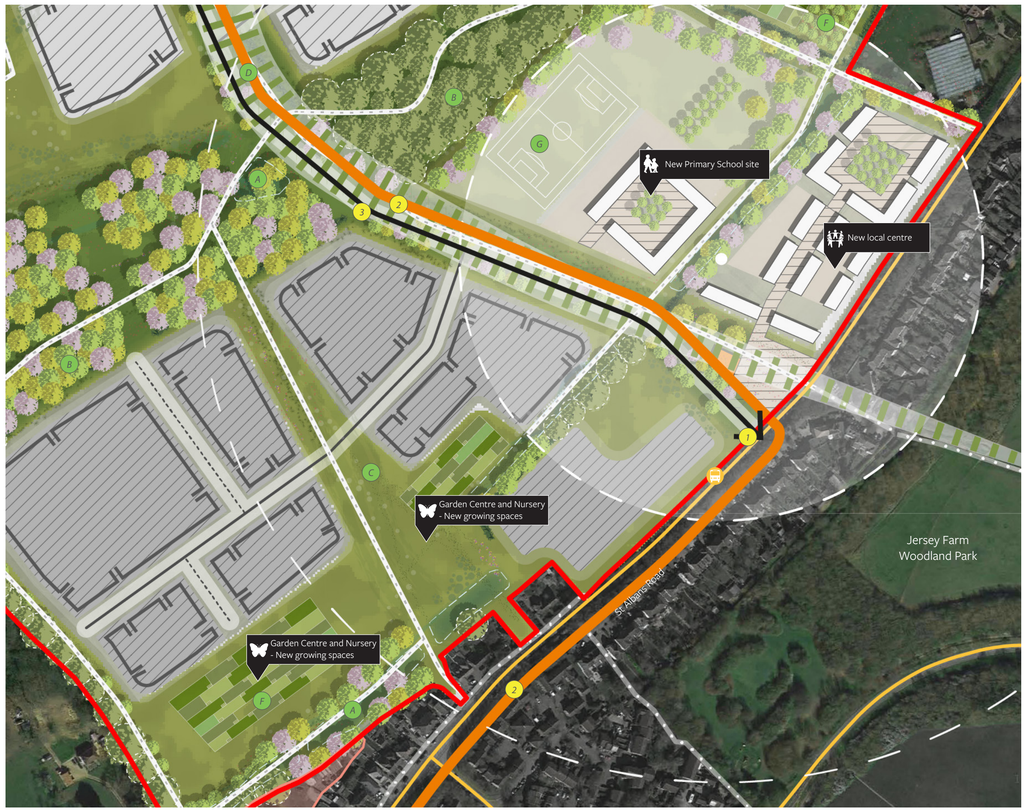
Option 1
Replacement of all nursery growing land off-site

Option 2
Full replacement of all nursery growing land on-site



Key

Application Boundary

Hedgerow (Existing within application boundary)

Existing Trees (within application boundary)

Access and Movement

Public Rights of Way

Paths

Roads

Bus routes

Bus stops

Proposed Development

High density development

Medium density development

Low density development

Landscape Interventions

A Attenuation ponds

B Woodland buffer

C Landscape break

D Sandridge Waste

E Allotments

F Community orchard

G MUGA

Urban Interventions

1 Site Access

2 Strategic cycle route

3 Loop road

Option 3
Part retention in-situ/ part replacement of all nursery growing land on-site

Option 4
95-100% in-situ retention of all nursery growing land

N

St Albans Urban Extension Site Concept Plan Options		BP / DE
210204 L 02 02	NTS	March 2021

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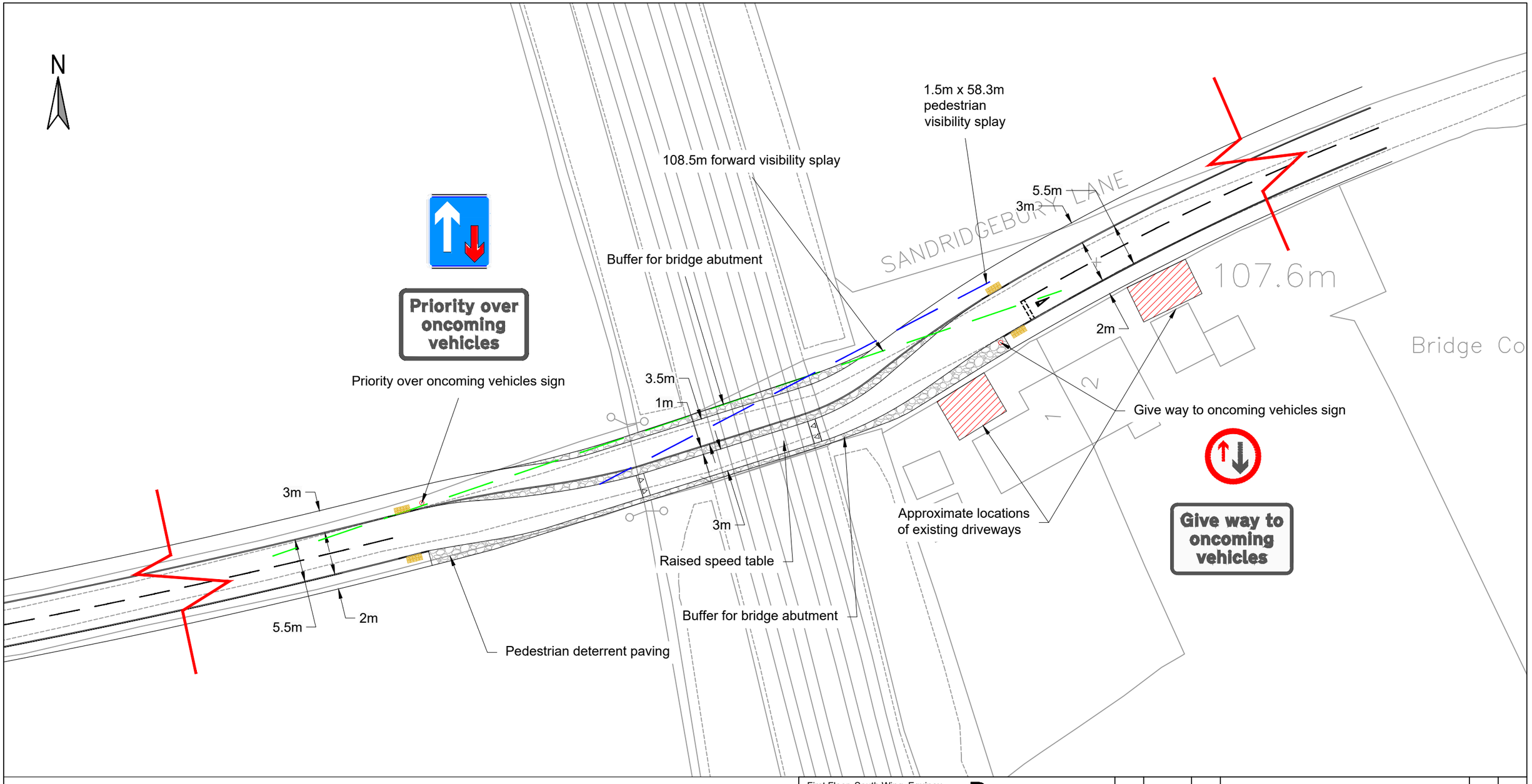
For Information

SANDRIDGEBURY FARM, ST ALBANS

Wider Strategic Area

LIGHTWOOD



Notes:

1. The layout is subject to detailed design, road safety audit, ground investigations results & earthworks modelling, utilities & services and confirmation of land ownership;
2. The detailed design layout will be designed in accordance with all relevant design guidance and standards;
3. The layout has been based on the appropriate design speed for our current proposals;
4. This drawing should be read in conjunction with all relevant associated documents;
5. The use of the drawing does not absolve the client from their responsibilities in regards to health & safety and CDM regulations;
6. Pegasus group accepts no liability for the misuse of this drawing.

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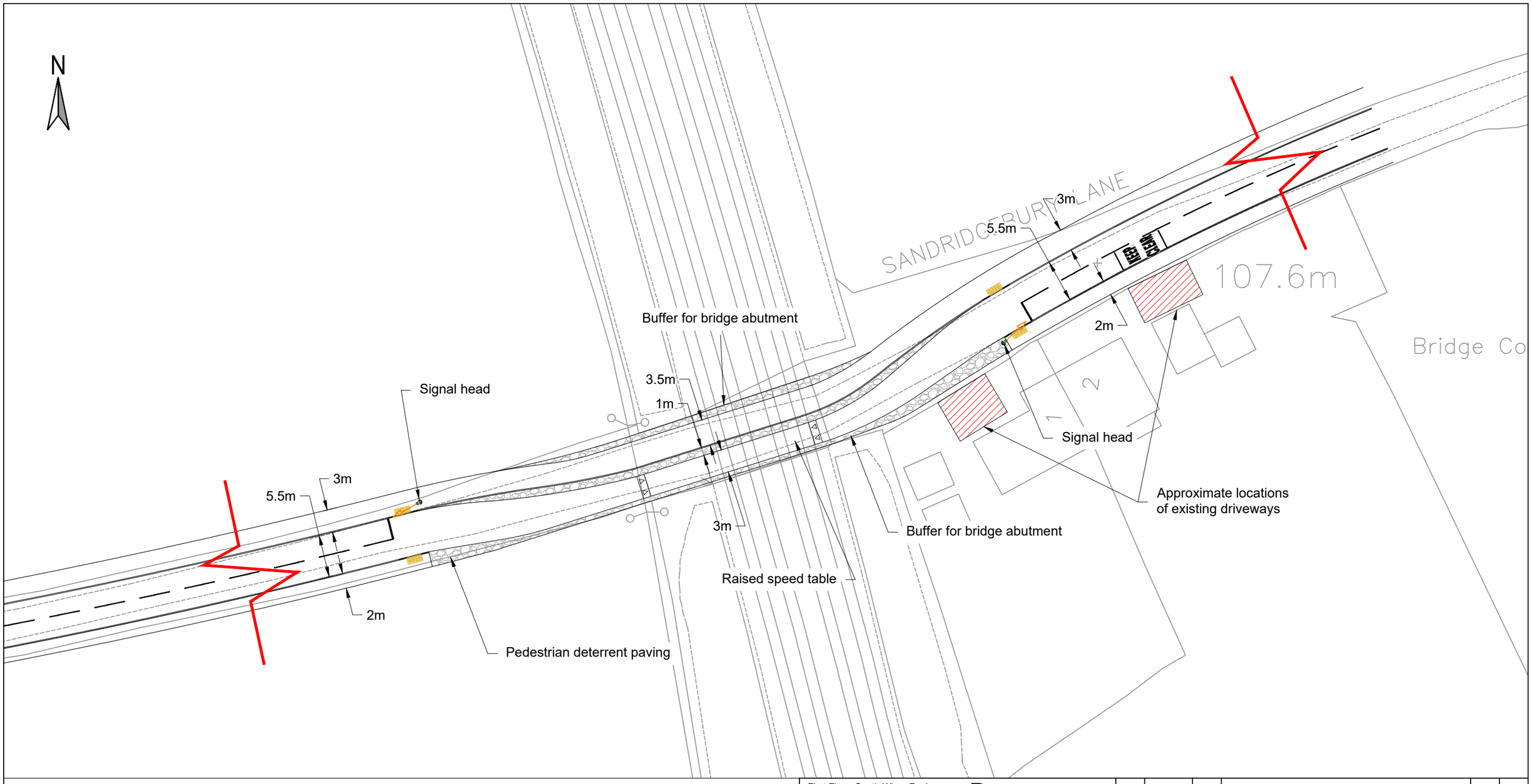
REV	DATE	BY	DESCRIPTION	CHK	APD

CLIENT: LIGHTWOOD STRATEGIC LTD

PROJECT: SANDRIDGEBURY FARM, ST ALBANS

TITLE: PRIORITY JUNCTION OPTION

SCALE @ A3:	CHECKED:	APPROVED:
1:500	ADS	SAJ
DATE:	DESIGN-DRAWN:	DRAWING-STATUS:
03/03/2021	JAN	INDICATIVE
PROJECT No:	DRAWING No:	REV:
P20-0554	002	



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REV	DATE	BY	DESCRIPTION	CHK	APD

CLIENT: LIGHTWOOD STRATEGIC LTD

PROJECT: SANDRIDGEBURY FARM, ST ALBANS

TITLE: SIGNAL ARRANGEMENT OPTION

SCALE @ A3:	CHECKED:	APPROVED:
1:500	ADS	SAJ
DATE:	DESIGN-DRAWN:	DRAWING-STATUS:
03/03/2021	JAN	INDICATIVE
PROJECT No:	DRAWING No:	REV:
P20-0554	003	

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MARCH 2021 | P20-0554

TRANSPORT STRATEGY

LAND AT SANDRIDGEBURY FARM, ST ALBANS

ON BEHALF OF LIGHTWOOD STRATEGIC LTD

Pegasus Group

Birmingham | Bracknell | Bristol | Cambridge | Cirencester | Dublin | East Midlands | Leeds | Liverpool | London | Manchester | Newcastle | Peterborough

DESIGN ENVIRONMENT PLANNING ECONOMICS HERITAGE

Pegasus Group is a trading name of Pegasus Planning Group Limited (07277000) registered in England and Wales
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APPENDICES:

1.0 INTRODUCTION

1.1 This Transport Strategy (TS) has been prepared by Pegasus Group on behalf of Lightwood Strategic Ltd to set out the potential transportation issues associated with the development of Land at Sandridgebury Farm, St Albans. At this stage, it is considered that in excess of 1,000 residential dwellings could be provided at the site.

1.2 The scheme provides the opportunity for primary vehicular access to be sought via St Albans Road (B651).

1.3 The site is not currently identified by the Council for residential development. However, it is considered to be accessibly located on the periphery of St Albans, immediately to the east of the North St Albans scheme included within the recently withdrawn St Albans and District Council Draft Local Plan 2020 – 2036.

1.4 This site is located with appropriate links to facilities and amenities located within both St Albans to the south and Sandridge to the north. St Albans Road facilitates three bus services which connect the site with both St Albans and Sandridge and in particular St Albans City Railway Station. Walking and cycling infrastructure within the vicinity of the site also provide appropriate links to nearby facilities and amenities.

1.5 It is considered that a suite of sustainable transport options and improvements will be developed and explored in due course, including:

i. provision of complimentary land uses to maximise the self-containment levels of the proposed new development;
ii. masterplan considerations to promote sustainable transport and direct and convenient pedestrian and cycle routes;
iii. car parking in accordance with local guidance including for the provision of electric car charging points for residents and visitors;
iv. bus priority measures;
v. car club spaces;

vi. cycle parking;
vii. a frequent and accessible bus service / diversion from St Albans Road;
viii. potential for a park and ride / park and bus hub to be provided within the site; and
ix. provision of rental bike scheme within the site.

1.6 It is intended to work collaboratively with the highways authority and other stakeholders to agree appropriate strategies associated with the scheme in due course.

2.0 TRANSPORT PLANNING POLICY

National Planning Policy Framework

2.1 The National Planning Policy Framework (NPPF) core transport principles are for developments to maximise the opportunities to seek to reduce the dependency on single occupancy car travel and minimise travel distances from home to health, employment, leisure, education, retail and transport facilities.

St Albans City and District Council Emerging Local Plan 2020-2036

2.2 The examination of the St Albans City and District Council Emerging Local Plan 2020-2036 was suspended in January 2020 following a review by Government -appointed Planning Inspectors. The draft Local Plan was subsequently withdrawn in November 2020.

Hertfordshire County Council Local Transport Plan (LTP) 4

2.3 The Hertfordshire County Council LTP4 was adopted in May 2018. It highlights existing and future transport issues and recommends potential solutions and future infrastructure improvements.

2.4 A number of the key objectives of the LTP4 seek to increase the use of public transport and reduce the number of single occupancy vehicle trips (particularly for employment and education trips), minimise the impact of new development on congestion and improve the quality of walking and cycling routes to key destinations.

2.5 The LTP4 proposes several major schemes and interventions that will be needed, or investigated, to support the delivery of the LTP4 Strategy. These are predominantly focused on eight corridors identified at Chapter 7 of the LTP4, including London-Watford-Luton-Milton Keynes (Corridor 2). The strategic approach for this corridor includes *"supporting the sustainable delivery of housing growth, particularly at Hemel Hempstead (West and East), Watford, St Albans and east of Bricket Wood."*

2.6 Figure 3.9 of the LTP4 identifies that the St Albans Road, Marshalwick Lane, Sandridge Road and Beech Road signalised junction (known locally as the King Williams IV junction) and Harpenden Road, Batchwood Drive and Beech Road signalised junction (known as the Ancient Briton junction) are local congestion hotspots. These junctions will be likely to serve traffic associated with the development of the site, at set out at **Chapter 4**.

St Albans City and District Council Infrastructure Delivery Plan (2018-19)

2.7 The Infrastructure Development Plan (IDP) forms an evidence base to support the Local Plan (noting the recent withdrawal of the emerging Local Plan). Transport infrastructure is considered at Chapter 11.

2.8 Paragraph 11.21 suggests that growth within the District is likely to place increased stress on the highway network, particularly in St Albans City centre and at key junctions on the main roads into St Albans. However, it states *"… although this is unlikely to result in the need for major new transport infrastructure, some road improvement measures, such as junction improvements, will be desirable. These will be complemented by a range of sustainable movement and public realm enhancements and traffic management measures."*

2.9 The IDP considers the North St Albans allocation located to the immediate west of the site at paragraphs 11.30 and 11.31. Paragraph 11.30 sets out the following key considerations in transport terms and paragraph 11.31 confirms that the delivery of the site will be supported by a number of sustainable transport improvements:

i. Establish appropriate management of the access / routing of vehicles onto Harpenden Road;
ii. Design an internal arrangement of interconnecting streets and pathways which accommodates proposed land uses and resident travel patterns effectively;
iii. Ease traffic flows through the Ancient Briton and King William IV junctions;
iv. Manage vehicular traffic access to / from Porters Wood via Valley Road; and
v. Promote appropriate use of secondary points of access at Sandridgebury Lane and Valley Road ensuring safety and convenience for pedestrians, cyclists and existing users.

2.10 Paragraph 11.71 of the IDP states that St Albans City station has been granted £5 million funding in 2016 (and granted planning permission in 2018) towards additional ticket gates, better pedestrian access, an expanded entrance concourse and improved station facilities.

2.11 Paragraph 11.86 of the IDP also suggests that a small Park and Ride facility on the main entry / exit route from St Albans could ease congestion and parking issues within the city. It is considered that the site has the capability to support the delivery of this scheme.

St Albans Urban Transport Plan (2009)

Hertfordshire County Council has previously developed an Urban Transport Plan (UTP) for the City of St Albans. In summary, it considers measures for improving accessibility including public transport improvements and the promotion of the walking and cycling priorities for residents and visitors.

St Albans Walking Strategy (2009)

2.12 Paragraph 1.1 of the Walking Strategy recognises that walking is the most environmentally and socially sustainable form of transport and forms the link between other forms of transport for longer journeys. It focuses on increasing pedestrian numbers and improving facilities and walking culture.

St Albans Cycling Strategy (2007)

2.13 The St Albans Cycling Strategy recognises that cycling is an efficient, healthy, quiet, sustainable and non-polluting means of transport. Paragraph 5.13 states that the Council will ensure that all new developments take into account accessibility, priority of non-car uses and cycle facilities.

South West Hertfordshire Multi Modal (Transport) Strategy

2.14 In summer 2019, arrangements were put in place for the two major pieces of evidence work. The studies will underpin the preparation of the JSP and will run concurrently and in association with each other. The first, the Strategic Growth Locations Study (SGLS), will carry out a comprehensive review of options for potential development locations across South West Hertfordshire (SW Herts) to 2050. The second is the Multi Modal Study (MMS). This will examine options for managing transport pressures across SW Herts on the basis of current and anticipated future needs together with the effect of new development, on the transport system. It will consider what aspects of transport management, and new infrastructure, will need to be put in place, with the focus being on sustainable transport and multi modal opportunities across the region. The development of the SGLS will be iterative depending on the emerging conclusions arising from the MMS.

Hertfordshire COMET: 2036 Local Plan Run 4 St Albans District Council Output Analysis (2019)

2.15 A report by AECOM was prepared in 2019, in order to consider Local Plan aspirations for the ten Hertfordshire districts for a future year of 2036 (LP4). This sought to expand on the 2031 run completed in 2017 (LP3) and to consider growth within the neighbouring areas. The 2019 report considers proposed local transport schemes, which include 39 highways, five public transport and six mode shift schemes within the St Albans District Council (SADC) area.

2.16 AECOM considered the King William IV and Ancient Briton junctions in depth within the Hertfordshire COMET: 2036 Local Plan Run 4 report. COMET is the Hertfordshire County Model of Transport which has been developed with reference to national guidance, particularly the Department for Transport's Web Transport Analysis Guidance (WebTAG). COMET is a suite of models which includes a Saturn-based highway model and EMME-based public transport and Variable Demand models.

2.17 The report suggests at paragraph 6.2.1 that the greatest level of delay at the King William IV junction is observed for the ahead movement on Marshalswick Lane (five to six minutes). Delays are also observed at Beech Road (five minutes), the left turn from Sandridge Road northbound (four minutes) and also for the straight ahead and left turn movements at Sandridge Road.

2.18 Paragraph 6.2.1 also suggests that the greatest delay of up to three minutes is observed at the Batchwood Drive arm of the junction.

2.19 Paragraph 6.2.3 confirms that a signage strategy diverting traffic away from the ring road could be developed to reduce congestion and delays at the King William IV and Ancient Briton junctions. It also suggests that the St Albans Green Ring proposals could reduce speeds and therefore the attractiveness of the route, consequently resulting in the reallocation of some traffic.

3.0 LOCAL CONTEXT

Local Highway Network

3.1 The site comprises approximately 125.5 hectares and is located approximately four kilometres north east of St Albans city centre and approximately 1.5 kilometres south of the village of Sandridge. The site location is shown at **Figure 1**.

3.2 St Albans and Sandridge provide a wide range of available services, facilities and amenities. Sandridge benefits from local everyday facilities such as Sandridge School and convenience stores, whilst St Albans benefits from two railway stations, a hospital and several employment opportunities.

3.3 The site is bound by The Woodlands Trust's Heartwood Forest to the north, the Midland Main Line to the west and residential development and St Albans Road to the east.

3.4 The site is intersected by Sandridgebury Lane which runs east to west through the approximate centre of the site between the A1081 and the B651. Sandridgebury Livery Stables falls within the site boundary and is accessed from Sandridgebury Lane.

3.5 Public Right of Way (PROW) footpath 'St Albans City 096' runs along the western boundary of the site between Valley Road and the existing rail bridge. Footpaths 'Sandridge 033' and 'Sandridge 011' fall within the north-eastern extent of the site.

3.6 Bridleway 'Sandridge 009' leads along the northern boundary of the site, just outside the site boundary, and connects with bridleway 'St Michael Rural 001A' and footpath 'St Michael Rural 015' to the north west. Bridleway 'Sandridge 008' also leads north to south through the site to the very northern extent within the vicinity of the Sandridgebury Road and B651 High Street junction. The PROW routings are shown at **Figure 1**.

B651 St Albans Road

3.7 The B651 St Albans Road connects with St Albans to the south and provides a connection to Sandridge, Wheathampstead and Harpenden to the north. The B651 St Albans Road comrpises a single lane carriageway which generally measures between 5.5 and 6 metres wide within the vicinity of the site. St Albans Road is subject to a 40mph speed limit local to the site which decreases to 30mph at the St Albans Road junction with Marshalwick Lane, Sandridge Road and Beech Road, known locally as the King William IV junction.

Sandridgebury Lane

3.8 Sandridgebury Lane runs east-west through the site and intersects the Midland Main Line railway line via a rail bridge located just east of the North St Albans allocation. Sandbridgebury Lane is generally rural in nature, comprising a single lane carriageway measuring approximately 5 metres wide and is subject to the national speed limit within the vicinity of the site. The lane connects with both Valley Road and Harpenden Road to the north of St Albans and continues north-east to a priority tee junction at High Street, Sandridge.

3.9 In keeping with the rural nature of the lane, dense vegetation and trees front the carriageway between the junction of Sandridgebury Lane and Valley Road and the junction of Sandridgebury Lane and the B651 High Street. The adopted highway extent for this stretch of Sanridgebury Lane has been sought which confirms some, but not all, of this vegetation is likely to fall within highway land. The extents are included at **Appendix A**.

3.10 The rail bridge, located 1.5 kilometres south west of the junction of Sandridgebury Lane and the B651, is approximately 2.5 metres wide and enables vehicle flows under the Midland Main Line railway line. The bridge is subject to a height restriction warning of 12.5 feet (approximately 3.81 metres), therefore restricting the type of vehicles which may use this route. Advance warning signs are in place advising of the height restriction at the junction of Sandridgebury Lane and Valley Road and at the junction of Sanridgebury Lane and the B651 High Street. The bridge is considered in detail at **Chapter 5**.

King William IV Junction

3.11 The King William IV junction forms the junction of Sandridge Road, Beech Road, Marshalswick Lane and St Albans Road and is a staggered four arm traffic signal controlled junction, located in the north of St Albans. All approaches to the junction are subject to a 30mph speed limit. The B651 St Albans Road is the main road from Wheathampstead and Sandridge towards central St Albans, whilst the B651 Sandridge Road is a major road to St Albans from Marshalswick and Bernard's Heath. Beech Road and Marshalswick Lane form part of a ring road around suburban St Albans and provide a corridor that enables traffic from Harpenden, Redbourn and Hemel Hempstead to access Marshalswick and Jersey Farm in the north east of St Albans.

3.12 Marshalswick Lane and Beech Road are both approximately 7 metres wide and benefit from a two lane approach to the signalised junction, allowing a separate right turn movement.

3.13 The existing bridge and boundaries limit the potential for modifications. The adopted highway extents in this location are included at **Appendix B**.

3.14 Vehicle counts undertaken in 2010 (adapted from previous IDP work) suggest that the total volume of existing traffic using the junction during the AM peak period is a broadly 2200 vehicles and approximately 1900 vehicles during the PM peak period.

Ancient Briton Junction

3.15 The Ancient Briton comprises a four arm signalised junction with Harpenden Road, Batchwood Drive and Beech Road, located just north of the centre of St Albans. All approaches are subject to a 30mph speed limit. The A1081 Harpenden Road provides the main link between central St Albans and Harpenden and joins links to connect with the A405 Orbital Road towards the M1 and the M25.

3.16 The existing highway boundary and proximity to existing buildings limits the scope to which the existing junction can be widened and/or modified. BT cabinets and other utilities are located at this junction. The adopted highway extents for this location at included at **Appendix C**.

Local Pedestrian and Cycle Networks

B651 St Albans Road

3.17 Continuous footways are provided on a minimum of one side of the carriageway for the length of St Albans Road within the vicinity of the site and a further footway on the opposite side is intermittently available on the approach to Sandridge from St Albans. These footways are typically between 1.5m – 2m in width and benefit from street lighting. Given the absence of footway provision on the eastern extent of St Albans Road for much of its length, there are no pedestrian crossing facilities along this route. However, stepped access is provided from the existing residential developments to the east.

Sandridgebury Lane

3.18 Sandridgebury Lane is subject to the national speed limited and is typically rural in nature. It currently does not benefit from any form of pedestrian provision.

3.19 There is no designated on or off-road cycle infrastructure along St Albans Road or Sandridgebury Lane within the immediate vicinity of the site. However, the route into St Albans city centre via St Albans Road is relatively straight and flat which makes it conducive to cycling to and from local facilities. Sandridge Road, south of the King William IV junction, provides a connection to the St Albans Green ring.

Sandridge Road

3.20 Sandridge Road provides a direct connection into St Albans city centre from St Albans Road at the King William IV junction. Footways measuring between 1.5 – two metres are located either side of the carriageway for its length and benefit from street lighting.

3.21 Dropped kerbs are generally provided at minor arm crossings and a number of dedicated pedestrian crossing points are provided along the route. Signalised pedestrian crossing phases are present at the King William IV junction, a Zebra crossing is located just south of the junction with Lancaster Road, a Pelican crossing adjacent to Bernards Heath Infant School and a tactile paved dropped kerb crossing points are located to the south of Bernards Heath playing field and at the junction with St Peters Road.

3.22 PROW Sandridge 12 forms an off-road walking route routed adjacent to St Albans Road between the King William IV junction and 106 St Albans Road. This can be accessed from St Albans Road via series of ramps and steps. PROW's Sandridge 11 and Sandridge 33 provide access from High Street, Sandridge at Spencer Meadow recreation ground to Sandbridgebury Lane at Sandbridgebury Farm.

3.23 A further PROW, St Albans City 096, leads from the Spring Valley Enterprise Centre at Valley Road northbound along the alignment of the existing railway line where it meets Sandbridgebury Lane at the rail bridge.

3.24 'Advance Cycle Stop Lines' are provided at the King William IV junction as a beneficial cycle-specific measure to accommodate existing levels of cyclists using the junction and also to seek to encourage further use.

3.25 Sandridgebury Lane which runs to the west of St Albans Road is recognised as a 'route recommended by local cyclists' on the St Albans City and District cycling map. This provides an alternative route to St Albans city centre.

3.26 Pedestrian and cycle routes to St Albans are indicatively shown at **Figure 1**.

St Albans Green Ring

3.27 The St Albans Green Ring is a continuous walking and cycling route around the periphery of St Albans city centre which is now open to the public. The route can be accessed in either direction on Sandridge road.

Jersey Lane Pedestrian and Cycle Link

3.28 Jersey Lane forms an off-road pedestrian and cycle link between Sandridge and Marshalswick Lane. It can be accessed to the north east of the site at House Lane.

National Cycle Network Routes 6

3.29 National Cycle Network Route 6 is routed north-south through St Albans City Centre and can be accessed via Harpenden Road, approximately 1.2 kilometres west of the site, via the adjacent North St Albans scheme.

Conclusions on the Local Pedestrian and Cycle Network

3.30 It is concluded that the pedestrian and cycle network within the vicinity of the site provides the opportunity for the development proposal to provide new internal and external pedestrian and cycle connections to link with the existing good standard facilities located in St Albans that provide continuous connections to the city centre and surrounding health, education, leisure, employment, retail and transport facilities.

Public Transport

Bus Services

3.31 The closest bus stops to the site are located on High St Albans Road and High Street, Sandridge. Eight bus stops are available between the Sandridgebury Lane junction with High Street and the King William IV junction which generally comprise flagpole type stops with a mounted timetable. Three bus routes, 304, 305 and 357, serve both the northbound and southbound bus stops on St Albans Road. The bus routes and stops within the vicinity of the site are illustrated at **Figure 1**.

3.32 Route 357 provides services between St Albans and Redbourn (on Sundays) and Borehamwood and Harpenden via St Albans. The first service departs St Albans Road at approximately 07:45 and runs hourly. The final service returning to St Albans Road in the evening departs St Albans at 18:40.

3.33 Route 304 provides services between Hitchin and St Albans Interchange outside the St Albans City railway station. The first service departs St Albans Road at approximately 07:50 with an approximate three hourly service throughout the day. Returning to St Albans Road in the evening the last service from St Albans is 17:10.

3.34 Route 305 provides services between Potters Bar and Sandridge via the St Albans Interchange. The earliest service departs St Albans Road at approximately 09:33 with three services per day. The final service returning to St Albans Road in the evening departs St Albans at 17:26.

3.35 The existing bus services provide an opportunity for potential commuters from the site working in St Albans to use bus services to access the City Centre and periphery. The bus services also provide the opportunity for rail passengers to make part of their journey (between the site and the train station) by bus.

3.36 There may be opportunities to connect into, divert and improve the frequency of existing bus services routed along the B651 St Albans Road to ensure that residents are within a 400 metre catchment area of the closest bus stop. Consideration will also be required towards external bus corridor improvements (including upgrades to the existing flagpole stops along St Albans Road) to encourage attractive connections between the site and nearby settlements at Sandridge and St Albans.

3.37 Department for Transport dataset 'TSGB0111 Average time taken to travel to work by region of workplace and usual method of travel, October to December 2018' indicates that the average journey time for bus passengers in the South East is 35 minutes. Utilising bus services 304, 305 and 357, it is considered that the centre of St Albans can be reached by bus in approximately 19 minutes, Wheathampstead in approximately 13 minutes, Sandridge in approximately 4 minutes and Hitchin in approximately 45 minutes.

Rail Services

3.38 St Albans is served by two railways stations, St Albans City and St Albans Abbey. St Albans City Railway Station is situated on the Midland mainline and is located approximately 5.2 kilometres to the south. There are regular, direct services to London St Pancras International, City Thameslink, London Blackfriars, Sevenoaks, Gatwick Airport and Brighton. To the north there are direct services to Bedford and Luton. There is car parking available at the adjacent multi story car parks and there are 1,150 cycle storage spaces.

3.39 St Albans City Railway Station can be accessed from the site using bus services 304, 305 and 357 within an approximate journey time of 16 minutes. The station is also located within approximately 4 kilometres cycling distance of the site, equating to an approximate 13 minute cycle ride. It is identified for funding as set out at **paragraph 2.10**.

3.40 Department for Transport dataset 'TSGB0111 Average time taken to travel to work by region of workplace and usual method of travel, October to December 2018', indicates that the average journey time for rail passengers in the South East is 57 minutes.

3.41 Journey time from St Albans City to London St Pancras is 22 minutes, Bedford is 40 minutes and Luton is 15 minutes, all of which fall significantly below the regional average. A number of destinations located within London, including Greenwich, London Bridge, City Thameslink and Elephant and Castle can all be reached within less than 57 minutes, even accounting for the initial or later part of the journey by bus from the proposed new settlement.

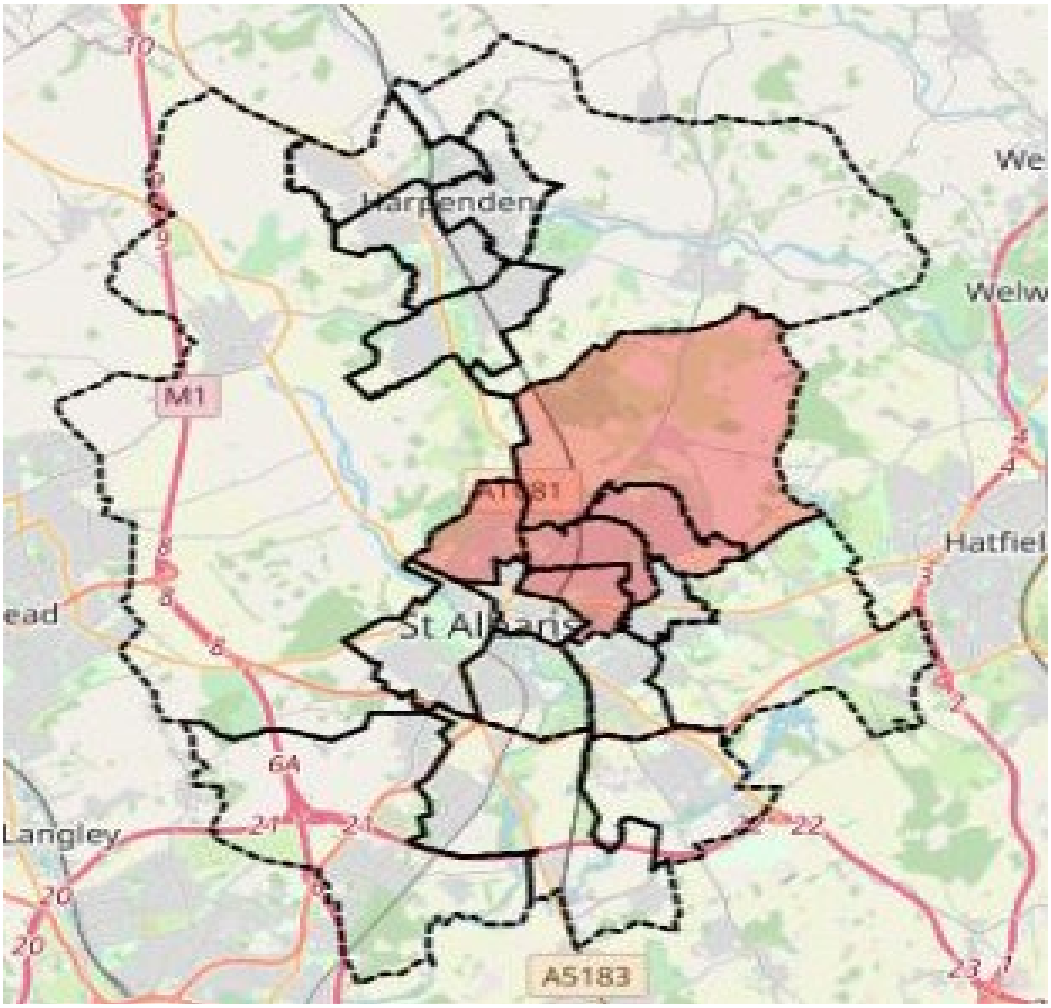
3.42 It is concluded that development site provides suitable opportunity for commuters accessing destinations outside of St Albans to travel by train as a genuine alternative to single occupancy vehicle trips.

4.0 EXISTING TRAVEL PATTERNS

Travel to Work Destinations

4.1 A broad assessment of Census travel to work data has been carried out for the local area in the north of St Albans to help establish the existing travel habits. Middle Super Output Area (MSOA) Census locations are shown in red at **Plate 4.1**.

Plate 4.1 – MSOA St Albans 007, 008, 009, 010 and 011



4.2 The assessment confirms that the existing population generally travel to places of work locally within St Albans, Welwyn Hatfield and Dacorum. St Albans 012, the City Centre, is the principal place of work destination. A summary of the key travel to work locations is included at **Table 4.1.**

Table 4.1 – Cumulative Travel to Work Census Data

Place of work	Percentage of Working Total Population of St Albans 007 - 011	Direction of Travel from the Site	Major Junctions on Routes
St Albans 012	5%	South	King William IV
Welwyn Hatfield 010	3%	North East	-
St Albans 007	2%	-	-
St Albans 011	2%	-	-
St Albans 015	2%	East	-
St Albans 009	1%	-	-
St Albans 014	1%	South West	King William IV/Ancient Briton
St Albans 017	1%	South	King William IV
Welwyn Hatfield 004	1%	North East	-
St Albans 008	1%	-	-
St Albans 003	1%	North	-
Dacorum 013	0%	West	Ancient Briton
St Albans 013	0%	East	-
St Albans 018	0%	South	Ancient Briton
Total:	100%	-	-

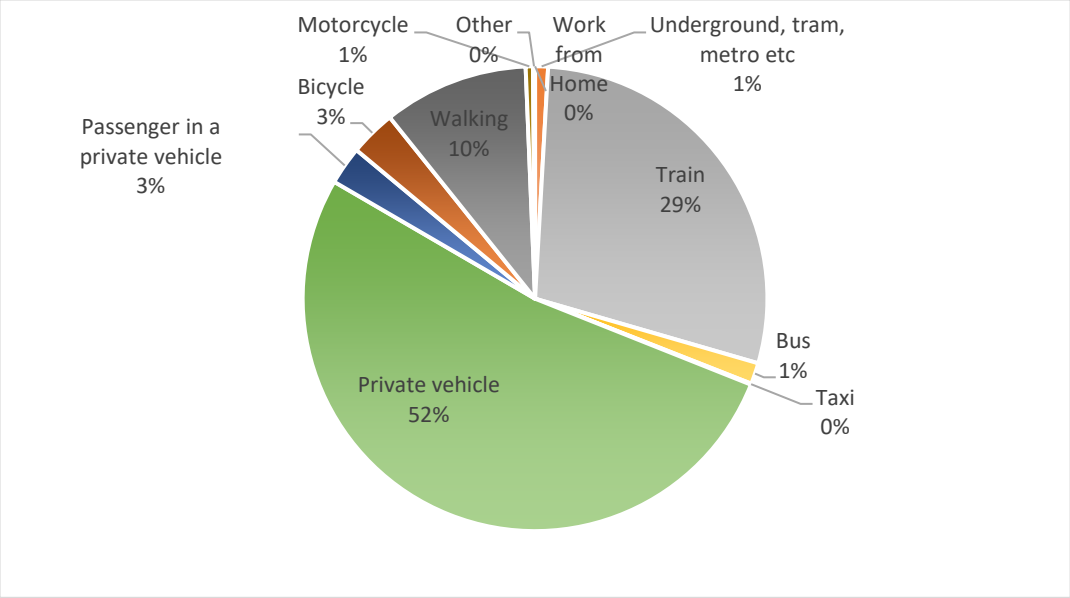
4.3 Analysis of the dataset suggests that potential future residents may also travel to locations including London, North and East Hertfordshire, Luton, Milton Keynes, Hertsmere, Central Bedfordshire and Stevenage.

4.4 **Chapter 3** confirms that St Albans, the most popular employment location, is accessible via cycle and bus and provides opportunity for national onwards journeys via rail.

Travel to Work Modal Share Patterns

4.5 The site is located within the St Albans 007 MSOA. However, this principally comprises open land and therefore an assessment of Census method of travel to work data for the adjacent St Albans 010 MSOA has been carried out to establish and the potential commuter modal split which could be associated with the proposed development. This is because the neighbouring MSOA is more densely populated and could be more representative of the site. The results are illustrated at **Plate 4.2.**

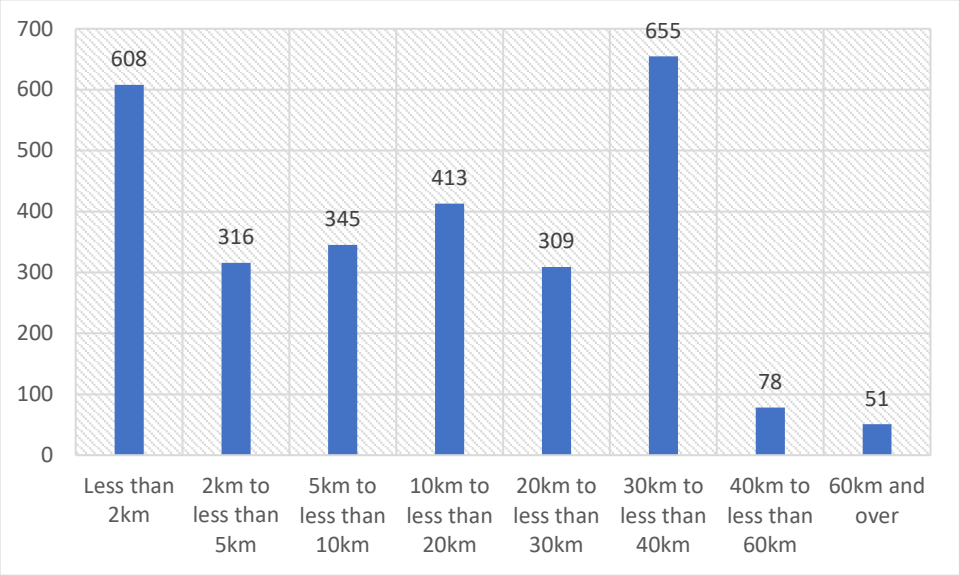
Plate 4.2 – Method of Travel to Work for St Albans 010



Distance Travelled to Work

4.6 Local Census distance travelled to work data for St Albans 010 has been analysed to establish and the distance travelled by commuters from the local area. The results are illustrated at **Plate 4.3** and suggest that 56% of the population travel less than ten kilometres. This suggests a number of local employees work locally.

Plate 4.3 – Distance Travelled to Work for St Albans 010



Conclusions on Existing Travel Patterns

4.7 It is concluded that the site is well located to promote sustainable travel to and from a new urban extension. A large proportion of residents of St Albans choose to work locally within the city and there is opportunity for travel across the city by walking, cycling and bus and also car sharing. Residents may choose to work further afield, given the St Albans conveniently sits on the periphery of London. **Chapter 3** confirms that travel further afield can be achieved by cycle, bus and rail and that the travel times to access a number of destinations including St Albans and the surrounding local area, Hitchin, Bedford and London are below the national average.

4.8 Notwithstanding the local nature of travel to work within St Albans 010, it is considered that this represents an overview of only a proportion of the trips which could be associated with the proposed development. It is considered that a number of trips within the peak hours will be associated with other trip purposes including education and education escort, leisure and personal business.

5.0 POTENTIAL SITE ACCESS STRATEGY

Access Opportunities

5.1 It is considered that primary access for all users could be sought direct from St Albans Road. At this stage, it is envisaged that the development could be served by the provision of several priority junctions along the eastern site boundary. Right turn lane ghost island junctions may be required and this would be subject of detailed Transport Assessment work in due course.

5.2 A secondary access could also be considered via the eastern extent of Sandridgebury Lane at the B651 High Street junction. At this stage, it is considered that this option would require improvement works to the internal extent of Sandridgebury Lane and also to the junction of Sandridgebury Lane and High Street. The junction option locations are indicatively illustrated at **Figure 1**.

5.3 Any proposed access will be designed in accordance with the Roads in Hertfordshire: Highway Design Guide (3rd Edition, 2011) as appropriate.

5.4 The scheme will consider options to improve the existing local highway network, including for Sandridgebury Lane through the site and the provision of new internal footway and cycleway link which connects with the local network and improvements/diversions of the existing bus network. The adjacent North St Albans scheme proposes to improve Sandridgebury Lane to provide an off road cycle route, and it is considered that the proposals could tie in with this and seek to enhance pedestrian and cycle links through the site and between the proposed site and the North St Albans allocation. Options will also be considered to improve the local highway further to discussions with the highway authority and use of any area wide models.

Connections to the North St Albans Scheme

5.5 Consideration will be given towards the current and future link between the proposed site and the proposed North St Albans allocation to the west via the existing Sandridgebury Road rail bridge.

5.6 At this stage, it is considered that the current layout of Sandridgebury Lane provides opportunity to consider the provision of a secondary vehicular access and key walking and cycling route between the proposed development and the North St Albans scheme and to Sandridge. Any option that proposes to seek to use Sandridgebury Lane and the existing railway bridge layout may need to consider the provision of a priority arrangement or shuttle signals to seek to manage opposing vehicle movements safely at this location.

5.7 A draft concept arrangement for a priority and shuttle signal arrangement Sandridgebury Lane where it passes underneath the railway bridge are shown at **Figure 2** and **Figure 3** respectively. Each of the proposals include for a three metre wide footway / cycleway connection between the propose development at Sandridgebury Farm and the North St Albans scheme. It is intended to work collaboratively with the highway authority, Network Rail, the North St Albans scheme and other stakeholders to deliver an appropriate scheme.

Walking and Cycling Strategy

5.8 A comprehensive walking and cycling strategy will be provided as part of the site masterplan. The internal walking and cycling network will seek to utilise the existing alignment of Sandbridgebury Lane and the existing PROW as much as possible. The masterplan for the development will be designed with the movement of pedestrians and cyclists as a priority ahead of the movement of vehicles.

5.9 The scheme will also look to explore the provision of new / enhanced footway and cycle links on St Albans Road and along Sandridgebury Lane via the railway bridge to the North St Albans site located on the western side of the railway line and also to the north of the proposed settlement to connect to the existing residential area of Sandridge to connect with the St Albans Green Ring. This is indicatively shown at **Figure 2** and **Figure 3**.

Access Conclusions

5.10 It is considered that the scheme provides the opportunity to serve the development area via primary vehicular, pedestrian and cycle access points onto St Albans Road at the proposed new settlements eastern site boundary. It is also considered that there are options to use and improve Sandbridgebury Lane as a secondary access point to provide vehicular, pedestrian and cycle connections to High Street, Sandridge.

6.0 POTENTIAL TRIP IMPACT

Forecast Trip Generation

6.1 An initial assessment of vehicular trips suggests that between 1,000 and 1,300 dwellings could generate between 519 and 675 two way vehicle trips in the AM peak period and between 485 and 631 two way vehicle trips in the PM peak period. The full TRICS report is included at **Appendix D**.

6.2 Local Census method of travel to work data for St Albans 007 to 011 has been analysed to establish the general direction of travel of the population. Data suggests that approximately 41% of the population travel south, 7% travel west, 33% travel north and 7% travel east. The remainder live and work within the MSOA's assessed.

6.3 Based on an initial assessment, it is considered that traffic travelling south will generally use the King William IV junction and traffic travelling west will use the King William IV and Ancient Briton junction. Therefore it is considered that approximately 48% of development traffic will use the King William IV junction and approximately 7% of development traffic will use the Ancient Briton junction.

6.4 At this stage, it is considered that the development proposals could increase traffic at the King William IV junction by approximately 324 vehicles in the AM peak period and 303 vehicles in the PM peak period. The Ancient Briton junction could be subject to an approximate increase of 47 vehicles in the AM peak period and 44 vehicles in the PM peak period.

Potential External Traffic Impact Mitigation

6.5 The LP4 report prepared by AECOM in 2019 considers the journey times relating to 21 routes within Harpenden and St Albans. These routes are shown at Figure 22 and include arms relating to the King William IV and Ancient Briton junction. The relevant arms comprise STA1 St Albans Road, STA 2A Marshalswick Lane and STA 3A A1081 North.

6.6 Table 3 of the 2019 report provides a summary comparison of the 2014 base year, LP3 and LP4. Paragraph 4.2.5 concludes that the forecast journey times on these routes are considered to be relatively low for all time periods and directions.

North of St Albans Allocation

6.7 Paragraphs 5.4.2 and 5.4.3 of the AECOM report confirm that the location of the North of St Albans allocation provides opportunity to integrate several highway improvements schemes within the vicinity of the site at St Albans City Centre area. These include the following:

i. Improvements along St Peter's / Victoria Street and the St Albans Green Ring;
ii. Promotion of sustainable travel modes to the City Centre and also to St Albans Abbey and City railway stations;
iii. Links to improvements between St Albans and Hatfield (known as Alban Way); and
iv. Connection to St Albans-Welwyn Garden City connectivity.

King William IV Junction Potential Mitigation

6.8 Pegasus Group have reviewed the King William IV junction and the following will be considered in due course should improvements at the junction be necessary as a result of the development proposals:

- The opportunity for the existing cycle lane at Sandridge Road to be narrowed could be explored to enable a greater lane width at this approach;
- Crossing widths at the pedestrian crossings appear inordinately lengthy on some approaches, (particularly on the western side of the junction, where the feeder footpaths are considerably narrower), which may offer opportunity to bring the stop lines forward on all approaches and reduce the intergreen time. This would be subject to establishing pedestrian flows at the junction; and
- The potential for a double roundabout could be further explored, although this would also be subject to establishing pedestrian flows at the junction.

Ancient Briton Junction Potential Mitigation

6.9 Pegasus Group have reviewed the junction and suggest the following is considered further in due course:

- Pegasus Group generally concur with the improvements proposed by AECOM, subject to some minor amendments;
- There may be potential to provide extra width within the verges along Batchwood Drive (southside only), Beech Road and the eastern side of Harpenden Road to allow the approach lanes to be widened/lengthened however this may encroach third party land in some locations; and
- Alternatively, the option to include a staggered pedestrian crossing point on Harpenden Road and/or Beech Road could be explored, however this may not provide a material improvement.

6.10 Notwithstanding, the 2019 AECOM report suggests at paragraph 6.2.3 that a signage strategy diverting traffic away from the ring road could be developed to reduce congestion and delays at the King William IV and Ancient Briton junctions. It also suggests that the St Albans Green Ring proposals could reduce speeds and therefore the attractiveness of the route, consequently resulting in the reallocation of some traffic.

Conclusions on Mitigation and Next Steps

6.11 Pegasus Group have reviewed the assessment work completed by AECOM and have concluded that the findings are generally accurate and that only small scale improvements could be made in the form of localised lane widening and optimisation of pedestrian phases. The optimisation of these improvements will be assessed by the appropriate junction modelling in due course.

6.12 Paragraph 7.1.1 of the AECOM 2019 report concludes the following:

"LP4 shows there are several areas of congestion and delay around SADC, however no obvious "showstoppers" where very long delays or high levels of congestion are recorded. Many of the junctions experiencing delays are currently known as congestion hotspots.".

6.13 The impact of the proposed development and requirements for off-site mitigation will be considered in detail in due course in collaboration with the relevant stakeholders.

6.14 The proposed development will include the development of a stringent Travel Plan to promote sustainable travel options and to look to change local travel behaviour to move away from the use of the private car, reducing the off-site impacts.

6.15 A travel plan strategy will be developed that seeks to optimise access and sustainable travel options for both existing and future residents in north St Albans and which also looks to capture existing car trips on St Albans (trip banking) e.g. provision of a park and ride / park and bus / travel hub. This is considered in **Chapter 7**.

7.0 SUSTAINABLE TRAVEL STRATEGY

Travel Plan Strategy

7.1 Area wide travel plans for multi-organisation sites are becoming more commonplace, where the cost of initiatives is shared between organisations or other occupiers to achieve economies of scale. One form of area wide travel planning that is developing in the UK is through a Transport Management Association (TMA). TMAs are not-for-profit companies established to run travel planning (and/or other transport related community services and facilities) across a defined geographical area.

7.2 The area wide travel planning at Sandridgebury Farm, St Albans is envisaged to include a TMA (or similar arrangement) and subservient Travel Plans for all the various users, with the typical suite of measures such as car clubs, discounts for travel by bus and good cycle parking. It may also include trip banking strategies, where reductions in car travel off site can be credited to the development.

7.3 Any TMA would be a private, not for profit company, potentially with an office/desk located in the new development that is set up to provide an institutional framework for the delivery of travel planning. The TMA would employ a Strategic Travel Plan Co-ordinator or Steering Group, with other TPCs for individual occupiers. It would bring the following specific benefits:

- A mechanism for the continuity and longevity of travel planning in the area after the Developer involvement is finished;
- Equity for all in achieving travel plan objectives and targets;
- Provision of ongoing advice and support to all;
- A membership that speaks with one voice;
- An organisation that has credibility with the local authorities;
- A means to bid for future public sector funding/grants.; and
- The ability for an adaptive and flexible approach to travel planning.

7.4 A comprehensive travel planning strategy will be developed for the development that will be subject of a Section 106 Agreement and be delivered by a TMA, or similar arrangement.

Public Transport Strategy

7.5 The closest existing bus stops are located on St Albans Road. Services 304, 305 and 357 operate from the stop and offer hourly services between Mondays and Saturdays. The approximate journey time from the site to St Albans city centre is circa 19 minutes. There may be opportunities to divert buses into the site and improve the frequency of these bus services which connect the site with St Albans City train station. A new bus route connecting developments either side of the railway to the town centre will be explored.

7.6 The bus strategy will provide improved services and facilities for the future occupants of the scheme, as well as for existing residents within existing surrounding residential areas and those of the North St Albans allocation. The key objective of the bus strategy is to provide services that meet the needs of people living and working at the site by providing frequent and convenient access to employment, health, education, retail and leisure facilities.

7.7 The aspirations of the bus strategy in addition to the existing bus services on the A469 is to provide:

i. A regular bus service that is routed to ensure that 90 percent of residents of the development have good access to a bus stop within 400 metres of their home; and
ii. An efficient bus link from the development to key destinations.

7.8 The demand for a Park and Ride / Park and Bus / Travel Hub within the site will be explored. This would be to the benefit of future residents of the site and also look to capture existing car trips on the St Albans Road travelling to the city centre and the St Albans City and St Albans Abbey railway stations.

Summary of Sustainable Transport Strategy Components

7.9 An summary of the potential sustainable transport package for the site is identified below.

Highway Strategy

- Explore the provision of complimentary land uses to maximise the self-containment levels of the proposed new development;
- Masterplan designed to promote sustainable transport, direct and convenient pedestrian and cycle routes;
- Car parking in accordance with local guidance including for the provision of electric car charging points for residents and visitors;
- Bus priority measures;
- Car clubs; and
- Cycle parking.

Public Transport Strategy

- A bus route which ensures that 90 percent of residents of the development have good access to a bus stop within 400 metres of their home;
- An efficient bus link from the development to key destinations;
- Potential for a park and ride / park and bus to be provided within the site.

Walking and Cycle Network Strategy

- Comprehensive internal network;
- Provision of rental bike scheme within the site.

Off Site Mitigation Strategy

- To be determined through consultation with highway officers at Hertfordshire County Council and use of the COMET Area Wide Model;

- Enhancements to the existing off-site walking and cycling networks where appropriate;
- To include links and junctions on the immediate highway network and at nearby settlements.

8.0 CONCLUSIONS AND SUMMARY

8.1 This Transport Strategy has been prepared by Pegasus Group on behalf of Lightwood Strategic Ltd to set out a potential transport strategy for the development of land at Sandbridgebury Farm, St Albans. It is a high level document, with more details to be proposed in due course.

8.2 At this stage, it is considered that a new junction could be provided from St Albans Lane to serve the development with a secondary link to be provided via Sandridgebury Lane under the railway bridge. Sandbridgebury Lane and the rail bridge have been explored to potentially enable more strategic vehicular connectivity, and this will be considered further in due course.

8.3 The site provides opportunity for future residents to access local facilities and amenities by sustainable methods of transport, including walking, cycling and public transport. Opportunity is available for continuous and appropriate internal and external pedestrian and cycle links. Frequent bus and rail services are available within the vicinity of the site. The nearest bus stop is located approximately 500 metres from the approximate centre of the site and St Albans City Railway Station is location approximately 5.2 kilometres to the south. The provision of complimentary land uses at the site will be explored to maximise the self-containment levels of the proposed new development.

8.4 Census data suggests that North St Albans is a sustainable place to locate development and there is a significant proportion of self-containment in terms of journeys to work.

8.5 This strategy outlines the potential mitigation measures which could be considered at the King William IV and Ancient Briton junctions to mitigate the potential impact of the development in these locations. The Developer will work with the relevant stakeholders to agree off-site mitigation, as necessary, as part of detailed Transport Assessment work in due course.

8.6 It is therefore concluded that the development will be supported by a suite of Travel Plan and Strategy improvements to promote sustainable travel use and offset single occupancy car journeys. It is envisaged at this stage that bus improvements, including a route diversion into the site and investigation of a park and ride / park and bus / travel hub facility will be explored primarily. Consideration will also be given to car club, car sharing, walking and cycling and rail measures to ensure that a variety of options are available to potential future residents.

FIGURE 1

ACCESS STRATEGY PLAN