in Appendix C. It is clear that there have been a small number of 'minor' and 'serious'

accidents in the Bricket Wood area, however none took place in the vicinity of the development site.

Car Ownership

3.29 Data from the 2011 Census has been examined to determine local car ownership characteristics. Table 6 presents the results of the assessment. The development site is located within two census areas and so an average has been derived.

Table 6. Local Census Car Ownership Data

Number of Cars or Vans in Household	Number of Households	% of Households	Number of Households	% of Households	Average
No cars or vans	243	7.9%	259	10.3%	9%
1 car or van	1,113	36.1%	1,028	40.9%	38%
2 cars or vans	1,242	40.3%	919	36.6%	39%
3 cars or vans	313	10.2%	219	8.7%	10%
4 or more cars or	169	5.5%	88	3.5%	5%
Total	3,080	100.0%	2,513	100.0%	100%

Source: 2011 Census. Table KS404EW – St Albans (E02004943 and E02004942)

3.30 The Census data shows that only 9% of households in the area don't have access to a car or van, with the average household owning 1.6 cars or vans.

Mode Split Data

3.31 Data from the 2011 Census has been examined to determine the mode of transport used for 'journeys to work'. This gives an indication as to the availability of 'sustainable' forms of transport and its suitability for journeys to work. Table 7 presents the results of the assessment for those in employment.

3.32 The development site is located within two census areas (E02004943 and E02004942) and so an average has been derived. Appendix D shows maps of the census areas assessed.

Table 7. Census Journey to Work Mode Split

Mode of Transport	St Albans E02004942		St Albans E02004943		Average
	No. of Persons	% of Persons	No. of Persons	% of Persons	
Underground, metro, light rail, tram	59	2%	60	2%	2%
Train	325	11%	322	9%	10%
Bus, minibus or coach	50	2%	63	2%	2%
Taxi	17	1%	18	1%	1%
Motorcycle, scooter or moped	27	1%	30	1%	1%
Driving a car or van	2,073	73%	2,639	75%	74%
Passenger in a car or van	113	4%	138	4%	4%
Bicycle	34	1%	33	1%	1%
On foot	124	4%	168	5%	5%
Other method of travel to work	13	0%	30	1%	1%
Total	2,835	100%	3,501	100%	100%

Source: 2011 Census. Table QS701EW - St Albans (E02004943 and E02004942)

3.33 The Census data shows that the majority of journeys to work (74%) are made as car driver, with 12% made by train or underground. It should be noted that the Census asks about the mode of transport used for the longest distance section of the journey, so does not indicate how trips are made from the area to local railway stations. These are likely to be made by car or bus or possibly by bike.

3.34 In summary, pedestrian and cycle links from the site will need to be improved to allow future residents viable, safe and practical access to local public transport and amenities. The local road network adjacent to the site will also need to be improved with a new site access junction and carriageway widening.

4.0 TRIP GENERATION & DISTRIBUTION

4.1 As part of this report, trip generation forecasts have been prepared for the existing and proposed uses by means of the TRICS database. The proposed development will provide up to 115 mixed (private and affordable) dwellings, although the current proposal would provide 109 dwellings. Despite this, and to represent the worst case assessment, trip generation forecasts for 115 dwellings have been assessed.

4.2 This assessment methodology uses TRICS data to determine the total number of person trips the developments will generate. These totals are then be distributed in line with local output area census mode splits as detailed in the previous chapter. It is suggested that this combined approach produces a robust assessment of total trip generation based on similar TRICS developments but is more reflective of travel options in the vicinity of the proposed development site.

4.3 With regards the proposed residential use, 18 TRICS 'mixed private and affordable house' sites have been used to prepare total person trip generation forecasts.

4.4 Table 8 presents a summary of total person trip forecast trips based on TRICS, and car and rail / underground trips based on Census data. Full details, including maps of Census areas used are presented in Appendix D.

Table 8. Proposed Residential Trip Generation (Worst Case 115 Units)

	Total Person Trips		Census Car Driver		Census Rail		Total Car Based Trips	
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
07:00	12	62	9	46	1	7	10	53
08:00	**21**	**96**	**16**	**71**	**3**	**12**	**18**	**83**
09:00	24	30	18	23	3	4	21	26
10:00	20	27	15	20	2	3	17	24
11:00	22	24	17	18	3	3	19	21
12:00	24	24	18	18	3	3	21	20
13:00	24	24	18	18	3	3	20	21
14:00	28	32	21	24	3	4	24	28
15:00	**78**	**33**	**58**	**25**	**9**	**4**	**67**	**29**
16:00	58	27	43	20	7	3	50	23
17:00	65	27	49	20	8	3	56	23
18:00	55	27	41	20	7	3	47	24
Total	431	434	321	323	52	52	373	375

Source: TRICS / Census Note: due to rounding of numbers totals may not reflect cumulative hourly flows.

4.5 The results of the assessment suggest that the proposed residential development could generate a total of 748 car (driver) vehicle trips per day which includes those who drive to local stations to continue journeys by rail.

5.0 PARKING, ACCESS & LAYOUT

5.1 HCC's "Roads in Hertfordshire: A Design Guide, 3rd Edition" (January 2011) sets out the framework of advice and standards within which alterations and additions to the highway network in the County shall be constructed.

Car Parking

5.2 The calculation of parking provision for residential developments is set out in St Alban's City District Council's Local Plan Review. Policies 39 and 40 state the parking requirements at residential developments and were retained in the July 2020 Local Plan Review.

5.3 It is noted that the application seeks the provision of up to 115 dwellings, however the currently proposal would provide 109 dwellings of mixed sizes and tenures comprising of 21 x one-bedroom, 35 x two-bedroom, 34 x three-bedroom, 12 x four-bedroom and 7 x five bedroom dwellings with a minimum of one allocated parking space per unit. Table 9 shows the required parking provision for the proposed development.

Table 9. Required and Proposed Car Parking Provision

No. Bedrooms	Proposed No. Units	Requirement		Proposed Provision		
		No. Allocated Spaces per Unit	No. Unallocated Spaces per Unit	No. Allocated Spaces per Unit	No. Unallocated Spaces per Unit	Total No. Spaces
1	21	1	0.5	21	11	32
2	35	1	1.0	35	35	70
3	34	2	0.5	68	17	85
4	12	3	0.5	36	6	42
5	7	3	0.5	21	4	25
Total	109	-	-	181	72	253

Source: SADC / Tom Grsitwood Architects

5.4 A total of 253 car parking spaces will be provided within the curtilage of the development for the proposed 109 dwelling scheme.

Cycle Parking

5.5 Cycle parking standards are also set out in St Alban's District Council's Local Plan Review. Policy 39 Part viii states that "*bicycle and motor cycle parking provision may be required for in large developments*".

5.6 HCC's now withdrawn 'parking policies and standards 2002' set out for residential development that 1 long-term space per unit should be provided if no garage or shed is provided. In lieu of current guidance these former standards have been applied.

5.7 The development will provide adequate and safe cycle storage within the boundary of each dwelling.

Vehicle Access

5.8 There is an existing vehicle access to the site from Lye Lane on the western side of the site. As part of the development a replacement vehicle access will be provided on Lye Lane slightly north of the existing vehicle access which will be stopped up as part of the development. The layout of the proposed new site access is shown in Appendix E.

5.9 The new site vehicle access will take the form of priority junction. Detailed junction assessment of the new junction can be found in Chapter 6.

5.10 A sightline assessment was carried out for the proposed site access based on 85th percentile speed data collected as part of a 5-day weekday automatic traffic count survey carried out on Lye Lane adjacent to the location of the previously and current proposed site access. The 85th percentile speed assessment was based on the interpeak period of 10:00 to 15:00 on dry weekdays in April 2022 with speeds corrected for wet weather conditions. Full results of the automatic traffic count survey are presented in Appendix F.

5.11 The surveys revealed that the 85th percentile southbound speed was 29.2mph and the 85th percentile northbound speed was 28.4mph. In line with Manual for Streets these equate to sightline requirements of 43m.

5.12 Appendix E demonstrates that these sightlines can be achieved from the proposed site access.

Layout

5.13 It should be noted that the proposed layout presented in this report is indicative only as layout is a reserved matter and may be subject to change to accord with up-to-date highways policies. On this basis, the current proposed layout included in this report, will address the following issues;

- The new site access road will be provided with kerb radii of 6.0m at the junction with Lye Lane and a width of 6.0m, while internal roads will be provided at widths of a minimum 5.5m.
- Entry kerb radii from the local road network will be provided at 10.0m.
- Internal kerb radii will be provided at 6.0m minimum.
- Footways will be provided at widths of 2.0m.
- Parking spaces will be provided at dimensions of 2.4m x 4.8m
- Disabled parking spaces will be provided at the above dimensions with additional side and rear manoeuvring space of 1.2m minimum
- Aisle widths in communal parking areas will be provided at 6.0m.
- Individual houses will be provided with 'wheelie' bins which will be placed on the kerbside on collection days.
- Waste collection vehicles will be able to get to within 25m of dwelling.
- Parking areas will be clearly marked to deter unsociable, dangerous or illegal parking.

5.14 Swept path analysis has been carried out for a large refuse vehicle to demonstrate that the vehicle can negotiate its way around the internal road layout as shown in

Appendix H. The Highways Authority's pre-app comments from 04/04/22 (Appendix I) sets out that 'the TA will need to include swept path analysis of refuse lorries and servicing / delivery vehicles, to ensure these can access and egress the site in forward gear.'

5.15 The swept path analysis shown in Appendix H has used the above vehicle of dimensions 9.010m by 2.450m the vehicle is shown entering the site from Lye Lane travelling around the internal road layout and making use of proposed 'hammerheads' for turning and turning back out on to Lye Lane.

5.16 By default smaller service vehicles (including delivery and emergency vehicles) will also be able to negotiate around the internal road layout.

Footway Assessment - Pedestrian & Cycle Access

5.17 It is proposed that a new footway is provided on Lye Lane south of the site towards Bricket Wood village centre as shown in Appendix G.

5.18 The 2.0m wide footway on the south side of the proposed site access road would continue south of the site to link to the current M25 overbridge footway on the eastern side of the road.

5.19 Continuing south of the M25 overbridge, highways land ownership narrows to 1.0m. Prior to this point it is proposed that a crossing point with dropped kerbs with tactile paving would be provided so that pedestrians with buggies / wheelchairs who require a full 2.0m width can cross to a new section of 2.0m wide footway on the western side of Lye Lane. This would then cross back to the east side of Lye Lane at a point where highways land ownership allows a 2.0m wide footway to be provided. The section on the west side of Lye Lane will also benefit residents of dwellings / mobile homes on the west side of Lye Lane at this location.

5.20 The 2.0m wide footway on the eastern side of Lye Lane would then continue south to a point adjacent to Lye Cottage, at which point it would cross to the western side of Lye Lane and continue south to connect to the existing footway on the northside of West Riding. The new footways would be 2.0m in width and provided on Highways land. At the proposed crossing point (adjacent to Lye Cottage) dropped kerbs with tactile paving would be provided. It is also proposed that street lighting will be provided on this new pedestrian link. The proposed layout of this facility is shown in Appendix G.

5.21 Appendix G also shows how the proposed footways would link with existing public rights of way which will provide additional links towards Bricket Wood village centre and Bricket Wood station.

5.22 A 2m footpath can be formed within highway land boundary on lye lane this accords with the highway boundary as supplied by HCC and is shown in Appendix G.

5.23 Trees and bushes have grown up within the highway land such that it is difficult to see the land boundary on site. Some pruning and selective felling of trees will be needed within highway land to accommodate a new footpath.

5.24 A fully metalled surface would not be practicable with the proximity of tree roots. Therefore the provision of a footpath could be made by laying a granular sub base and a graded aggregate wearing course. This would permit natural drainage and would blend in well with the rural nature of Lyle Lane. Kerbing will be provided, and lighting will be provided using PV cell power units.

Stage 1 Road Safety Audit

5.25 A Stage 1 Road Safety Audit has been carried out for the proposed development and the new access junction on to Lye Lane.

5.26 A copy of the Stage 1 Road Safety Audit and Designers' Response is attached at Appendix L.

5.27 The Designers' Response sets out amendments to the proposed layout to address the issues raised.

6.0 HIGHWAY IMPACT

6.1 This chapter sets out the highways impact assessments carried out for the proposed worst case 115 unit development.

Peak Hour Determination

6.2 As requested in the pre-application advice from the Council, the peak hours for assessment have been determined by means of automatic traffic count surveys undertaken on Park Street Lane between 25/04/22 and 01/05/22. The results of the ATC surveys are shown in Appendix F and demonstrate that the AM peak hour is 08:00 to 09:00 while the PM peak hour is 15:00 to 16:00. Full ATC survey data is shown in Appendix F.

Junction Capacity Assessment Methodology

6.3 As detailed earlier in this report, the proposed 'worst case' development (115 dwellings) has been shown to generate 101 vehicle trips in the AM peak hour and 96 vehicle trips in the PM peak hour.

6.4 Junction capacity assessments have been carried out to determine the impact of the development on the junctions of

- A405/Lye Lane,
- Lye Lane/Oak Avenue/West Riding Junction and
- Lye Lane/Park Street Lane

6.5 Baseline manual classified turning count surveys were undertaken at these junctions on 26/04/22. Full details of the 'baseline' manual classified turning count surveys are shown in Appendix J.

6.6 To assess whether this was a 'typical' weekday, the ATC data collected for Lye Lane (as set out in Appendix F) has been examined. The average total weekday two-way flow on Lye Lane was 1145 vehicles per day. The 'median' total weekday two-way flow on Lye Lane was 1148 vehicles per day. Total weekday two-way flows on Lye Lane on the day of the manual classified turning count surveys was 1158 vehicles per day. As such it is concluded that the manual classified turning count survey data is typical.

6.7 In pre-application responses HCC commented that using averages may not account for variability around these averages and that if junction modelling reveals results close to capacity, then variations in flows could be a concern. As detailed later in this updated Transport Assessment, the junctions assessed operate within capacity and with minimal queuing. As such, the criticality of amending ATC data as set out in the HCC response is allayed, and therefore potential variations in volumes are not considered to be a concern.

6.8 The 'baseline' manual classified turning counts were then growthed to the future year of 2035 (10 years after the assumed opening year of 2025) to reflect background traffic growth. Full details of the 'future year' turning movements (OD tables) are shown in Appendix J.

6.9 Separate growth rates have been derived for AM and Interpeak periods to correspond with peak hours identified. In addition to TEMPRO growth data for the future year of 2035, fuel / income adjustment factors for the future year of 2035 have also been applied based on TAG Unit M4 and the TAG Data Book (May 2022 v1.18) Table M4 2.1. Resulting growth rates for the future year of 2035 are shown below;

TEMPRO Selections

Dataset Version	72
Result Type	Trip ends by time period
Area Definition	St Albans Local Authority
Current Year	2022
Future Year	2035
Trip Purpose	All Purposes
Transport Mode	Car Driver
Trip End Type	Origin / Destination
Time Period #1	Weekday AM Peak (07:00-09:59)
Time Period #2	Weekday Inter Peak Period (10:00-15:59)

TEMPRO Growth Factors

	Origin	Destination	Average
AM	1.0317	1.0809	1.0563 (a)
Interpeak	1.1013	1.0981	1.0997 (b)

Income & Fuel Cost Factors (TAG Data Book May 2022 v 1.18 - Table M4.2.1)

	2022	2035	Factor
Income	1.018	1.044	1.026 (c)
Fuel Cost	1.090	1.146	1.051 (d)
Combined Factor (e) = (c) x (d)			1.078

Total Growth Factors

AM (a) x (e)	1.139
Interpeak (b) x (e)	1.186

6.10 Forecast development flows for peak hours, in terms of in and outbounds flows were then assigned to the local road network based on existing surveyed turning proportions / flow tidalities. Full details of the 'future year' turning movements with development (OD tables) are shown in Appendix J.

Lye Lane / A405 North Orbital Road Junction Assessment (Site 1)

6.11 Due to the central reserve on the A405 North Orbital Road, the only site traffic related movements are the left turn from the A405 in to Lye Lane, and the right turn movement out of Lye Lane on to the A405. It is noted that only a small proportion of site flows have been assigned to Lye Lane north of the site.

6.12 Table 10 shows a summary of the PICADY assessment for the Lye Lane / A405 North Orbital Road junction for the future year with development flows, while full results are shown in Appendix K. Junction geometry used in this assessment is also included in Appendix K.

Table 10. PICADY Assessment Results Summary – A405 / Lye Lane Junction

Movement	AM Peak (08:00-09:00)			PM Peak (15:00-16:00)		
	RFC	End Queue (PCU)	Level of Service	RFC	End Queue (PCU)	Level of Service
B-AC Lye Lane to A405 westbound	0.105	0.1	A	0.103	013	1

Source: PICADY 10

6.13 The assessment shows that in both the AM and PM peak hours, there would be low RFC's and minimal queuing. The Level of Service during both peak periods would be acceptable.

Lye Lane / West Riding / Oak Avenue Junction Assessment (Site 2)

6.14 The majority of site traffic would route to / from the south of the site and pass through the junction of Lye Lane / West Riding and Oak Avenue.

6.15 Table 11 shows a summary of the PICADY assessment for the Lye Lane / West Riding and Oak Avenue junction for the future year with development flows, while full results are shown in Appendix K of this response document. Junction geometry used in this assessment is also included in Appendix K.

Table 11. PICADY Assessment Results Summary – Lye Lane / West Riding and Oak Avenue Junction

Movement	AM Peak (08:00-09:00)			PM Peak (15:00-16:00)		
	RFC	End Queue (PCU)	Level of Service	RFC	End Queue (PCU)	Level of Service
B-ACD Oak Avenue to other arms	0.622	1.6	C	0.555	1.2	C
A-BCD Lye Lane East to other arms	0.253	0.4	A	0.108	0.1	A
D-ABC West Riding to other arms	0.496	1.0	C	0.373	0.6	B
C-ABD Lye Lane North (inc site) to other arms	0.055	0.1	A	0.039	0.0	A

Source: PICADY 10

6.16 The assessment shows that in both the AM and PM peak hours, there would be low RFC's and minimal queuing on all junction arms. The Level of Service during both peak periods would be acceptable.

Lye Lane / Park Street Lane Junction Assessment (Site 3)

6.17 Table 12 shows a summary of the PICADY assessment for the Lye Lane / Park Street Lane junction for the future year with development flows, while full results are shown in Appendix K of this response document. Junction geometry used in this assessment is also included in Appendix K.

Table 12. PICADY Assessment Results Summary – Lye Lane / West Riding and Oak Avenue Junction

Movement	AM Peak (08:00-09:00)			PM Peak (15:00-16:00)		
	RFC	End Queue (PCU)	Level of Service	RFC	End Queue (PCU)	Level of Service
B-AC Lye Lane to Park Street Lane north and south	0.500	1.0	B	0.345	0.5	B
C-AB Park Street Lane southbound, ahead and to Lye Lane	0.398	0.8	A	0.340	0.6	A

Source: PICADY 10

6.18 The assessment shows that in both the AM and PM peak hours, there would be low RFC's and minimal queuing on all junction arms. The Level of Service during both peak periods would be acceptable.

6.19 All arms assessed of all junctions return Levels of Service of A (free flow), B (reasonable free flow), or C (stable flow).

New Site Access / Lye Lane Junction Assessment (Site 4)

6.20 PICADY 10 assessments were carried out for the scheme for a proposed new site access junction on Lye Lane based on a priority junction layout.

6.21 The PICADY 10 assessment for the scheme, took into account base flows growth to the forecast year of 2035 with development flows assigned to the local road network. Full results and junction geometry taken from the proposed junction layout is included in Appendix K.

6.22 With regards to the distribution of proposed development flows, these were based on the north / south split of flows on Lye Lane from ATC data as shown in Table 13. For example, 27% of development flows departing from the site between 08:00 to 09:00 were assumed to be heading north on Lye Lane towards the A405, and 71% of development flows arriving at the site between 15:00 to 16:00 were assigned to have come from the north (southbound).

Table 13. Lye Lane Flow Direction Split (Average Weekday)

Hour	Northbound Flow	Southbound Flow	Northbound Split	Southbound Split
0800	30	82	27%	73%
1500	27	65	29%	71%
24 Hour	434	704	38%	62%

Source: ATC survey

6.23 Table 14 show a summary of the PICADY assessment results for the scheme while full results are attached in Appendix K.

Table 14. PICADY Assessment Results Summary – Site Access / Lye Lane Junction

Movement	AM Peak (08:00-09:00)			PM Peak (15:00-16:00)		
	RFC	End Queue (PCU)	Level of Service	RFC	End Queue (PCU)	Level of Service
B-AC Site Access to Lye Lane North & South	0.146	0.2	A	0.049	0.1	A
C-AB Lye Lane South to Site Access and Lye Lane North	0.022	0.0	A	0.094	0.1	A

Source: PICADY 10

6.24 The key movement was 'Lye Lane South to Site Access and Lye Lane North' as this represents southbound traffic on Lye Lane either continuing north or turning right in to the development site. As can be seen there was a very low RFC level during both peak periods and no queuing with Levels of Service of A for all movements during both peak periods. This suggested there are ample gaps in through traffic to allow traffic to turn right in to the site. As such, a right turn lane facility would not be required.

6.25 The junction capacity assessments detailed above show that the junctions assessed operate within capacity and with minimal queueing and therefore no improvements to junctions are required. Had the junction assessments shown problems with junction capacities, mitigation measures would have been provided.

6.26 In summary, the impact of the proposed development for the future year of 2035 has been shown to be minimal in both peak hours at all junctions assessed.

7.0 SUMMARY & CONCLUSIONS

7.1 In summary, the site is located in an area with currently modest levels of public transport accessibility, with good pedestrian and cycle links and is in close proximity to the existing settlement of Bricket Wood for access to local amenities and services.

7.2 Local Census data suggests that the majority of trips to and from the area are made by, or involve use of, the private car. The impact of any development would require improvements / amendments to the local highway network.

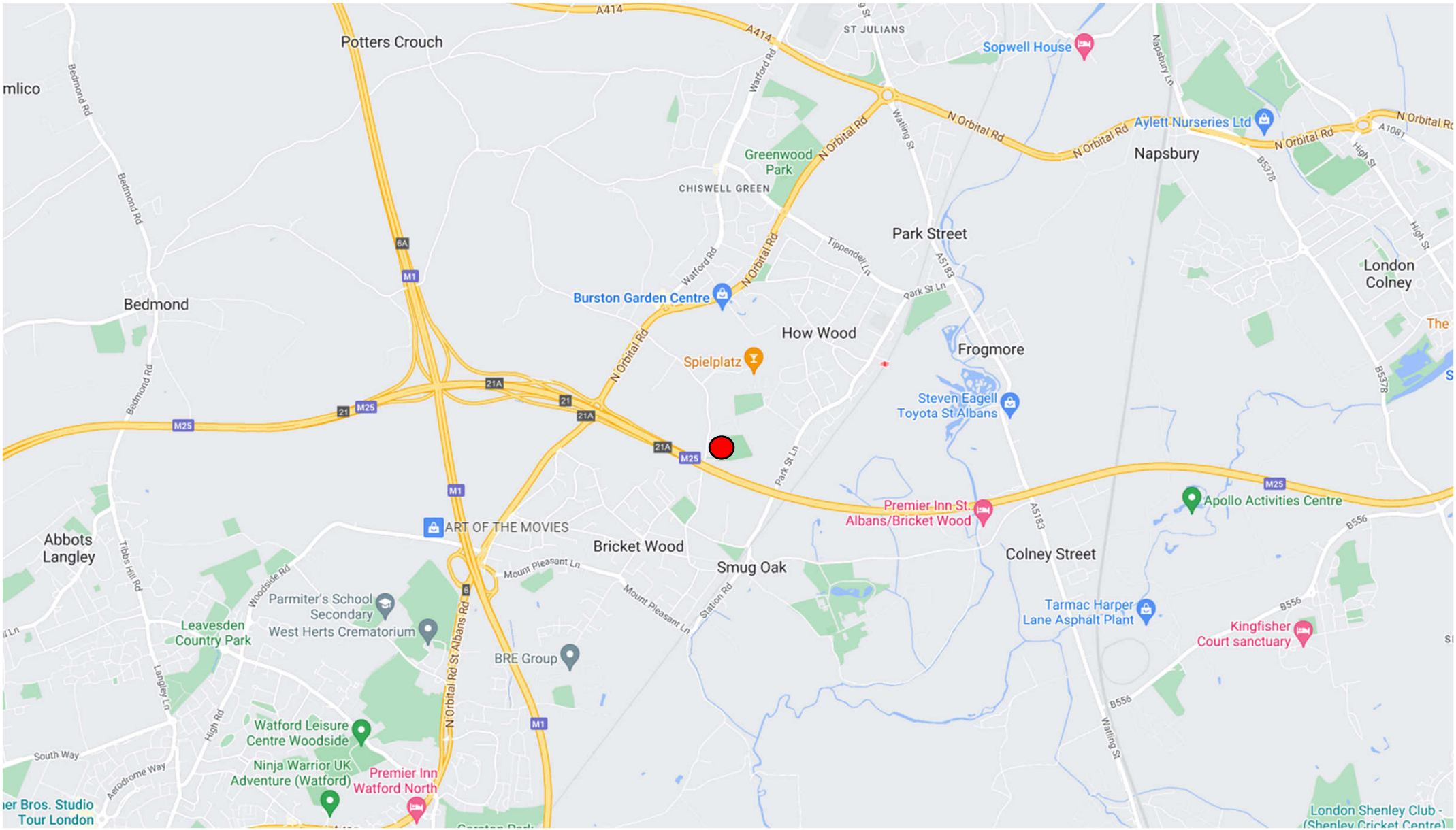
7.3 It is proposed that a new footway is provided on Lye Lane south of the site towards Bricket Wood village centre. This would be provided predominantly on the east side of Lye Lane with an additional section of new footway on the west side of Lye Lane to avoid a width restriction which would also benefit residents of dwellings / mobile homes on the west side of Lye Lane at this location. The proposed footways would link with existing public rights of way which will provide additional links towards Bricket Wood village centre and Bricket Wood station.

7.4 The internal layout of the site would provide good permeability by all modes and providing good links to local pedestrian and cycle routes.

7.5 PICADY 10 assessments were carried out for the scheme for a proposed new site access junction on Lye Lane based on a priority junction layout. The junction assessments show that in both the AM and PM peak hours, there would be low RFC's and minimal queuing on all junction arms. The Level of Service during both peak periods would be acceptable.

7.6 In summary, the impact of the proposed development for the future year of 2035 has been shown to be minimal in both peak hours at all junctions assessed. The Bricket Wood Development is considered suitable for the provision of new residential and related land use development.

Appendix A
Site Location & Context



Date: 29/06/22
Scale: NTS
Source: Google
Site Location

P2584. Lye Lane, Bricket Wood, Hertfordshire, AL2 3TF
Site Location

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk

Date: 29/06/22
Scale: NTS
Source: Google
Site Location

P2584. Lye Lane, Bricket Wood, Hertfordshire, AL2 3TF
Site Context

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk

Appendix B
Proposed Site Layout

UNIT NUMBERS

1-bed unit, 2 storey, 58sqm	21	20%
2-bed unit, 2 storey, 70sqm	35	32%
3-bed unit, 2 storey, 93sqm	34	31%
4-bed unit, 2 storey, 107sqm	12	11%
5-bed unit , 2.5 storey, 139sqm	7	6%
Total	109	100%

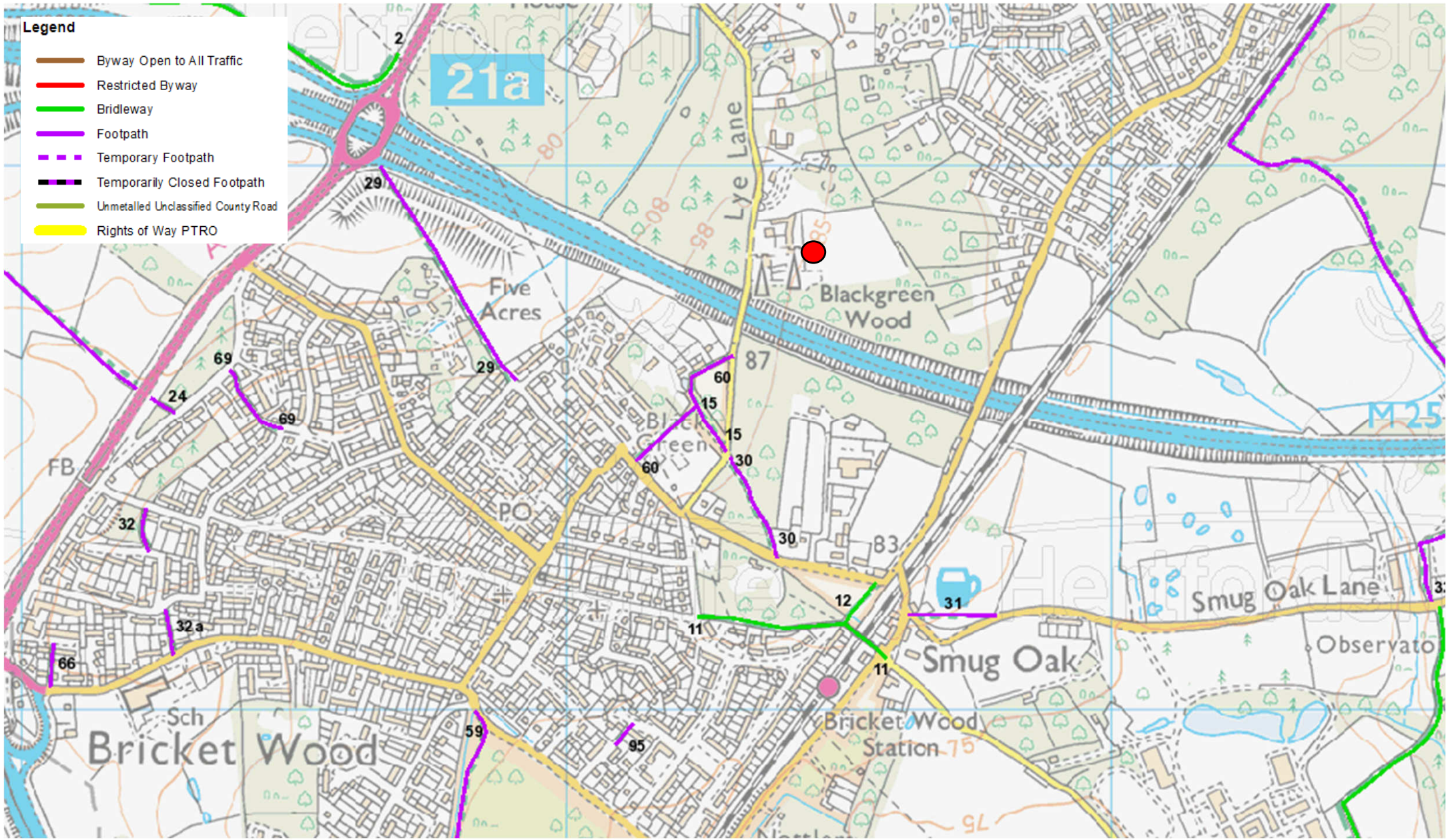
OPEN SPACE AREAS

Open frontage space	800sqm
Linear space A	600sqm
Linear space B	1,700sqm
Open Space	250sqm
Open space & play area	2,000sqm
Total	5,350sqm

Proposed Site Plan - Revision C - 1:1000@A3

Bricket Lodge
Tom Gristwood Architects e: tom@tomgristwoodarchitects.com t: 01367 615585

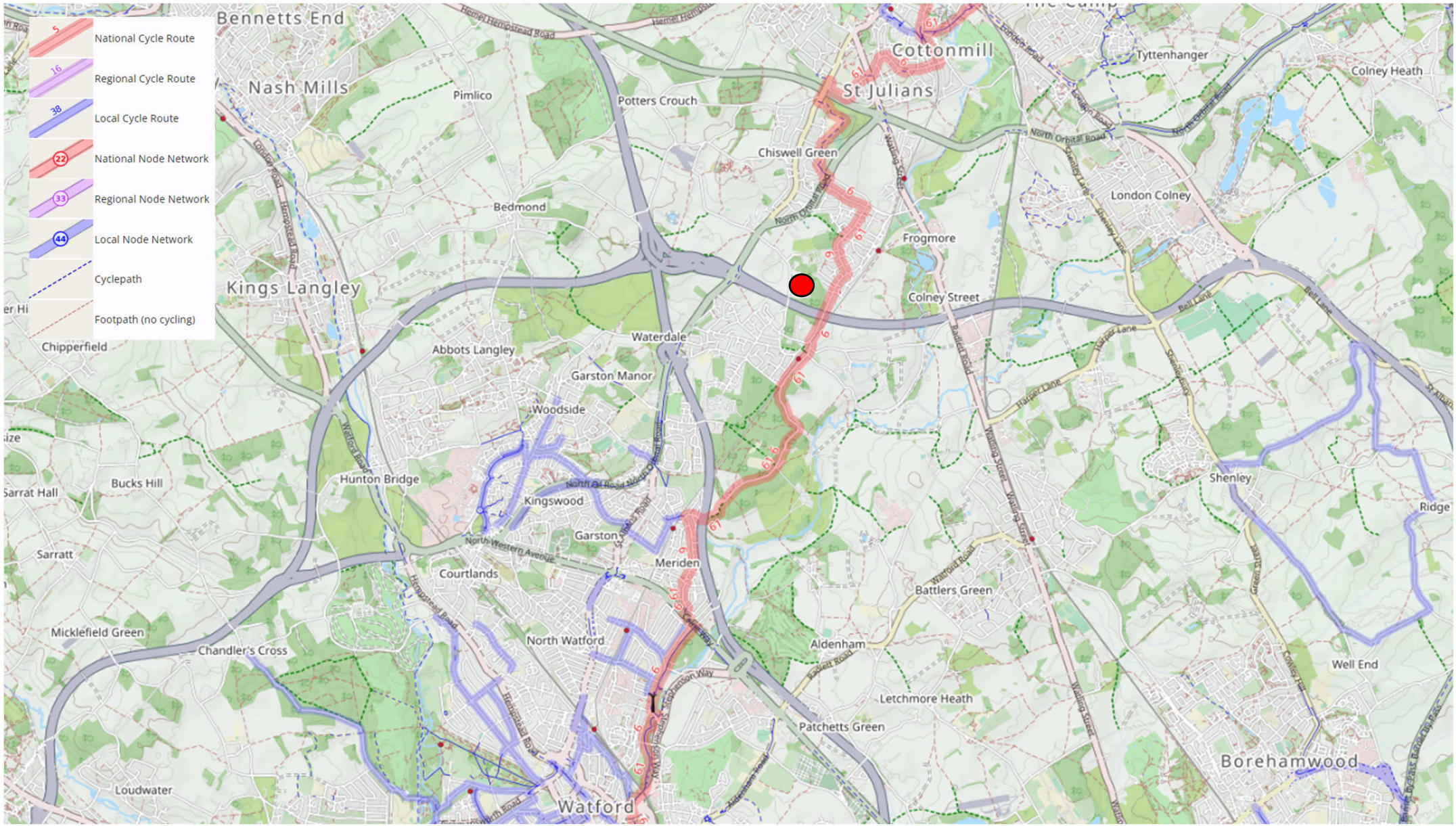
Appendix C
Site & Area Audit



Date: 26/01/23
Scale: NTS
Source: HCC
Site Location

P2584. Bricket Wood Development, Hertfordshire
Local Public Rights of Way

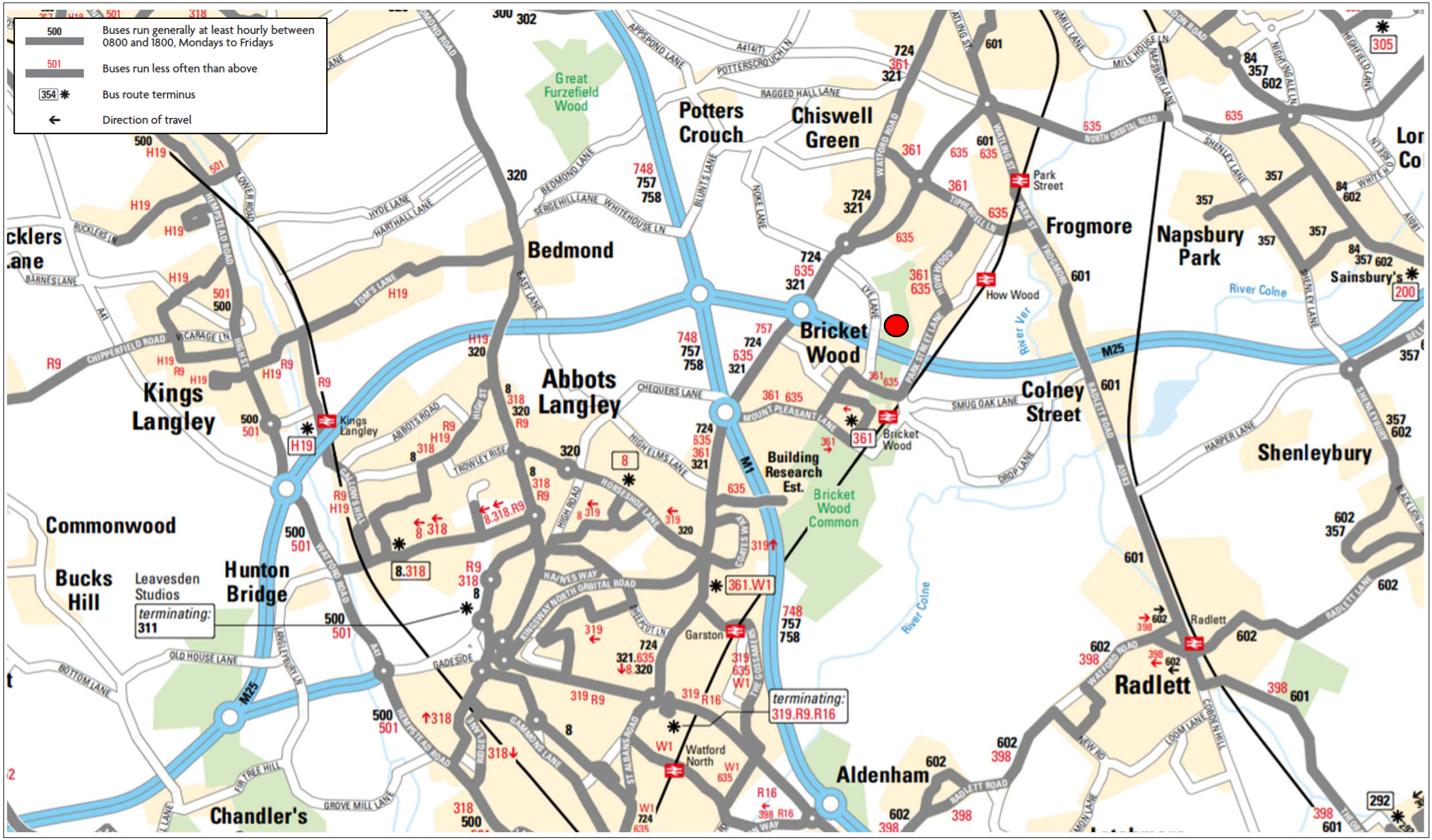
PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



Date: 26/01/23
Scale: NTS
Source: OpenCycleMap
Site Location

P2584. Bricket Wood Development, Hertfordshire
Local Cycle Routes & Facilities

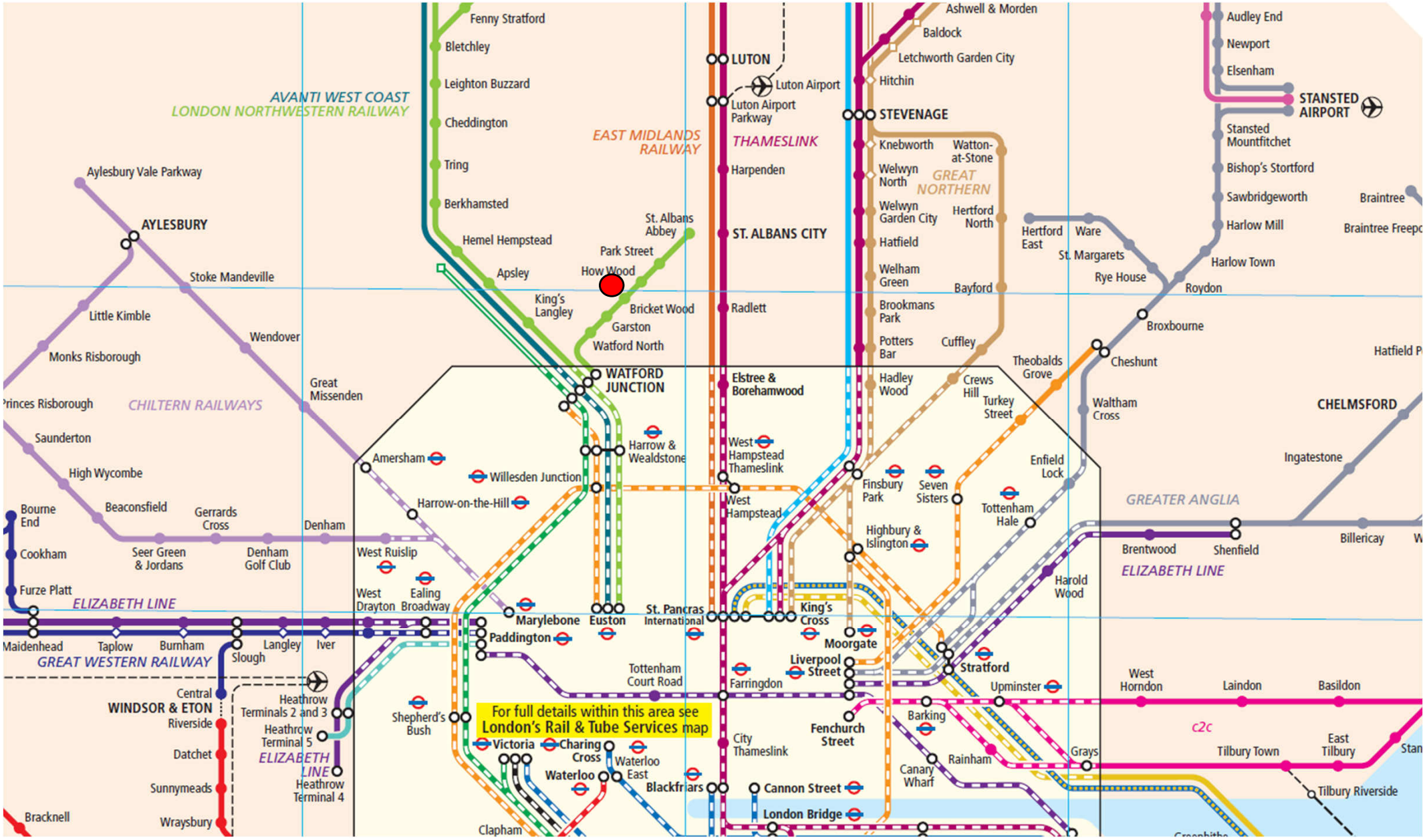
PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



Date: 26/01/23
Scale: NTS
Source: Intalink
Site Location

P2584. Bricket Wood Development, Hertfordshire
Local Bus Routes & Stations

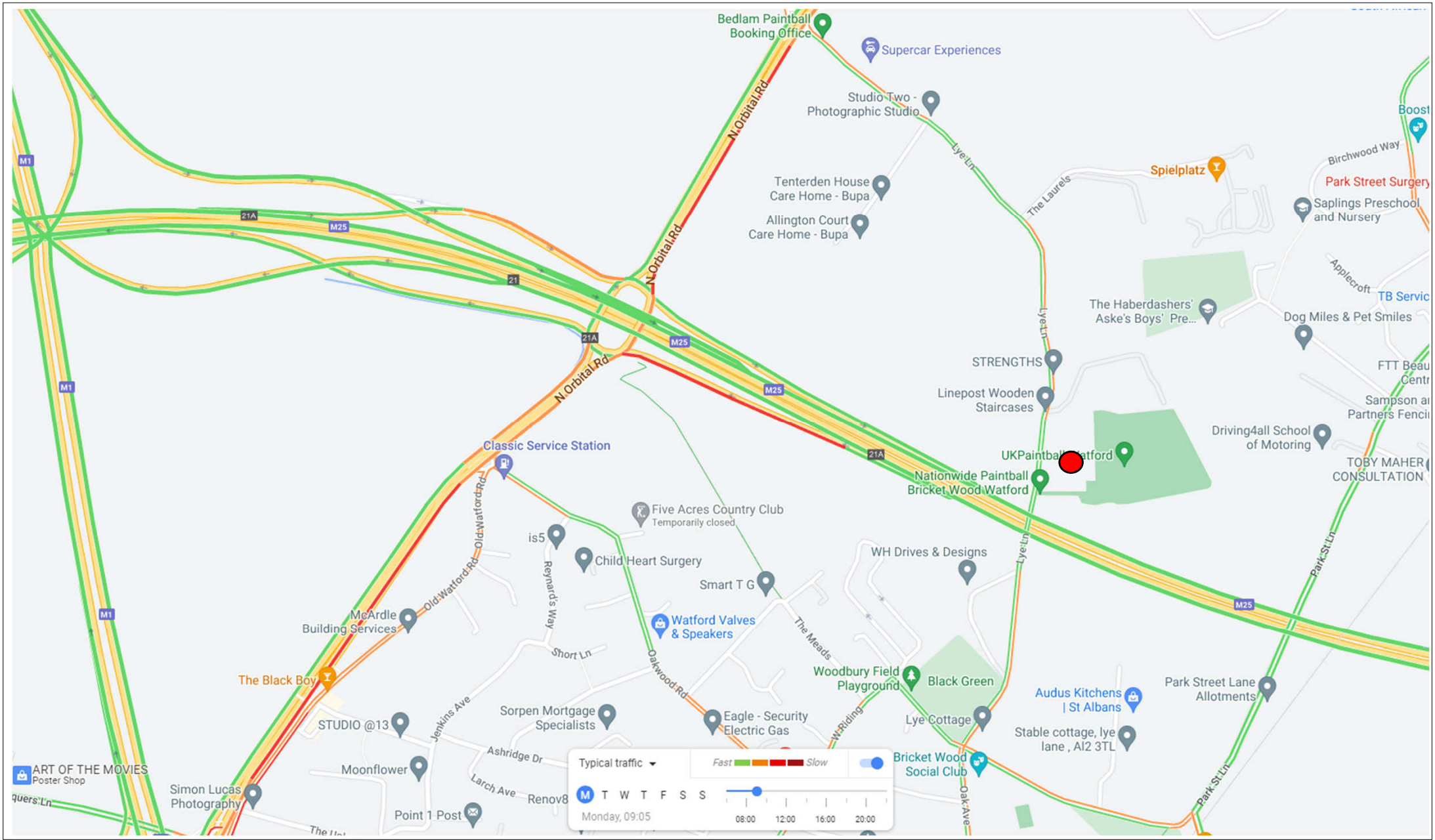
PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



Date: 26/01/23
Scale: NTS
Source: National Rail
Site Location

P2584. Bricket Wood Development, Hertfordshire
Rail Network Map

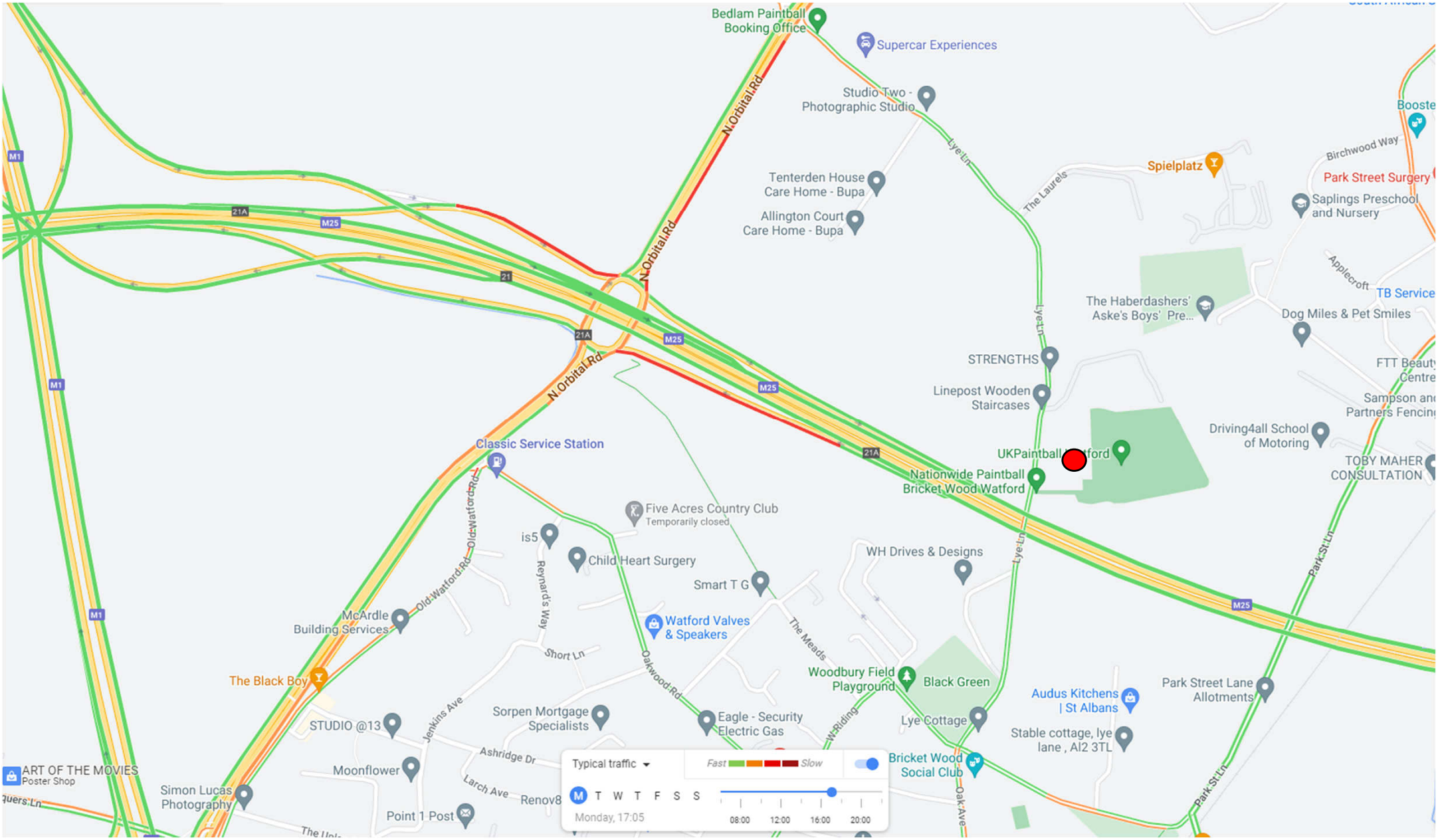
PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



Date: 26/01/23
Scale: NTS
Source: Google Traffic
Site Location

P2584. Bricket Wood Development, Hertfordshire
Typical Weekday AM (Monday 09:05) Peak Hour Congestion

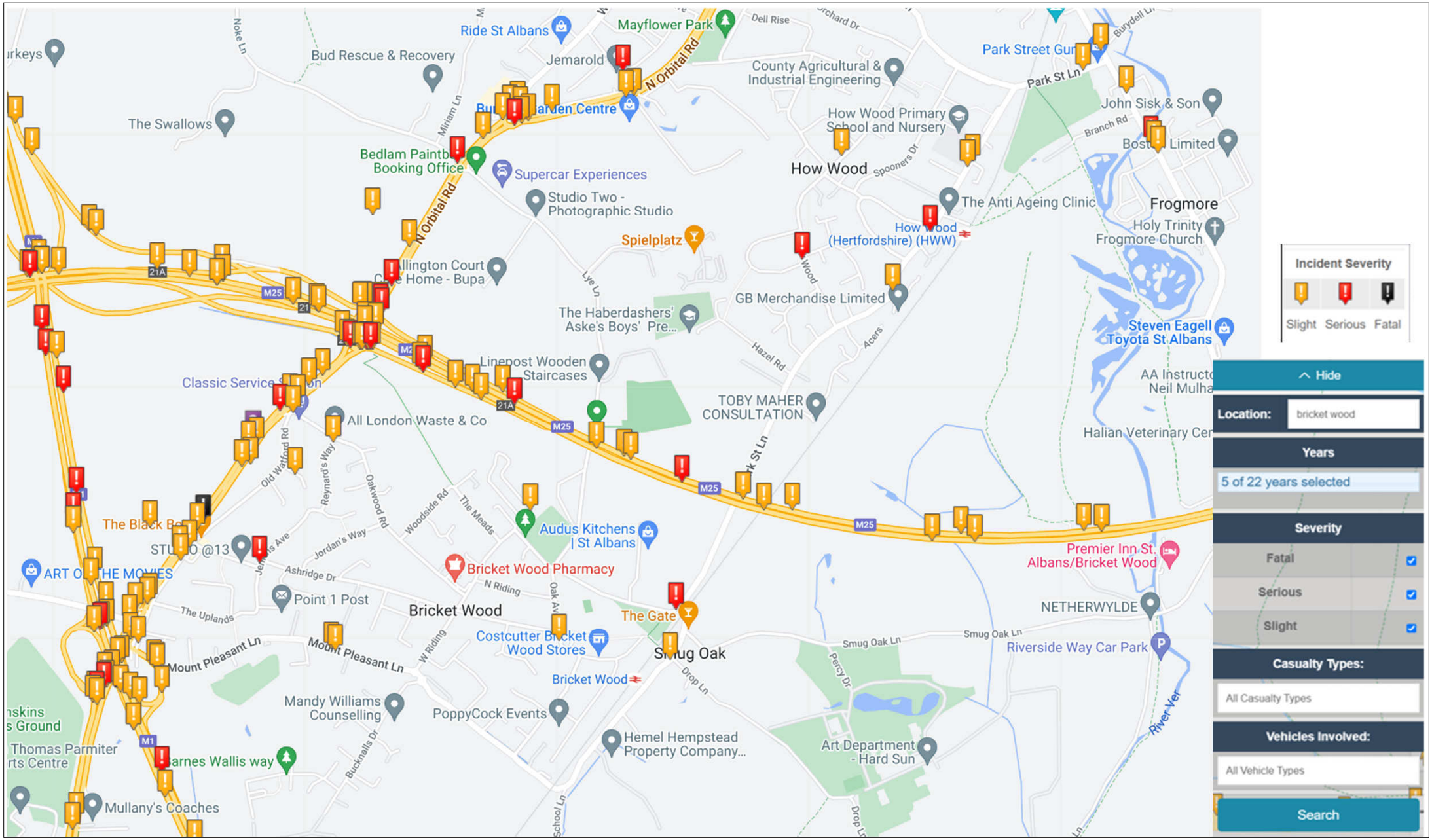
PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



Date: 26/01/23
Scale: NTS
Source: Google Traffic
Site Location

P2584. Bricket Wood Development, Hertfordshire
Typical Weekday PM (Monday 17:05) Peak Hour Congestion

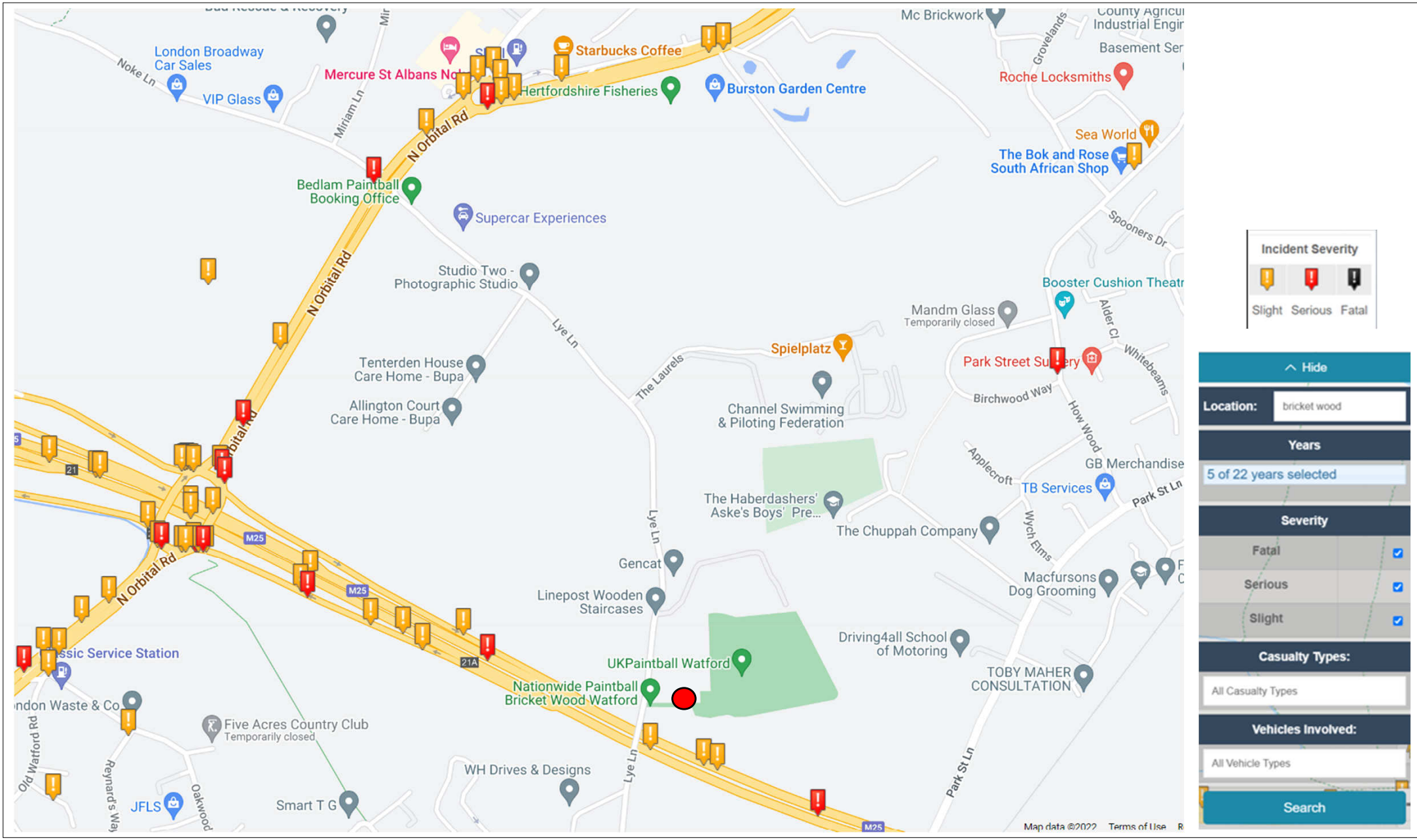
PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



Date: 26/01/23
Scale: NTS
Source: CrashMap
Site Location

P2584. Bricket Wood Development, Hertfordshire
Road Traffic Accident Data Summary (2017-2021) – All Casualty Types

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



Date: 26/01/23
Scale: NTS
Source: CrashMap
Site Location

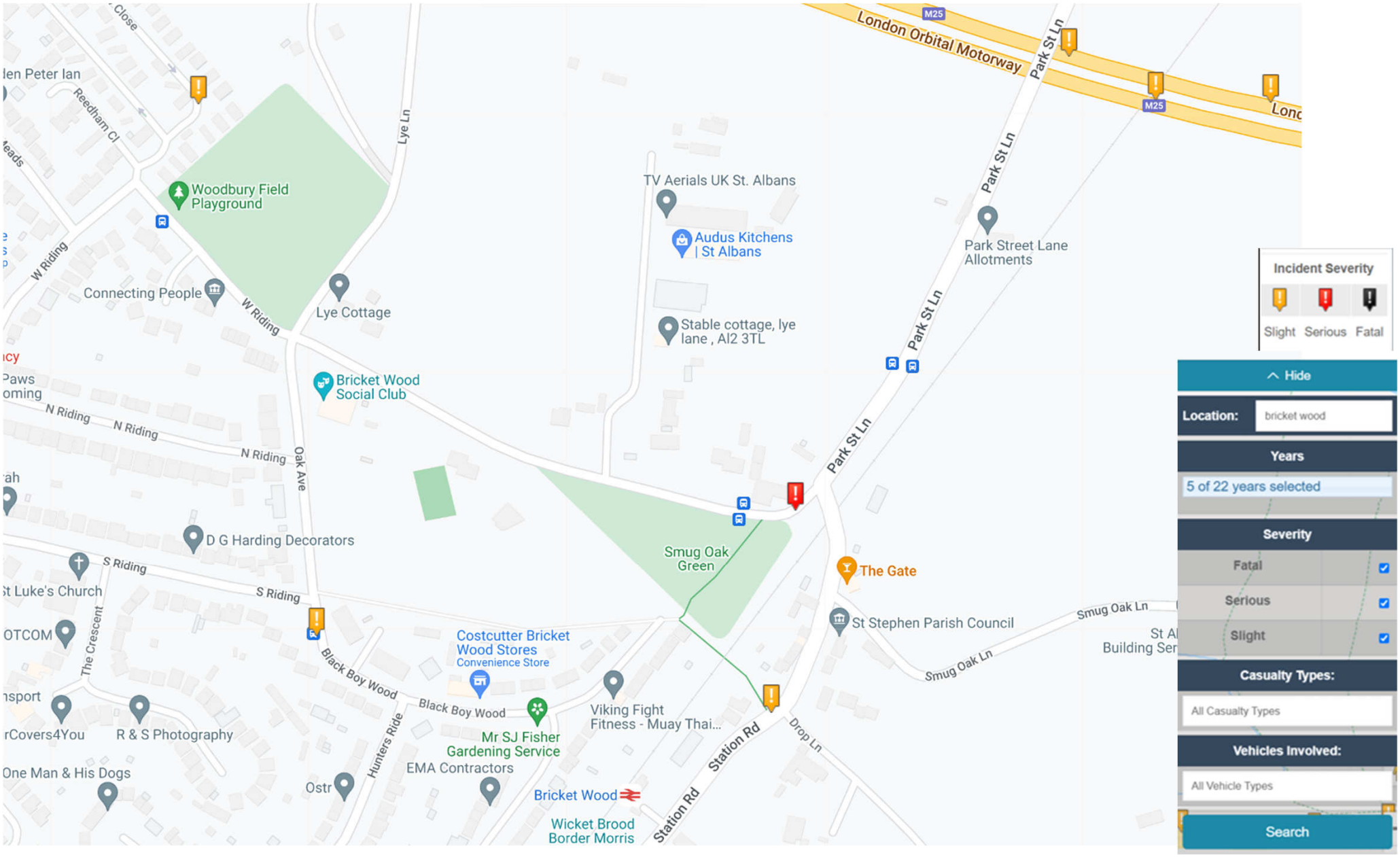
P2584. Bricket Wood Development, Hertfordshire
Road Traffic Accident Data Summary (2017-2021) – All Casualty Types

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk

Date: 26/01/23
Scale: NTS
Source: CrashMap
Site Location

P2584. Bricket Wood Development, Hertfordshire
Road Traffic Accident Data Summary (2017-2021) – All Casualty Types

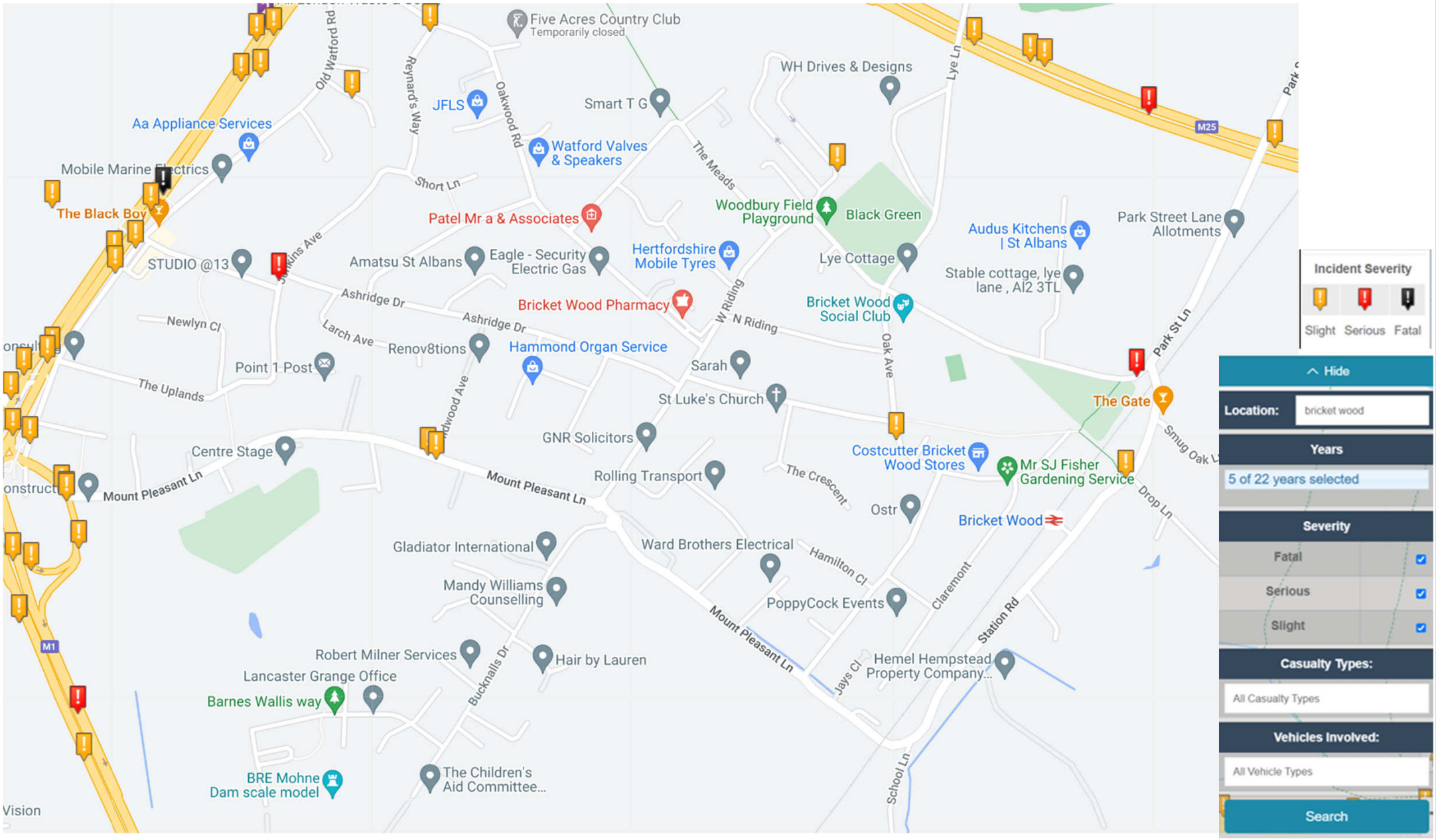
PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



Date: 26/01/23
Scale: NTS
Source: CrashMap
Site Location

P2584. Bricket Wood Development, Hertfordshire
Road Traffic Accident Data Summary (2017-2021) - – All Casualty Types

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk



Date: 26/01/23
Scale: NTS
Source: CrashMap
Site Location

P2584. Bricket Wood Development, Hertfordshire
Road Traffic Accident Data Summary (2017-2021) – All Casualty Types

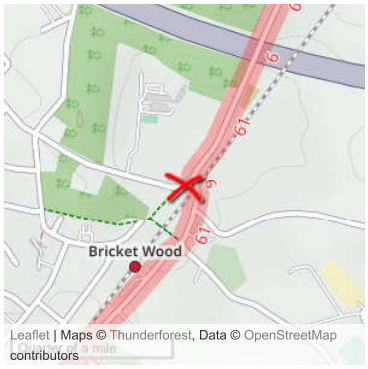
PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
T: 0208 780 0426 W: www.pma-traffic.co.uk

Collision data reports (STATS19) - 2020410966427 (2020)

Google Street View

More nearby (back to map for this area)

Google Street View at, or near to this location, where available.



Report for collision no. **2020410966427** in year **2020:**

Collision report

NB The DfT (and the legislation) refers to this as an 'accident report', but we use the more accurate term 'collision'. Read more on why this matters.

Accident Index:	2020410966427
Year:	2020
Casualties:	Car occupant
accident_year:	2020
accident_reference:	410966427
Location Easting OSGR:	513596
Location Northing OSGR:	202238
Longitude:	-0.357371
Latitude:	51.707394
Police Force:	Hertfordshire
Accident Severity:	Serious
Number of Vehicles:	1 [Details below]
Number of Casualties:	1 [Details below]
date:	2020-07-02
Day of Week:	Thursday
time:	22:30:00
Local Authority (District):	St. Albans
Local Authority ONS District:	St Albans
Local Authority (Highway Authority - ONS code):	Hertfordshire
1st Road Class:	Unclassified
1st Road Number:	first_road_class is C or Unclassified. These roads do not have official numbers so recorded as zero
Road Type:	Single carriageway
Speed limit:	40
Junction Detail:	Not at junction or within 20 metres
Junction Control:	Data missing or out of range
2nd Road Class:	Not at junction or within 20 metres
2nd Road Number:	Unknown
Pedestrian Crossing-Human Control:	None within 50 metres
Pedestrian Crossing-Physical Facilities:	No physical crossing facilities within 50 metres
Light Conditions:	Darkness - no lighting
Weather Conditions:	Raining no high winds
Road Surface Conditions:	Wet or damp
Special Conditions at Site:	None
Carriageway Hazards:	None
Urban or Rural Area:	Urban
Did Police Officer Attend Scene of Accident:	Yes
Trunk road flag:	Non-trunk
Lower Super Ouput Area of Accident_Location (England & Wales only):	E01023717
Timestamp:	10:30pm, 2nd July 2020

Casualty report

Casualty Type:	**Car occupant**
Accident Index:	2020410966427
accident_year:	2020
accident_reference:	410966427
Vehicle Reference:	1 [Details below]
Casualty Reference:	1
Casualty Class:	Passenger
Sex of Casualty:	Female
Age of Casualty:	Data missing or out of range
Age Band of Casualty:	Data missing or out of range
Casualty Severity:	Serious
Pedestrian Location:	Not a Pedestrian
Pedestrian Movement:	Not a Pedestrian
Car Passenger:	Front seat passenger
Bus or Coach Passenger:	Not a bus or coach passenger
Pedestrian Road Maintenance Worker (From 2011):	No / Not applicable
Casualty Home Area Type:	Urban area
Casualty IMD Decile:	Less deprived 40-50%
lsoa_of_casualty:	E01023720

Vehicle report

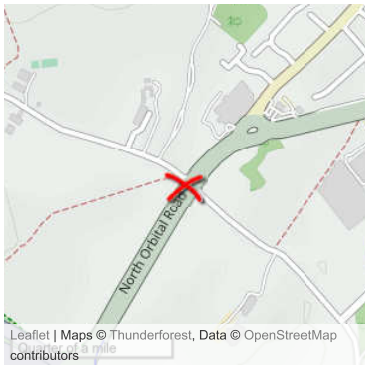
Accident Index:	2020410966427
accident_year:	2020
accident_reference:	410966427
Vehicle Reference:	1
Vehicle Type:	Car
Towing and Articulation:	No tow/articulation
Vehicle Manoeuvre:	Going ahead left-hand bend
Vehicle Direction from:	South West
Vehicle Direction to:	North
Vehicle Location-Restricted Lane:	On main c'way - not in restricted lane
Junction Location:	Not at or within 20 metres of junction
Skidding and Overturning:	None
Hit Object in Carriageway:	None
Vehicle Leaving Carriageway:	Offside
Hit Object off Carriageway:	Tree
1st Point of Impact:	Front
Was Vehicle Left Hand Drive?:	No
Journey Purpose of Driver:	Not known
Sex of Driver:	Male
Age of Driver:	Data missing or out of range
Age Band of Driver:	Data missing or out of range
Engine Capacity:	1753
Vehicle Propulsion Code:	Heavy oil
Age of Vehicle (manufacture):	15
Generic make / model:	FORD FOCUS
Driver IMD Decile:	Less deprived 10-20%
Driver Home Area Type:	Urban area
lsoa_of_driver:	E01023717

Collision data reports (STATS19) - 2021411035093 (2021)

Google Street View

More nearby (back to map for this area)

Google Street View at, or near to this location, where available.



Report for collision no. **2021411035093** in year **2021:**

Collision report

NB The DfT (and the legislation) refers to this as an 'accident report', but we use the more accurate term 'collision'. Read more on why this matters.

Accident Index:	2021411035093
Year:	2021
Casualties:	Car occupant
accident_year:	2021
accident_reference:	411035093
Location Easting OSGR:	512909
Location Northing OSGR:	203564
Longitude:	-0.366879
Latitude:	51.71945
Police Force:	Hertfordshire
Accident Severity:	Serious
Number of Vehicles:	3 [Details below]
Number of Casualties:	3 [Details below]
date:	2021-04-05
Day of Week:	Monday
time:	16:55:00
Local Authority (District):	-1
Local Authority ONS District:	St Albans
Local Authority (Highway Authority - ONS code):	Hertfordshire
1st Road Class:	A
1st Road Number:	405
Road Type:	Dual carriageway
Speed limit:	70
Junction Detail:	T or staggered junction
Junction Control:	Give way or uncontrolled
2nd Road Class:	Unclassified
2nd Road Number:	first_road_class is C or Unclassified. These roads do not have official numbers so recorded as zero
Pedestrian Crossing-Human Control:	None within 50 metres
Pedestrian Crossing-Physical Facilities:	No physical crossing facilities within 50 metres
Light Conditions:	Daylight
Weather Conditions:	Fine no high winds
Road Surface Conditions:	Dry
Special Conditions at Site:	None
Carriageway Hazards:	None
Urban or Rural Area:	Rural
Did Police Officer Attend Scene of Accident:	Yes
Trunk road flag:	Non-trunk
Lower Super Ouput Area of Accident_Location (England & Wales only):	E01023732
Timestamp:	4:55pm, 5th April 2021

Casualty reports (3 casualties)

Casualty no. 2

Casualty Type:	**Car occupant**
Accident Index:	2021411035093
accident_year:	2021
accident_reference:	411035093
Vehicle Reference:	1 [Details below]
Casualty Reference:	2
Casualty Class:	Passenger
Sex of Casualty:	Female
Age of Casualty:	18
Age Band of Casualty:	16 - 20
Casualty Severity:	Slight
Pedestrian Location:	Not a Pedestrian
Pedestrian Movement:	Not a Pedestrian
Car Passenger:	Front seat passenger
Bus or Coach Passenger:	Not a bus or coach passenger
Pedestrian Road Maintenance Worker (From 2011):	No / Not applicable
Casualty Home Area Type:	Urban area

Casualty IMD Decile:	More deprived 40-50%
lsoa_of_casualty:	E01023737

Casualty no. 1

Casualty Type:	**Car occupant**
Accident Index:	2021411035093
accident_year:	2021
accident_reference:	411035093
Vehicle Reference:	2 [Details below]
Casualty Reference:	1
Casualty Class:	Passenger
Sex of Casualty:	Male
Age of Casualty:	10
Age Band of Casualty:	6 - 10
Casualty Severity:	Slight
Pedestrian Location:	Not a Pedestrian
Pedestrian Movement:	Not a Pedestrian
Car Passenger:	Rear seat passenger
Bus or Coach Passenger:	Not a bus or coach passenger
Pedestrian Road Maintenance Worker (From 2011):	No / Not applicable
Casualty Home Area Type:	Urban area
Casualty IMD Decile:	Less deprived 40-50%
lsoa_of_casualty:	E01023720

Casualty no. 3

Casualty Type:	**Car occupant**
Accident Index:	2021411035093
accident_year:	2021
accident_reference:	411035093
Vehicle Reference:	2 [Details below]
Casualty Reference:	3
Casualty Class:	Passenger
Sex of Casualty:	Male
Age of Casualty:	45
Age Band of Casualty:	36 - 45
Casualty Severity:	Serious
Pedestrian Location:	Not a Pedestrian
Pedestrian Movement:	Not a Pedestrian
Car Passenger:	Front seat passenger
Bus or Coach Passenger:	Not a bus or coach passenger
Pedestrian Road Maintenance Worker (From 2011):	No / Not applicable
Casualty Home Area Type:	Urban area
Casualty IMD Decile:	Less deprived 40-50%
lsoa_of_casualty:	E01023720

Vehicle reports (3 vehicles)

Vehicle no. 1

Accident Index:	2021411035093
accident_year:	2021
accident_reference:	411035093
Vehicle Reference:	1
Vehicle Type:	Car
Towing and Articulation:	No tow/articulation
Vehicle Manoeuvre:	Turning left
Vehicle Direction from:	South West
Vehicle Direction to:	North
Vehicle Location-Restricted Lane:	On main c'way - not in restricted lane
Junction Location:	Leaving main road
Skidding and Overturning:	Skidded and overturned
Hit Object in Carriageway:	Kerb
Vehicle Leaving Carriageway:	Straight ahead at junction
Hit Object off Carriageway:	Road sign or traffic signal
1st Point of Impact:	Front
Was Vehicle Left Hand Drive?:	No
Journey Purpose of Driver:	Other
Sex of Driver:	Male
Age of Driver:	21
Age Band of Driver:	21 - 25
Engine Capacity:	1368
Vehicle Propulsion Code:	Petrol
Age of Vehicle (manufacture):	9
Generic make / model:	ABARTH 500
Driver IMD Decile:	Least deprived 10%
Driver Home Area Type:	Urban area
lsoa_of_driver:	E01023721

Vehicle no. 2

Accident Index:	2021411035093
accident_year:	2021
accident_reference:	411035093
Vehicle Reference:	2
Vehicle Type:	Car
Towing and Articulation:	No tow/articulation
Vehicle Manoeuvre:	Waiting to go - held up
Vehicle Direction from:	South West
Vehicle Direction to:	North East
Vehicle Location-Restricted Lane:	On main c'way - not in restricted lane
Junction Location:	Entering main road
Skidding and Overturning:	None
Hit Object in Carriageway:	Kerb
Vehicle Leaving Carriageway:	Did not leave carriageway
Hit Object off Carriageway:	None
1st Point of Impact:	Offside
Was Vehicle Left Hand Drive?:	No
Journey Purpose of Driver:	Other
Sex of Driver:	Female
Age of Driver:	43
Age Band of Driver:	36 - 45
Engine Capacity:	1598
Vehicle Propulsion Code:	Heavy oil
Age of Vehicle (manufacture):	7
Generic make / model:	SKODA OCTAVIA
Driver IMD Decile:	Less deprived 40-50%
Driver Home Area Type:	Urban area
lsoa_of_driver:	E01023720

Vehicle no. 3

Accident Index:	2021411035093
accident_year:	2021
accident_reference:	411035093
Vehicle Reference:	3
Vehicle Type:	Car
Towing and Articulation:	No tow/articulation
Vehicle Manoeuvre:	Going ahead other
Vehicle Direction from:	South West
Vehicle Direction to:	North
Vehicle Location-Restricted Lane:	On main c'way - not in restricted lane
Junction Location:	Entering main road
Skidding and Overturning:	None
Hit Object in Carriageway:	None
Vehicle Leaving Carriageway:	Did not leave carriageway
Hit Object off Carriageway:	None
1st Point of Impact:	Did not impact
Was Vehicle Left Hand Drive?:	No
Journey Purpose of Driver:	Journey as part of work
Sex of Driver:	Male
Age of Driver:	36
Age Band of Driver:	36 - 45
Engine Capacity:	1598
Vehicle Propulsion Code:	Heavy oil
Age of Vehicle (manufacture):	3
Generic make / model:	VAUXHALL ASTRA
Driver IMD Decile:	Least deprived 10%
Driver Home Area Type:	Urban area
lsoa_of_driver:	E01023449

Appendix D
TRICS & Census Trip Generation Assessment

TRICS 7.9.2
Trip Rate Parameter: No of Dwellings

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use 03 - RESIDENTIAL
Category M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TOTAL PEOPLE

Selected regions and areas:

2	SOUTH EAST		
	ES	EAST SUSSEX	4 days
	HC	HAMPSHIRE	1 days
	OX	OXFORDSHIRE	1 days
	SC	SURREY	1 days
	WS	WEST SUSSEX	3 days
3	SOUTH WEST		
	SM	SOMERSET	1 days
	WL	WILTSHIRE	1 days
4	EAST ANGLIA		
	NF	NORFOLK	6 days

Primary Filtering selection:

Parameter: No of Dwellings
Actual Range: 16 to 544 (units:)
Range Selected by User: 9 to 1412 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 28/03/22

Selected survey days:

Monday	2 days
Tuesday	5 days
Wednesday	7 days
Thursday	2 days
Friday	2 days

Selected survey types:

Manual count	18 days
Directional ATC Count	0 days

Selected Locations:

Town Centre	0
Edge of Town Centre	0
Suburban Area (PPS6 Out of Centre	0
Edge of Town	2
Neighbourhood Centre (PPS6 Local	16
Free Standing (PPS6 Out of Town)	0
Not Known	0

Selected Location Sub Categories:

Industrial Zone	0
Commercial Zone	0
Development Zone	0
Residential Zone	0
Retail Zone	0
Built-Up Zone	0
Village	16
Out of Town	2
High Street	0
No Sub Category	0

Secondary Filtering selection:

Use Class:

C3	18 days

Population within 500m Range:
All Surveys Included

Population within 1 mile:

1,000 or Less	2 days
1,001 to 5,000	11 days
5,001 to 10,000	2 days
10,001 to 15,000	3 days

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	5 days
50,001 to 75,000	2 days
75,001 to 100,000	3 days
100,001 to 125,000	1 days
125,001 to 250,000	5 days
250,001 to 500,000	1 days

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	14 days
1.6 to 2.0	3 days

Travel Plan:

Yes	17 days
No	1 days

PTAL Rating:

No PTAL Present	18 days

LIST OF SITES relevant to selection parameters

ES-03-M-05 HOUSES & FL EAST SUSSEX
A26 CROWBOROUGH RD
FIVE ASH DOWN VILLAGE
NEAR UCKFIELD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 138
Survey date: MONDAY 30/06/2014
Survey Type: MANUAL

ES-03-M-09 DETACHED/S EAST SUSSEX
STATION ROAD
NORTHIAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 16
Survey date: WEDNESDAY 17/05/2017
Survey Type: MANUAL

ES-03-M-18 MIXED HOUSI EAST SUSSEX
NORTH COMMON ROAD
WIVELSFIELD GREEN
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 75

10 NF-03-M-43 MIXED HOUSI NORFOLK
PIGOT LANE
FRAMINGHAM EARL
NEAR NORWICH
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 100
Survey date: TUESDAY 21/09/2021
Survey Type: MANUAL

11 NF-03-M-45 MIXED HOUSI NORFOLK
MILL LANE
HORSFORD
NEAR NORWICH
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 125
Survey date: WEDNESDAY 15/09/2021
Survey Type: MANUAL

12 OX-03-M-02 MIXED HOUSI OXFORDSHIRE
GODSTOW ROAD
WOLVERCOTE
OXFORD
Neighbourhood Centre (PPS6 Local Centre)

Survey date: TUESDAY 15/06/2021
Survey Type: MANUAL

ES-03-M-20 MIXED HOUSI EAST SUSSEX
HOREBEECH LANE
HORAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 47
Survey date: TUESDAY 05/10/2021
Survey Type: MANUAL

HC-03-M-12 MIXED HOUSI HAMPSHIRE
BARNFIELD WAY
HEDGE END
NEAR SOUTHAMPTON
Edge of Town
Out of Town
Total No of Dwellings: 181
Survey date: WEDNESDAY 23/10/2019
Survey Type: MANUAL

NF-03-M-01 MIXED HOUSI NORFOLK
LONG LANE
MULBARTON
NEAR NORWICH
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 173
Survey date: FRIDAY 20/09/2019
Survey Type: MANUAL

NF-03-M-02 MIXED HOUSI NORFOLK
CAWSTON ROAD
AYLSHAM
Edge of Town
Out of Town
Total No of Dwellings: 250
Survey date: TUESDAY 17/09/2019
Survey Type: MANUAL

NF-03-M-05 MIXED HOUSI NORFOLK
CAISTOR LANE
PORINGLAND
NEAR NORWICH
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 150
Survey date: MONDAY 16/09/2019
Survey Type: MANUAL

NF-03-M-42 MIXED HOUSI NORFOLK
STALHAM ROAD
HOVETON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 120
Survey date: THURSDAY 16/09/2021
Survey Type: MANUAL

Village
Total No of Dwellings: 117
Survey date: WEDNESDAY 20/10/2021
Survey Type: MANUAL

13 SC-03-M-08 MIXED HOUSI SURREY
CHOBHAM LANE
LONGCROSS
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 107
Survey date: TUESDAY 12/11/2019
Survey Type: MANUAL

14 SM-03-M-01 DETACHED & SOMERSET
MILTON HILL
MONKTON HEATHFIELD
TAUNTON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 135
Survey date: WEDNESDAY 26/09/2018
Survey Type: MANUAL

15 WL-03-M-04 MIXED HOUSI WILTSHIRE
WARNEFORD CRESCENT
LONGHEDGE
NEAR SALISBURY
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 544
Survey date: THURSDAY 18/11/2021
Survey Type: MANUAL

16 WS-03-M-23 MIXED HOUSI WEST SUSSEX
STANE STREET
WESTHAMPNETT
CHICHESTER
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 99
Survey date: WEDNESDAY 13/10/2021
Survey Type: MANUAL

17 WS-03-M-24 MIXED HOUSI WEST SUSSEX
COPTHORNE WAY
COPTHORNE
NEAR CRAWLEY
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 80
Survey date: FRIDAY 08/10/2021
Survey Type: MANUAL

18 WS-03-M-26 MIXED HOUSI WEST SUSSEX
MILL STRAIGHT
SOUTHWATER
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 193
Survey date: WEDNESDAY 16/03/2022
Survey Type: MANUAL

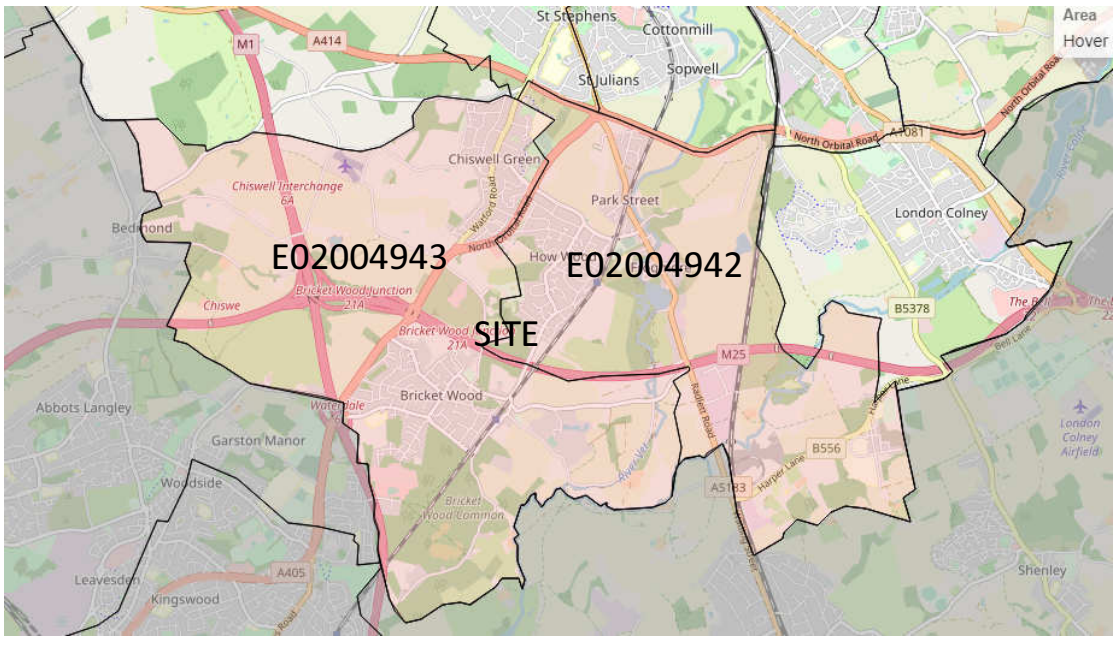
TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
Calculation Factor: 1 DWELLS
Count Type: TOTAL PEOPLE

	ARRIVALS			DEPARTURES			TOTALS			Proposal	115	Units
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Arr	Dep	Total
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00												
06:00-07:00												
07:00-08:00	18	147	0.104	18	147	0.537	18	147	0.641	12	62	74
08:00-09:00	18	147	0.182	18	147	0.836	18	147	1.018	21	96	117
09:00-10:00	18	147	0.21	18	147	0.264	18	147	0.474	24	30	55
10:00-11:00	18	147	0.174	18	147	0.238	18	147	0.412	20	27	47
11:00-12:00	18	147	0.195	18	147	0.21	18	147	0.405	22	24	47
12:00-13:00	18	147	0.208	18	147	0.206	18	147	0.414	24	24	48
13:00-14:00	18	147	0.205	18	147	0.208	18	147	0.413	24	24	47
14:00-15:00	18	147	0.245	18	147	0.281	18	147	0.526	28	32	60
15:00-16:00	18	147	0.678	18	147	0.287	18	147	0.965	78	33	111
16:00-17:00	18	147	0.507	18	147	0.236	18	147	0.743	58	27	85
17:00-18:00	18	147	0.568	18	147	0.231	18	147	0.799	65	27	92
18:00-19:00	18	147	0.474	18	147	0.238	18	147	0.712	55	27	82
19:00-20:00												
20:00-21:00												
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:			3.75			3.772			7.522	431	434	865

QS701EW - Method of travel to work
ONS Crown Copyright Reserved [from Nomis on 30 June 2022]

population	All usual residents aged 16 to 74
units	Persons
date	2011
rural urban	Total

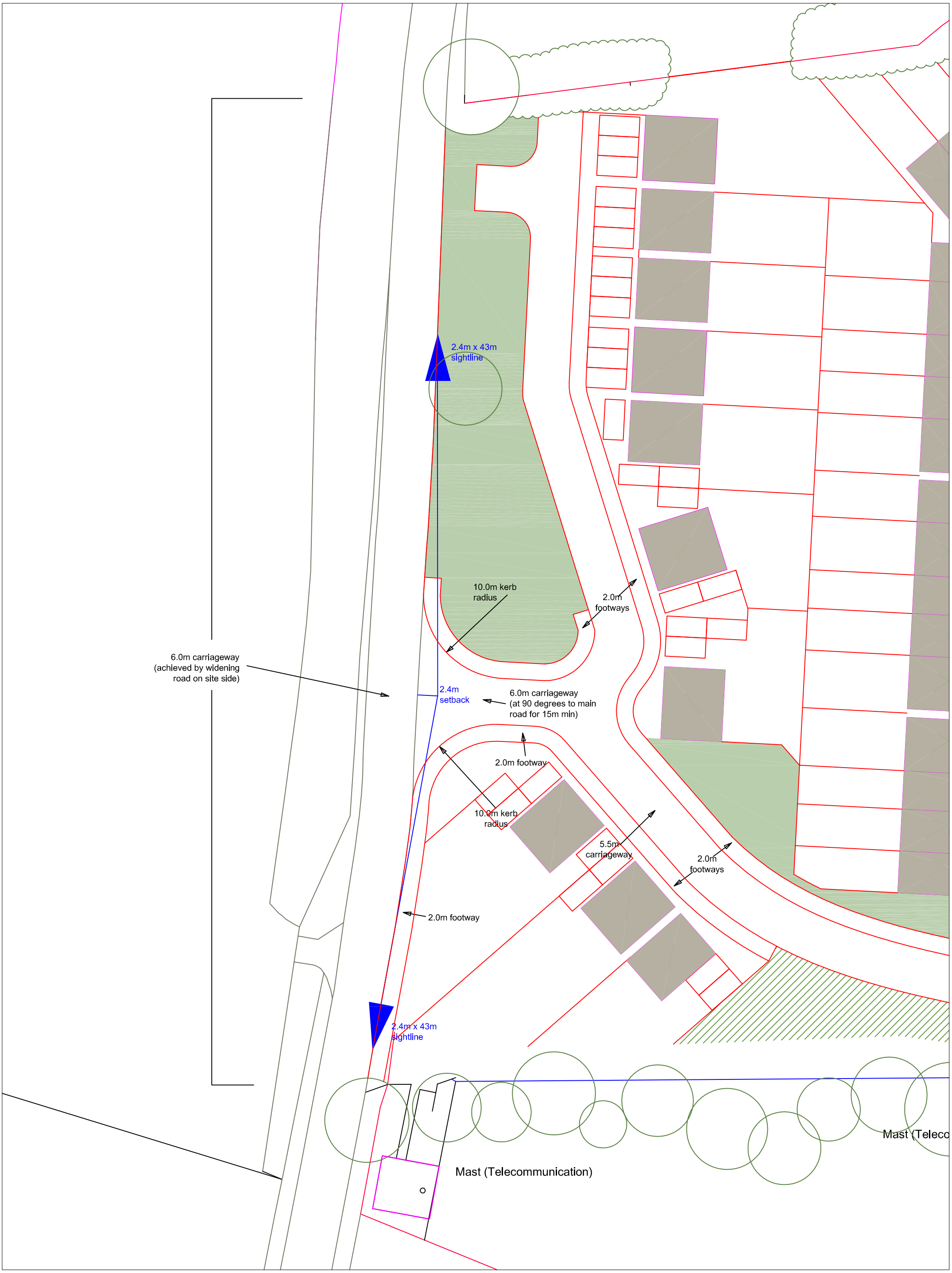
Method of Travel to Work	msoa2011:E02004942 St Albans 019		msoa2011:E02004943 St Albans 020		Average Split
	Persons	Split	Persons	Split	Split
Work mainly at or from home					
Underground, metro, light rail, tram	59	2%	60	2%	2%
Train	325	11%	322	9%	10%
Bus, minibus or coach	50	2%	63	2%	2%
Taxi	17	1%	18	1%	1%
Motorcycle, scooter or moped	27	1%	30	1%	1%
Driving a car or van	2,073	73%	2,639	75%	74%
Passenger in a car or van	113	4%	138	4%	4%
Bicycle	34	1%	33	1%	1%
On foot	124	4%	168	5%	5%
Other method of travel to work	13	0%	30	1%	1%
Total	2,835	100%	3,501	100%	100%



Proposed Development Trip Generations

	Total Person Trips		Census % Car Driver		Census % Rail + Undergrounc		Total Census % Car Based Trips		
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Total
00:00	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0
07:00	12	62	9	46	1	7	10	53	64
08:00	**21**	**96**	**16**	**71**	**3**	**12**	**18**	**83**	**101**
09:00	24	30	18	23	3	4	21	26	47
10:00	20	27	15	20	2	3	17	24	41
11:00	22	24	17	18	3	3	19	21	40
12:00	24	24	18	18	3	3	21	20	41
13:00	24	24	18	18	3	3	20	21	41
14:00	28	32	21	24	3	4	24	28	52
15:00	**78**	**33**	**58**	**25**	**9**	**4**	**67**	**29**	**96**
16:00	58	27	43	20	7	3	50	23	74
17:00	65	27	49	20	8	3	56	23	79
18:00	55	27	41	20	7	3	47	24	71
19:00	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0
Total	431	434	321	323	52	52	373	375	748

Appendix E
New Site Access & Sightlines



Date: 29/06/22
Scale: 1:400@A3
Source: OS / AD Practice
Appendix D

N

P2584: Land North of Bricket Wood, Herts
Proposed Site Access Junction Layout

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

Appendix F
ATC Survey Results and Calculations

P2584: Bricket Wood ATC Survey Data - LYE LANE

Total Vehicle Flows - Monday 25th April to Sunday 1st May 2022

Time	Monday 25-04-2022		Tuesday 26-04-2022		Wednesday 27-04-2022		Thursday 28-04-2022		Friday 29-04-2022		Saturday 30-04-2022		Sunday 01-05-2022	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
0000-0100	2	2	1	1	1	1	0	1	2	3	5	4	3	3
0100-0200	1	0	1	0	0	2	0	3	1	3	7	5	2	4
0200-0300	2	1	0	3	0	0	2	0	0	1	2	3	1	2
0300-0400	0	0	0	1	1	2	0	2	0	0	2	1	1	0
0400-0500	2	1	1	2	1	0	1	0	0	0	2	2	1	2
0500-0600	10	0	10	0	11	1	7	1	4	2	6	2	5	1
0600-0700	15	10	14	13	15	17	16	10	15	4	5	3	3	3
0700-0800	22	50	44	99	23	104	39	70	42	67	22	9	9	2
0800-0900	**48**	**104**	**28**	**87**	**33**	**78**	**14**	**99**	**29**	**44**	**21**	**20**	**11**	**12**
0900-1000	131	28	21	64	32	55	30	48	22	43	35	35	17	27
1000-1100	32	81	31	22	34	25	23	24	22	24	53	51	29	11
1100-1200	22	44	26	23	21	28	31	33	37	37	41	72	28	25
1200-1300	28	59	28	30	25	30	32	31	26	26	35	58	23	64
1300-1400	21	53	19	21	22	23	44	36	28	26	58	119	46	42
1400-1500	31	47	24	35	32	20	52	37	30	45	26	32	28	15
1500-1600	26	81	25	60	21	55	34	56	30	71	26	55	39	22
1600-1700	32	57	21	99	23	99	24	93	29	85	47	38	20	31
1700-1800	**33**	**40**	**22**	**85**	**31**	**73**	**29**	**68**	**29**	**51**	**22**	**30**	**20**	**25**
1800-1900	21	26	25	63	13	45	26	25	21	33	13	19	13	18
1900-2000	13	14	19	27	12	17	22	26	18	21	23	16	10	15
2000-2100	9	15	8	15	10	12	8	9	15	12	12	12	12	13
2100-2200	8	10	11	7	8	10	5	8	13	10	8	11	4	4
2200-2300	3	5	7	7	5	6	11	6	5	14	4	7	7	5
2300-2400	7	1	5	3	3	0	7	5	10	9	2	8	6	4
Total	519	729	391	767	377	703	457	691	428	631	477	612	338	350
Total 2-Way	1248		1158		1080		1148		1059		1089		688	

Average Weekday		
Northbound	Southbound	Two Way
1	2	3
1	2	2
1	1	2
0	1	1
1	1	2
8	1	9
15	11	26
34	78	112
30	**82**	**113**
47	48	95
28	35	64
27	33	60
28	35	63
27	32	59
34	37	71
27	65	92
26	87	112
29	**63**	**92**
21	38	60
17	21	38
10	13	23
9	9	18
6	8	14
6	4	10
434	704	1139

Notes:
Values illustrate total vehicle flows
Source: DCA Monisyst

P2584: Bricket Wood ATC Survey Data - LYE LANE

85th Percentile Vehicle Speeds MPH - Monday 25th April to Sunday 1st May 2022

Time	Monday 25-04-2022		Tuesday 26-04-2022		Wednesday 27-04-2022		Thursday 28-04-2022		Friday 29-04-2022		Saturday 30-04-2022		Sunday 01-05-2022	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
0000-0100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0100-0200	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0200-0300	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0300-0400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0400-0500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0500-0600	-	-	-	-	30.4	-	-	-	-	-	-	-	-	-
0600-0700	30.9	-	33.7	37.4	32.7	33.7	33.6	-	33.1	-	-	-	-	-
0700-0800	32.1	33.3	28.9	33.7	28.6	32.9	28.2	34.1	28.7	32.6	28.5	-	-	-
0800-0900	31.6	30	29.9	32.8	28.8	31.1	30.4	32.2	30.8	30.3	32	34.4	32.9	32.4
0900-1000	31.8	28.3	29.8	31.7	30.9	30.9	31.1	30.5	27.4	31.2	34.9	32.8	30.3	24.7
1000-1100	30.1	30.2	31	31.9	28.8	31.2	31.2	33.6	32.4	33.7	31.4	29.8	29.4	30.5
1100-1200	30.1	31.3	31.1	32.2	32.7	33.1	31.3	31.5	31.1	33.2	29.5	32.4	31	29
1200-1300	33.1	31.2	29.8	32.5	28.3	32.7	33.2	32.5	32.1	31.2	30.7	27.1	30.8	32
1300-1400	32.8	29.2	31.3	33.3	31	30.5	30.1	28.6	28.5	30.4	25.8	27	28.8	31.2
1400-1500	31.2	31.3	31.5	34.4	30	30.9	29	31.8	30	29.4	31.8	29.4	31.4	33.7
1500-1600	31.3	32.4	36.8	31.4	30.8	31.1	29.7	32.4	32.7	31.3	29.7	30.3	30.5	30.2
1600-1700	29.8	32.3	30.2	32.3	30	31.9	30.9	31	28.9	30.9	29.9	31.1	37	35.5
1700-1800	29.5	31.7	30.5	31.5	30.4	31.1	32.8	30.8	32.3	33.3	32.3	33.2	35	33.9
1800-1900	32.5	32	32.4	33.5	30.8	32.8	29.9	35.4	33.5	30.6	32.3	37.2	32.5	37.9
1900-2000	36.1	32.2	30.3	35	33.1	32.8	31.3	33.5	30.5	30.6	35.6	35.7	-	31.2
2000-2100	-	33.3	-	30	-	44	-	-	34.3	31	30.3	32.5	29.9	42.5
2100-2200	-	-	33.1	-	-	-	-	-	31.7	-	-	33.4	-	-
2200-2300	-	-	-	-	-	-	31	-	-	33.3	-	-	-	-
2300-2400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Average 85th %ile	31.6	31.3	31.4	32.9	30.5	32.7	30.9	32.1	31.1	31.5	31.1	31.9	31.6	32.7

P2584: Bricket Wood ATC Survey Data - Park Street Lane

Total Vehicle Flows - Monday 25th April to Saturday 1st May 2022

Time	Monday 25-04-2022		Tuesday 26-04-2022		Wednesday 27-04-2022		Thursday 28-04-2022		Friday 29-04-2022		Saturday 30-04-2022		Sunday 01-05-2022	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
0000-0100	4	4	3	3	6	4	3	2	7	4	20	9	21	11
0100-0200	1	0	2	3	1	1	1	2	2	4	7	2	11	9
0200-0300	0	0	3	1	0	0	1	0	1	2	3	2	5	1
0300-0400	0	2	1	2	2	1	2	2	0	2	6	3	2	5
0400-0500	1	1	0	3	0	2	1	1	2	1	0	1	2	3
0500-0600	10	18	9	19	7	21	10	14	10	14	8	9	5	3
0600-0700	37	64	39	76	33	77	22	80	26	56	16	17	6	8
0700-0800	144	225	147	286	142	203	160	225	127	190	47	36	11	15
0800-0900	**274**	**557**	**219**	**282**	**211**	**284**	**216**	**313**	**216**	**244**	**80**	**69**	**39**	**47**
0900-1000	270	742	160	147	144	177	149	156	124	145	105	107	69	82
1000-1100	148	280	125	103	133	93	120	101	135	124	174	424	101	82
1100-1200	150	137	128	99	137	112	138	105	129	128	177	258	116	99
1200-1300	120	105	130	113	135	103	138	123	130	129	135	149	136	133
1300-1400	96	101	125	91	141	98	142	109	137	120	160	185	102	108
1400-1500	149	99	154	99	163	95	145	106	204	114	146	133	96	93
1500-1600	**186**	**205**	**179**	**209**	**182**	**185**	**183**	**205**	**217**	**228**	**155**	**113**	**100**	**78**
1600-1700	181	151	180	223	187	234	213	198	162	210	154	129	115	87
1700-1800	178	146	196	223	206	193	179	212	188	174	127	107	99	74
1800-1900	125	125	167	130	142	125	156	119	126	118	146	106	86	70
1900-2000	85	65	88	89	100	64	130	76	99	77	72	66	73	57
2000-2100	57	44	54	34	57	42	58	40	59	35	53	39	37	32
2100-2200	31	22	34	29	38	35	46	33	35	34	37	38	35	14
2200-2300	17	12	23	11	16	21	38	38	32	15	32	17	23	23
2300-2400	11	5	14	6	15	12	17	14	32	21	33	25	19	9
Total	2275	3110	2180	2281	2198	2182	2268	2274	2200	2189	1893	2044	1309	1143
Total 2-Way	5385		4461		4380		4542		4389		3937		2452	

Average Weekday		
Northbound	Southbound	Two Way
5	3	8
1	2	3
1	1	2
1	2	3
1	2	2
9	17	26
31	71	102
144	226	370
227	**336**	**563**
169	273	443
132	140	272
136	116	253
131	115	245
128	104	232
163	103	266
189	**206**	**396**
185	203	388
189	190	379
143	123	267
100	74	175
57	39	96
37	31	67
25	19	45
18	12	29
2224	2407	4631

Notes:
Values illustrate total vehicle flows
Source: DCA Monisyst

P2584: Bricket Wood ATC Survey Data - Park Street Lane

85th Percentile Vehicle Speeds MPH - Monday 25th April to Sunday 1st May 2022

Time	Monday 25-04-2022		Tuesday 26-04-2022		Wednesday 27-04-2022		Thursday 28-04-2022		Friday 29-04-2022		Saturday 30-04-2022		Sunday 01-05-2022	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
0000-0100	-	-	-	-	-	-	-	-	-	-	44	-	37.9	40.7
0100-0200	-	-	-	-	-	-	-	-	-	-	-	-	34.7	-
0200-0300	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0300-0400	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0400-0500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0500-0600	-	45.7	-	45.4	-	46.5	-	51	-	47.8	-	-	-	-
0600-0700	40.5	43.5	37.1	40.7	38	42.9	42.8	42	39.8	40.8	41.7	44	-	-
0700-0800	38.4	39.6	38.1	40.6	38.6	41.3	38.3	41.2	38.3	40.3	40.1	46.8	36.6	42.3
0800-0900	35.8	36.8	36.7	39.2	36.1	37.6	36.8	38.4	36.6	39.2	38.8	40.4	36.8	41
0900-1000	34.3	34.8	36.6	40	36.7	38.5	36.2	38.5	37.2	38.2	37.3	40.9	37.6	39.3
1000-1100	35	37.4	36.4	38.8	37.2	37.5	35.1	37.2	36.7	40.1	35.9	36.9	38.3	38.6
1100-1200	35.7	38.1	36	39.8	35.5	38.4	35.2	36.5	37	37.8	36.2	37.3	37.2	38.7
1200-1300	36.5	40.2	36.7	39.3	36.8	42.3	35.2	35.8	35.8	38.4	36.4	40.3	36.2	38
1300-1400	37.2	39.3	38.4	39.8	37.4	39.8	35	36.2	36.9	38.8	36	39.1	37.3	39.6
1400-1500	36.5	38	37.1	38	37.2	38.4	34.8	35.2	36.6	39.8	36.9	40.7	37.9	39.7
1500-1600	36.2	37.6	37.1	37.6	35.9	37.9	34.7	35.5	36.9	37.4	36.9	38.6	38.6	39.9
1600-1700	37	38.3	36.8	39.1	36.9	38.5	37.2	38.6	37.2	38.6	37.4	38.1	37.4	39.1
1700-1800	37.1	38.7	35.8	37.4	37	38.2	37.1	40	37.1	39.5	37.4	39.4	37.2	40.1
1800-1900	37.7	38.1	37.8	38.1	38.4	38.8	37.5	38.7	37.8	38.5	36.7	39.5	37.7	39
1900-2000	37.6	36.1	37	37	38.4	39.4	36.6	38.6	37.5	39.5	37.1	42	37.7	39.5
2000-2100	40.6	43.6	37.9	40.8	42.3	46.4	40.2	44.7	38.3	39.6	38.8	39.9	39.3	41.9
2100-2200	34.7	40.1	38.2	39.1	38.3	40.8	43.2	42	38.3	39.2	41.3	44.7	40.5	40.9
2200-2300	35.9	38.2	38.6	50.5	41.6	38.7	37.9	37.8	36.2	42.4	37.5	37.8	40.5	36.6
2300-2400	39.3	-	43.7	-	36.6	46.7	38	42.5	39.3	37.5	39.6	39.1	37.9	-
Average 85th %ile	37.0	39.1	37.6	40.1	37.7	40.5	37.3	39.5	37.4	39.7	38.2	40.3	37.8	39.7

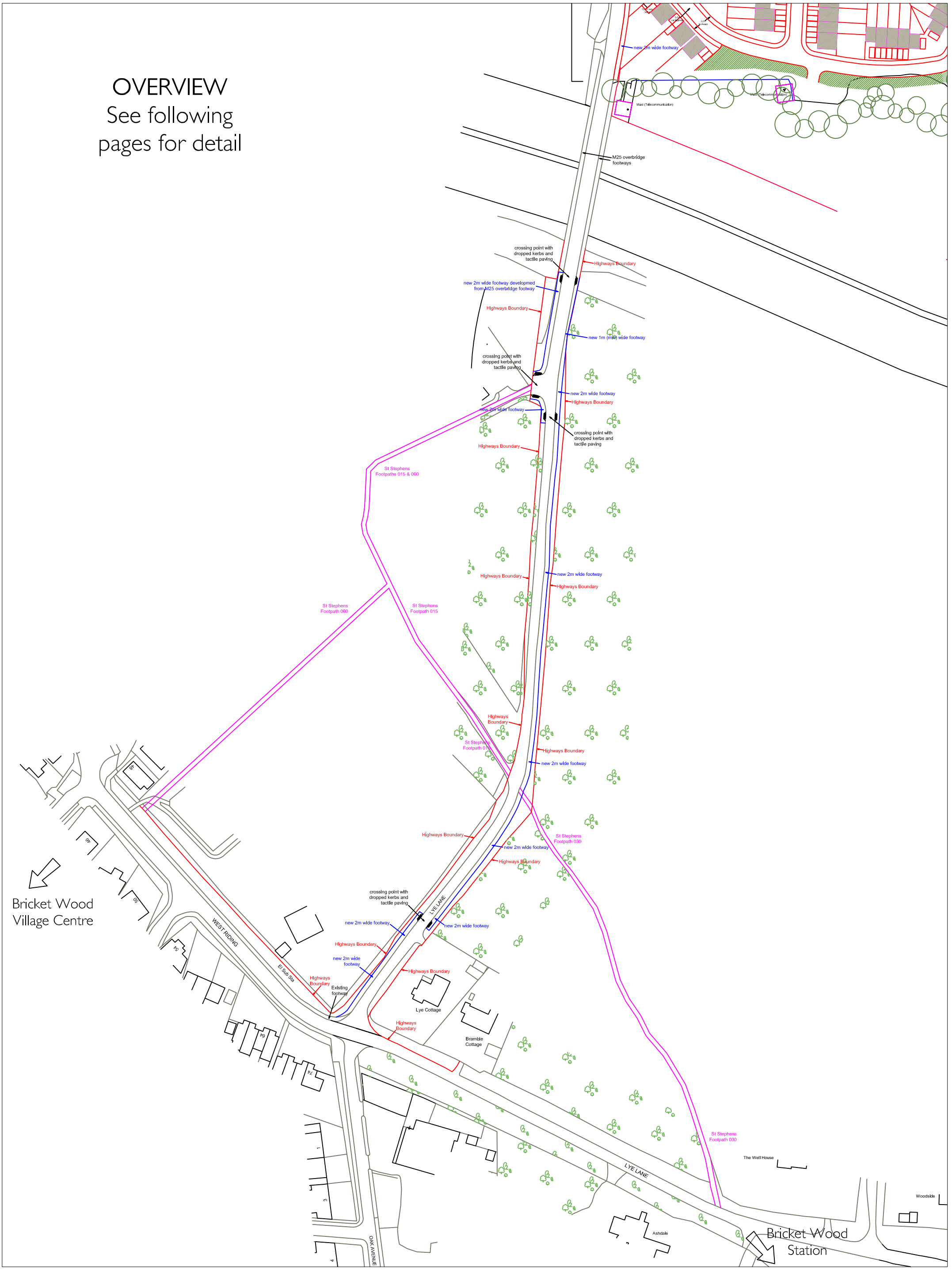
Notes:

All speeds are expressed in mph

- indicates where less than 10 vehicle hits were recorded in the hour

Appendix G
Proposed New Footpath on Lye Lane

OVERVIEW
See following pages for detail

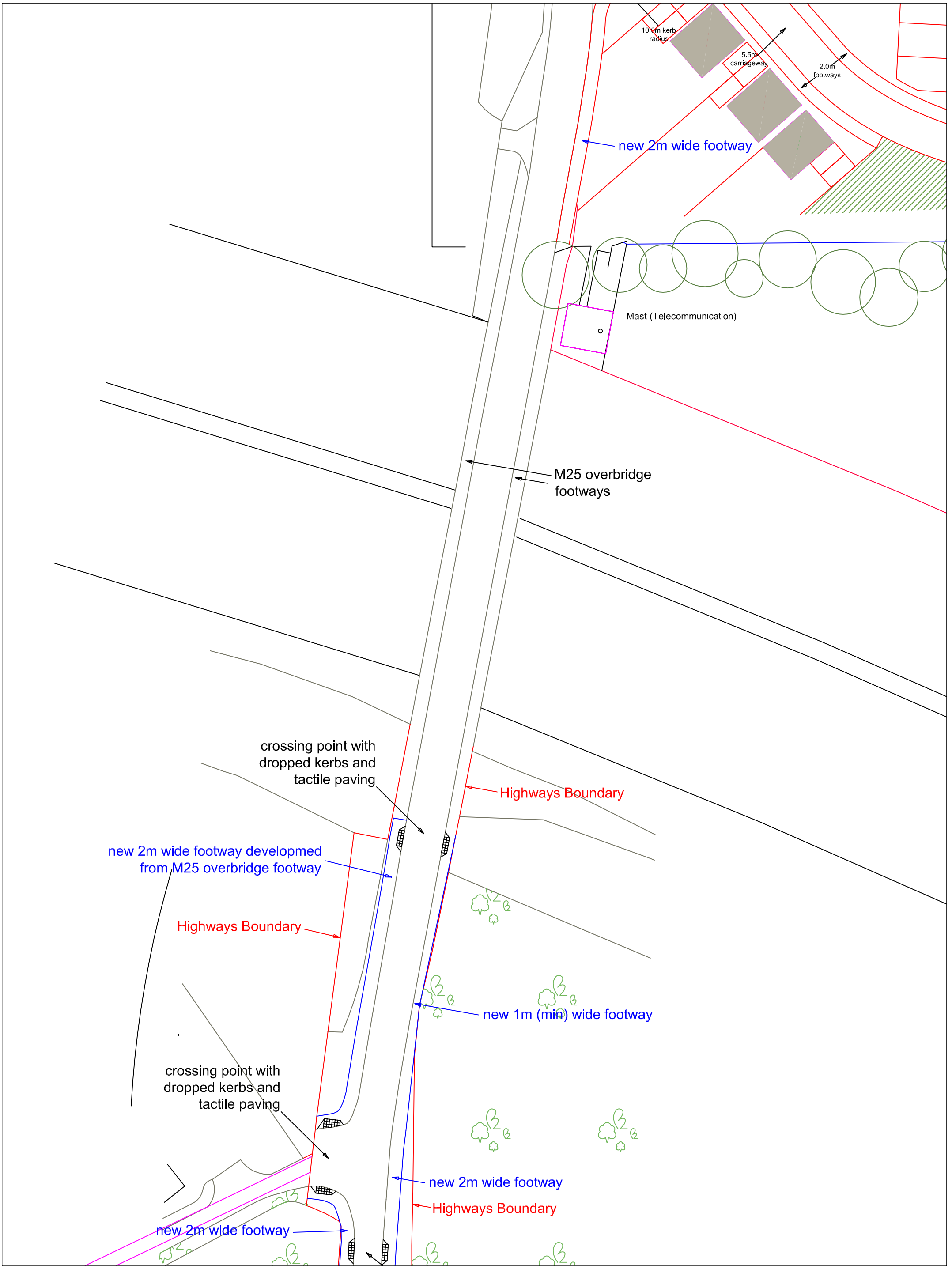


Date: 29/06/22
Scale: 1:1500@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 1 of 4)

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

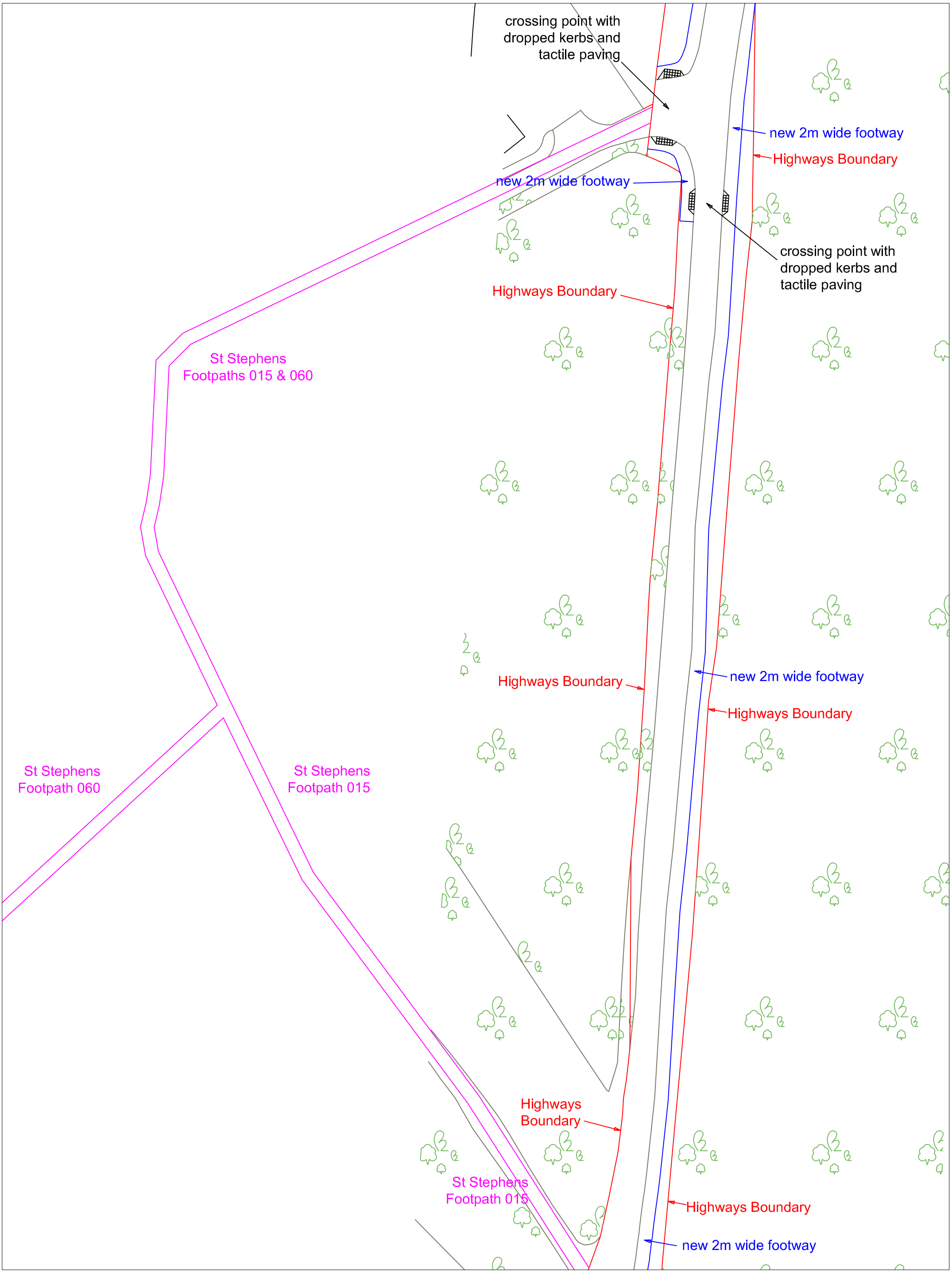


Date: 29/06/22
Scale: 1:750@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 2 of 4)

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

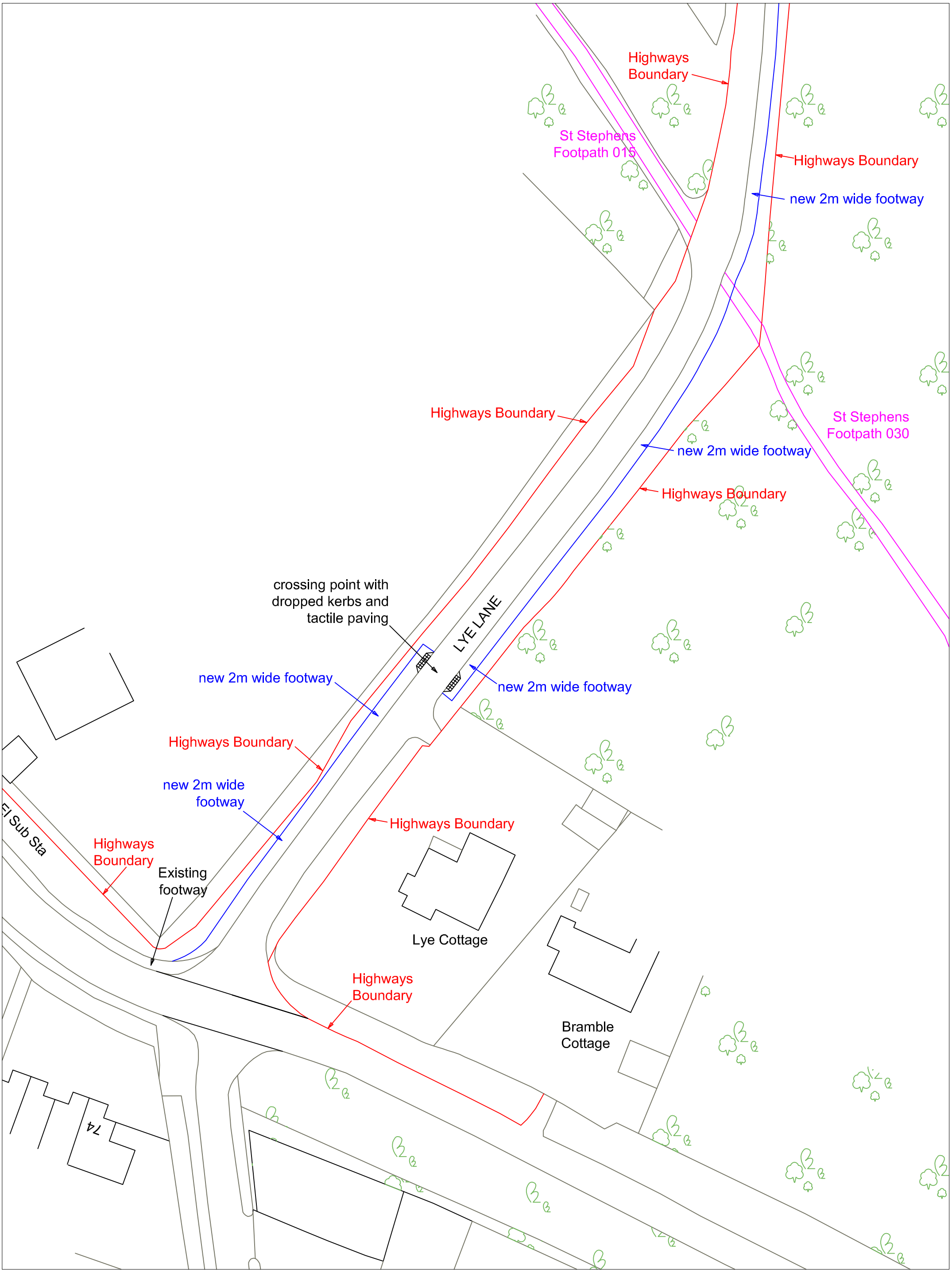


Date: 29/06/22
Scale: 1:750@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 3 of 4)

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk



Date: 29/06/22
Scale: 1:750@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 4 of 4)

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

Appendix H
Swept Path Analysis – Refuse Vehicle

new 2m wide footway

Mast (Telecommunication)

Mast (Telecommunication)

Medium Refuse Vehicle (3 axle)
Overall Length 9.910m
Overall Width 2.410m
Overall Body Height 3.742m
Min Body Ground Clearance 0.255m
Track Width 2.300m
Lock to Lock Time 4.00s
Kerb to Kerb Turning Radius 8.200m

Date: 29/06/22
Scale: 1:750@A3
Source: OS / AD Practic

N

P2584: Land North of Bricket Wood, Herts
Refuse Vehicle Swept Path Analysis

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

Appendix I
HCC Pre App Responses

113 Residential Units, with associated access and external highway modifications, Paintball Site, Lye Lane, Bricket Wood – HCC Highways Pre-App Response

District Application Reference	n/a	**HCC Application Reference**	SA-11039
District Name	St Alban's District Council	**HCC Case Officer**	Chris Carr
District Case Officer	-	**HCC Approval**	Pre-app response
Date Received		**Date Issued**	4 April 2022

Description of the Proposal

Pre-application advice is sought for a proposed development of 113 dwellings residential units with associated access, open space, and hedgerow / tree planting.

Additionally, off-site works are proposed as follows:

- Highways improvements to the West Riding/Oak Avenue junction to the south of the site;
- Footpath improvements linking the site to Bricket Wood.

Site Description

The site is in Bricket Wood, St Alban's, bounded to the west by Lye Lane, with Park Street Lane running east of the site and the M25 running south of the site.

The site is currently occupied by a paintball site, 30 dwellings and woodland.

The site is also close to the Strategic Road Network (SRN); we therefore suggest that the applicant seek pre-application advice from National Highways.

Documents to be Reviewed

The applicant has provided the following documents for review as part of this pre-application consultation:

- Paul Mews Associates, January 2022, *Bricket Lodge, Sport and Country Club and Paintball Site, Lye Lane, Bricket Wood, Feasibility Assessment* ("*the Feasibility Assessment*");
- A set of sketch plans from Tom Gristwood Architects, dated 8 February 2022 and titled "*Bricket Lodge - Developed Sketch Proposals*" ("*the Sketch Proposal*").

The Feasibility Assessment includes brief details of the assumptions and methodologies that will be adopted within the Transport Assessment ("TA").

This review of the Feasibility Assessment reviews each of the required sections of the TA; if any are not covered in the Feasibility Assessment at all, then these will be flagged as omissions.

The Sketch Proposal is referred to as needed in this review.

Furthermore, a pre-app meeting took place on 30 March 2022, at which various matters related to the proposal were discussed by representatives of Herts CC and the applicant's team. These discussions are referred to here as appropriate.

113 Residential Units, with associated access and external highway modifications, Paintball Site, Lye Lane, Bricket Wood – HCC Highways Pre-App Response

HCC Guidance

HCC's "*Roads in Hertfordshire: A Design Guide, 3rd Edition"* (January 2011)[1] (hereafter referred to as "*the Design Guide*") sets out the framework of advice and standards within which alterations and additions to the highway network in the County shall be constructed.

The Design Guide should mostly be referred to in the more detailed design stages: as such, most of it is beyond the scope of this Pre-App Response. However, preliminary references to the Design Guide and other appropriate documents are made as appropriate in this Response.

Policy Review

The review of policies in Chapter 2 of the Feasibility Assessment is appropriate.

In particular, the emphasis on walking, cycling and public transport is welcomed. As discussed at the 30 March meeting, this will be a significant challenge for this site, given its proximity to major roads including the strategic road network (SRN) as well as the current lack of safe, convenient pedestrian and cycle provision.

Review of existing transport networks

Chapter 3 of the Feasibility Assessment gives a reasonably detailed account of the existing transport networks. It is honest about the currently poor provision of the non-car transport facilities.

Chapter 3 did make an apparent error in the comment that the "*majority of Lye Lane are subject to 30mph speed limits".* From observations on Google Streetview, there does not appear to be any sign applying such a speed limit; as a result, this road would default to the national limit for a single carriageway, i.e. 60mph.

However, Google Streetview may be out of date. If a 30mph limit has been introduced, the TA should provide evidence. The TA should also provide speed data; as in such a location, speed limit enforcement is unlikely to be stringent.

Comments on the Census data of chapter 3 are given under "*Trip Generation" later in this response.*

Base Traffic Conditions

Traffic Surveys and Current Congestion

At the 30 March meeting, it was acknowledged that the TA will need to include traffic data and speed data.

In order to account for the probably greater day-to-day variability of traffic volumes in the post-Covid society (working from home part of the week), the classified turning counts (one day, both peak periods) will need to be accompanied by ATC data over the whole week. From this, we will be able to determine factors to apply to the turning count data.

In order to determine these factors meaningfully, the ATC data will need to be on a stretch of road that is busy enough such that the factors are not simply reflective of random variations. For

[1] https://www.hertfordshire.gov.uk/services/highways-roads-and-pavements/business-and-developer-information/development-management/highways-development-management.aspx

example, a variation of eight cars per peak hour on a Tuesday to two cars per peak hour on a Wednesday would be a proportionally huge variation but a very small change in absolute terms.

As a guide, the ATC data should be on a stretch of road where the peak-hour traffic is 500 vehicles or more.

The ATC data must also be used to determine the peak-hours for which to obtain classified turning counts.

Also, ATC **including speed data** will be required on Lye Lane at the site access, for the same period as the other ATC data.

The initial locations of the classified turning counts should be as follows, though if the data and the TA show that other junctions may be of concern, then further counts might be required.

- Junction of Lye Lane with A405 North Orbital Road;
- Junction of Lye Lane with Oak Avenue and West Riding;
- Junction of Lye Lane with Park Street Lane and Station Road.

The extent of additional classified turning counts will be assessed in the TA by considering:

- The percentage impact of development traffic; if the accurately predicted distribution shows that, beyond the above junctions, the percentage impact would be very low, then further counts may not be required, *subject to*:
- Existing congestion. At locations that are already congested, traffic impact could be a concern even if the percentage impact is low.

All data should be on neutral days, i.e. weekdays during school holidays and with no occasions or factors that may result in unusual volumes.

Traffic Growth Rates and Committed Developments

Future traffic volumes would need to be determined by an appropriate methodology such as Tempro. Full details of the Tempro inputs and outputs will be needed in the TA.

Future year assessments will be needed for 10 years after opening.

Parking (Car and Cycle)

Cycle parking

Refer to HCC Cycle Strategy & Cycle Parking Guide:
www.hertsdirect.org/infobase/docs/pdfstore/cycleparkguide.pdf

Car parking

Provision and standards of parking within developments are set by each Local Planning Authority, in this case St Alban's. Details are to be found in Supplementary Planning Guidance (or similar) available on St Alban's Council's website or from their planning department.

Accessibility for Disabled People

In line with National Planning Policy Framework (NPPF) 2021, the application must address the needs of people with disabilities and reduced mobility in relation to all modes of transport (extract of Paragraph 112).

113 Residential Units, with associated access and external highway modifications, Paintball Site, Lye Lane, Bricket Wood – HCC Highways Pre-App Response

Travel Plan; and Measures to Reduce the Need for Car travel

The proposed development will need to be accompanied by a Travel Plan, to maximise use of non-car transport modes.

The Feasibility Assessment includes a commitment to submit such a Travel Plan; also some initial recommendations are included in Chapter 5.

The Travel Plan will need to be approved by HCC and will need to include on-going periodic monitoring by HCC with the provision for remedial measures if targets are not met.

As discussed at the 30 March meeting, given the site's proximity to major roads, as well as the current lack of safe, convenient pedestrian and cycle provision, there is a significant challenge to make this site sustainable. Some key points to consider include, but may not be limited to:

- Significant improvements are needed to the walking and cycling links between the site and public transport (bus stops and Bricket Wood railway station). These improvements need to plug gaps in provision and also improve the provision that is there currently.
- The footways to and from the site have very little passive surveillance and no lighting. Security could be a serious concern.
- Traffic speeds may be a hazard for cyclists; visibility of cyclists could also be a concern, especially (but not only) at night.
- Contributions to improved bus services will also likely be sought.
- Even if the scale of the development were reduced, HCC would still require a significant betterment to non-car transport provision.
- It is acknowledged that Chapter 5 of the Feasibility Assessment contains some positive initial recommendations for non-car travel improvements. These will need to be developed further, including in line with the above comments. Further initiatives will likely also be needed.

Trip Generation and Distribution

Chapter 4 of the Feasibility Assessment gives an initial, broad-brush assessment of trip generation by all modes and of directions of travel.

The Feasibility Assessment acknowledges that this is broad-brush and that the TA will need a more detailed assessment.

In view of this, we give preliminary comments below, noting that we will review the TA's assessment in more detail.

- Full TRICS output will need to be provided so that we can assess the suitability of the TRIC site selection.
- The Census data on mode split seem to show a low car-driver percentage for journeys to work (68%). Details of the boundaries of these Census areas are required, to assess which other settlements and areas they include.
- The report does acknowledge that the Census data is only for the mode of transport used for the longest distance section of the journey, so does not indicate how trips are made from the area to local railway stations. The report does acknowledge that these

are likely to be made by car. This will of course need to be considered in the TA (as the Feasibility Assessment acknowledges).

Impact on the Highway

Junction Modelling

The extent of required junction modelling will need to be determined in the same way as the extent of required turning count data, as noted above under "*Traffic Surveys and Current Congestion".*

However, the following junctions will need to be modelled regardless:

- The site access;
- Junction of Lye Lane with A405 North Orbital Road;
- Junction of Lye Lane with Oak Avenue and West Riding.

Highway Layout

Vehicle Access

The Design Guide states that a Design and Access Statement is a requirement of all planning applications that have an impact on the highway (in addition to the Transport Assessment required for certain developments, including this one). The Design and Access Statement needs to include three potential aspects of access:

- Why the access points for the development have been chosen;
- How the site responds to road layout, road safety, and public transport provision; and
- How everyone can move through the place on equal terms regardless of age, disability, ethnicity or social grouping.

Clearly, further discussion on the access design will be undertaken at S278 / S38 negotiations.

Improvements to the West Riding/Oak Avenue junction

These proposed improvements will need to be assessed in the TA including the junction modelling.

Highway improvements should not seek to provide highway capacity that may induce additional traffic.

Clearly, further discussion on the design will be undertaken at S278 / S38 negotiations.

Parking and Loading / Servicing Areas

The layout of these areas should conform to Manual for Streets.

Also, the following from the Design Guide applies too:

- *"Unassigned parking bays at right angles to the carriageway shall not have a gradient in excess of 5%."*
- "*Parking areas should be clearly marked to deter unsociable, dangerous or illegal parking. Tactile paving should be used at dropped kerbs next to parking bays for wheelchair users as per the DfT document Inclusive Mobility."*

Refuse and Service Delivery: Swept Path Analysis

The TA will need to include swept path analysis of refuse lorries and servicing / delivery vehicles, to ensure these can access and egress the site in forward gear.

Swept Paths of Emergency Vehicles

The TA will need to include swept path analysis of emergency vehicles, to ensure these can access and egress the site in forward gear.

Road Safety Audit (RSA)

Road Safety Audits will be required as the design is progressed.

Traffic Safety

The TA should provide a crash data assessment: the latest five years of injury accident data at these locations:

- The locations on the crash data plan in Appendix B of the Feasibility Assessment;
- The area of Bricket Wood surrounded by the following roads, and including these roads themselves:
    - West Riding;
    - Oak Avenue;
    - Park Street Lane west of Station Road (also referred to as Lye Lane east);
    - Station Road;
    - Mount Pleasant Lane.
- Lye Lane up to and including the junction with A405 North Orbital Road.

Crash Map data is sufficient initially; if this illustrates areas of concern, more detailed data from HCC may be required.

Pedestrian and Cycle Access Strategy

Currently there are no safe and suitable pedestrian accesses to the site. No footways or street lighting are located on Lye Lane and connections to local amenities and public transport facilities is inadequate.

The proposed development is currently considered contrary to the following policies:

- HCC LTP Policy 1: Transport user hierarchy;
- HCC LTP Policy 2: Influencing land use planning;
- HCC LTP Policy 5: Development Management;
- HCC LTP Policy 6: Accessibility;
- HCC LTP Policy 7: Active Travel – Walking;
- HCC LTP Policy 8: Active Travel – Cycling;
- NPPF Para 110 (a);
- NPPF Para 110 (b);
- NPPF Para 112 (a);
- NPPF Para 112 (b);
- NPPF Para 112 (c).

Significant mitigation works (via S278) are required to resolve all of the above concerns. Any off-site works must be fully demonstrated in the anticipated TA with an RSA S1.

Mitigation Measures

Any required mitigation measures will be discussed following review of the TA. However, the TA can propose such measures for consideration also.

There is a strong preference for mitigation measures that provide for, and encourage, non-car travel.

Measures that increase capacity for vehicular traffic are less likely to be considered appropriate; partly because of the need to avoid inducing additional traffic onto the network.

Construction

A construction traffic management plan will need to be approved by HCC prior to construction.

Miscellaneous Comments

The aforementioned Design Guide is mostly to be referred to in the more detailed design stages; however, it is worth raising these points at this stage:

- Section 1: *Policy Information and General Guidance:*
    - Chapter 6.3 includes designing for climate change resilience, ensuring that assets are 'fit for purpose' in the longer term and under a future climate;
    - Chapter 6.3 also is also notes the importance of considering the emissions generated during the construction and maintenance of transport assets and infrastructure.

Planning Obligations

St Albans do not operate CIL and therefore the site will be subject to transport contributions. It is strongly advised the applicant reads the following:

https://www.hertfordshire.gov.uk/media-library/documents/environment-and-planning/planning/developer-infrastructure-contributions-guide/technical-appendix-1-transport.pdf

Summary

HCC as highway authority has reviewed the pre-application submission and provides the above advice on the content of the forthcoming Transport Assessment ("TA").

We also appreciate that the Feasibility Assessment acknowledges the current shortfalls of the site in terms of sustainable transport, and the need to improve these, as well as the need for detailed assessment in the TA.

In the present form, the proposed development would be recommended refusal due to significant concerns regarding highway safety and sustainability.

The contents of this letter are an informal officer opinion and should not be taken as a formal response to a planning application. It may not reflect the contents of any formal reply made by the Highway Authority in response to an official consultation from the LPA on a planning application for a similar proposal.

Mark Youngman
Development Management Group Manager
Hertfordshire County Council
Postal Point CH0242
County Hall
Pegs Lane
Hertford
SG13 8DE

Response to Planning application from Hertfordshire County Council (T and CP GDP Order 2015)

Director of Planning
St Albans City & District Council
St Peters Street
St Albans
Hertfordshire
AL1 3JE

District ref: 5/2022/2443
HCC ref: SA/14229/2022
HCC received: 17 October 2022
Area manager: Rosemary Chatindo
Case officer: Chris Carr

Location
Bricket Wood Sports And Country Club, Paintball Site & Bricket Lodge, Lye Lane, Bricket Wood AL2 3TF

Application type
Outline

Proposal
Outline application (access sought) - Demolition of existing buildings and construction of up to 115 dwellings and creation of new access

Recommendation
Notice is given under article 22 of the Town and Country Planning (Development Management Procedure) (England) Order 2015 that Hertfordshire County Council as Highway Authority recommends that permission be refused for the following reasons:

• A review of the 5-year accident statistics presented as part of the Paul Mew Associates response dated 26 August 2022.

• Updated traffic flows matrices as used in the latest junction modelling, including the 2035 with and without development scenarios based on the updated trip generation methodology.

• Clarification regarding the future year used for the Tempro assessment.

• A feasibility study or similar that details how the proposed new footway on Lye Lane will be delivered in engineering terms. This would need to include detailed drawings on a topographical base and would need to include details of engineering solutions to mitigate the impact in term of matters such as drainage and trees. It would also require details of any third-party land (i.e. land outside of the public highway) that may be required and details of agreements that have been put in-place to secure use of this land.

• A copy of the original highway boundary plan for Lye Lane

Description of the Proposal
Demolition of existing buildings and construction of up to 115 dwellings and creation of new access.

Site Description
The site is in Bricket Wood, St Alban's, bounded to the west by Lye Lane, with Park Street Lane running east of the site and the M25 running south of the site.

The site is currently occupied by a paintball site, 30 dwellings and woodland.

Access to the site is currently provided from the Lye Lane on the western side of the site. As part of the proposed development a new vehicle access will be provided on Lye Lane further to the north of the existing vehicle access. The existing vehicle access will be closed as part of the development

Pre-Application Consultation
The applicant has undertaken pre-application consultation with HCC, including review of pre-application documents for schemes comprising 113 and 109 residential units respectively.

This included a pre-application meeting on 30 March 2022, at which various matters related to the proposal were discussed by representatives of HCC and the applicant's consultant team. These discussions were then referred to as appropriate in HCC's subsequent response of 4 April 2022.

The 4 April response commented on the following documents, with reference as appropriate to the 30 March meeting:

• Paul Mews Associates, January 2022, Bricket Lodge, Sport and Country Club and Paintball Site, Lye Lane, Bricket Wood, Feasibility Assessment ("the Feasibility Assessment");

• A set of sketch plans from Tom Gristwood Architects, dated 8 February 2022 and titled "Bricket Lodge - Developed Sketch Proposals" ("the Sketch Proposal").
The 4 April response included recommended matters for consideration as part of any Transport Assessment (TA) and Travel Plan (TP). Following this initial pre-application correspondence, HCC reviewed at pre-application stage a draft TA and TP provided by the applicant as follows.

• Paul Mew Associates, July 2022, Proposed Residential Development at Former Bricket Wood Sport and Country Club / Paintball Site, Lye Lane, Bricket Wood, Transport Assessment ("the TA");

• Paul Mew Associates, July 2022, Proposed Residential Development at Former Bricket Wood Sport and Country Club / Paintball Site, Lye Lane, Bricket Wood, Travel Plan ("the TP").

Comments on the TA and the TP were provided to the applicant by HCC on 2 August 2022. In summary the following amendments were recommended by HCC. This excludes matters that were suggested as being able to be addressed at the Reserved Matters stage.

• Base Traffic Conditions and Traffic Surveys. The MCC data may be under-estimating likely volumes part of the time, especially for Park Street Lane. The criticality of this will depend on the criticality of the junction modelling results (when all other modelling parameters are agreed). That is to say, if the agreed junction modelling reveals results close to capacity (or over-capacity), then this potential further variation in volumes could be a concern.

• Missing Tempro input data - to show the selection parameters applied to determine the resultant growth factors.

• The trip generation and distribution methodology accepted subject to correction of one minor error (the modal split percentages of all Census respondents have been applied to the total person TRICS outputs, including those who work at home. This would be incorrect because the TRICS rates would not capture these, as TRICS just determines actual trips to and from a site).

• Junction Modelling. A few errors have been identified in these models (details of which have been provided to the applicant), which will need to be addressed. Discussion on the conclusions of the assessment, as well as any potential need for other junction models, will occur when the models are agreed.

• Improvements to the West Riding/Oak Avenue junction. The 4 April response stated that these proposed improvements will need to be assessed in the TA including the junction modelling and that highway improvements should not seek to provide highway capacity that may induce additional traffic. This has not been assessed in the junction modelling.

• Road Safety Audit. The 4 April response stated that Road Safety Audits will be required as the design is progressed.

• Five-Year Crash Data Assessment. This assessment needs to be updated to include all users (not just accidents involving pedestrians and cyclists). It also does not cover all of the requested locations detailed in the 4 April response.

• Travel Plan. No specific amendments required for the planning application submission version.

The 2 August comments provided by HCC reiterated that, given the site's proximity to major roads, as well as the current lack of safe, convenient pedestrian and cycle provision, there is a significant challenge to make this site sustainable.

Improvements to pedestrian connectivity between the site and local amenities and public transport links, such as Bricket Wood rail station, were highlighted by HCC as being of particular importance. It was noted by HCC in the response dated 2 August that the proposed new footpath presented by the applicant (enclosed within Appendix G of the draft TA and in Appendix E of the TP) running along Lye Lane to link the site to West Riding would be required as a minimum.

It was also highlighted by HCC however that the implementation of this footway may be a significant engineering challenge given for example the presence of ditches and established trees on Lye Lane where the footway is proposed. This may affect its feasibility and in-practice deliverability and may require third-party land (outside of the public highway) in order to adequately mitigate these issues.

Planning Application Documents
The following transport related documents have been submitted with application 5/2022/2443:

• Paul Mew Associates, July 2022, Proposed Residential Development at Former Bricket Wood Sport and Country Club / Paintball Site, Lye Lane, Bricket Wood, Transport Assessment ("the TA").

• Paul Mew Associates, July 2022, Proposed Residential Development at Former Bricket Wood Sport and Country Club / Paintball Site, Lye Lane, Bricket Wood, Travel Plan ("the TP").

• Paul Mew Associates, 26 August 2022, P2584 Bricket Wood Development, Response to HCC comments of 2nd August 2022.

• Allen Transport Consultancy Ltd, September 2022, Lye Lane, Bricket Wood, Hertfordshire, Proposed S278 Highway Works, Stage 1 Road Safety Audit ("S1RSA") -Appended to the S1RSA Response.

• Paul Mew Associates, September 2022, Lye Lane, Bricket Wood, Stage 1 RSA Response ("the S1RSA Response").

• Paul Mew Associates, 29 September 2022, P258: Land North of Bricket Wood, Herts, Proposed Site Access Junction Layout Drawing.

• Paul Mew Associates, 29 September 2022, P258: Land North of Bricket Wood, Herts, Proposed New Footway to South (4 Parts).

• Paul Mew Associates, 29 June 2022, P258: Land North of Bricket Wood, Herts, Refuse Vehicle Swept Path Analysis.

Analysis

It is noted that neither the TA nor the TP have been updated since they were submitted for pre-application review. A response by Paul Mew Associates to the pre-application comments provided by HCC on the TA and TP has been submitted and this document has been reviewed by HCC further below. It is noted that this document refers a number of times to an "updated Transport Assessment" being provided. An updated TA is yet to be provided to HCC and it is requested that this be provided for review.

It is also noted that the assessments within the TA, and in the submitted response from Paul Mew Associates dated 26 August 2022, are based on a development quantum of 109 residential units, while the scheme submitted for the planning application seeks up to 115 residential units – i.e. the submitted documents underrepresent the proposed development by up to 6 units. Given that the vehicular trip rates used in the TA to assess the proposed development are robust (0.88 AM Peak Two-Way / 0.83 PM Peak Two-Way) it is considered that any potential discrepancy in terms of traffic impact is suitably offset, although it is again recommended that the TA be updated to reflect this change in unit numbers.

Review of Paul Mew Associates 26th August 2022 - Response to HCC comments of 2nd August 2022

Base Traffic Conditions and Traffic Surveys

The Paul Mew Associates response states:

"As part of this response document, new junction assessments have been carried out and are attached at Appendix A of this response document. These show that the junctions assessed operate within capacity and with minimal queuing. As such, the criticality of amending ATC data as set out in the HCC response is allayed, and therefore potential variations in volumes are not considered to be a concern."

<u>Updated HCC Response</u>

The junction modelling (discussed below) is yet to be confirmed by HCC as being appropriate, due to additional information being required as discussed below. HCC will review this matter further once the junction modelling is confirmed and agreed.

Missing Tempro input data

The Paul Mew Associates response states:

"Tempro input data will be provided in the TA. Separate growth rates have been derived for AM and Interpeak periods to correspond with peak hours identified. In addition to TEMPRO growth data, fuel / income adjustment factors have been applied based on TAG Unit M4 and the TAG Data Book (May 2022 v1.18) Table M4 2.1."

The subsequent Tempro Factors are stated as being 1.139 (AM Peak) and 1.186 (Interpeak).

Updated HCC Response
It is noted that Tempro input data is not 'provided in the TA' as no updated TA has been submitted. The Paul Mew Associates response also appears to show (bottom of page 2) the above Tempro Factors as relating to the '2025' (opening year) as opposed to the 2035 assessment year. Clarification on this matter is requested.

It is also requested that full turning flow diagrams / matrices (including the future assessment year of 2035 with and without development) are provided, based on the latest Tempro and Census trip generation parameters applied so that the junction modelling inputs can be checked. Information of this type was included at Appendix J of the TA but this information appears to have now been superseded.

Trip generation and distribution methodology
The Paul Mew Associates response includes a revised trip generation assessment (Appendix B) such that 'work from home data' has been removed from the Census assessment and subsequent trip generations updated.

Updated HCC Response
This revised assessment is accepted.

As set out above it is requested that full turning flow diagrams / matrices (including the observed 2022 year and the future assessment year of 2035 with and without development) are provided so that the junction modelling inputs can be checked. Information of this type was included at Appendix J of the TA but this information appears to have now been superseded.

Junction Modelling
The required amendments to the junction modelling layout configuration parameters as advised by HCC in its 2 August response to the TA have been undertaken, as included at Appendix A of thew Paul Mew Associates response.

Updated HCC Response
The revised junction layout configuration parameters appear acceptable.

In order for the junction models to be fully accepted and agreed however, full turning flow diagrams / matrices (including the future assessment year of 2035 with and without development) are required so that the junction modelling traffic flow inputs can be checked. Information of this type was included at Appendix J of the TA but this information appears to have now been superseded. It is recommended that the TA is updated and resubmitted to include this information.

Improvements to the West Riding/Oak Avenue junction
The Paul Mew Associates response states:

"The junction capacity assessment include in Appendix A of this response document shows that the junctions assessed operate within capacity and with minimal queueing and therefore no improvements to junctions are required. Had the junction assessments shown problems with junction capacities, mitigation measures would have been provided."

Updated HCC Response
This approach is accepted, subject to the results of the finalised and agreed junction modelling assessments.

Road Safety Audit
A S1RSA and subsequent S1RSA Response have been submitted with the application.
The S1RSA raises the following issues:

• Potential restricted visibility for motorists seeking to emerge from the development site access.
• Inadequate swept path requirements of larger vehicles negotiating the proposed development site access.
• Lack of dropped kerb provision across site access junction and within proposed development site.
• Potential restricted inter-visibility for pedestrians transitioning from the footway to the north of the site and the carriageway.
• Potential restricted inter-visibility at the proposed crossing facilities on the proposed new footway south of the site.
• Potential swept path requirements of vehicles accessing and egressing the existing access junction and vehicular crossovers on Lye Lane with proposed new footway in-place.
• Narrowed section of proposed footway (on the eastern side of Lye Lane).
• Location of existing ditches in proximity to the proposed new footways on Lye Lane.
The S1RSA Response accepts the issues raised in the S1RSA and amended drawings are included as part of the S1RSA Response, and separately as part of the application submission, to reflect the S1RSA findings.

Updated HCC Response
The S1RSA and S1RSA Response is generally accepted by HCC, notwithstanding the potential issues in terms of the deliverability of the proposed new footway on Lye Lane.

It is also noted that the updated 'Proposed Site Access Junction Layout' Drawing (29 September 2022) includes a dropped kerb and tactile paving at the proposed short section of footway north of the site access (S1RSA 'Location F'). The tactile paving would need to be omitted (given that there is no footway on the western side of Lye Lane).

Furthermore, it is noted that some of the additional dropped kerbs and tactile paving that are now shown on the 'Proposed Uncontrolled Pedestrian Points with Dropped Kerbs' Drawing (29 September 2022) which is included at Appendix B of the S1RSA Response are not to standard.

Five-Year Crash Data Assessment
The Paul Mew Associates response states:

"Crash Map data for the following locations will be added to Transport Assessment and are attached for information in Appendix C of this response document. The locations on the crash data plan in Appendix B of the Feasibility Assessment and the below additional locations
• The area of Bricket Wood surrounded by the following roads, and including these roads themselves:
• West Riding;
• Oak Avenue;
• Park Street Lane west of Station Road (also referred to as Lye Lane east);
• Station Road;
• Mount Pleasant Lane.
• Lye Lane up to and including the junction with A405 North Orbital Road."

Updated HCC Response
No review of the additional Crash Map data has been provided and this matter remains outstanding. The response states that this will be "added to the Transport Assessment" but an updated TA is yet to be provided to HCC.

From a review of the raw data at Appendix C of the response, it is noted that there was a serious accident recorded at the Park Street Lane / Station Road / Lye Lane junction and a further serious accident at the A405 North Orbital Road / Lye Lane Junction. The review of the data should pay particular attention to these Personal Injury Accidents.

Travel Plan
The Paul Mew Associates response states that "The Travel Plan will be updated in line with Transport Assessment and a range of additional initiatives".

Updated HCC Response
No updated TP has been provided although a Full Travel Plan with the appropriate updates and additional initiatives can be secured by way of condition. The applicant is advised to review the 4 April and 2 August responses from HCC when preparing this document at the relevant stage.

Most importantly, we note that Section 6 of the TP includes a monitoring schedule with reporting to the Local Planning Authority to assess the progress of the TP towards meeting targets. This is vital as it will allow for remedial measures to improve the success of the TP. Furthermore, the monitoring schedule includes agreement of the targets with the Local Planning Authority.

We would require that the above discussions with the Local Planning Authority, on targets and monitoring and remedial measures, include HCC as highway authority also.

In the 4 April response, we stressed that, given the site's proximity to major roads, as well as the current lack of safe, convenient pedestrian and cycle provision, there is a significant challenge to make this site sustainable and a robust and comprehensive Travel Plan is an important part of this.

Proposed Footway on Lye Lane
The latest plan dated 29 September 2022 of the proposed new footway on Lye Lane is enclosed within Appendix B of the S1RSA Response and also submitted separately with the application. The proposed footway as shown on the latest plan operates along Lye Lane to link the site to West Riding at a width of 2 metres.

In line with HCC's previous responses, it is clear that a footway from the site to the existing footway provision at West Riding is an essential part of the non-car transport provision that is required to make the development acceptable, though it is only a part of the required improvements.

For example, the route has very little passive surveillance and no lighting, including existing parts of the pedestrian route between the southern end of the path and Bricket Wood station. The necessary improvements would need to be identified as part of a walking and cycling audit of the routes between the site and key local destinations. The exact scope of the audit would need to be agreed with HCC, along with the subsequent upgrades required, which would need to be delivered by the applicant through a S278 agreement.

Alternative non-car travel options would also be needed for those people uncomfortable with using the route due to security concerns and it is suggested that these measures would need to be incorporated and agreed with HCC as part of a robust Full Travel Plan.

As previously advised, implementation of the footway may be an engineering challenge due to the presence of ditches, gullies and trees located along Lye Lane where the footway is proposed. This may affect its feasibility and deliverability and there is concern that reducing the scale and / or form of the footway in order to overcome these engineering challenges would reduce the effectiveness of the footway and would not then meeting the necessary requirements for assisting in providing safe and convenient travel to and from the site for all users, at all times of day and year and in all conditions. Given the fundamental importance of the footway in assisting in meeting the required sustainability credentials of the site, additional information is required in respect to the design of this footway, including matters such as drainage and associated impacts on trees and how these matters would be resolved. Details of proposed lighting provision are also required.

In any design solution presented, the new footway needs to be continuous (occasional crossing points permitted), 2 metres minimum width, fully metalled, fully lit and fully kerbed between the site access and West Riding.

At the current time, the deliverability of this footway is not known. The drawings provided to-date do not providing sufficient detail to enable an informed view to be taken. Given the fundamental importance of the footway it is requested that a feasibility study or similar be provided by the applicant that details how the footway will be delivered in engineering terms. This would need to include detailed drawings on a topographical base and would need to include details of engineering solutions to mitigate the impact in term of matters such as drainage and trees. It would also require details of any third-party land (i.e. land outside of the public highway) that may be required and details of agreements that have been put in-place to secure use of this land.

It is also requested that a copy of the original highway boundary plan for Lye Lane be provided in order for this to be reviewed.

Conclusion
HCC as highway authority has reviewed the documents submitted with the planning application and requests that the following information be provided:

• A review of the 5-year accident statistics presented as part of the Paul Mew Associates response dated 26 August 2022.

• Updated traffic flows matrices as used in the latest junction modelling, including the 2035 with and without development scenarios based on the updated trip generation methodology.

• Clarification regarding the future year used for the Tempro assessment.

• A feasibility study or similar that details how the proposed new footway on Lye Lane will be delivered in engineering terms. This would need to include detailed drawings on a topographical base and would need to include details of engineering solutions to mitigate the impact in term of matters such as drainage and trees. It would also require details of any third-party land (i.e. land outside of the public highway) that may be required and details of agreements that have been put in-place to secure use of this land.

• A copy of the original highway boundary plan for Lye Lane

It is recommended that an updated Transport Assessment be provided to include the above matters. Following receipt of the above, HCC will provide an updated response accordingly.

Signed
Chris Carr

1 December 2022

Appendix J
Junction OD Tables & Queue Length Survey Data

P2584 Bricket Wood
Junction Assessment

TRICS AM Peak 08:00-09:00
TRICS PM Peak 15:00-16:00

Current Year 2022 Peak Hour Turning Counts

Site 1. A405 / Lye Lane (movements limited due to A405 central reserve)

Note: HGVs = OGV1+OGV2+PSV

AM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		85	1036
B Lye Lane			24
C A405 S			

AM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2	115
B Lye Lane			1
C A405 S			

AM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2%	11%
B Lye Lane			4%
C A405 S			

PM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		53	1352
B Lye Lane			33
A405 S			

PM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0	78
B Lye Lane			0
C A405 S			

PM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0%	6%
B Lye Lane			0%
C A405 S			

Site 2. Lye Lane / Oak Ave / West Riding

AM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		8	8	74
B Lye Lane (E)	15		17	179
C Oak Ave	3	27		1
D West Riding	11	161	2	

AM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	1
B Lye Lane (E)	0		0	6
C Oak Ave	0	0		0
D West Riding	0	4	0	

AM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	1%
B Lye Lane (E)	0%		0%	3%
C Oak Ave	0%	0%		0%
D West Riding	0%	2%	0%	

PM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		12	15	37
B Lye Lane (E)	16		30	128
C Oak Ave	5	19		3
D West Riding	9	108	5	

PM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	0
B Lye Lane (E)	0		1	1
C Oak Ave	0	0		0
D West Riding	1	4	0	

PAM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	0%
B Lye Lane (E)	0%		3%	1%
C Oak Ave	0%	0%		0%
D West Riding	11%	4%	0%	

Site 3. Lye Lane / Park Street Lane

AM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		65	98
B Lye Lane	82		116
C Park St Ln (N)	145	147	

AM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		3	1
B Lye Lane	2		2
C Park St Ln (N)	1	3	

AM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		5%	1%
B Lye Lane	2%		2%
C Park St Ln (N)	1%	2%	

PM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		55	89
B Lye Lane	43		96
C Park St Ln (N)	92	115	

PM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		1	1
B Lye Lane	1		3
C Park St Ln (N)	1	1	

PM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		2%	1%
B Lye Lane	2%		3%
C Park St Ln (N)	1%	1%	

Site 4. Location of Proposed Site Access / Lye Lane

AM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			82
B Site Access			
C Lye Lane S	30		

AM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			1
B Site Access			
C Lye Lane S	0		

AM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			1%
B Site Access			
C Lye Lane S	0%		

PM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			65
B Site Access			
C Lye Lane S	27		

PM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			0
B Site Access			
C Lye Lane S	0		

PM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			0%
B Site Access			
C Lye Lane S	0%		

Future Year Peak Hour Turning Counts

TEMPRO v7.2b
Dataset Version 72
Result Type Trip ends by time period
Area Definition St Albans Local Authority
Current Year 2022
Future Year 2035
Trip Purpose All Purposes
Transport Mode Car Driver
Trip End Type Origin / Destination
Time Period #1 Weekday AM Peak (07:00-09:59)
Time Period #2 Weekday Inter Peak Period (10:00-15:59)

	Origin	Destination	Average
AM	1.0317	1.0809	1.0563
Interpeak	1.1013	1.0981	1.0997

Income & Fuel Cost Factors
TAG Data Book May 2022 v 1.18 - Table M4.2.1

	2022	2035	Factor
Income	1.018	1.044	1.026
Fuel Cost	1.090	1.146	1.051
Combined Factor			1.078

Total Growth Factors

AM	1.139
Interpeak	1.186

Site 1. A405 / Lye Lane (movements limited due to A405 central reserve)

Note: HGVs = OGV1+OGV2+PSV

AM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		97	1180
B Lye Lane			27
C A405 S			

AM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2	131
B Lye Lane			1
C A405 S			

AM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2%	11%
B Lye Lane			4%
C A405 S			

PM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		63	1603
B Lye Lane			39
C A405 S			

PM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0	92
B Lye Lane			0
C A405 S			

PM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0%	6%
B Lye Lane			0%
C A405 S			

Site 2. Lye Lane / Oak Ave / West Riding

AM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		9	9	84
B Lye Lane (E)	17		19	204
C Oak Ave	3	31		1
D West Riding	13	183	2	

AM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	1
B Lye Lane (E)	0		0	7
C Oak Ave	0	0		0
D West Riding	0	5	0	

AM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	1%
B Lye Lane (E)	0%		0%	3%
C Oak Ave	0%	0%		0%
D West Riding	0%	2%	0%	

PM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		14	18	44
B Lye Lane (E)	19		36	152
C Oak Ave	6	23		4
D West Riding	11	128	6	

PM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	0
B Lye Lane (E)	0		1	1
C Oak Ave	0	0		0
D West Riding	1	5	0	

PAM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	0%
B Lye Lane (E)	0%		3%	1%
C Oak Ave	0%	0%		0%
D West Riding	11%	4%	0%	

Site 3. Lye Lane / Park Street Lane

AM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		74	112
B Lye Lane	93		132
C Park St Ln (N)	165	167	

AM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		3	1
B Lye Lane	2		2
C Park St Ln (N)	1	3	

AM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		5%	1%
B Lye Lane	2%		2%
C Park St Ln (N)	1%	2%	

PM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		65	106
B Lye Lane	51		114
C Park St Ln (N)	109	136	

PM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		1	1
B Lye Lane	1		4
C Park St Ln (N)	1	1	

PM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		2%	1%
B Lye Lane	2%		3%
C Park St Ln (N)	1%	1%	

Site 4. Location of Proposed Site Access / Lye Lane

AM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			94
B Site Access			
C Lye Lane S	35		

AM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			1
B Site Access			
C Lye Lane S	0		

AM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			1%
B Site Access			
C Lye Lane S	0%		

PM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			77
B Site Access			
C Lye Lane S	32		

PM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			0
B Site Access			
C Lye Lane S	0		

PM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N			0%
B Site Access			
C Lye Lane S	0%		

Proposed Development Flows & Distribution

Site Forecast	Arrivals	Departures
AM	18	83
PM	67	29

Note: No HGVs

Lye Lane Split	North	South
AM	30	64
	32%	68%
PM	29	90
	24%	76%

Site Split	AM	PM
Out to North	27	7
Out to South	57	22
In from North	6	16
In from South	12	51

Site 1. A405 / Lye Lane (movements limited due to A405 central reserve)

Note: HGVs = OGV1+OGV2+PSV

AM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		6	
B Lye Lane			27
C A405 S			

AM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0	
B Lye Lane			0
C A405 S			

AM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0%	
B Lye Lane			0%
C A405 S			

PM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	A405 S
A A405 N		16	
B Lye Lane			7
C A405 S			

PM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0	
B Lye Lane			0
C A405 S			

PM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0%	
B Lye Lane			0%
C A405 S			

Site 2. Lye Lane / Oak Ave / West Riding

AM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		5	5	47
B Lye Lane (E)	6			
C Oak Ave	1			
D West Riding	5			

AM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	0
B Lye Lane (E)	0			
C Oak Ave	0			
D West Riding	0			

AM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	0%
B Lye Lane (E)	0%			
C Oak Ave	0%			
D West Riding	0%			

PM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		4	5	12
B Lye Lane (E)	27			
C Oak Ave	8			
D West Riding	15			

PM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	0
B Lye Lane (E)	0			
C Oak Ave	0			
D West Riding	0			

PAM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	0%
B Lye Lane (E)	0%			
C Oak Ave	0%			
D West Riding	0%			

Site 3. Lye Lane / Park Street Lane

AM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		2	
B Lye Lane	2		3
C Park St Ln (N)		4	

AM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		0	
B Lye Lane	0		0
C Park St Ln (N)		0	

AM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		0%	
B Lye Lane	0%		0%
C Park St Ln (N)		0%	

PM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		9	
B Lye Lane	1		3
C Park St Ln (N)		18	

PM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		0	
B Lye Lane	0		0
C Park St Ln (N)		0	

PM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		0%	
B Lye Lane	0%		0%
C Park St Ln (N)		0%	

Site 4. Site Access / Lye Lane

AM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		6	
B Site Access	27		57
C Lye Lane S		12	

AM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0	
B Site Access	0		0
C Lye Lane S		0	

AM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0%	
B Site Access	0%		0%
C Lye Lane S		0%	

PM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		16	
B Site Access	7		22
C Lye Lane S		51	

PM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0	
B Site Access	0		0
C Lye Lane S		0	

PM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0%	
B Site Access	0%		0%
C Lye Lane S		0%	

Future Year + Proposed Development Flows

Site 1. A405 / Lye Lane (movements limited due to A405 central reserve)

Note: HGVs = OGV1+OGV2+PSV

AM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		103	1180
B Lye Lane			54
C A405 S			

0 AM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2	131
B Lye Lane			1
C A405 S			

AM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		2%	11%
B Lye Lane			2%
C A405 S			

PM Peak Hour - Total Vehicles

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		79	1603
B Lye Lane			46
C A405 S			

PM Peak Hour - No. HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0	92
B Lye Lane			0
C A405 S			

PM Peak Hour - % HGVs

From / To	A A405 N	B Lye Lane	C A405 S
A A405 N		0%	6%
B Lye Lane			0%
C A405 S			

Site 2. Lye Lane / Oak Ave / West Riding

AM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		14	14	131
B Lye Lane (E)	23		19	204
C Oak Ave	5	31		1
D West Riding	17	183	2	

AM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	1
B Lye Lane (E)	0		0	7
C Oak Ave	0	0		0
D West Riding	0	5	0	

AM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	1%
B Lye Lane (E)	0%		0%	3%
C Oak Ave	0%	0%		0%
D West Riding	0%	2%	0%	

PM Peak Hour - Total Vehicles

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		18	23	56
B Lye Lane (E)	46		36	152
C Oak Ave	14	23		4
D West Riding	26	128	6	

PM Peak Hour - No. HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0	0	0
B Lye Lane (E)	0		1	1
C Oak Ave	0	0		0
D West Riding	1	5	0	

PAM Peak Hour - % HGVs

From / To	A Lye Lane (N)	B Lye Lane (E)	C Oak Ave	D West Riding
A Lye Lane (N)		0%	0%	0%
B Lye Lane (E)	0%		3%	1%
C Oak Ave	0%	0%		0%
D West Riding	5%	4%	0%	

Site 3. Lye Lane / Park Street Lane

AM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		76	112
B Lye Lane	95		136
C Park St Ln (N)	165	172	

AM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		3	1
B Lye Lane	2		2
C Park St Ln (N)	1	3	

AM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		4%	1%
B Lye Lane	2%		2%
C Park St Ln (N)	1%	2%	

1

PM Peak Hour - Total Vehicles

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		74	106
B Lye Lane	52		117
C Park St Ln (N)	109	155	

PM Peak Hour - No. HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		1	1
B Lye Lane	1		4
C Park St Ln (N)	1	1	

PM Peak Hour - % HGVs

From / To	A Park St Ln (S)	B Lye Lane	C Park St Ln (N)
A Park St Ln (S)		2%	1%
B Lye Lane	2%		3%
C Park St Ln (N)	1%	1%	

Site 4. Site Access / Lye Lane

AM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		6	94
B Site Access	27		57
C Lye Lane S	35	12	

AM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0	1
B Site Access	0		0
C Lye Lane S	0	0	

AM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0%	1%
B Site Access	0%		0%
C Lye Lane S	0%	0%	

PM Peak Hour - Total Vehicles

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		16	77
B Site Access	7		22
C Lye Lane S	32	51	

PM Peak Hour - No. HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0	0
B Site Access	0		0
C Lye Lane S	0	0	

PM Peak Hour - % HGVs

From / To	A Lye Lane N	B Site Access	C Lye Lane S
A Lye Lane N		0%	0%
B Site Access	0%		0%
C Lye Lane S	0%	0%	

QUEUE LENGTHS

JOB REF: P2584

JOB NAME: ST ALBANS

SITE: 1 **DATE:** 26/04/2022

LOCATION: A405 NORTH ORBITAL ROAD (N) / LYE LANE / A405 NORTH ORBITAL ROAD (S) / NOKE LANE **DAY:** TUESDAY

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

TIME	ARM A A405 NORTH ORBITAL ROAD (N)		ARM B LYE LANE	ARM C A405 NORTH ORBITAL ROAD (S)		ARM D NOKE LANE
	LANE 1	LANE 2	LANE 1	LANE 1	LANE 2	LANE 1
07:00	0	0	0	0	0	0
07:05	0	0	0	0	0	0
07:10	0	0	0	0	0	1
07:15	0	0	0	0	0	2
07:20	0	0	0	0	0	0
07:25	0	0	0	0	0	0
07:30	9	7	1	0	0	0
07:35	0	0	0	0	0	0
07:40	0	0	0	0	0	1
07:45	0	0	0	0	0	0
07:50	0	0	0	0	0	0
07:55	0	0	0	0	0	1
08:00	0	0	0	0	0	0
08:05	0	0	0	0	0	0
08:10	15	11	0	0	0	0
08:15	0	0	0	0	0	0
08:20	0	8	0	0	0	0
08:25	0	0	0	0	0	0
08:30	0	0	0	0	0	0
08:35	0	0	0	0	0	0
08:40	0	0	0	0	0	0
08:45	5	6	0	0	0	0
08:50	0	0	0	0	0	0
08:55	0	0	0	0	0	0
09:00	0	0	0	0	0	0
09:05	0	0	0	0	0	0
09:10	0	0	0	0	0	0
09:15	0	0	0	0	0	0
09:20	3	0	0	0	0	0
09:25	0	0	0	0	0	0
09:30	2	6	0	0	0	0
09:35	0	0	0	0	0	0
09:40	10	6	0	0	0	1
09:45	0	0	0	0	0	0
09:50	0	0	0	0	0	1
09:55	0	0	0	0	0	0

TIME	ARM A A405 NORTH ORBITAL ROAD (N)		ARM B LYE LANE	ARM C A405 NORTH ORBITAL ROAD (S)		ARM D NOKE LANE
	LANE 1	LANE 2	LANE 1	LANE 1	LANE 2	LANE 1
16:00	0	0	0	0	0	0
16:05	0	0	0	0	0	0
16:10	0	10	0	0	0	0
16:15	0	0	0	0	0	0
16:20	0	0	0	0	0	0
16:25	0	0	0	0	0	0
16:30	0	0	0	0	0	0
16:35	0	0	0	0	0	0
16:40	0	0	0	0	0	0
16:45	0	0	0	0	0	1
16:50	0	0	0	0	0	0
16:55	0	0	0	0	0	0
17:00	0	0	0	0	0	0
17:05	0	0	0	0	0	0
17:10	0	0	0	0	0	0
17:15	0	9	0	0	0	1
17:20	0	0	0	0	0	0
17:25	0	0	0	0	0	0
17:30	0	0	0	0	0	0
17:35	0	0	0	0	0	0
17:40	0	0	0	0	0	0
17:45	0	7	0	0	0	0
17:50	0	0	0	0	0	0
17:55	0	0	0	0	0	0
18:00	11	0	0	0	0	0
18:05	0	0	0	0	0	0
18:10	0	0	0	0	0	0
18:15	0	0	0	0	0	0
18:20	3	7	0	0	0	0
18:25	0	0	0	0	0	1
18:30	0	0	0	0	0	0
18:35	0	0	0	0	0	2
18:40	0	0	0	0	0	0
18:45	0	0	0	0	0	0
18:50	0	0	0	0	0	1
18:55	0	0	0	0	0	0

QUEUE LENGTHS

JOB REF: P2584

JOB NAME: ST ALBANS

SITE: 2 **DATE:** 26/04/2022

LOCATION: LYE LANE / W RIDING (E) / OAK AVENUE / W RIDING (W) **DAY:** TUESDAY

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

TIME	ARM A LYE LANE	ARM B W RIDING (E)	ARM C OAK AVENUE	ARM D W RIDING (W)	TIME	ARM A LYE LANE	ARM B W RIDING (E)	ARM C OAK AVENUE	ARM D W RIDING (W)
	LANE 1	LANE 1	LANE 1	LANE 1		LANE 1	LANE 1	LANE 1	LANE 1
07:00	0	0	0	0	16:00	0	0	1	0
07:05	0	0	0	0	16:05	1	0	0	0
07:10	1	0	0	0	16:10	0	0	0	0
07:15	0	0	0	0	16:15	6	0	0	0
07:20	0	0	0	0	16:20	0	0	0	0
07:25	0	0	0	0	16:25	0	0	0	0
07:30	0	0	0	0	16:30	0	0	0	0
07:35	0	0	0	0	16:35	0	0	0	0
07:40	0	0	0	0	16:40	0	0	0	0
07:45	0	0	1	0	16:45	0	0	0	0
07:50	0	0	0	0	16:50	0	0	0	0
07:55	0	0	0	0	16:55	0	0	0	0
08:00	1	0	1	0	17:00	0	0	0	0
08:05	0	0	0	0	17:05	0	0	0	0
08:10	0	0	0	0	17:10	0	0	0	0
08:15	1	0	0	0	17:15	0	0	0	0
08:20	0	0	0	0	17:20	0	0	0	0
08:25	0	0	0	0	17:25	0	0	0	0
08:30	0	0	0	0	17:30	0	0	0	0
08:35	0	0	0	0	17:35	0	0	0	0
08:40	1	0	0	0	17:40	0	0	0	0
08:45	0	0	0	0	17:45	0	0	0	0
08:50	0	0	0	0	17:50	0	0	0	0
08:55	0	0	0	0	17:55	1	0	0	0
09:00	0	0	0	0	18:00	0	0	0	0
09:05	0	0	0	0	18:05	0	0	0	0
09:10	0	0	0	0	18:10	0	0	0	0
09:15	0	0	0	0	18:15	0	0	0	0
09:20	0	0	0	0	18:20	0	0	0	0
09:25	0	0	0	0	18:25	1	0	0	0
09:30	0	0	0	0	18:30	1	0	0	0
09:35	0	0	0	0	18:35	1	0	0	0
09:40	0	0	0	0	18:40	0	0	0	0
09:45	0	0	0	0	18:45	0	0	0	0
09:50	0	0	0	0	18:50	0	0	0	0
09:55	0	0	0	0	18:55	0	0	0	0

QUEUE LENGTHS

JOB REF: P2584

JOB NAME: ST ALBANS

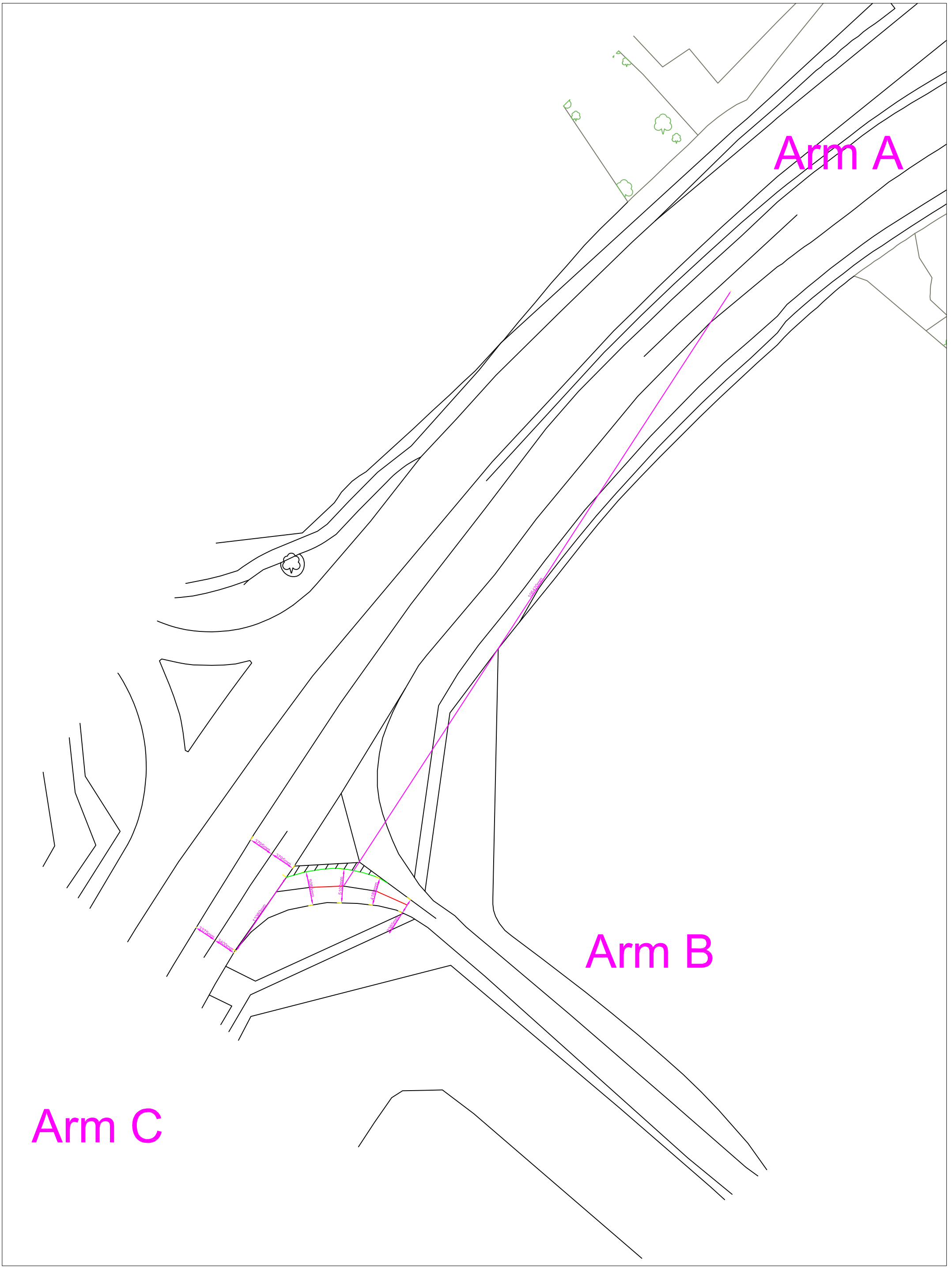
SITE: 3 **DATE:** 26/04/2022

LOCATION: STATION ROAD / LYE LANE / PARK STREET LANE **DAY:** TUESDAY

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

TIME	ARM A STATION ROAD	ARM B LYE LANE	ARM C PARK STREET LANE	TIME	ARM A STATION ROAD	ARM B LYE LANE	ARM C PARK STREET LANE
	LANE 1	LANE 1	LANE 1		LANE 1	LANE 1	LANE 1
07:00	0	0	0	16:00	0	0	0
07:05	0	0	0	16:05	0	0	0
07:10	0	0	0	16:10	0	0	0
07:15	0	0	0	16:15	0	0	0
07:20	0	0	0	16:20	0	0	0
07:25	0	0	0	16:25	0	0	0
07:30	0	0	0	16:30	0	0	0
07:35	0	0	0	16:35	0	0	1
07:40	0	0	0	16:40	0	0	0
07:45	0	0	0	16:45	0	0	0
07:50	0	0	0	16:50	0	0	0
07:55	0	0	0	16:55	0	1	0
08:00	0	2	0	17:00	0	0	0
08:05	0	0	0	17:05	0	0	0
08:10	0	0	0	17:10	0	0	0
08:15	0	0	0	17:15	0	0	0
08:20	0	0	0	17:20	0	0	0
08:25	0	0	0	17:25	0	0	0
08:30	0	2	0	17:30	0	0	0
08:35	0	3	0	17:35	0	0	0
08:40	0	1	0	17:40	0	0	0
08:45	0	0	0	17:45	0	0	1
08:50	0	0	0	17:50	0	2	0
08:55	0	0	0	17:55	0	0	0
09:00	0	0	0	18:00	0	0	0
09:05	0	0	0	18:05	0	0	0
09:10	0	0	0	18:10	0	0	0
09:15	0	0	0	18:15	0	0	0
09:20	0	0	0	18:20	0	0	0
09:25	0	0	0	18:25	0	0	0
09:30	0	0	0	18:30	0	0	0
09:35	0	0	0	18:35	0	0	0
09:40	0	0	0	18:40	0	0	0
09:45	0	0	0	18:45	0	0	0
09:50	0	0	0	18:50	0	0	0
09:55	0	0	0	18:55	0	0	0

Appendix K
PICADY Junction Assessments & Geometry



Date: 15/08/22
Scale: 1:500@A3
Source: OS / AD Practice
Appendix D

N

P2584: Land North of Bricket Wood, Herts
Junction 1 A405 / Lye Lane

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

Arm D

Arm C

Arm A

Arm B

WEST RIDING

LYE LANE

El Sub Sta

Lye Cottage

Bramble Cottage

St Stephens Footpath 030

The Well House

Ashdale

OAK AVEN

Bricket Wood Station

50

54

64

74

1

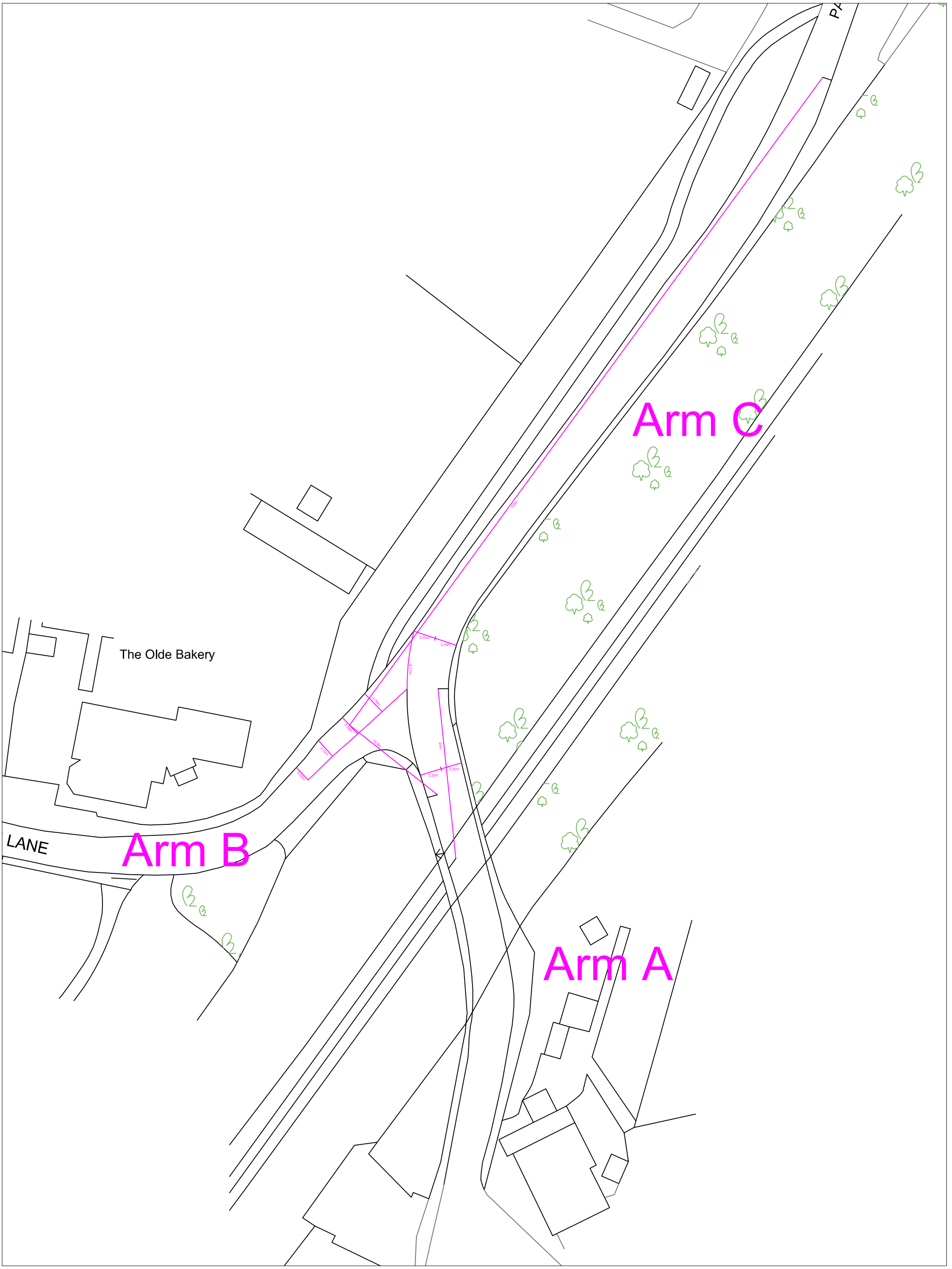
3

Date: 15/08/22
Scale: 1:750@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Junction 2 Lye Lane Crossroads

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk



Date: 15/08/22
Scale: 1:500@A3
Source: OS / AD Practice
Appendix D

N

P2584: Land North of Bricket Wood, Herts
Junction 3 Park Street Lane / Lye Lane

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

85.3m

Arm A

Arm B

Arm C

10.0m kerb radius

2.0m footways

2.0m footway

10.0m kerb radius

5.5m carriageway

2.0m footways

Mast (Telecommunication)

Mast (Telecommunication)

Date: 15/08/22
Scale: 1:500@A3
Source: OS / AD Practice
Appendix D

N

P2584: Land North of Bricket Wood, Herts
Junction 4 Proposed Site Access / Lye Lane

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.4.1693

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: P2584 Site 1 Lye Lane jw A405 2035 with Development.j10
Path: C:\Users\johnf\Paul Mew Associates Ltd\PMA - Projects\P2584\Junction Assessment
Report generation date: 24/01/2023 15:47:12

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	A405 Junction - 2035									
Stream B-AC	D1	0.1	7.10	0.11	A	D2	0.1	8.16	0.10	A
Stream C-AB		0.0	0.00	0.00	A		0.0	0.00	0.00	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	P2584 Site 1 Lye Lane j/w A405
Location	Lye Lane / A405
Site number	1
Date	24/01/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	P2584
Enumerator	john ross
Description	Assessment of the impact of the proposed development on the junction of Lye Lane with the A405 Southbound. As at this location the A405 is a dual carriagway with solid barrier between north and southbound lanes, the junction has been modelled as a T-junction with the A405 as a one-way southbound road

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15
D2	2035	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	A405 Junction	100.000

A405 Junction - 2035, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A405 / Lye Lane	T-Junction	Entry Only	Two-way	Exit Only		0.27	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.27	A

Arms

Arms

Arm	Name	Description	Arm type
A	A405 N		Major
B	Lye Lane		Minor
C	A405 S		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.18				✓	

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	4.31	106	250

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	724	0.128	0.322	0.203	0.460
B-C	884	0.082	0.206	-	-
C-B	574	0.174	0.174	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	1283	100.000
B		✓	54	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	103	1180
	B	0	0	54
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	2	11
	B	0	0	2
	C	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
07:45-08:00	A	966	1065
	B	41	41
	C	0	0
08:00-08:15	A	1153	1272
	B	49	50
	C	0	0
08:15-08:30	A	1413	1558
	B	59	61
	C	0	0
08:30-08:45	A	1413	1558
	B	59	61
	C	0	0
08:45-09:00	A	1153	1272
	B	49	50
	C	0	0
09:00-09:15	A	966	1065
	B	41	41
	C	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.11	7.10	0.1	A

C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	41	674	0.061	41	0.1	5.795	A
C-AB	0	388	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	79			79			
A-C	986			986			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	50	634	0.078	49	0.1	6.283	A
C-AB	0	352	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	94			94			
A-C	1177			1177			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	61	578	0.105	61	0.1	7.100	A
C-AB	0	302	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	116			116			
A-C	1442			1442			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	61	578	0.105	61	0.1	7.102	A
C-AB	0	302	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	116			116			
A-C	1442			1442			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	50	634	0.078	50	0.1	6.286	A
C-AB	0	352	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	94			94			
A-C	1177			1177			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	41	674	0.061	42	0.1	5.801	A
C-AB	0	388	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	79			79			

A-C	986			986			

A405 Junction - 2035, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A405 / Lye Lane	T-Junction	Entry Only	Two-way	Exit Only		0.21	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.21	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2035	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	1682	100.000
B		✓	46	100.000
C		✓	0	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	79	1603
	B	0	0	46
	C	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	0
	C	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	1266	1339
	B	35	35
	C	0	0
17:00-17:15	A	1512	1599
	B	41	41
	C	0	0
17:15-17:30	A	1852	1958
	B	51	51
	C	0	0
17:30-17:45	A	1852	1958
	B	51	51
	C	0	0
17:45-18:00	A	1512	1599
	B	41	41
	C	0	0
18:00-18:15	A	1266	1339
	B	35	35
	C	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.10	8.16	0.1	A
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	35	616	0.056	34	0.1	6.190	A
C-AB	0	341	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	59			59			
A-C	1279			1279			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	41	564	0.073	41	0.1	6.892	A
C-AB	0	295	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	71			71			
A-C	1528			1528			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	51	492	0.103	51	0.1	8.159	A
C-AB	0	233	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	87			87			
A-C	1871			1871			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	51	492	0.103	51	0.1	8.164	A
C-AB	0	233	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	87			87			
A-C	1871			1871			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	41	564	0.073	41	0.1	6.896	A
C-AB	0	295	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	71			71			
A-C	1528			1528			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	35	616	0.056	35	0.1	6.196	A
C-AB	0	341	0.000	0	0.0	0.000	A
C-A	0			0			
A-B	59			59			
A-C	1279			1279			

Junctions 10

PICADY 10 - Priority Intersection Module

Filename: P2584 Site 2 Lye Lane jw West Riding Oak Ave 2035 with Development.j10
Path: C:\Users\johnf\Paul Mew Associates Ltd\PMA - Projects\P2584\Junction Assessment
Report generation date: 24/01/2023 15:48:16

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Lye Lane Oak Ave Junction - 2035									
Stream B-ACD	D1	1.6	21.82	0.62	C	D2	1.2	17.37	0.55	C
Stream A-BCD		0.4	8.01	0.25	A		0.1	6.54	0.11	A
Stream D-ABC		1.0	15.95	0.50	C		0.6	12.17	0.37	B
Stream C-ABD		0.1	6.03	0.05	A		0.0	5.60	0.04	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	P2584 Site 2 Lye Lane jw West Riding Oak Ave
Location	Lye Lane / West Riding / Oak Ave
Site number	2
Date	24/01/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	P2584
Enumerator	john ross
Description	Assessment of the impact of the proposed development on the junction of Lye Lane with West Riding and Oak Avenue

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15
D2	2035	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Lye Lane Oak Ave Junction	100.000

Lye Lane Oak Ave Junction - 2035, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm A - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	Lye Lane / West Riding / Oak Ave	Crossroads	Two-way	Two-way	Two-way	Two-way		15.39	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	15.39	C

Arms

Arms

Arm	Name	Description	Arm type
A	Lye Lane E		Major
B	Oak Avenue		Minor
C	West Riding		Major
D	Lye Lane N		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	5.72			44.0	✓	0.00
C	5.72			205.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.97	29	14
D	One lane	3.28	17	24

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	599	-	-	-	-	-	-	0.235	0.336	0.235	-	-	-
B-A	492	0.091	0.229	0.229	-	-	-	0.144	0.328	-	0.229	0.229	0.115
B-C	631	0.098	0.248	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	492	0.091	0.229	0.229	-	-	-	0.144	0.328	0.144	-	-	-
B-D, offside lane	492	0.091	0.229	0.229	-	-	-	0.144	0.328	0.144	-	-	-

C-B	693	0.272	0.272	0.388	-	-	-	-	-	-	-	-	-
D-A	657	-	-	-	-	-	-	0.258	-	0.102	-	-	-
D-B, nearside lane	509	0.149	0.149	0.339	-	-	-	0.237	0.237	0.094	-	-	-
D-B, offside lane	509	0.149	0.149	0.339	-	-	-	0.237	0.237	0.094	-	-	-
D-C	509	-	0.149	0.339	0.118	0.237	0.237	0.237	0.237	0.094	-	-	-

The slopes and intercepts shown above include custom intercept adjustments only.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	159	100.000
B		✓	246	100.000
C		✓	37	100.000
D		✓	202	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	14	14	131
	B	23	0	19	204
	C	5	31	0	1
	D	17	183	2	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	1
	B	0	0	0	3
	C	0	0	0	0
	D	0	2	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
07:45-08:00	A	120	121
	B	185	190
	C	28	28
	D	152	155
08:00-08:15	A	143	144
	B	221	227
	C	33	33

	D	182	185
08:15-08:30	A	175	177
	B	271	278
	C	41	41
	D	222	226
08:30-08:45	A	175	177
	B	271	278
	C	41	41
	D	222	226
08:45-09:00	A	143	144
	B	221	227
	C	33	33
	D	182	185
09:00-09:15	A	120	121
	B	185	190
	C	28	28
	D	152	155

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.62	21.82	1.6	C
A-BCD	0.25	8.01	0.4	A
A-B				
A-C				
D-ABC	0.50	15.95	1.0	C
C-ABD	0.05	6.03	0.1	A
C-D				
C-A				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	190	464	0.409	187	0.7	13.202	B
A-BCD	103	605	0.171	102	0.2	7.224	A
A-B	9			9			
A-C	9			9			
D-ABC	155	476	0.325	153	0.5	11.273	B
C-ABD	24	651	0.036	23	0.0	5.732	A
C-D	0.73			0.73			
C-A	4			4			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	227	456	0.497	226	1.0	15.901	C
A-BCD	124	606	0.205	124	0.3	7.544	A
A-B	10			10			
A-C	10			10			
D-ABC	185	468	0.395	184	0.7	12.897	B
C-ABD	28	643	0.044	28	0.0	5.855	A
C-D	0.86			0.86			
C-A	4			4			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	278	446	0.622	275	1.6	21.258	C
A-BCD	154	607	0.253	153	0.4	8.001	A
A-B	11			11			
A-C	11			11			
D-ABC	226	456	0.496	225	1.0	15.773	C
C-ABD	34	632	0.055	34	0.1	6.027	A
C-D	1			1			
C-A	5			5			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	278	446	0.622	277	1.6	21.824	C
A-BCD	154	607	0.253	154	0.4	8.013	A
A-B	11			11			
A-C	11			11			
D-ABC	226	456	0.497	226	1.0	15.947	C
C-ABD	34	632	0.055	34	0.1	6.031	A
C-D	1			1			
C-A	5			5			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	227	456	0.497	229	1.0	16.414	C
A-BCD	124	606	0.205	124	0.3	7.560	A
A-B	10			10			
A-C	10			10			
D-ABC	185	467	0.396	186	0.7	13.086	B
C-ABD	28	643	0.044	28	0.0	5.858	A
C-D	0.86			0.86			
C-A	4			4			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	190	463	0.410	191	0.7	13.607	B
A-BCD	103	605	0.171	103	0.2	7.257	A
A-B	9			9			
A-C	9			9			
D-ABC	155	476	0.325	156	0.5	11.471	B
C-ABD	24	651	0.036	24	0.0	5.739	A
C-D	0.73			0.73			
C-A	4			4			

Lye Lane Oak Ave Junction - 2035, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm A - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
2	Lye Lane / West Riding / Oak Ave	Crossroads	Two-way	Two-way	Two-way	Two-way		12.31	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	12.31	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2035	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	97	100.000
B		✓	234	100.000
C		✓	41	100.000
D		✓	160	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	18	23	56
	B	46	0	36	152
	C	14	23	0	4
	D	26	128	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	3	1
	C	0	0	0	0
	D	5	4	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	73	73
	B	176	178
	C	31	31
	D	120	125
17:00-17:15	A	87	87
	B	210	213
	C	37	37
	D	144	150
17:15-17:30	A	107	107
	B	258	261
	C	45	45
	D	176	183
17:30-17:45	A	107	107
	B	258	261
	C	45	45
	D	176	183
17:45-18:00	A	87	87
	B	210	213
	C	37	37
	D	144	150
18:00-18:15	A	73	73
	B	176	178
	C	31	31
	D	120	125

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-ACD	0.55	17.37	1.2	C
A-BCD	0.11	6.54	0.1	A
A-B				
A-C				
D-ABC	0.37	12.17	0.6	B
C-ABD	0.04	5.60	0.0	A
C-D				
C-A				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service

B-ACD	178	483	0.369	176	0.6	11.768	B
A-BCD	44	611	0.073	44	0.1	6.345	A
A-B	13			13			
A-C	16			16			
D-ABC	125	503	0.249	124	0.3	9.845	A
C-ABD	18	676	0.026	18	0.0	5.464	A
C-D	3			3			
C-A	10			10			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	213	477	0.446	212	0.8	13.662	B
A-BCD	54	613	0.087	54	0.1	6.429	A
A-B	15			15			
A-C	19			19			
D-ABC	150	498	0.301	149	0.4	10.727	B
C-ABD	21	673	0.031	21	0.0	5.520	A
C-D	3			3			
C-A	12			12			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	261	470	0.555	259	1.2	17.112	C
A-BCD	67	617	0.108	66	0.1	6.543	A
A-B	18			18			
A-C	23			23			
D-ABC	183	491	0.373	183	0.6	12.118	B
C-ABD	26	669	0.039	26	0.0	5.599	A
C-D	4			4			
C-A	15			15			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	261	470	0.555	260	1.2	17.369	C
A-BCD	67	617	0.108	67	0.1	6.544	A
A-B	18			18			
A-C	23			23			
D-ABC	183	491	0.373	183	0.6	12.170	B
C-ABD	26	669	0.039	26	0.0	5.602	A
C-D	4			4			
C-A	15			15			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	213	477	0.446	214	0.8	13.927	B
A-BCD	54	613	0.087	54	0.1	6.434	A
A-B	15			15			
A-C	19			19			
D-ABC	150	498	0.301	150	0.5	10.797	B
C-ABD	21	673	0.031	21	0.0	5.523	A
C-D	3			3			
C-A	12			12			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-ACD	178	483	0.369	179	0.6	12.027	B
A-BCD	44	611	0.073	45	0.1	6.356	A
A-B	13			13			

A-C	16			16			
D-ABC	125	503	0.249	126	0.4	9.944	A
C-ABD	18	676	0.026	18	0.0	5.467	A
C-D	3			3			
C-A	10			10			

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.4.1693

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: P2584 Site 3 Lye Lane jw Park Street Lane 2035 with Development.j10
Path: C:\Users\johnf\Paul Mew Associates Ltd\PMA - Projects\P2584\Junction Assessment
Report generation date: 24/01/2023 15:49:11

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Lye Lane Park Street - 2035									
Stream B-AC	D1	1.0	14.15	0.50	B	D2	0.5	10.17	0.34	B
Stream C-AB		0.8	9.11	0.40	A		0.6	8.78	0.34	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	P2584 Site 3 Lye Lane with Park Sreet Lane
Location	Lye Lane / Park Street Lane
Site number	3
Date	24/01/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	P2584
Enumerator	john ross
Description	Assessment of the impact of the proposed development on the junction of Lye Lane with Park Street Lane

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15
D2	2035	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Lye Lane Park Street	100.000

Lye Lane Park Street - 2035, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
3	Park Street Lane	T-Junction	Two-way	Two-way	Two-way		7.06	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	7.06	A

Arms

Arms

Arm	Name	Description	Arm type
A	Park Street Lane (south)		Major
B	Lye Lane		Minor
C	Park Street Lane (north)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.55			25.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.55	120	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	553	0.099	0.250	0.157	0.358
B-C	669	0.099	0.251	-	-
C-B	588	0.223	0.223	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2035	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	188	100.000
B		✓	231	100.000
C		✓	337	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	76	112
	B	95	0	136
	C	165	172	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	5	1
	B	2	0	2
	C	1	2	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
07:45-08:00	A	142	145
	B	174	177
	C	254	258
08:00-08:15	A	169	173
	B	208	212
	C	303	308
08:15-08:30	A	207	212
	B	254	259
	C	371	377
08:30-08:45	A	207	212
	B	254	259
	C	371	377
08:45-09:00	A	169	173
	B	208	212
	C	303	308
09:00-09:15	A	142	145
	B	174	177
	C	254	258

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.50	14.15	1.0	B

C-AB	0.40	9.11	0.8	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	177	552	0.322	175	0.5	9.716	A
C-AB	164	643	0.255	162	0.4	7.612	A
C-A	93			93			
A-B	60			60			
A-C	85			85			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	212	538	0.394	211	0.6	11.209	B
C-AB	205	654	0.313	204	0.6	8.152	A
C-A	103			103			
A-B	72			72			
A-C	102			102			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	259	519	0.500	258	1.0	13.998	B
C-AB	267	670	0.398	266	0.8	9.067	A
C-A	110			110			
A-B	88			88			
A-C	125			125			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	259	519	0.500	259	1.0	14.147	B
C-AB	267	670	0.398	267	0.8	9.109	A
C-A	110			110			
A-B	88			88			
A-C	125			125			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	212	538	0.394	213	0.7	11.359	B
C-AB	205	655	0.314	206	0.6	8.205	A
C-A	102			102			
A-B	72			72			
A-C	102			102			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	177	551	0.322	178	0.5	9.862	A
C-AB	165	643	0.256	165	0.4	7.682	A
C-A	93			93			
A-B	60			60			

A-C	85			85			

Lye Lane Park Street - 2035, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
3	Park Street Lane	T-Junction	Two-way	Two-way	Two-way		5.49	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.49	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2035	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	180	100.000
B		✓	169	100.000
C		✓	264	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	74	106
	B	52	0	117
	C	109	155	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	2	1
	B	2	0	3
	C	1	1	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	136	137
	B	127	131
	C	199	201
17:00-17:15	A	162	164
	B	152	156
	C	237	240
17:15-17:30	A	198	201
	B	186	191
	C	291	294
17:30-17:45	A	198	201
	B	186	191
	C	291	294
17:45-18:00	A	162	164
	B	152	156
	C	237	240
18:00-18:15	A	136	137
	B	127	131
	C	199	201

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.34	10.17	0.5	B
C-AB	0.34	8.78	0.6	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	131	579	0.226	129	0.3	8.197	A
C-AB	136	615	0.221	135	0.3	7.564	A
C-A	65			65			
A-B	57			57			
A-C	81			81			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	156	569	0.274	156	0.4	8.937	A
C-AB	168	621	0.270	167	0.4	8.019	A
C-A	72			72			
A-B	68			68			
A-C	96			96			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	191	555	0.345	190	0.5	10.136	B
C-AB	214	629	0.340	213	0.6	8.754	A
C-A	80			80			
A-B	83			83			
A-C	118			118			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	191	554	0.345	191	0.5	10.173	B
C-AB	214	629	0.340	214	0.6	8.783	A
C-A	80			80			
A-B	83			83			
A-C	118			118			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	156	569	0.274	157	0.4	8.982	A
C-AB	168	621	0.270	168	0.4	8.058	A
C-A	72			72			
A-B	68			68			
A-C	96			96			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	131	579	0.226	131	0.3	8.257	A
C-AB	136	615	0.222	137	0.3	7.614	A
C-A	64			64			
A-B	57			57			
A-C	81			81			

Junctions 10

PICADY 10 - Priority Intersection Module

Filename: P2584 Site 4 Lye Lane jw Proposed Site Access 2035 with Development.j10
Path: C:\Users\johnf\Paul Mew Associates Ltd\PMA - Projects\P2584\Junction Assessment
Report generation date: 24/01/2023 15:50:02

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Site Access - 2035									
Stream B-AC	D1	0.2	6.65	0.15	A	D2	0.1	5.85	0.05	A
Stream C-AB		0.0	5.87	0.02	A		0.1	6.34	0.09	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	P2584 Site 4 Lye Lane jw Site Access
Location	Lye Lane / Proposed Site Access
Site number	4
Date	24/01/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	P2584
Enumerator	john ross
Description	Assessment of the impact of the proposed development on the junction of Lye Lane with the Proposed Site Access road

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
			Site Access				

D1	2035	AM	Juntion	ONE HOUR	07:45	09:15	15
D2	2035	PM	Site Access Junction	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Site Access	100.000

Site Access - 2035, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.73	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.73	A

Arms

Arms

Arm	Name	Description	Arm type
A	Lye Lane N		Major
B	Site Access		Minor
C	Lye Lane S		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00			95.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.70	29	91

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	569	0.104	0.262	0.165	0.374
B-C	729	0.112	0.282	-	-
C-B	629	0.244	0.244	-	-

The slopes and intercepts shown above include custom intercept adjustments only.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
			Site Access				

D1	2035	AM	Juntion	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	100	100.000
B		✓	84	100.000
C		✓	47	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	**B**	**C**
From	**A**	0	6	94
	B	27	0	57
	C	35	12	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	**B**	**C**
From	**A**	0	0	1
	B	0	0	0
	C	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
07:45-08:00	**A**	75	76
	B	63	63
	C	35	35
08:00-08:15	**A**	90	91
	B	76	76
	C	42	42
08:15-08:30	**A**	110	111
	B	92	92
	C	52	52
08:30-08:45	**A**	110	111
	B	92	92
	C	52	52
08:45-09:00	**A**	90	91
	B	76	76
	C	42	42
09:00-09:15	**A**	75	76
	B	63	63
	C	35	35

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS

B-AC	0.15	6.65	0.2	A
C-AB	0.02	5.87	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	63	645	0.098	63	0.1	6.184	A
C-AB	9	628	0.015	9	0.0	5.820	A
C-A	26			26			
A-B	5			5			
A-C	71			71			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	76	640	0.118	75	0.1	6.377	A
C-AB	11	628	0.018	11	0.0	5.840	A
C-A	31			31			
A-B	5			5			
A-C	85			85			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	92	634	0.146	92	0.2	6.650	A
C-AB	14	628	0.022	14	0.0	5.867	A
C-A	38			38			
A-B	7			7			
A-C	105			105			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	92	634	0.146	92	0.2	6.653	A
C-AB	14	628	0.022	14	0.0	5.867	A
C-A	38			38			
A-B	7			7			
A-C	105			105			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	76	640	0.118	76	0.1	6.380	A
C-AB	11	628	0.018	11	0.0	5.842	A
C-A	31			31			
A-B	5			5			
A-C	85			85			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	63	645	0.098	63	0.1	6.194	A
C-AB	9	628	0.015	9	0.0	5.820	A
C-A	26			26			

A-B	5			5			
A-C	71			71			

Site Access - 2035, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		2.48	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.48	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2035	PM	Site Access Junction	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	93	100.000
B		✓	29	100.000
C		✓	83	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	16	77
	B	7	0	22
	C	32	51	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0

	C	0	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (Veh/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	70	70
	B	22	22
	C	62	62
17:00-17:15	A	84	84
	B	26	26
	C	75	75
17:15-17:30	A	102	102
	B	32	32
	C	91	91
17:30-17:45	A	102	102
	B	32	32
	C	91	91
17:45-18:00	A	84	84
	B	26	26
	C	75	75
18:00-18:15	A	70	70
	B	22	22
	C	62	62

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.05	5.85	0.1	A
C-AB	0.09	6.34	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	658	0.033	22	0.0	5.652	A
C-AB	40	628	0.064	40	0.1	6.118	A
C-A	23			23			
A-B	12			12			
A-C	58			58			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	654	0.040	26	0.0	5.735	A
C-AB	48	628	0.077	48	0.1	6.210	A
C-A	27			27			
A-B	14			14			
A-C	69			69			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	647	0.049	32	0.1	5.851	A
C-AB	60	627	0.095	59	0.1	6.338	A
C-A	32			32			
A-B	18			18			
A-C	85			85			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	647	0.049	32	0.1	5.851	A
C-AB	60	627	0.095	60	0.1	6.338	A
C-A	32			32			
A-B	18			18			
A-C	85			85			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	26	654	0.040	26	0.0	5.736	A
C-AB	48	628	0.077	48	0.1	6.212	A
C-A	27			27			
A-B	14			14			
A-C	69			69			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	658	0.033	22	0.0	5.657	A
C-AB	40	628	0.064	40	0.1	6.124	A
C-A	23			23			
A-B	12			12			
A-C	58			58			

Appendix L
Stage 1 Road Safety Audit

Road Safety Audit Response Report

Project details

Report title:	Lye Lane, Bricket Wood, Stage 1 RSA Response
Date:	27/09/22
Document reference and revision:	P2584 Stage 1 RSA Response v1
Prepared by:	Paul Mew Associates
On behalf of:	MRP Planning / JD Rudkin (Builders) Ltd

Authorisation sheet

Project:	P2584
Report title:	Lye Lane, Bricket Wood, Stage 1 RSA Response
Prepared by:	
Name:	John Ross
Position:	Associate Director
Signed:	
Organisation:	Paul Mew Associates
Date:	30/09/22
Approved by:	
Name:	
Position:	
Signed:	
Organisation:	
Date:	

Introduction

The proposed development will 109 mixed (private and affordable) dwellings on land to the north of Bricket Wood, St Albans, Herts with a new site access junction and internal road layout. It will also provide a new pedestrian footway link south of the site to Bricket Wood village

This response document relates to a Stage 1 RSA carried out in respect of the proposals dated 19/09/22 with a site visit carried out on 01/09/22. The Stage 1 RSA was prepared by Allen Transport Consultancy Ltd. The Stage 1 RSA Report document has the reference ATC/780/PMA/1 Rev 1.

Key personnel

Overseeing Organisation:	Hertfordshire County Council County Hall Pegs Lane Hertford SG13 8DQ
RSA team:	Lisa Allen / Adriano Cappella Allen Transport Consultancy Ltd Minerva House 139 Chatham Road Maidstone Kent ME14 2NB
Design organisation:	John Ross Paul Mew Associates Unit 1, Plym House 21 Enterprise Way London

Road safety audit decision log

A copy of the Stage 1 RSA is attached at Appendix A of this report. The following table presents the Road safety audit decision log.

Road safety audit decision log

RSA problem	RSA recommendation	Design organisation response	Overseeing Organisation response	Agreed RSA action
Location: A – Lye Lane, development site access junction. Summary: Potential restricted visibility for motorists seeking to emerge from the development site access junction onto Lye Lane could result in a potential increased risk of side impact collisions occurring, whereby vehicle occupants could sustain personal injury. The scheme drawing indicates the provision of a new access junction on the eastern side of Lye Lane, located to the north of the existing vehicular access for the paintball centre. The existing vehicular access is to be stopped up. The site visit has established that the posted speed limit on Lye Lane was 30mph, as indicated by repeater signs on posts. The recorded 85th percentile speeds on Lye Lane were 31.2mph for northbound vehicular traffic and 32.2mph for southbound vehicular traffic. It is evident from the scheme drawing that the 2.4m x 43m visibility splay to the north of the proposed development site access junction crosses the development site frontage denoted in green. Concern arises that potential landscaping / fencing fronting the proposed development site could restrict visibility for motorists emerging from the development site access junction onto Lye Lane. The situation could be exacerbated as the 85th percentile speeds are slightly higher than the posted 30mph speed limit and the provision of 43m visibility splays. As a result, restricted visibility could lead to a potential increased risk of side impact collisions occurring, between vehicular traffic emerging from the development site and vehicular traffic on Lye Lane, whereby vehicle occupants could sustain personal injury	It is recommended that the northern visibility splay should be kept clear of any impediments that may restrict visibility at this location. Additionally, it is recommended that the proposed visibility splays should be commensurate with the 85th percentile speeds on Lye Lane.	The northern visibility splay will be kept clear of any impediments (planting / vegetation, fencing) over 0.6m above ground level that may restrict visibility at this location. Sightlines have been amended to show requirements based on 85th %ile recorded speeds of 31.2mph NB – sightline requirement of 45m and 32.2mph SB – sightline requirement of 47m. Revised drawings are shown in Appendix B.		
Location: B – Lye Lane, development site access junction. Summary: Swept path requirements of larger vehicles negotiating the proposed development site access junction	It is recommended that the junction geometry should be modified in	Junction geometry has been amended and swept path analysis for the refuse vehicle and other large vehicle carried out. Revised drawings are shown in Appendix B.		

could result in a potential increased risk of head on or side swipe type collisions occurring, whereby vehicle occupants could sustain personal injury. The scheme drawing indicates the swept path requirements of a Refuse Vehicle accessing and egressing the proposed development site access junction on the eastern side of Lye Lane. It is evident from the scheme drawing that the Refuse Vehicle encroaches the centre lines within the proposed development site access junction and main carriageway of Lye Lane. In addition to refuse vehicles, other larger vehicles such as Supermarket delivery or long wheel base panel vans (i.e. Amazon, DPD) undertaking deliveries for various companies on a more frequent basis than refuse vehicles could also impact upon the required junction geometry to accommodate such vehicles. Concern arises that large vehicles including those mentioned above encroaching the centre lines within the development site access junction and Lye Lane when accessing and egressing the development site, could lead to a potential increased risk of head on or side swipe type collisions occurring with opposing flows of vehicular traffic, whereby vehicle occupants could sustain personal injury.	order to mitigate the above described potential collision scenario. Additionally, it is recommended that swept path analysis exercises of other large vehicles (i.e. Supermarket delivery and long wheel base panel vans) should be undertaken, in order to assist with the development site junction geometry requirements.			
Locations: C, D and E – Development site access junction. Summary: Lack of dropped kerbs could result in a potential increased risk of pedestrian trips and falls occurring on the assumed full height kerb upstands, whereby pedestrians could sustain personal injury, especially those who are blind, visually or mobility impaired. The scheme drawing indicates the provision of a new access junction on the eastern side of Lye Lane. The scheme drawing also indicates the provision of footways leading from the proposed development site onto the new footway provision on the eastern side of Lye Lane. Within the proposed development site, the scheme drawing indicates that the proposed footways either side of the development site access road end, resulting in pedestrians either crossing to the opposite footway or	It is recommended that dropped kerbs and tactile paving should be provided across the development site access junction, in order to mitigate the above described potential injury scenario. Additionally, it is recommended that uncontrolled pedestrian crossing facilities should be provided within the proposed development	Dropped kerbs / tactile paving / uncontrolled pedestrian crossing facilities have been introduced at various locations within the proposed development site. Revised drawings are shown in Appendix B		

continuing their journey within the carriageway. Concern arises that pedestrians negotiating the assumed full height kerb upstands when crossing the proposed access junction from north to south and vice-versa could lead to a potential increased risk of pedestrian trips and falls occurring, whereby pedestrians could sustain personal injury, especially those who may be blind, visually or mobility impaired. Additionally, concern arises that pedestrians seeking to cross the internal development site roads where the footways end to access the opposite footway and vice-versa could lead to a potential increased risk of pedestrian trips and falls occurring on the assumed full height kerb upstands, whereby pedestrians could sustain personal injury, especially those who may be blind, visually or mobility impaired	site where the footways end, in order to mitigate the above described potential injury scenario.			
Location: F – Footway to the north of the development site access junction. Summary: Lack of dropped kerbs could result in a potential increased risk of pedestrian trips and falls occurring on the assumed full height kerb upstands, whereby pedestrians could sustain personal injury, especially those who are blind, visually or mobility impaired. The scheme drawing indicates the provision of a new access junction on the eastern side of Lye Lane. The scheme drawing also indicates the provision of footways leading from the proposed development site onto the new footway provision on the eastern side of Lye Lane. Concern arises that pedestrians negotiating the assumed full height kerb upstands when transitioning between the footway and carriageway to the north of the proposed development site access junction, could lead to a potential increased risk of pedestrian trips and falls occurring, whereby pedestrians could sustain personal injury, especially those who may be blind, visually or mobility impaired.	It is recommended that a length of dropped kerbs should be provided at this location, in order to mitigate the above described potential injury scenario.	A dropped kerb with tactile paving will be provided at this location. Revised drawings are shown in Appendix B		
Location: G – Footway to the north of the development site access junction. Summary: Potential restricted inter-visibility for	It is recommended that the inter-visibility should be accurately measured	Intervisibility splay will be kept clear of any impediments (planting / vegetation, fencing) over 0.6m above ground level that may restrict visibility at this location.		

pedestrians transitioning from the footway to the carriageway could result in a potential increased risk of vehicle and pedestrian collisions occurring, whereby pedestrians could sustain personal injury. The scheme drawing indicates the provision of a new access junction on the eastern side of Lye Lane. The scheme drawing also indicates the provision of footways leading from the proposed development site onto the new footway provision on the eastern side of Lye Lane. It is evident from the scheme drawing that the proposed footway to the north of the development site access junction ends adjacent to the development site frontage denoted in green. Concern arises that potential landscaping / fencing fronting the proposed development site could restrict inter-visibility between pedestrians transitioning between the footway and carriageway when walking northbound on Lye Lane and southbound vehicular traffic. As a result, this situation could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.	and kept clear of any impediments that may restrict inter-visibility at this location, in order to mitigate the above described potential collision scenario.	Pedestrian – vehicle intervisibilities of 65m (in line with 85th %ile speeds) can be achieved and are shown in the Revised drawings in Appendix B.		
Locations: H, I, J, K and L – Crossing provisions south of the proposed development site. Summary: Restricted inter-visibility at the proposed crossing facilities could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury. The scheme drawing indicates the provision of new footways on Lye Lane between the proposed development site access junction and the junction of West Riding to the south of the proposed development site. The scheme drawing also indicates a number of uncontrolled pedestrian crossing facilities along this section of Lye Lane. The site visit has established there is a notable amount of trees and vegetation either side of Lye Lane between the proposed development site and the junction of West Riding. The site visit has also established the presence of a boundary wall / fence and gate on the northern side of an	It is recommended that the inter-visibility at these locations should be accurately measured and kept clear of any impediments that may restrict inter-visibility. This may necessitate cutting back existing trees, branches and other vegetation on Lye Lane, as well as modifying the crossing provision at the existing access junction on the western side of Lye Lane.	Intervisibility splays will be kept clear of any impediments (planting / vegetation, fencing) over 0.6m above ground level that may restrict visibility at these locations. Pedestrian – vehicle intervisibilities of 65m (in line with 85th %ile speeds can be achieved and are shown in the Revised drawings in Appendix B.		

existing access junction on the western side of Lye Lane, (see Location I within Appendix B), which impacted upon the inter-visibility. Due to the existing vegetation either side of Lye Lane, concern arises that restricted inter-visibility between pedestrians crossing Lye Lane at these locations and northbound and southbound vehicular traffic could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury. Additionally, due to the presence of the boundary wall / fence and gate on the northern side of the access junction on the western side of Lye Lane, concern arises that restricted inter-visibility could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.				
Location: M, N and O – Lye Lane, existing access junction and vehicular crossovers. Summary: Potential swept path requirements of vehicles accessing and egressing the existing access junction and vehicular crossovers on Lye Lane could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury. The scheme drawing indicates the provision of new footways on Lye Lane between the proposed development site access junction and the junction of West Riding to the south of the proposed development site. The scheme drawing also indicates a number of uncontrolled pedestrian crossing facilities along this section of Lye Lane. In the event that vehicles overrun the existing verges when accessing or egressing the existing access junction and vehicular crossovers on Lye Lane, concern arises that with the provision of new the footways on Lye Lane this situation could lead to vehicular and pedestrian conflicts occurring. The potential swept path requirements of vehicular traffic accessing and egressing the access junction and vehicular crossovers could result in vehicular traffic overrunning the	It is recommended that swept path analysis exercises should be undertaken for all the expected types and sizes of vehicles using the access junction and vehicular crossovers. Should overrunning of the footways occur, it is recommended that the kerb lines should be modified in order to mitigate the above descried potential collision scenario.	Swept path analysis has be undertaken as shown in Appendix B for vehicles turning in / out of the accesses on Lye Lane and demonstrates that they do not over run the proposed footway. It should be noted that swept path analysis has not been carried out for Location N as no vehicle access is provided at this location, rather the location shows a local footpath crossing Lye Lane.		

proposed footway areas. As a result, this situation could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.				
Location: P – Lye Lane, reduced footway width. Summary: The proposed narrowed section of footway on the eastern side of Lye Lane could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury. The scheme drawing indicates the provision of new 2m wide footways on Lye Lane between the proposed development site access junction and the junction of West Riding to the south of the proposed development site, which include a number of uncontrolled pedestrian crossing facilities. The scheme drawing also indicates a length of footway south of the M25 over-bridge narrows down to 1m before widening out to 2m on the eastern side of Lye Lane. The site visit has established that there is a vehicle restraint barrier located on the eastern side of Lye Lane south of the M25 over-bridge. Concern arises that the pedestrians who choose to continue walking on the eastern footway may encounter pedestrians walking towards them on the proposed narrow section of footway, which could result in pedestrians stepping into the mainline carriageway in order to pass one another. The presence of the existing vehicle restraint barrier exacerbates the situation, as the barrier is likely to restrict pedestrians from manoeuvring further east when seeking to pass an opposing pedestrian on this section of footway. As a result, this situation could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.	It is recommended that the proposed footway should end to the south of the northern most uncontrolled pedestrian crossing facility, in order to mitigate the above described potential collision scenario.	The proposed footway has been terminated south of the northernmost uncontrolled pedestrian crossing facility as shown in Appendix B.		
Location: General, throughout the extents of footway provision – Lye Lane, existing ditches. Summary: Location of existing ditches in proximity to the proposed new footways on Lye Lane could result in a	It is recommended that measures to preclude pedestrians from slipping and falling into the	Measures will be provided to preclude pedestrians from slipping and falling into the ditches. These could include the provision of culverts along Lye Lane or other suitable forms of containment fencing.		

potential increased risk of pedestrian slips and falls occurring when walking adjacent to existing ditches along Lye Lane, whereby pedestrians could sustain personal injury. The scheme drawing indicates the provision of new footways on Lye Lane between the proposed development site access junction and the junction of West Riding to the south of the proposed development site. The site visit has established the presence of verge ditches running both sides of Lye Lane. With the provision of the proposed footways on Lye Lane that would be positioned adjacent to existing verge ditches, concern arises that this situation could lead to a potential increased risk of pedestrian slips and falls occurring into the ditches, especially during the hours of darkness, as Lye Lane is unlit, whereby pedestrians could sustain personal injury.	ditches should be provided in order to mitigate the above described potential injury scenario. Measures could include the provision of culverts along Lye Lane or a suitable form of containment fencing to preclude pedestrians from slipping and falling into the ditches			

Design organisation and Overseeing Organisation statements

Include the following statements to be signed by the design organisation and the Overseeing Organisation.

Design organisation statement

On behalf of the design organisation I certify that: **1) the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.**	
Name:	
Signed	
Position:	
Organisation:	
Date:	

Overseeing Organisation statement

On behalf of the Overseeing Organisation I certify that: **1) the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the design organisation; and** **2) the agreed RSA actions will be progressed.**	
Name:	
Signed:	
Position:	
Organisation:	
Date:	

Appendix A
Stage 1 Road Safety Audit Report

Allen Transport Consultancy Ltd

Lye Lane, Bricket Wood, Hertfordshire

Proposed S278 Highway Works

Stage 1 Road Safety Audit

Date: September 2022

Report produced for: Paul Mew Associates

Report produced by: Allen Transport Consultancy

Allen Transport Consultancy Ltd
Minerva House
139 Chatham Road
Maidstone
Kent ME14 2NB

Tel: 07770 403637

CONTENTS

DOCUMENT CONTROL SHEET

This report was produced by Allen Transport Consultancy in accordance with the instructions from Paul Mew Associates, for the specific purpose of undertaking the Stage 1 Road Safety Audit. Allen Transport Consultancy shall not be liable for the use of any information contained herein for any purpose other than the sole and specific use for which it was prepared.

Project Details:

Report title	Lye Lane, Bricket Wood, Hertfordshire Proposed S278 Highway Works Stage 1 Road Safety Audit
Date	19th September 2022
Document reference and revision	ATC/780/PMA/1 Rev 1
Prepared by	Allen Transport Consultancy Ltd
On behalf of	Paul Mew Associates

Record of Issue:

Issue	Status	Author	Date	Checked	Date	Authorised	Date
1	Final	LA	08/09/22	ABC	18/09/22	LA	19/09/22

Distribution:

Organisation	Contact	Copies
Paul Mew Associates	John Ross	-

1 INTRODUCTION

1.1 This report has been produced as a result of a Stage 1 Road Safety Audit carried out on the proposed S278 highway works in Lye Lane, Bricket Wood in Hertfordshire. The proposed development is to comprise of 109 dwellings.

1.2 The Road Safety Audit was undertaken at the request of the Overseeing Organisation, Hertfordshire County Council, County Hall, Pegs Lane, Hertford, Hertfordshire, SG13 8DQ. The Design Organisation is Paul Mew Associates, Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ. The Third Party Organisation is JK Rudkin (Builders) Ltd.

1.3 In summary, the works considered as part of this Stage 1 Road Safety Audit are as follows:

- Stopping up an existing vehicular access on Lye Lane and providing a new site access junction on Lye Lane, which is to be located north of the existing vehicular access for the paintball centre;
- Provision of new footways on Lye Lane, between the development site access junction and the junction of West Riding to the south of the proposed development site. The footways include a number of uncontrolled pedestrian crossing facilities, which incorporate dropped kerbs and tactile paving.

1.4 The Audit Team membership approved by Hertfordshire County Council was as follows:

- Lisa Allen - BEng (Hons), MSc, MCIHT, MSoRSA, HA RSA Cert Comp - Audit Team Leader
- Adriano B. Cappella - IEng, FIHE, MSoRSA, MCIHT, HA RSA Cert Comp - Audit Team Member

1.5 The Audit was undertaken in accordance with the Audit Brief supplied by Paul Mew Associates dated 5th August 2022. The Road Safety Audit comprised an examination of the drawings and documents provided, as listed in Appendix A.

1.6 The Audit took place at the Maidstone office of Allen Transport Consultancy during September 2022. The Audit Team members visited the site, together, on 1st September 2022 between 13:00 and 14:25 hours. During the site visit, the weather was warm, sunny and the existing road surface was dry. Vehicular traffic conditions at the time of the site visit were low on Lye Lane. One pedestrian and no pedal cyclists were observed during the site visit.

1.7 The terms of reference of the Audit are as described in DMRB GG 119 Road Safety Audit. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. The Road Safety Audit does not perform any “Technical Check” function on these proposals. It is assumed that the Design Organisation is satisfied that such a “Technical Check” has been successfully completed prior to requesting this Road Safety Audit.

1.8 No Departures from Design Standards have been reported by the Design Organisation.

1.9 Plans showing the locations of Problems raised in this report are included in Appendix B.

1.10 Issues identified and observations made during this Stage 1 Road Safety Audit and site inspection which the Terms of Reference exclude from this report, but which the Audit Team wishes to draw to the attention of the Overseeing Organisation, Hertfordshire County Council, will be set out in a separate letter. These issues could include maintenance items and operational issues. The Audit Team has not identified any issues during this Stage 1 Road Safety Audit and site inspection that are considered to be outside the Terms of Reference.

2 ITEMS RAISED AT THIS STAGE 1 ROAD SAFETY AUDIT

2.1 LOCAL ALIGNMENT

2.1.1 No Problems identified in this category at this Stage 1 Road Safety Audit.

2.2 GENERAL

2.2.1 No Problems identified in this category at this Stage 1 Road Safety Audit.

2.3 JUNCTIONS

2.3.1 **PROBLEM**

Location: **A** – Lye Lane, development site access junction.

Summary: Potential restricted visibility for motorists seeking to emerge from the development site access junction onto Lye Lane could result in a potential increased risk of side impact collisions occurring, whereby vehicle occupants could sustain personal injury.

The scheme drawing indicates the provision of a new access junction on the eastern side of Lye Lane, located to the north of the existing vehicular access for the paintball centre. The existing vehicular access is to be stopped up.

The site visit has established that the posted speed limit on Lye Lane was 30mph, as indicated by repeater signs on posts.

The recorded 85th percentile speeds on Lye Lane were 31.2mph for northbound vehicular traffic and 32.2mph for southbound vehicular traffic.

It is evident from the scheme drawing that the 2.4m x 43m visibility splay to the north of the proposed development site access junction crosses the development site frontage denoted in green.

Concern arises that potential landscaping / fencing fronting the proposed development site could restrict visibility for motorists emerging from the development site access junction onto Lye Lane. The situation could be exacerbated as the 85th percentile speeds are slightly higher than the posted 30mph speed limit and the provision of 43m visibility splays. As a result, restricted visibility could lead to a potential increased risk of side impact collisions occurring, between vehicular traffic emerging from the development site and vehicular traffic on Lye Lane, whereby vehicle occupants could sustain personal injury.

RECOMMENDATION

It is recommended that the northern visibility splay should be kept clear of any impediments that may restrict visibility at this location.

Additionally, it is recommended that the proposed visibility splays should be commensurate with the 85th percentile speeds on Lye Lane.

2.3.2 **PROBLEM**

Location: **B** – Lye Lane, development site access junction.

Summary: Swept path requirements of larger vehicles negotiating the proposed development site access junction could result in a potential increased risk of head on or side swipe type collisions occurring, whereby vehicle occupants could sustain personal injury.

The scheme drawing indicates the swept path requirements of a Refuse Vehicle accessing and egressing the proposed development site access junction on the eastern side of Lye Lane.

It is evident from the scheme drawing that the Refuse Vehicle encroaches the centre lines within the proposed development site access junction and main carriageway of Lye Lane.

In addition to refuse vehicles, other larger vehicles such as Supermarket delivery or long wheel base panel vans (i.e. Amazon, DPD) undertaking deliveries for various companies on a more frequent basis than refuse vehicles could also impact upon the required junction geometry to accommodate such vehicles.

Concern arises that large vehicles including those mentioned above encroaching the centre lines within the development site access junction and Lye Lane when accessing and egressing the development site, could lead to a potential increased risk of head on or side swipe type collisions occurring with opposing flows of vehicular traffic, whereby vehicle occupants could sustain personal injury.

RECOMMENDATION

It is recommended that the junction geometry should be modified in order to mitigate the above described potential collision scenario.

Additionally, it is recommended that swept path analysis exercises of other large vehicles (i.e. Supermarket delivery and long wheel base panel vans) should be undertaken, in order to assist with the development site junction geometry requirements.

2.4 WALKING, CYCLING AND HORSE RIDING

2.4.1 **PROBLEM**

Locations: **C**, **D** and **E** – Development site access junction.

Summary: Lack of dropped kerbs could result in a potential increased risk of pedestrian trips and falls occurring on the assumed full height kerb upstands, whereby pedestrians could sustain personal injury, especially those who are blind, visually or mobility impaired.

The scheme drawing indicates the provision of a new access junction on the eastern side of Lye Lane. The scheme drawing also indicates the provision of footways leading from the proposed development site onto the new footway provision on the eastern side of Lye Lane.

Within the proposed development site, the scheme drawing indicates that the proposed footways either side of the development site access road end, resulting in pedestrians either crossing to the opposite footway or continuing their journey within the carriageway.

Concern arises that pedestrians negotiating the assumed full height kerb upstands when crossing the proposed access junction from north to south and vice-versa could lead to a potential increased risk of pedestrian trips and falls occurring, whereby pedestrians could sustain personal injury, especially those who may be blind, visually or mobility impaired.

Additionally, concern arises that pedestrians seeking to cross the internal development site roads where the footways end to access the opposite footway and vice-versa could lead to a potential increased risk of pedestrian trips and falls occurring on the assumed full height kerb upstands, whereby pedestrians could sustain personal injury, especially those who may be blind, visually or mobility impaired

RECOMMENDATION

It is recommended that dropped kerbs and tactile paving should be provided across the development site access junction, in order to mitigate the above described potential injury scenario.

Additionally, it is recommended that uncontrolled pedestrian crossing facilities should be provided within the proposed development site where the footways end, in order to mitigate the above described potential injury scenario.

2.4.2 **PROBLEM**

Location: **F** – Footway to the north of the development site access junction.

Summary: Lack of dropped kerbs could result in a potential increased risk of pedestrian trips and falls occurring on the assumed full height kerb upstands, whereby pedestrians could sustain personal injury, especially those who are blind, visually or mobility impaired.

The scheme drawing indicates the provision of a new access junction on the eastern side of Lye Lane. The scheme drawing also indicates the provision of footways leading from the proposed development site onto the new footway provision on the eastern side of Lye Lane.

Concern arises that pedestrians negotiating the assumed full height kerb upstands when transitioning between the footway and carriageway to the north of the proposed development site access junction, could lead to a potential increased risk of pedestrian trips and falls occurring, whereby pedestrians could sustain personal injury, especially those who may be blind, visually or mobility impaired.

RECOMMENDATION

It is recommended that a length of dropped kerbs should be provided at this location, in order to mitigate the above described potential injury scenario.

2.4.3 **PROBLEM**

Location: **G** – Footway to the north of the development site access junction.

Summary: Potential restricted inter-visibility for pedestrians transitioning from the footway to the carriageway could result in a potential increased risk of vehicle and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

The scheme drawing indicates the provision of a new access junction on the eastern side of Lye Lane. The scheme drawing also indicates the provision of footways leading from the proposed development site onto the new footway provision on the eastern side of Lye Lane.

It is evident from the scheme drawing that the proposed footway to the north of the development site access junction ends adjacent to the development site frontage denoted in green.

Concern arises that potential landscaping / fencing fronting the proposed development site could restrict inter-visibility between pedestrians transitioning between the footway and carriageway when walking northbound on Lye Lane and southbound vehicular traffic. As a result, this situation could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

RECOMMENDATION

It is recommended that the inter-visibility should be accurately measured and kept clear of any impediments that may restrict inter-visibility at this location, in order to mitigate the above described potential collision scenario.

2.4.4 **PROBLEM**

Locations: **H**, **I**, **J**, **K** and **L** – Crossing provisions south of the proposed development site.

Summary: Restricted inter-visibility at the proposed crossing facilities could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

The scheme drawing indicates the provision of new footways on Lye Lane between the proposed development site access junction and the junction of West Riding to the south of the proposed development site. The scheme drawing also indicates a number of uncontrolled pedestrian crossing facilities along this section of Lye Lane.

The site visit has established there is a notable amount of trees and vegetation either side of Lye Lane between the proposed development site and the junction of West Riding.

The site visit has also established the presence of a boundary wall / fence and gate on the northern side of an existing access junction on the western side of Lye Lane, (see Location I within Appendix B), which impacted upon the inter-visibility.

Due to the existing vegetation either side of Lye Lane, concern arises that restricted inter-visibility between pedestrians crossing Lye Lane at these locations and northbound and southbound vehicular traffic could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

Additionally, due to the presence of the boundary wall / fence and gate on the northern side of the access junction on the western side of Lye Lane, concern arises that restricted inter-visibility could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

RECOMMENDATION

It is recommended that the inter-visibility at these locations should be accurately measured and kept clear of any impediments that may restrict inter-visibility.

This may necessitate cutting back existing trees, branches and other vegetation on Lye Lane, as well as modifying the crossing provision at the existing access junction on the western side of Lye Lane.

2.4.5 **PROBLEM**

Location: **M**, **N** and **O** – Lye Lane, existing access junction and vehicular crossovers.

Summary: Potential swept path requirements of vehicles accessing and egressing the existing access junction and vehicular crossovers on Lye Lane could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

The scheme drawing indicates the provision of new footways on Lye Lane between the proposed development site access junction and the junction of West Riding to the south of the proposed development site. The scheme drawing also indicates a number of uncontrolled pedestrian crossing facilities along this section of Lye Lane.

In the event that vehicles overrun the existing verges when accessing or egressing the existing access junction and vehicular crossovers on Lye Lane, concern arises that with the provision of new the footways on Lye Lane this situation could lead to vehicular and pedestrian conflicts occurring.

The potential swept path requirements of vehicular traffic accessing and egressing the access junction and vehicular crossovers could result in vehicular traffic overrunning the proposed footway areas. As a result, this situation could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

RECOMMENDATION

It is recommended that swept path analysis exercises should be undertaken for all the expected types and sizes of vehicles using the access junction and vehicular crossovers.

Should overrunning of the footways occur, it is recommended that the kerb lines should be modified in order to mitigate the above descried potential collision scenario.

2.4.6 **PROBLEM**

Location: **P** – Lye Lane, reduced footway width.

Summary: The proposed narrowed section of footway on the eastern side of Lye Lane could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

The scheme drawing indicates the provision of new 2m wide footways on Lye Lane between the proposed development site access junction and the junction of West Riding to the south of the proposed development site, which include a number of uncontrolled pedestrian crossing facilities. The scheme drawing also indicates a length of footway south of the M25 over-bridge narrows down to 1m before widening out to 2m on the eastern side of Lye Lane.

The site visit has established that there is a vehicle restraint barrier located on the eastern side of Lye Lane south of the M25 over-bridge.

Concern arises that the pedestrians who choose to continue walking on the eastern footway may encounter pedestrians walking towards them on the proposed narrow section of footway, which could result in pedestrians stepping into the mainline carriageway in order to pass one another.

The presence of the existing vehicle restraint barrier exacerbates the situation, as the barrier is likely to restrict pedestrians from manoeuvring further east when seeking to pass an opposing pedestrian on this section of footway.

As a result, this situation could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

RECOMMENDATION

It is recommended that the proposed footway should end to the south of the northern most uncontrolled pedestrian crossing facility, in order to mitigate the above described potential collision scenario.

2.4.7 **PROBLEM**

Location: **General, throughout the extents of footway provision** – Lye Lane, existing ditches.

Summary: Location of existing ditches in proximity to the proposed new footways on Lye Lane could result in a potential increased risk of pedestrian slips and falls occurring when walking adjacent to existing ditches along Lye Lane, whereby pedestrians could sustain personal injury.

The scheme drawing indicates the provision of new footways on Lye Lane between the proposed development site access junction and the junction of West Riding to the south of the proposed development site.

The site visit has established the presence of verge ditches running both sides of Lye Lane.

With the provision of the proposed footways on Lye Lane that would be positioned adjacent to existing verge ditches, concern arises that this situation could lead to a potential increased risk of pedestrian slips and falls occurring into the ditches, especially during the hours of darkness, as Lye Lane is unlit, whereby pedestrians could sustain personal injury.

RECOMMENDATION

It is recommended that measures to preclude pedestrians from slipping and falling into the ditches should be provided in order to mitigate the above described potential injury scenario. Measures could include the provision of culverts along Lye Lane or a suitable form of containment fencing to preclude pedestrians from slipping and falling into the ditches.

2.5 TRAFFIC SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING

2.5.1 No Problems identified in this category at this Stage 1 Road Safety Audit.

END OF PROBLEMS IDENTIFIED AND RECOMMENDATIONS OFFERED IN THIS STAGE 1 ROAD SAFETY AUDIT

3 AUDIT TEAM STATEMENT

We certify that this audit has been carried out in accordance with DMRB GG 119.

Road Safety Audit Team Leader

Lisa Allen, BEng (Hons), MSc, MCIHT, MSoRSA, HA RSA Cert Comp

Signed: [redacted]

Director
Allen Transport Consultancy Ltd
Minerva House
139 Chatham Road
Maidstone
Kent ME14 2NB

Date: 19th September 2022

Road Safety Audit Team Member

Adriano B. Cappella, IEng, FIHE, MSoRSA, MCIHT, HA RSA Cert Comp

Signed: [redacted]

Road Safety Consultant
Allen Transport Consultancy Ltd
Minerva House
139 Chatham Road
Maidstone
Kent ME14 2NB

Date: 19th September 2022

APPENDIX A

List of drawings and documentation submitted for auditing:

Drawing Title

P2584: Land North of Bricket Wood, Herts Proposed Site Access Junction Layout

P2584: Land North of Bricket Wood, Herts Refuse Vehicles Swept Path Analysis

P2584: Land North of Bricket Wood, Herts Proposed New Footway to South (Page 1 of 4)

P2584: Land North of Bricket Wood, Herts Proposed New Footway to South (Page 2 of 4)

P2584: Land North of Bricket Wood, Herts Proposed New Footway to South (Page 3 of 4)

P2584: Land North of Bricket Wood, Herts Proposed New Footway to South (Page4 of 4)

P2584. Lye Lane, Bricket Wood, Hertfordshire, AL2 3TF Site Location

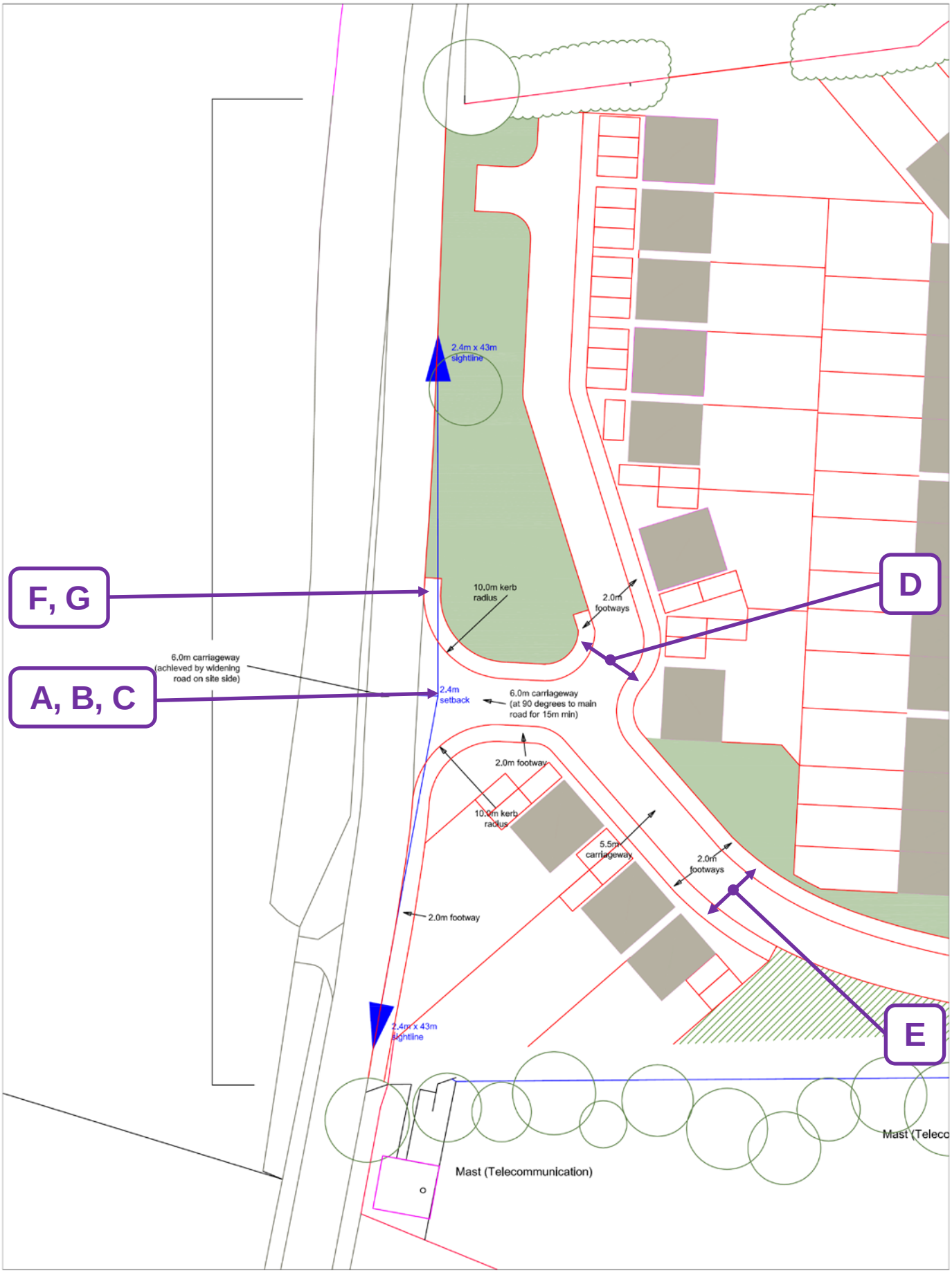
P2584. Lye Lane, Bricket Wood, Hertfordshire, AL2 3TF Site Context

Supporting Documentation:

- Stage 1 Road Safety Audit Brief, Paul Mew Associates – 5th August 2022
- Proposed Residential Development at Former Bricket Wood Sport & Country Club / Paintball Site, Lye Lane, Bricket Wood, AL2 3TF, Transport Assessment, Paul Mew Associates – July 2022
- Bricket Wood ATC Survey Data, Total Traffic Flows – 25th April to 1st May 2022

APPENDIX B

Problem location plans showing the location of the problems identified as part of this audit (location letters refer to paragraphs in the report).

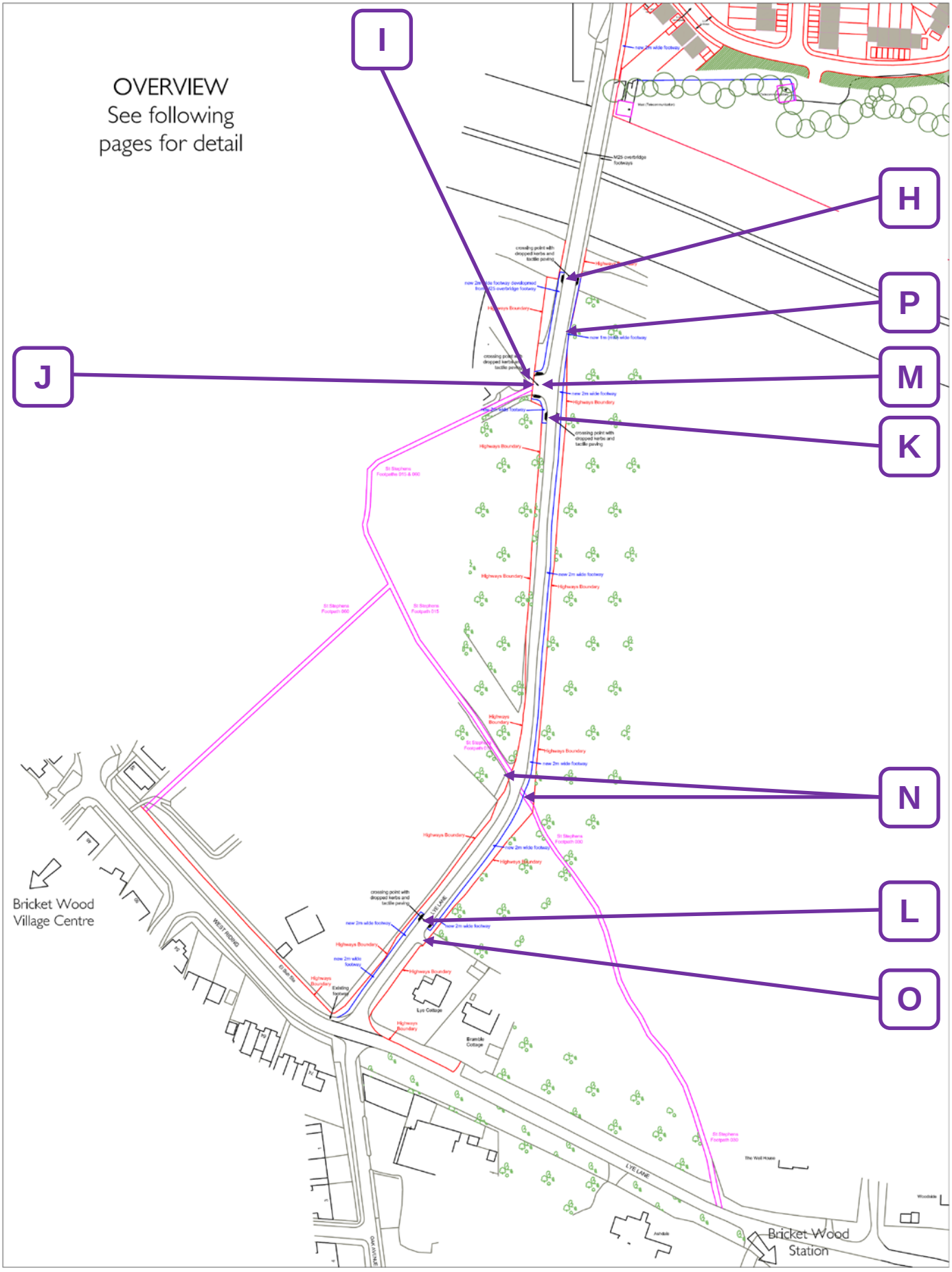


Date: 29/06/22
Scale: 1:400@A3
Source: OS / AD Practice
Appendix D

N

P2584: Land North of Bricket Wood, Herts
Proposed Site Access Junction Layout

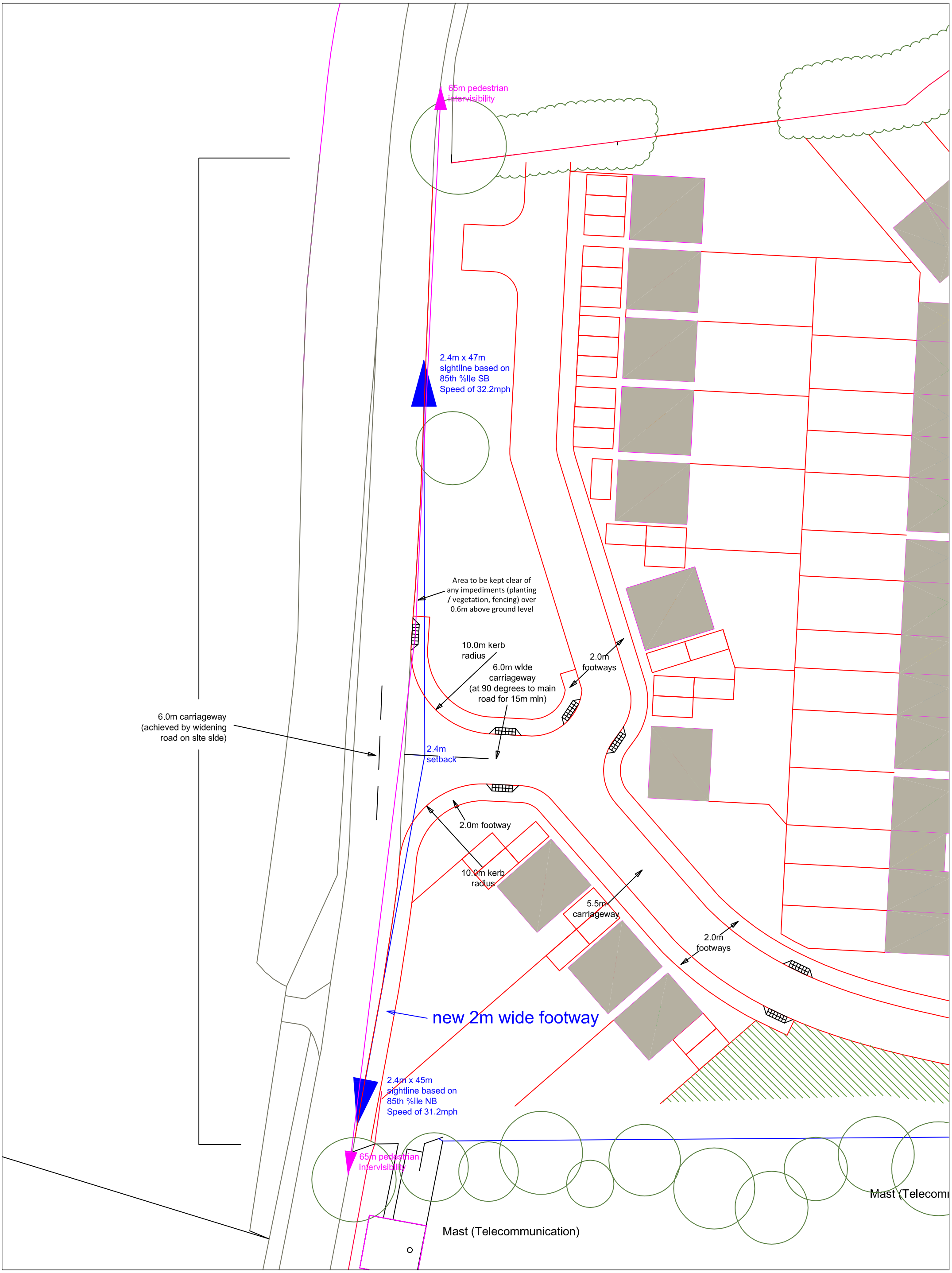
PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk



Date: 29/06/22 Scale: 1:1500@A3 Source: OS / AD Practice Appendix F	N	P2584: Land North of Bricket Wood, Herts Proposed New Footway to South (Page 1 of 4)	PAUL MEW ASSOCIATES TRAFFIC CONSULTANTS Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ Tel: 020 8780 0426 E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

Appendix B

Stage 1 Road Safety Audit – Response Report & Log

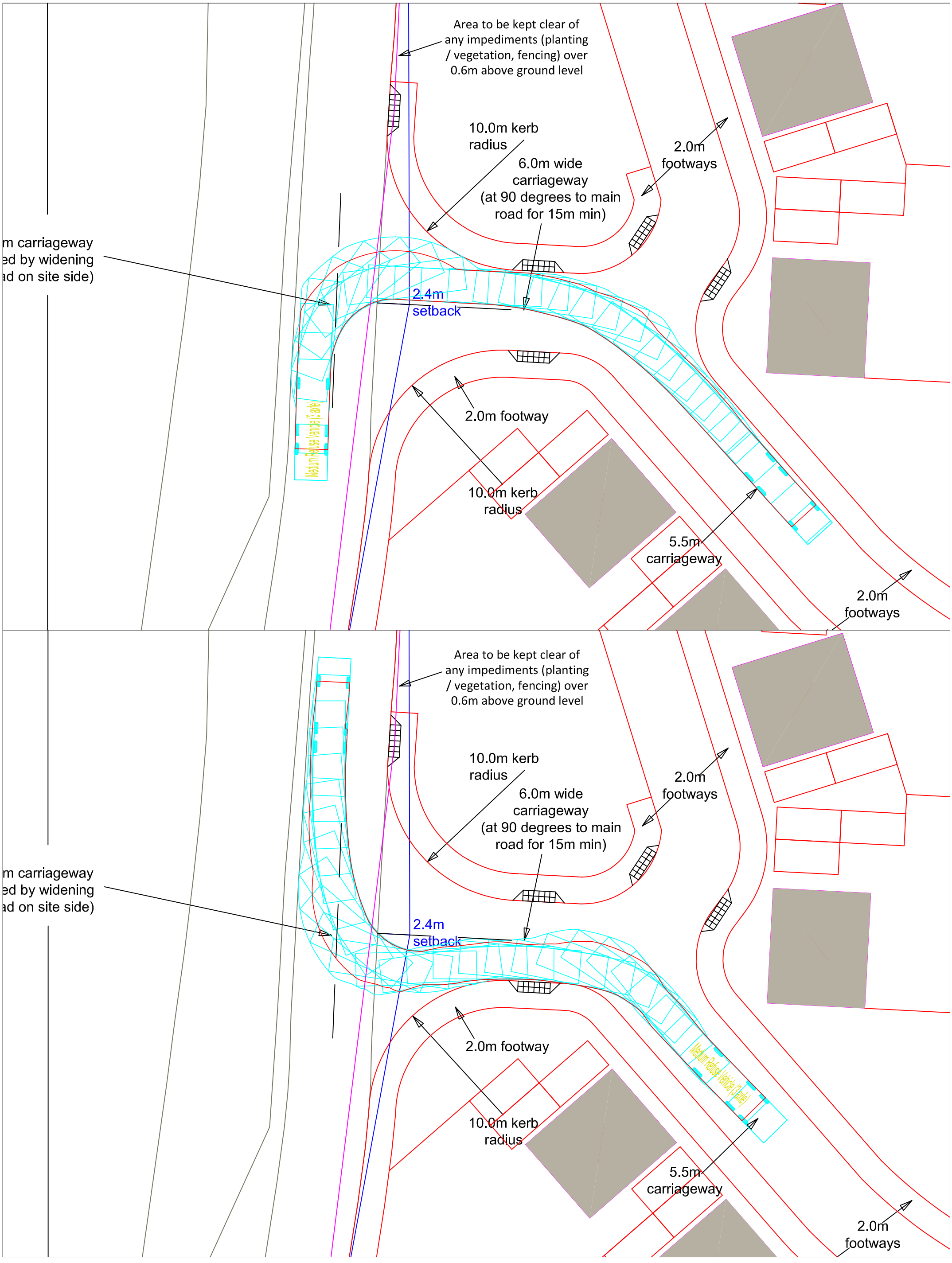


Date: 29/09/22
Scale: 1:400@A3
Source: OS / AD Practice
Appendix D

N

P2584: Land North of Bricket Wood, Herts
Proposed Site Access Junction Layout

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

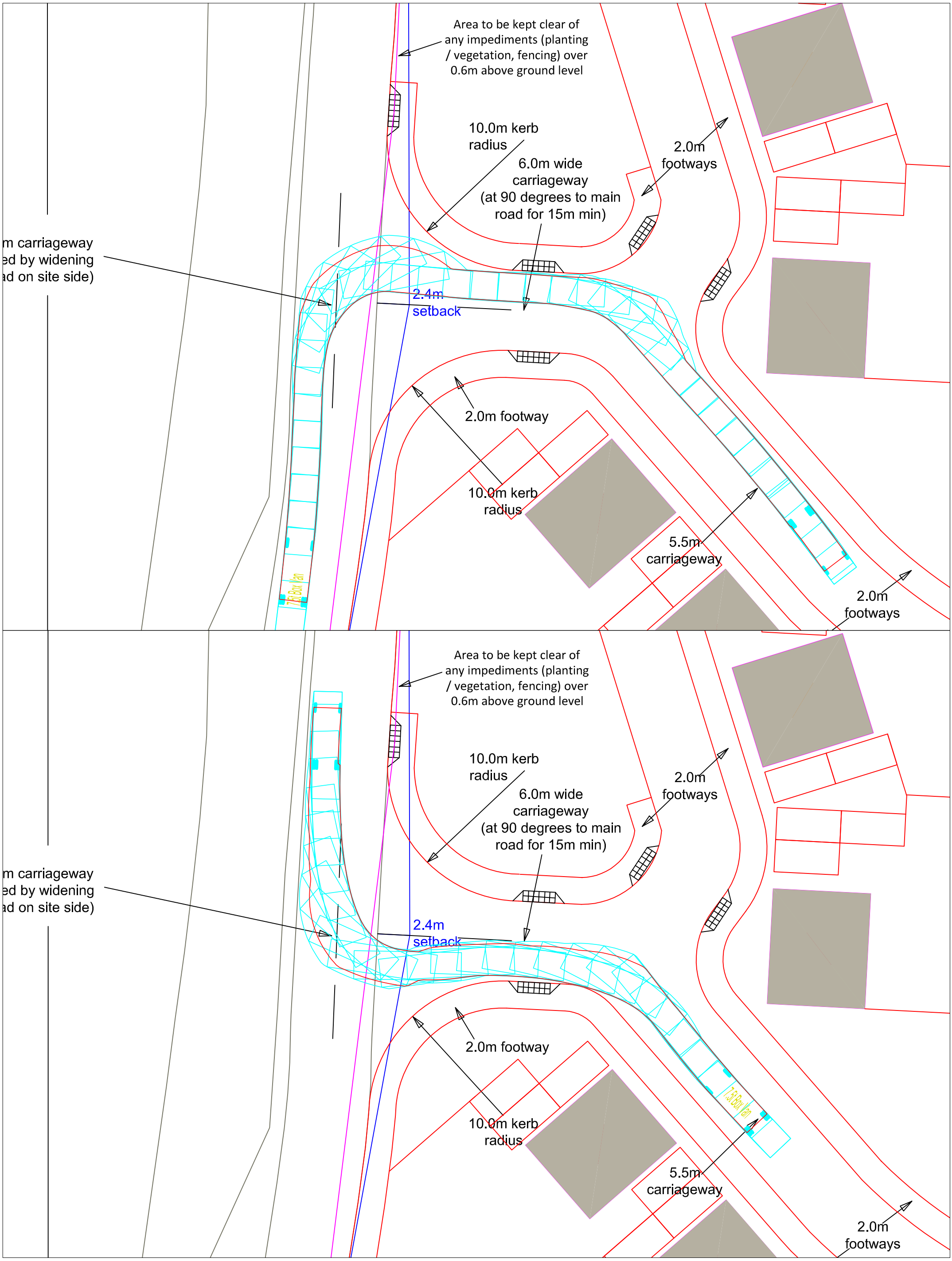


Date: 29/09/22
Scale: 1:250@A3
Source: OS / AD Practice
Appendix D

N

P2584: Land North of Bricket Wood, Herts
Refuse Vehicle Entering / Exiting Site

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

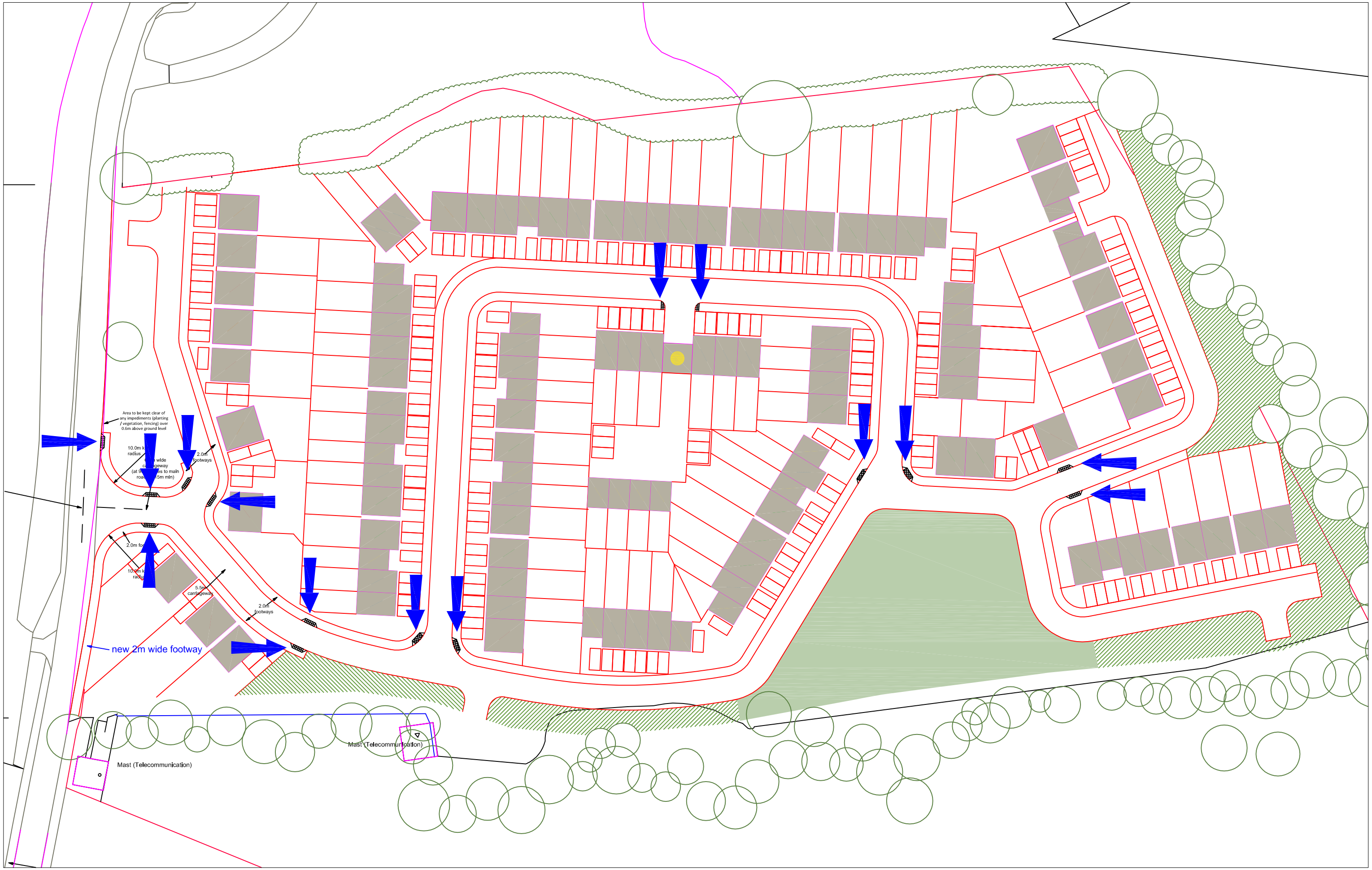


Date: 29/09/22
Scale: 1:250@A3
Source: OS / AD Practice
Appendix D

N

P2584: Land North of Bricket Wood, Herts
Large Van Entering / Exiting Site

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk



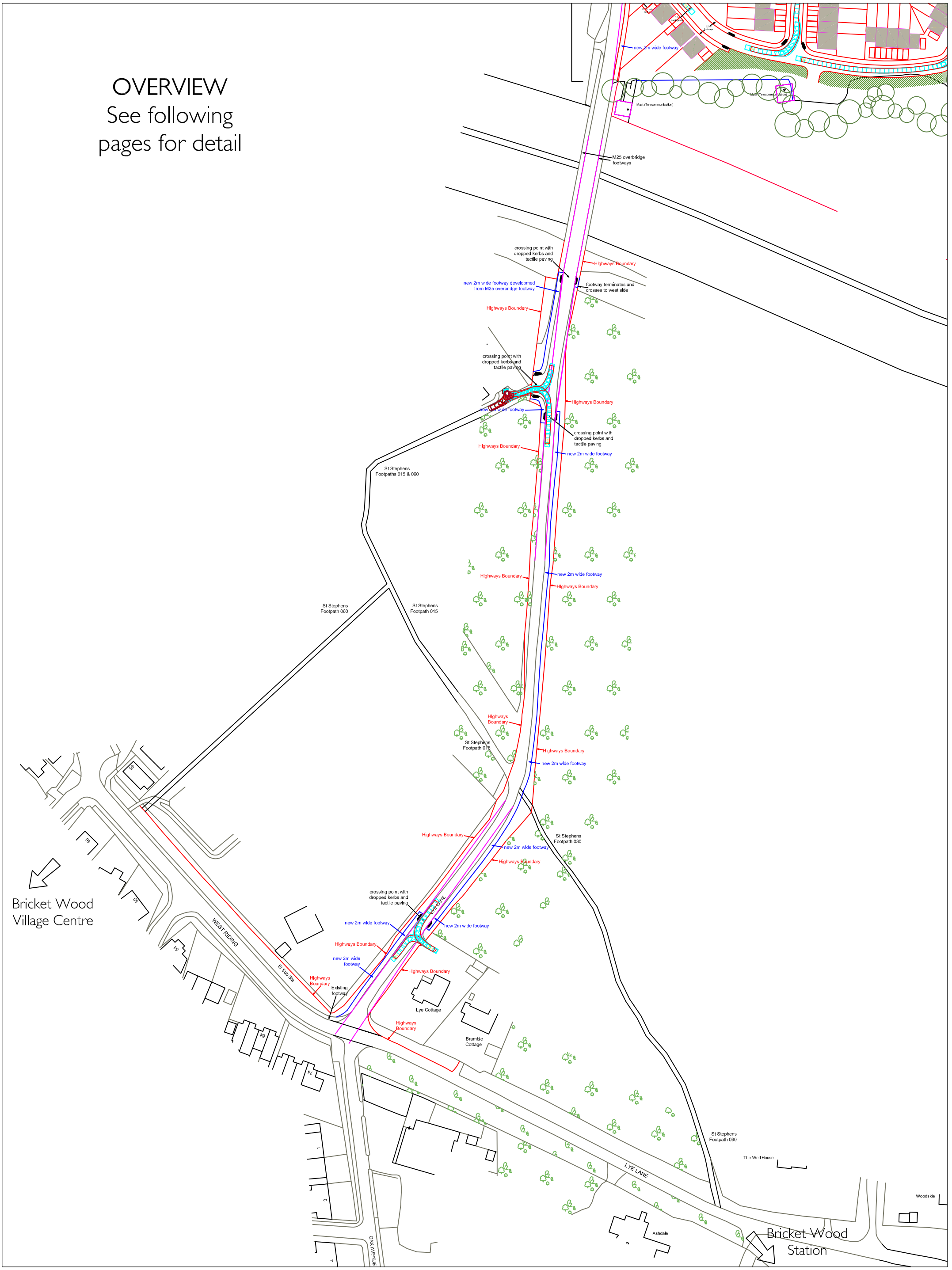
Date: 29/09/22
Scale: 1:750@A3
Source: OS / AD Practice
Appendix D

N

P2584: Land North of Bricket Wood, Herts
Proposed Uncontrolled Pedestrian Crossing Points with Dropped Kerbs / Tactile Paving (Indicated by Blue Arrows)

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

OVERVIEW
See following
pages for detail



Date: 29/09/22
Scale: 1:1500@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 1 of 4)

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

10.0m kerb radius

5.5m carriageway

2.0m footways

new 2m wide footway

2.4m x 45m sightline based on 85th %ile NB Speed of 31.2mph

65m pedestrian intervisibility

Mast (Telecommunication)

65m pedestrian intervisibility

65m pedestrian intervisibility

M25 overbridge footways

crossing point with dropped kerbs and tactile paving

Highways Boundary

65m pedestrian intervisibility

65m pedestrian intervisibility

new 2m wide footway developmed from M25 overbridge footway

footway terminates and crosses to west side

Highways Boundary

crossing point with dropped kerbs and tactile paving

Highways Boundary

new 2m wide footway

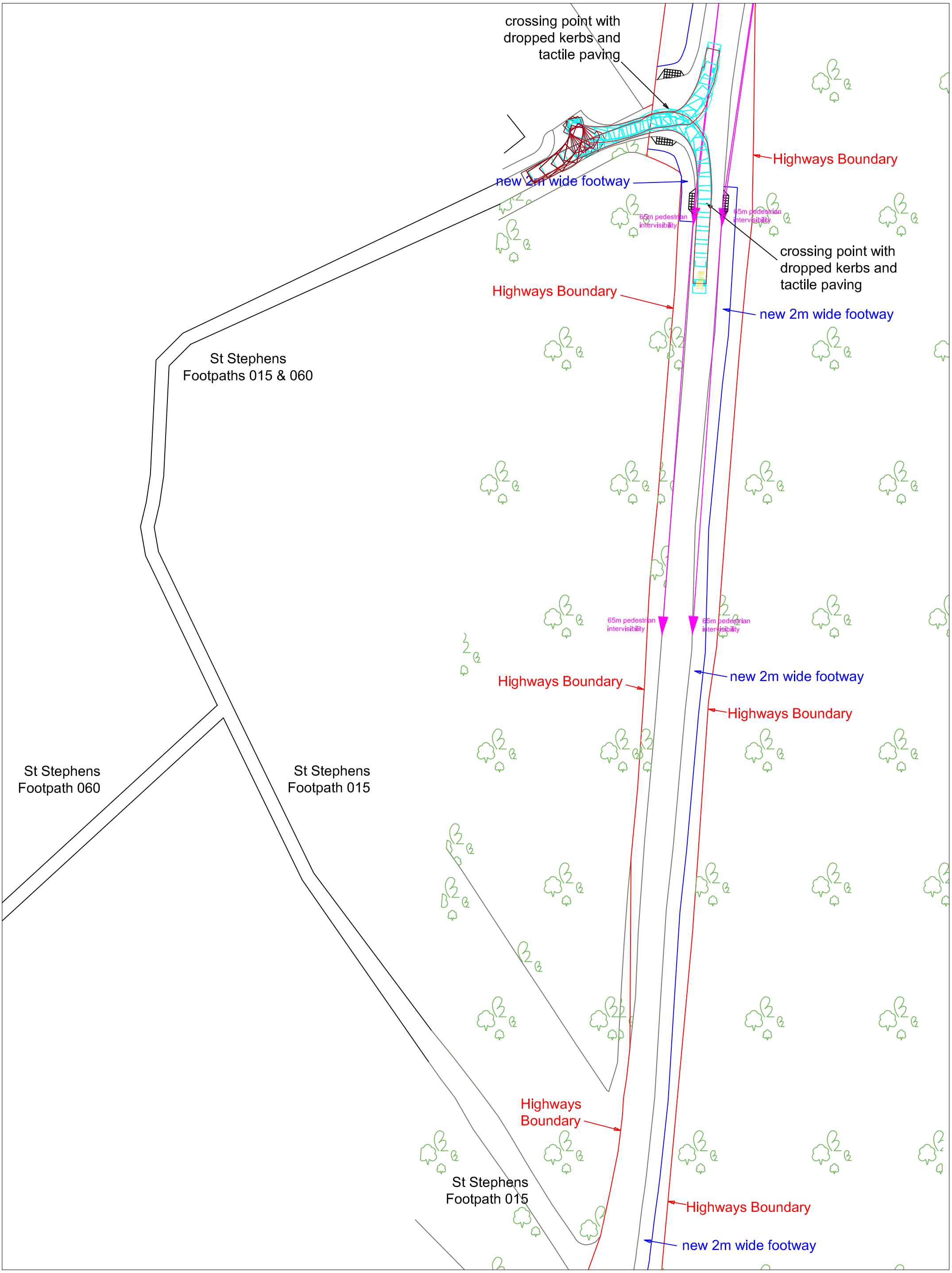
65m pedestrian

Date: 29/09/22
Scale: 1:750@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 2 of 4)

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk

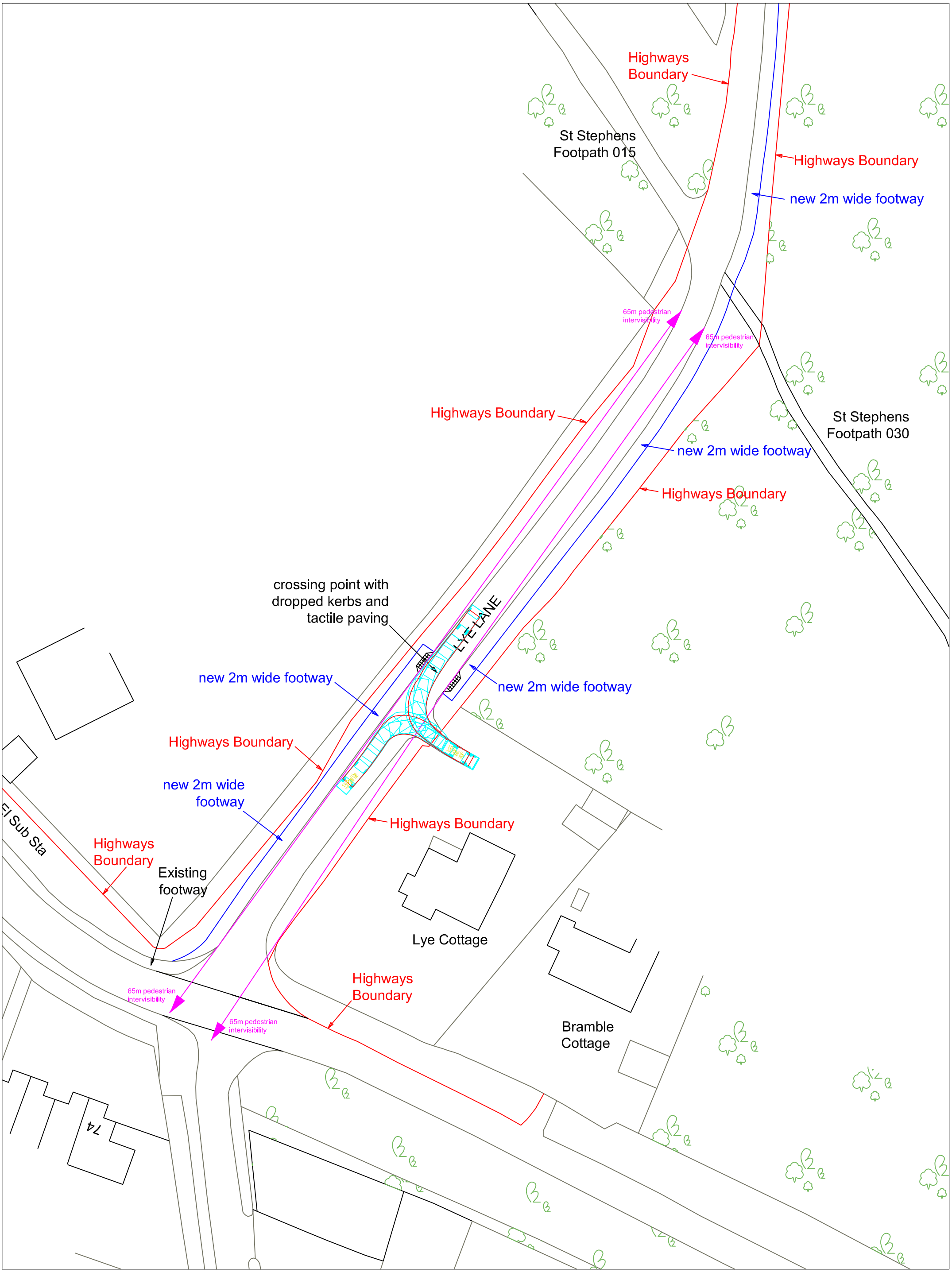


Date: 29/09/22
Scale: 1:750@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 3 of 4)

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk



Date: 29/09/22
Scale: 1:750@A3
Source: OS / AD Practice
Appendix F

N

P2584: Land North of Bricket Wood, Herts
Proposed New Footway to South (Page 4 of 4)

PAUL MEW ASSOCIATES
TRAFFIC CONSULTANTS
Unit 1, Plym House, 21 Enterprise Way, London, SW18 1FZ
Tel: 020 8780 0426
E-mail: paul.mew@pma-traffic.co.uk Website: www.pma-traffic.co.uk