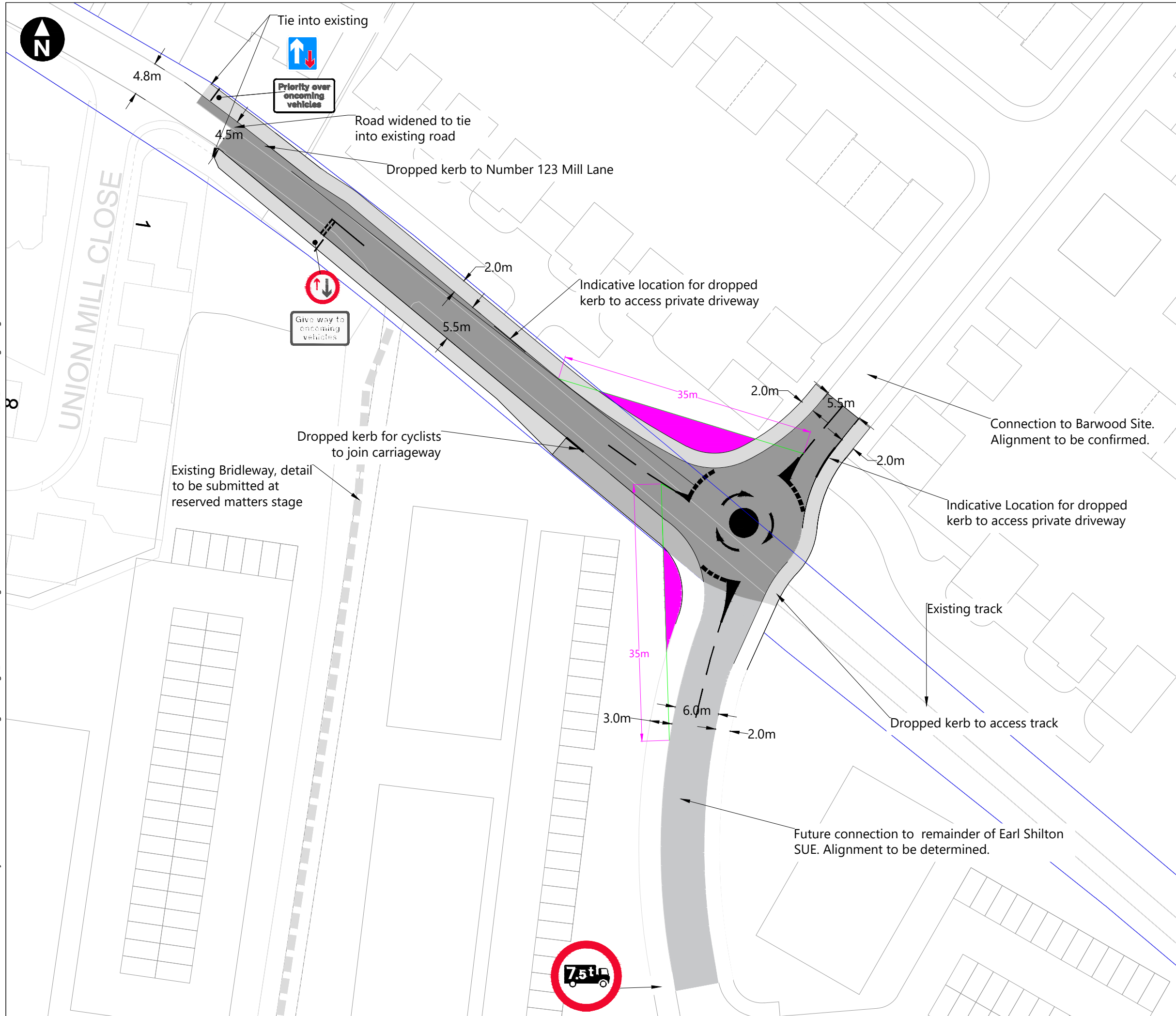


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Key

- Proposed carriageway
- Proposed footway
- Proposed shared route pedestrian / cyclist
- Proposed lane marking
- Indicative Proposed development. For illustrative purposes only.
- Site boundary
- Highway boundary
- Visibility from Table 5.21, CD116
- Area required for visibility

NOTES:

- This proposal is a preliminary design only and it is not suitable for use for construction. Additional surveys including utility and drainage information will be required to develop this design to a detailed design.
- Reference should be made to other documents accompanying this planning application.
- Drawing to be used for planning purposes only.

0 m 25 m
Scale 1:500 @ A3
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Barwood Strategic Land LLP

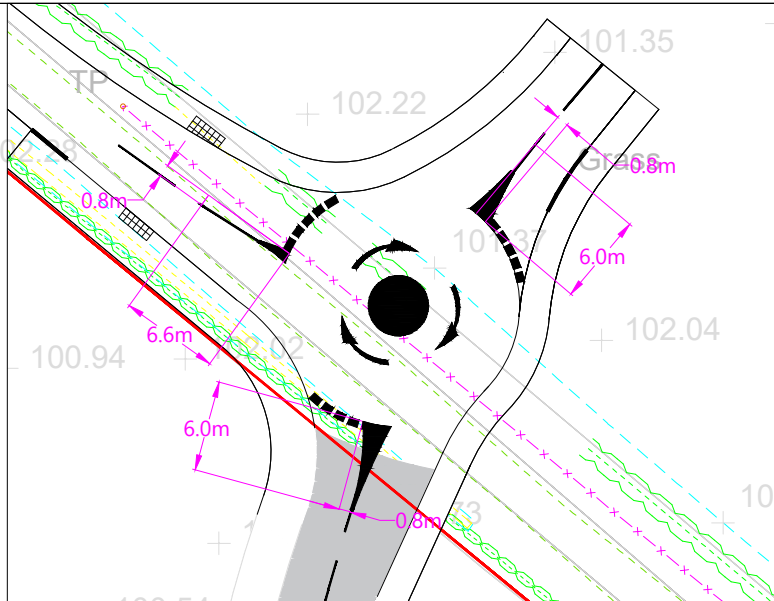
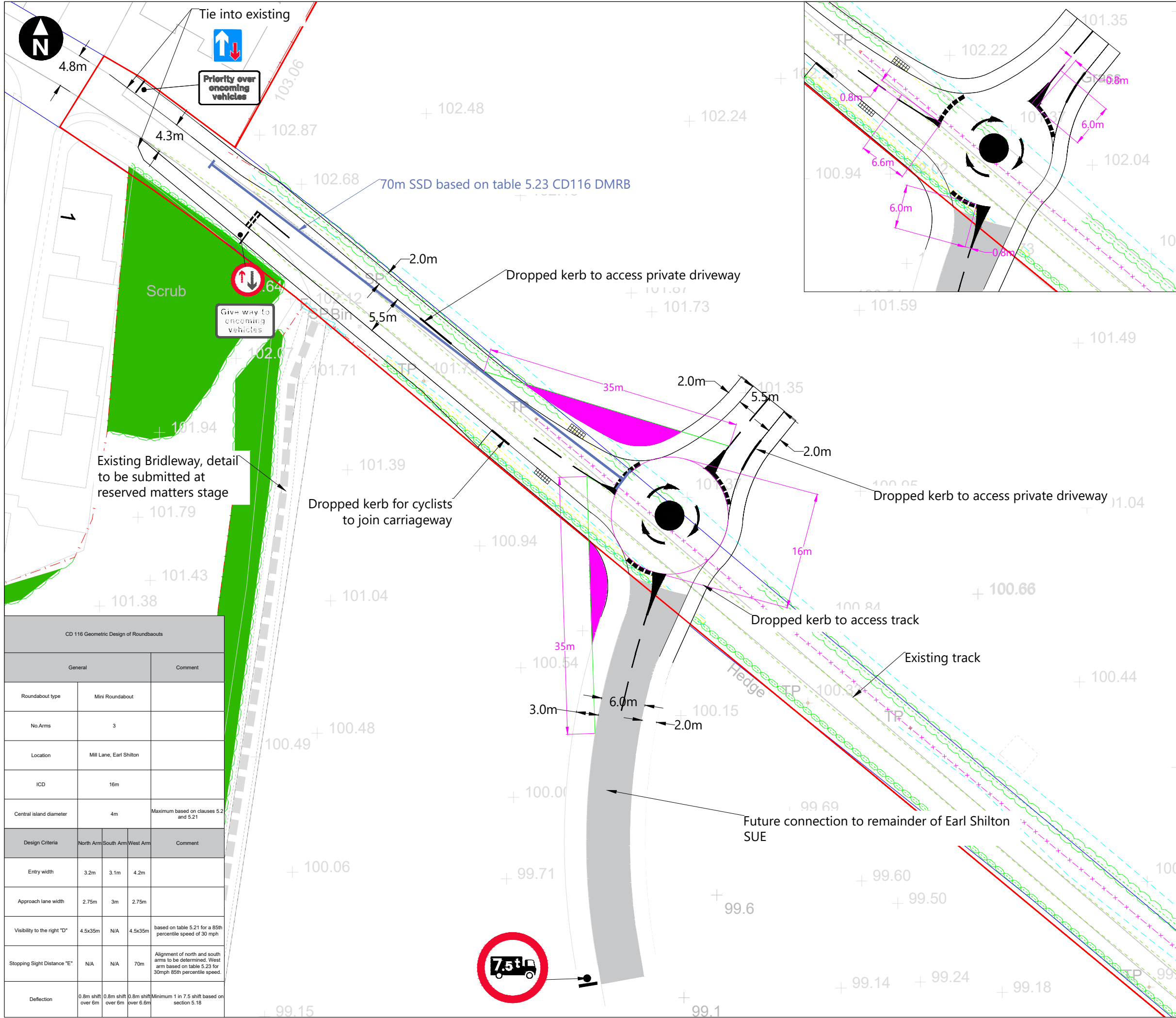
Earl Shilton Sustainable Urban Extension (SUE) Planning Application

**Mill Lane
General Arrangement Plan**

February 2024

wsp

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Key

- Proposed scheme
- Proposed lane marking
- Site boundary
- Highway boundary
- Visibility from Table 5.21, CD116
- Area required for visibility

NOTES:

- This proposal is a preliminary design only and it is not suitable for use for construction. Additional surveys including utility and drainage information will be required to develop this design to a detailed design.
- Reference should be made to other documents accompanying this planning application.
- Drawing to be used for planning purposes only.



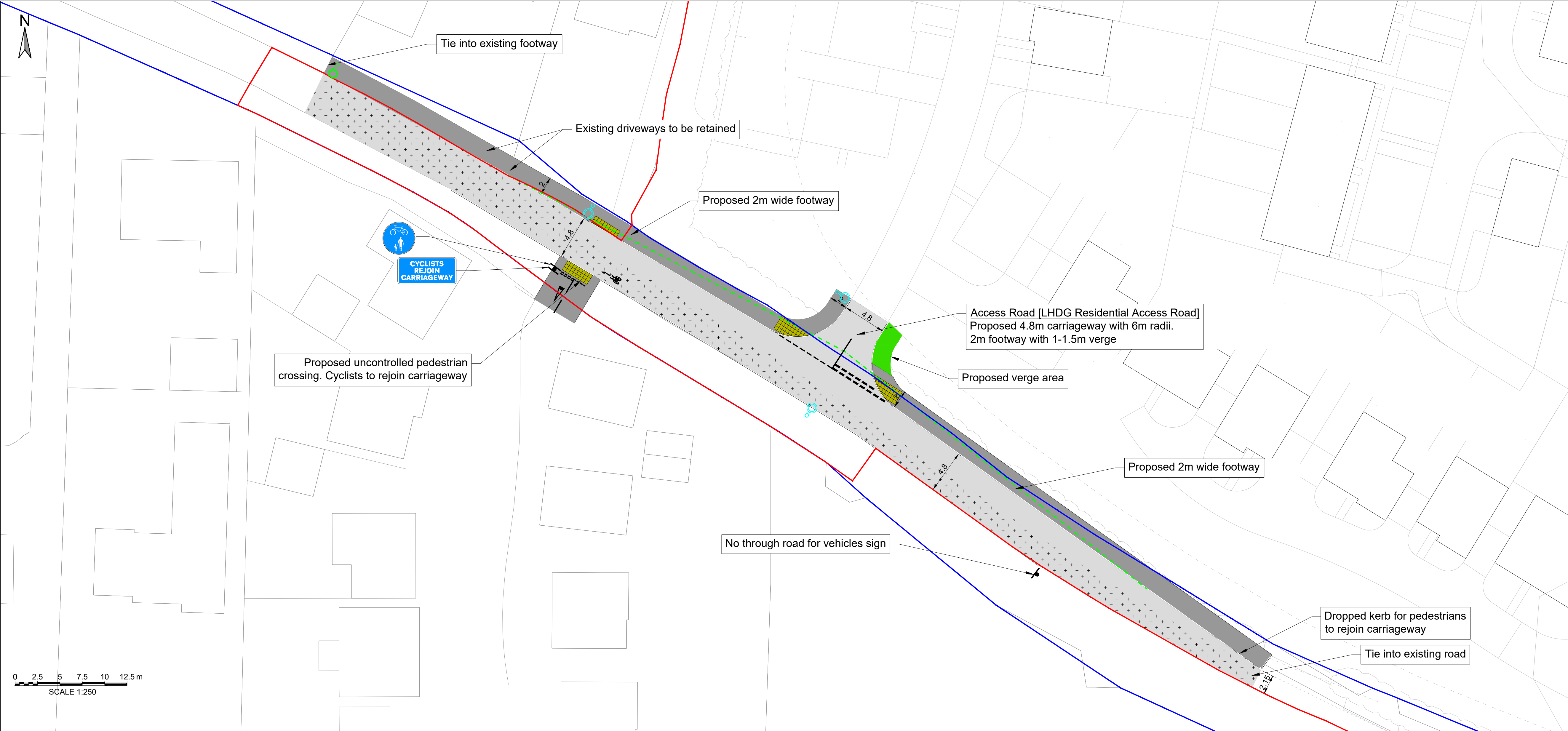
Barwood Strategic Land LLP

Earl Shilton Sustainable Urban Extension (SUE)
Planning Application

**Mill Lane
General Arrangement Plan with
Topographical Survey**

February 2024

wsp



- Notes - General Arrangement**
- The information shown on this drawing is intended to provide a general overview of the highway improvement works. Please refer to the detailed design drawings for specific project details.
 - Do not scale from this drawing. All dimensions must be checked/verified on site.
 - Any discrepancies noted on site are to be reported to the engineer immediately.
 - All works to be undertaken in accordance with Leicestershire County Council design standards, specifications and standard details.
 - This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
 - No works shall commence within the existing public highway until the legal agreement has been signed.

Key - General Arrangement

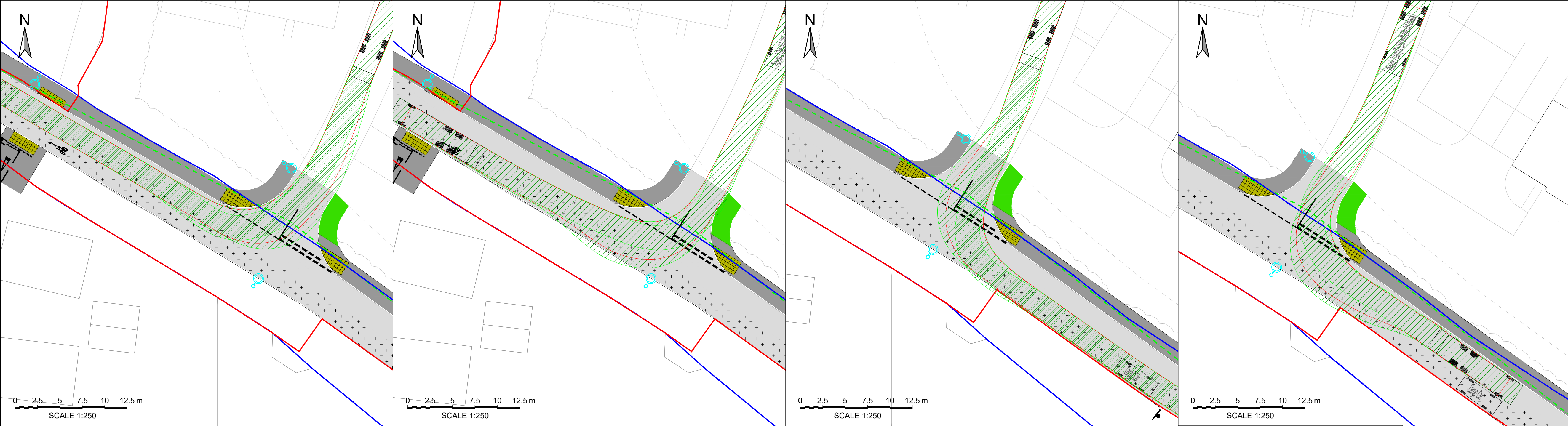
- Area of new carriageway
- Area of carriageway re-surfacing
- Footway
- Verges
- Tactile - Blister - uncontrolled crossing
- Highway boundary (Leicestershire County Council)
- Site boundary
- Non-illuminated traffic sign
- Existing lighting column to be relocated [Location TBC].
- Indicative new lighting column position [TBA with LCC].

Key - Visibility - Junction & Bends

- Junction visibility - 2.4m x 43m (LHDG Part 3 Table DG4 based on 30mph speed limit)

Key - Vehicular Tracking

- Vehicular wheel track - forward
- Vehicular overhang - forward



Vehicle tracking		 Phoenix 2 Duo (P2-15W with Elite 6x4 chassis) Overall Length 11.200m Overall Width 2.530m Overall Body Height 3.751m Min Body Ground Clearance 0.304m Track Width 2.500m Lock to lock time 4.00s Kerb to Kerb Turning Radius 9.500m
Vehicle	Refuse Vehicle	
Speed	15kph	
Manoeuvre	Left turn into site	

Vehicle tracking		 Phoenix 2 Duo (P2-15W with Elite 6x4 chassis) Overall Length 11.200m Overall Width 2.530m Overall Body Height 3.751m Min Body Ground Clearance 0.304m Track Width 2.500m Lock to lock time 4.00s Kerb to Kerb Turning Radius 9.500m
Vehicle	Refuse Vehicle	
Speed	15kph	
Manoeuvre	Right turn exiting site	

Vehicle tracking		 Phoenix 2 Duo (P2-15W with Elite 6x4 chassis) Overall Length 11.200m Overall Width 2.530m Overall Body Height 3.751m Min Body Ground Clearance 0.304m Track Width 2.500m Lock to lock time 4.00s Kerb to Kerb Turning Radius 9.500m
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Vehicle	Refuse Vehicle	
Speed	15kph	
Manoeuvre	Left turn exiting site	

PRELIMINARY ISSUE

P05	VEHICLE TRACKING SPEED AMENDED TO 15KPH	16.02.2024	NM	IF	IF
P04	INDICATIVE STREET LIGHTING ADDED	21.12.2023	NM	IF	IF
P03	DESIGN LAYOUT AND TRACKING AMENDED	07.12.2023	NM	IF	IF
P02	VEHICLE TRACKING AMENDED	16.01.2023	GO	IF	MR
P01	PRELIMINARY FIRST ISSUE	13.01.2023	GO	IF	MR
Rev.	Description	Date	Drn	Chk	App

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Tetra Tech Leicester
4th Floor, No.1 Great Central Square,
Vaughan Way, Leicester, LE1 4JS
Tel: +44 (0)11 6234 8000
www.tetrateteurope.com

Client

Project Name
A47 EARL SHILTON

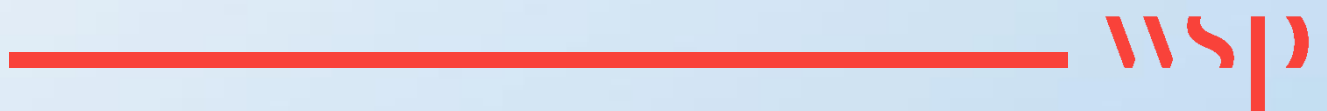
Sheet Title
**BREACH LANE
PRELIMINARY GENERAL ARRANGEMENT**

TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale @ A1	Suitability
784-B033564	GO	Jan '23	IF	Jan '23	IF	Jan '23	1:250	S3
Client Project Number	Originator	Volume/System	Level/Location	Type/Code	Role	Number	Revision	
B033564	- TTE	- XX	- BL	- DR	- H	- 0101	P05	

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Appendix C

BUS STRATEGY TECHNICAL NOTE



TECHNICAL NOTE: Bus Strategy

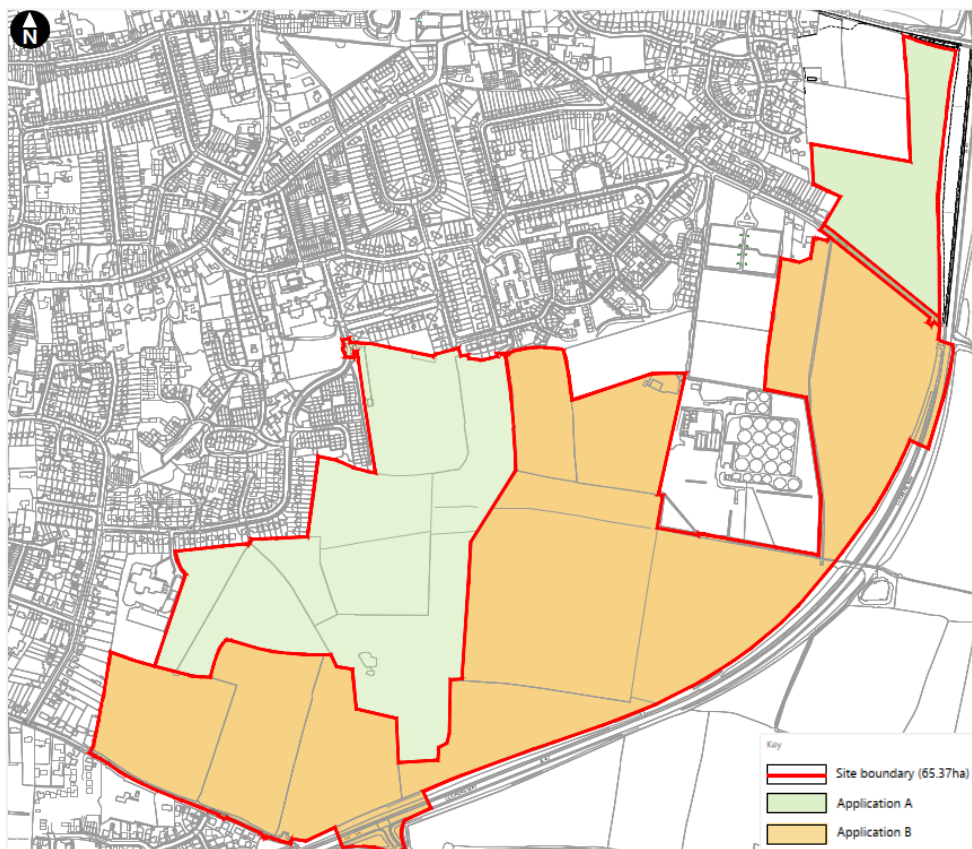
DATE:	19 March 2024	CONFIDENTIALITY:	Public
SUBJECT:	Bus Strategy		
PROJECT:	Earl Shilton Sustainable Urban Extension	AUTHOR:	Sam Gardner
CHECKED:	Bev Coupe	APPROVED:	Bev Coupe

1. INTRODUCTION

Overview

WSP UK Limited (WSP) has been commissioned by Bloor Homes Ltd, Jelson Limited and Barwood Strategic Land II LLP (the ‘Applicants’) to submit two outline planning applications (OPA) for a comprehensive residential led mixed-use development known as the Earl Shilton Sustainable Urban Extension (SUE). The Earl Shilton SUE is an allocated site within the Hinckley and Bosworth District Council (HBBC) Local Plan for up to 1,600 dwellings, employment, primary school, local centre and associated infrastructure. The two separate, but aligned, OPAs are referred to as Applications A and B. Application B for Bloor Homes and Jelson was submitted in December 2021 and Application A for Barwood Strategic Land was submitted in March 2023. **Figure 1** shows the indicative planning application boundaries.

Figure 1 Indicative Planning Application Boundaries for Applications A & B



One Transport Assessment (TA) (referred to herein as ‘the submitted TA’ and Framework Travel Plan (FTP) (‘the submitted FTP’) were produced to support both OPAs. The Leicestershire County Council (LCC) Highways Development Management (HDM) team provided comments on the submission which identified the need to provide more information on the proposed Site access strategy, including proposals for bus provision.

TECHNICAL NOTE: Bus Strategy

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Purposed of Technical Note

The purpose of this technical note (TN) is to outline the short, medium and long-term proposals for the bus strategy for the Site. As there is no longer a bus service that routes in the vicinity of the Site, the strategy will require pump prime funding of a bus to serve the Site. This will require a phased approach as the Site is built out.

Proposed Development – Access and Interconnectivity

Both applications have been prepared to work in combination to deliver the majority of the overall allocation requirements, providing up to 1,500 new dwellings, up to 5.3 hectares of employment land, a new community hub that will comprise a two-form entry primary school and local retail facilities as well as improved sports provision, new play areas, public open space, landscaping, access and drainage. This is referred to herein as ‘the Proposed Development’. The illustrative masterplan for the Proposed Development is shown in **Figure 2**.

Figure 2 Illustrative Masterplan of Proposed Development



There are five proposed vehicular accesses as part of the Proposed Development:

- A47 Southern Roundabout – into Application B site;

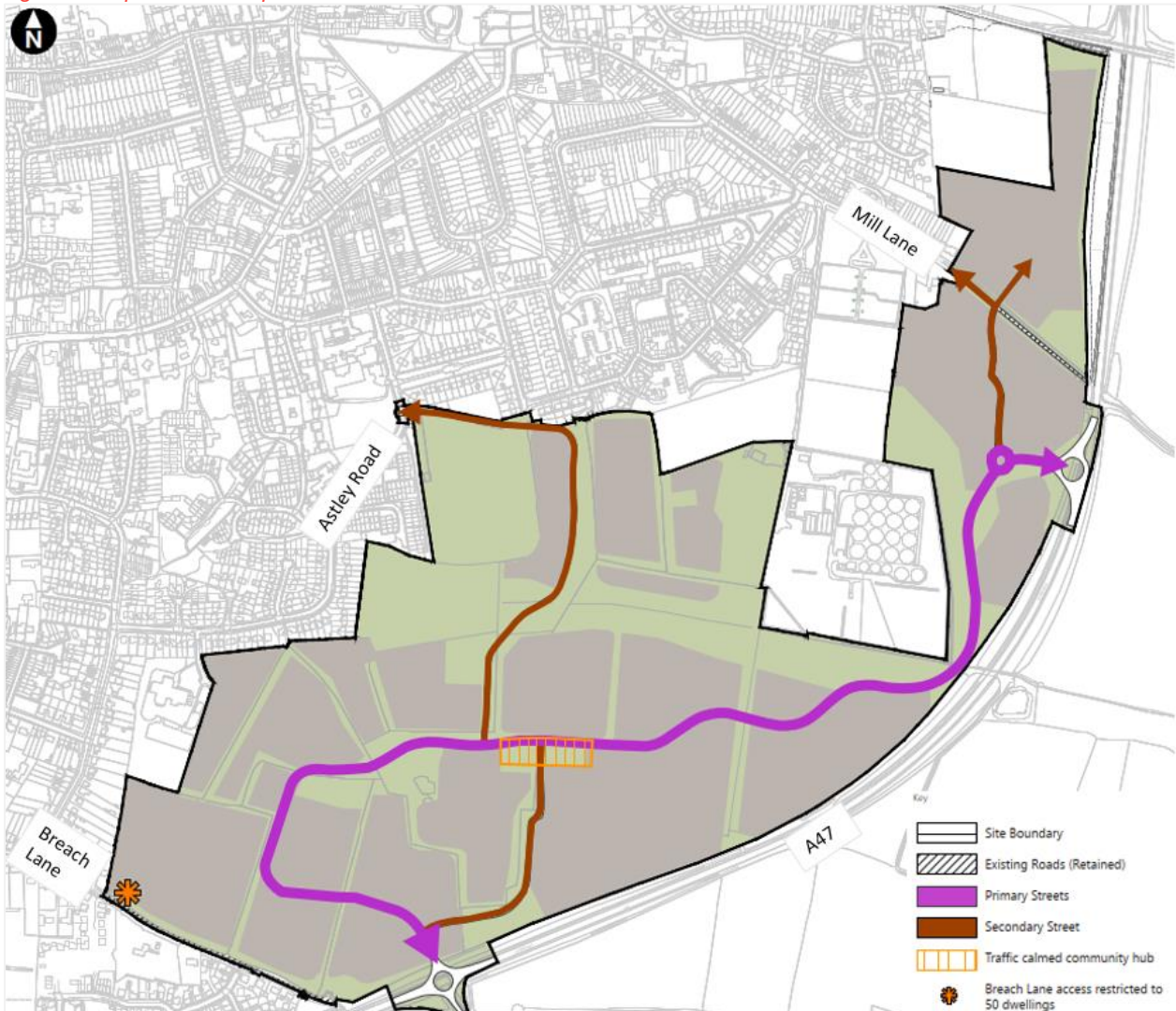
TECHNICAL NOTE: Bus Strategy

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- A47 Northern Roundabout – into Application B site;
- Mill Lane mini-roundabout – into Application A and B sites;
- Astley Road priority junction – into Application A site; and
- Breach Lane priority junction – into a discrete residential land parcel, part of Application B.

The vehicular accesses are illustrated in **Figure 3**.

Figure 3 Proposed Development Parameter Plan



The Proposed Development Parameter Plan (**Figure 3**) details a primary street and an internal loop/secondary street to enable alternative routes into the central part of the Site, the community hub and primary school.

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- The broad location of the primary street through the SUE is on a similar alignment to that set out in the AAP. It will run through the centre of the SUE and connect the Application A and B areas, joining the new southern and northern A47 roundabouts. The route has been designed to accommodate future bus services (6.75m wide carriageway) and pedestrian and cycle facilities with a 2m footway on one side and a 3m shared cycle facility on the other.
- An internal loop/secondary street is proposed running south from the local centre to the A47 southern access within Application B. Secondary streets will also connect to Astley Road and Mill Lane (and proposed employment area) and will be designed to allow access and bus use but discourage through traffic. Other routes will provide access to residential areas only and in the case of Breach Lane will be for no more than 50 homes.

This design provides flexibility in terms of overall phasing as early connectivity could be achieved either by linking Astley Road to either one of the A47 accesses or by creating a link between the two A47 accesses. The design, also, creates greater internal connectivity for buses and other road users, and allows optimisation of bus routing to maximise accessibility for occupants, subject to detailed design.

The primary and secondary road geometries comply with the *Leicestershire Highway Design Guide* (2022) which states that 'Major Residential' access roads should have a carriageway width of 6.75m and 'Residential' access roads should have a carriageway width of 6m minimum where it is part of a bus route.

Content of the Technical Note

The Technical Note is set out as follows:

- Section 2 – Baseline Situation;
- Section 3 – Earl Shilton SUE Bus Strategy;
- Section 4 – Application B Bus Strategy;
- Section 5 – Application A Bus Service Costings and Contribution and
- Section 6 – Summary and Conclusions.

2. BASELINE BUS ACCESSIBILITY

The existing bus services provide Earl Shilton with good connectivity to major local destinations such as Leicester, Barwell, Hinckley and Nuneaton.

Earl Shilton is currently served by two local bus services^{1,2}:

- 148 – Leicester to Coventry (operated by Stagecoach) runs through the town centre and has two services per hour per direction Monday to Saturday and one per hour per direction on Sunday.

¹ www.arrivabus.co.uk/find-a-service accessed 20/10/23

² <https://www.stagecoachbus.com/timetables> accessed 20/10/23

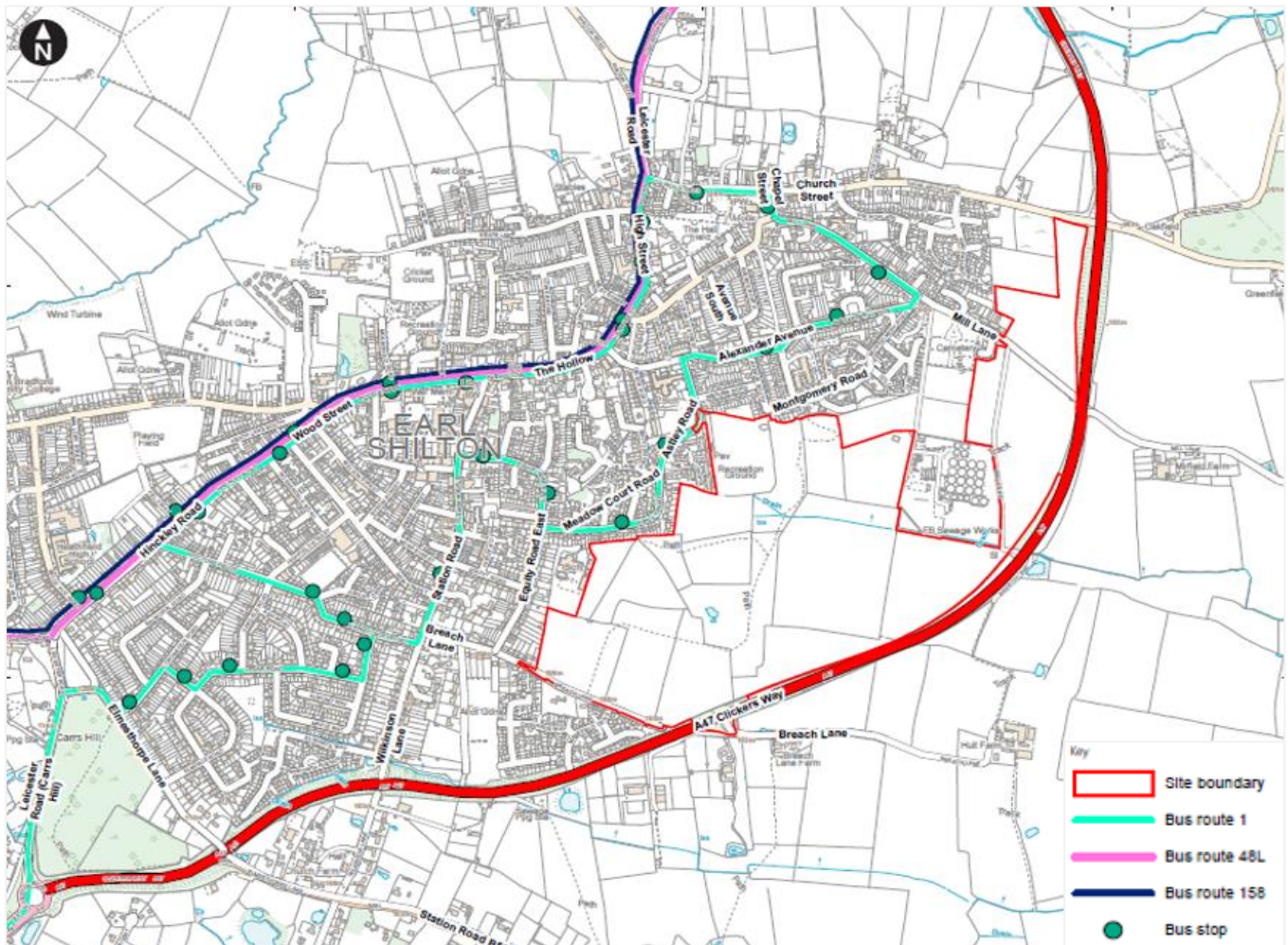
TECHNICAL NOTE: Bus Strategy

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- 158 – Nuneaton/Hinckley to Leicester (operated by Arriva) also runs through the town centre and has approximately two services per hour per direction Monday to Saturday and one per hour per direction on Sunday.

Both of the bus services run on strategic routes, linking Earl Shilton the major local destinations.. **Figure 4** illustrates these bus service routes within Earl Shilton and the bus stops served by the buses.

Figure 4 Existing and Recently Withdrawn Bus Services in the Earl Shilton Area



The nearest bus stops to the Site which are served by the existing bus services are located in the centre of Earl Shilton along High Street and Wood Street (Keates Lane and twin stops Almey's Lane on High Street and Library on Wood Street), and have bus shelters. **Table 1** summarises the walking distances and journey times from each of the accesses within Earl Shilton to the nearest bus stops and shows that the nearest is from Astley Road (440m/six minute walk) and the furthest from Mill Lane (1.1km/15 minute walk).



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Table 1 Distance from the Site to the nearest bus stop summary

Site Location	Nearest Bus Stop	Approximate Walking Distance	Approximate Walking Time
Mill Lane Access	High Street - Almey's Lane stop	1,100 m	15 mins
Astley Road Access	High Street - Almey's Lane stop	440 m	6 mins
Breach Lane Access	Wood Street - Library stop	1,000 m	14 mins

The LCC publication *Leicestershire Highway Design Guide* (2022)³ identifies that:

"...normally walking distances to bus stops in urban areas should be a maximum of 400m and desirably no more than 250m."

It is noted that the Stagecoach Group publication *Bus Services and New Residential Developments* (2017)⁴ and the Chartered Institute of Highways and Transportation (CIHT) publication *Buses in Urban Developments* (2018)⁵ advises that there will be circumstances where achieving a 400-metre walking catchment:

"...results in an inefficient and contrived layout, greatly undermining the potential effectiveness of the proposed bus route. Stagecoach will always prefer an efficient bus routing strategy, serving the great majority of dwellings well, than one that serves all homes poorly with a low-frequency or indirect service. Thus we support policy approaches offering some degree of flexibility on walking distances to bus stops where this is appropriate."

The walking distances from the Site to the nearest bus stops served by existing bus services, as shown in Table 1, are too far to be attractive as a mode of transport choice. Discussion with the bus operators, Arriva and Stagecoach, has established that a diversion of either of the services near to and/or within the Site is not a feasible option as these are direct, fast routes and it would lengthen journey times which would be to the detriment of existing passengers. Therefore, the bus strategy for the Site as a whole needs to incorporate a bespoke service.

Within the submitted TA it was proposed that the Arriva bus service 1, also shown in Figure 4, which routed between Hinckley Bus Station and Earl Shilton, would be enhanced in terms of service frequency and re-routed through the SUE on completion of the spine road through the Site. Since the submission of both OPAs, bus service 1 has been withdrawn, occurring at the end of August 2023. .

The service took 33 minutes from Earl Shilton Sandringham Avenue to Hinckley Bus Station and 17 minutes from Hinckley Bus Station and Sandringham Avenue, a total of 50 minutes. Therefore, one bus was sufficient for an hourly bus service. However, the service ran every two hours as it also looped to

³ Leicestershire Highways Design Guide – 2022 interim guide, online available at:

<https://resources.leicestershire.gov.uk/environment-and-planning/planning/leicestershire-highway-design-guide>

⁴ Stagecoach, *Bus Services and New Residential Developments*, 2017, available online at

<https://www.stagecoachgroup.com/~media/Files/S/Stagecoach-Group/Attachments/pdf/bus-services-and-new-residential-dev.pdf>

⁵ CIHT Buses in Urban Developments, January 2018, available online at [CIHT - BUSES BROCHURE 2018_cs4.indd](#)

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Barwell as bus service 2. Arriva announced that the withdrawal of the bus service was because customer demand had reduced. This could have been a result of the Covid-19 pandemic impact on bus patronage, and because of its low frequency. A service with a higher frequency than two hourly is likely to be a more attractive travel choice option. The timetable prior to withdrawal of the service is shown below.

Bus Service 1 Timetable (withdrawn August 2023)

Monday to Friday - Barwell East Green

	2 ¹	2 ²	1	2	1	2	1	2
Earl Shilton Sandringham Avenue	--	--	1027	--	1227	--	1657	--
Earl Shilton Coniston Close	--	--	1032	--	1232	--	1702	--
Earl Shilton Library	--	--	1044	--	1244	--	1714	--
Hinckley Ashby Road	--	--	1053	--	1253	--	1723	--
Hinckley The Crescent Bus Station	--	--	1103	--	1303	--	1733	--
Hinckley The Crescent Bus Station	0910	0910	--	1110	--	1310	--	1740
Hinckley Netherley Court	0918	0918	--	1118	--	1318	--	1748
Barwell Brockey Close	0933	0933	--	1133	--	1333	--	1803
Barwell East Green	--	--	--	--	--	--	--	1812

¹ Term Time Only ² Only During School Holidays

Monday to Friday - Earl Shilton Sandringham Avenue

	2	1	2	1	2	1
Barwell Brockey Close	0933	--	1133	--	1333	--
Barwell East Green	0942	--	1142	--	1342	--
Hinckley Ashby Road	0953	--	1153	--	1353	--
Hinckley The Crescent Bus Station	1003	--	1203	--	1403	--
Hinckley The Crescent Bus Station	--	1010	--	1210	--	1640
Hinckley Netherley Court	--	1018	--	1218	--	1648
Earl Shilton Sandringham Avenue	--	1027	--	1227	--	1657

Saturday - Hinckley The Crescent Bus Station

	1	2	1	2	1	2	1	2
Hinckley The Crescent Bus Station	--	1110	--	1310	--	1510	--	1710
Hinckley Netherley Court	--	1118	--	1318	--	1518	--	1718
Barwell Brockey Close	--	1133	--	1333	--	1533	--	1733
Barwell East Green	--	--	--	--	--	--	--	1742
Earl Shilton Sandringham Avenue	1027	--	1227	--	1427	--	1627	--
Earl Shilton Coniston Close	1032	--	1232	--	1432	--	1632	--
Earl Shilton Library	1044	--	1244	--	1444	--	1644	--
Hinckley Ashby Road	1053	--	1253	--	1453	--	1653	--
Hinckley The Crescent Bus Station	1103	--	1303	--	1503	--	1703	--

Saturday - Earl Shilton Sandringham Avenue

	2	1	2	1	2	1	2	1
Barwell Brockey Close	0933	--	1133	--	1333	--	1533	--
Barwell East Green	0942	--	1142	--	1342	--	1542	--
Hinckley Ashby Road	0953	--	1153	--	1353	--	1553	--
Hinckley The Crescent Bus Station	1003	--	1203	--	1403	--	1603	--
Hinckley The Crescent Bus Station	--	1010	--	1210	--	1410	--	1610
Hinckley Netherley Court	--	1018	--	1218	--	1418	--	1618
Earl Shilton Sandringham Avenue	--	1027	--	1227	--	1427	--	1627

As shown in Figure 4, service 1 was closest to the Application A Site with bus stops on Mill Lane, Alexander Avenue, Astley Road and Meadow Court Road which would have been accessible for new residents in northern parts of the Site.

Analysis of the walking distances to the bus stops served by the withdrawn Service 1 using Basemap TRACC 2.0.4 software was undertaken as part of the submitted TA and FTP. This was based on the illustrative masterplan and focuses on the key links from the Site rather than all possible pedestrian routes that will be constructed. TRACC uses a walking speed of 4.8 kmph which is based on the Department of Transport (DfT) publication *Journey Time Statistics: Notes and Definitions*⁶. For origins/destinations not on the road network the journey commences with a walk to the nearest point on the network, with a speed penalty applied, and then continues on the road network.

Figure 5 shows the walking distances to each bus stop and illustrates the extent of accessibility within the Site, demonstrating that locations near to Meadow Court Road, Astley Road and Montgomery Road are within 400m of the withdrawn Service 1 bus stops and the majority of the Site is within 800m.

⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/853603/notes-and-definitions.pdf

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Figure 5 Withdrawn Service 1 - Bus Stop Catchment Areas – Distance (m)

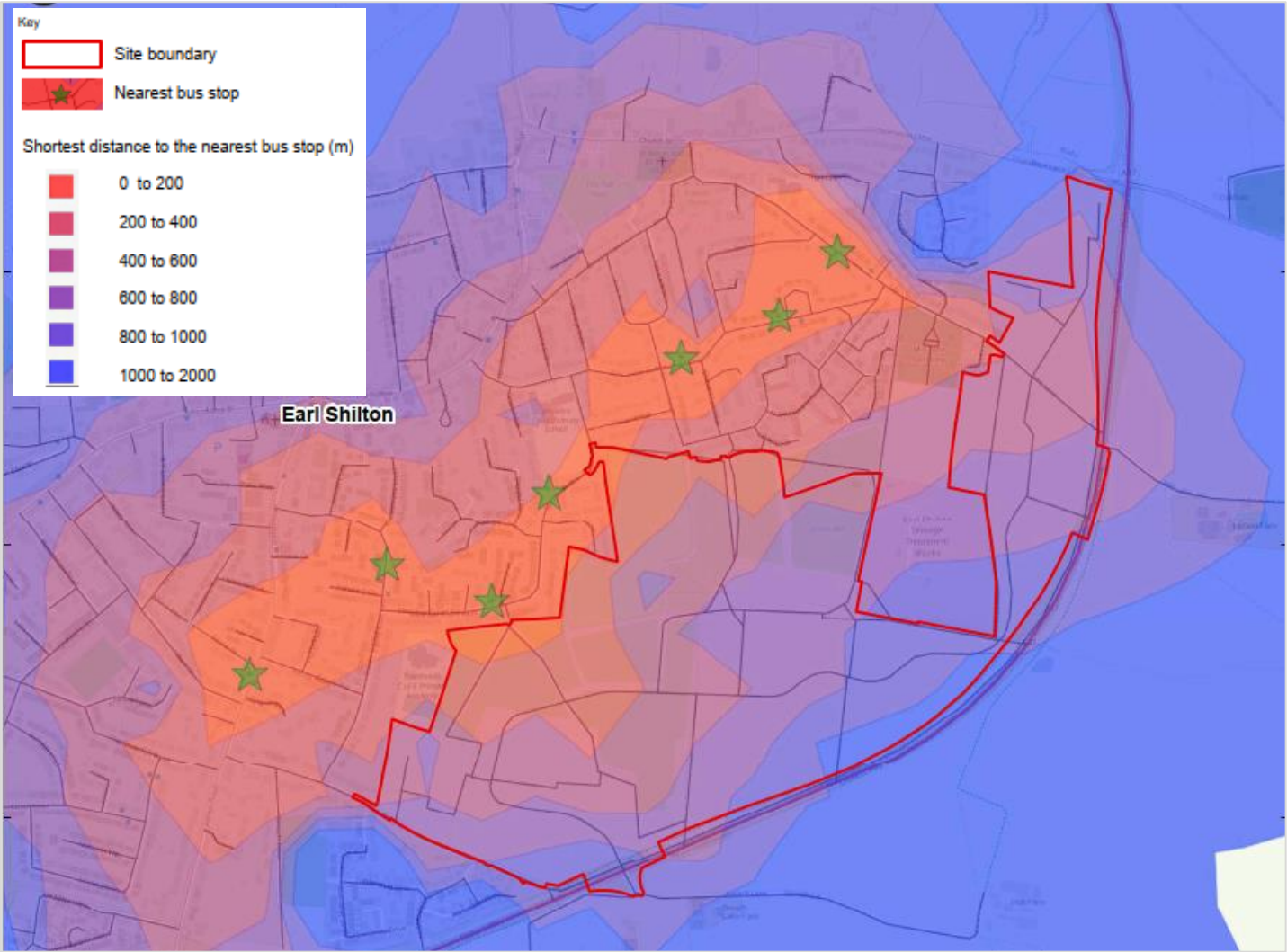


Table 2 provides a summary of this for the whole completed site and the separate Application A and Application B sites. This shows that the Application A site has better accessibility to the former bus service 1 bus stops than Application B, however, the average walking distance for Application B is only 743m and a 9-minute journey time, which is a reasonable walking distance.



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Table 2 Average walking distance and time from areas of the Site to the former Service 1 bus stops

Internal Road and Footway Scenario	Application and Land Parcel	Average Walking Distance to Nearest Bus Stop (m)	Average Walking Time to Nearest Bus Stop (mins)
Existing connections and all internal connections	Whole Site	595	8
Existing connections and Application A internal connections	Application A Land Main Parcel 1	367	5
Existing connections and Application A internal connections	Application A North Mill Lane Parcel 2	595	7
Existing connections and Application B internal connections	Application B	743	9

The bus strategy for the Site considers reinstatement of part of the route, as set out in the following section.

3. EARL SHILTON SUE BUS SERVICE STRATEGY

The bus strategy for the Site at full completion is based on connectivity to Earl Shilton town centre and to Hinckley Bus Station, from where Hinckley Train Station is an eight-minute walk away.

Bus Routeing

On full completion of the Proposed Development, the bus service would route through the Site, either via Mill Lane and Astley Road or via one or both of the A47 roundabouts. The routeing options are identified below.

1. A47 from Hinckley – Wilkinson Road – Station Road – Equity Road East – Meadow Court Road – Astley Road – Earl Shilton SUE Astley Road access – Earl Shilton SUE Spine Road – Earl Shilton SUE Mill Lane access - Mill Lane – Chapel Street - Church Street – Hill Top – High Street – Wood Street – Hinckley Road – Station Road – Wilkinson Road – A47 to Hinckley.
2. A47 from Hinckley - Station Road – Wilkinson Road - Hinckley Road - Wood Street - High Street - Hill Top - Church Street - Chapel Street - Mill Lane – Earl Shilton SUE Mill Lane access - Earl Shilton SUE Spine Road - Earl Shilton SUE Astley Road access - Astley Road - Meadow Court Road - Equity Road East - Station Road - Wilkinson Road - A47 to Hinckley
3. A47 from Hinckley A47 – Earl Shilton SUE A47 Southern Roundabout – Earl Shilton SUE Spine Road – Earl Shilton SUE Mill Lane access - Mill Lane – Chapel Street - Church Street – Hill Top – High Street – Wood Street – Hinckley Road – Station Road – Wilkinson Road – A47 to Hinckley.
4. A47 from Hinckley A47 – Earl Shilton SUE A47 Southern Roundabout – Earl Shilton SUE Spine Road – Earl Shilton SUE A47 Northern Roundabout – A47 to Hinckley.

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Bus Frequency

One bus would be sufficient to provide at least an hourly service for Route Options 1 - 3, which could potentially be one every 45 minutes.

Route Option 4 would be quicker, and one bus could potentially have a frequency of one every 30 – 45 minutes. However, this route would not provide a connection between the SUE and Earl Shilton town centre and wouldn't offer the benefit of patronage from existing residential areas within Earl Shilton to support the commercial viability of the service.

It is anticipated that the bus service will be commercially viable before the SUE is completed and the bus service frequency by this stage will be dependent on the bus operator.

4. PHASED BUS STRATEGY

As there is no existing bus service to appropriately serve the majority of the Site due to the distance to the bus stops on Earl Shilton High Street and Wood Street, there will be a need for the funding of a bus to serve the Site. A phased bus service strategy will be required that fits with the staged delivery of each of the application sites. In the short and medium term, this will entail reinstatement of bus service 1 which will be most accessible to the Application A Site, as well as the residential parcel of Breach Lane, Application B, and an extension into the Application B Site via the southern A47 roundabout to serve its early phasing delivery.

Short and Medium Term

Commencement of a bus service to serve a new development is a balance between providing travel choice in the early stages of occupation and optimum use of developer contribution funding. Whilst it would be ideal for a bus service to be in place from day 1 of occupation in order to influence travel choice at the outset, this would be poor use of funding as revenue earned from patronage from occupants from the site would be minimal. A pragmatic approach is to identify a threshold of development that would trigger the commencement of the service.

It is proposed that the contribution or commencement of bus provision is triggered once 150 dwellings have been constructed and occupied.

Initial construction delivery will be based off separate access points with no internal connections. On the basis that there will be no internal connectivity, the short-term bus strategy is the reinstatement of Service 1, potentially with a modified route through Earl Shilton to shorten the journey time, thereby enabling a slight increase in frequency compared to the withdrawn service – an approximate 40 - 45 minute journey time. The re-instated bus service would additionally route to Application B via the southern roundabout with a loop facilitated by a turning arrangement.

Figure 6 illustrates the short-term bus access route to the Application B Site, noting that would be a turning head or loop to enable the service to route into the Site along the secondary street and turn in the vicinity of the community hub and school.

TECHNICAL NOTE: Bus Strategy

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The potential route from Hinckley would be as follows (red text showing revised route from pervious service 1):

- A47 from Hinckley – Proposed Site southern roundabout, turning within the Site – A47 - Wilkinson Road – Station Road – Equity Road East – Meadow Court Road – Astley Road - Alexander Avenue – Mill Lane – Chapel Street - Church Street – Hill Top – High Street – Wood Street – Hinckley Road – Station Road – Wilkinson Road – A47 to Hinckley.

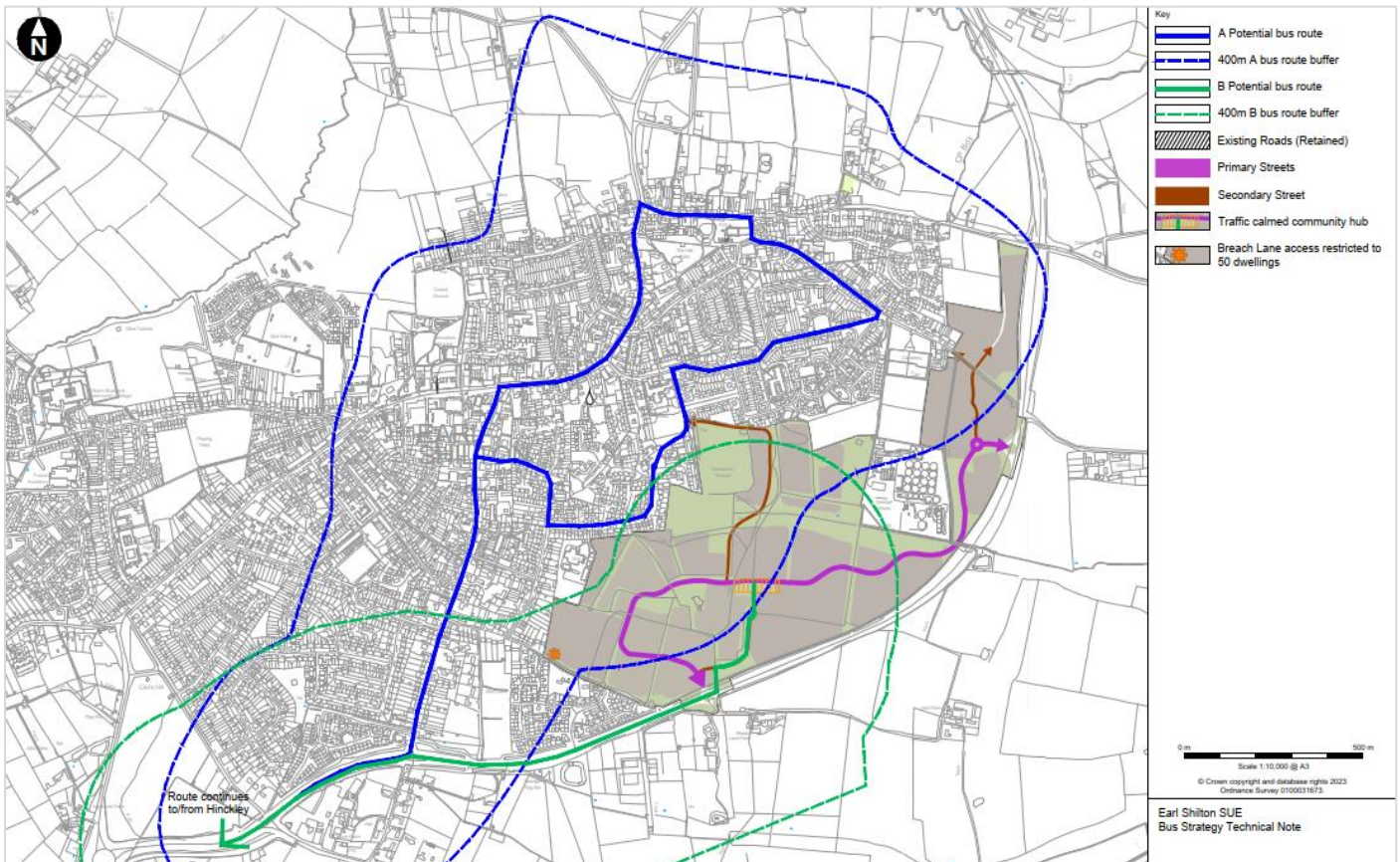
One bus would be sufficient to provide at least an hourly service.

Figure 7 shows an overlay of a 400m buffer around the bus route for both Application A and Application B in the short-term, showing good coverage of both sites, although acknowledging that this is a ‘crow flies’ distance rather than walking distance.

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Figure 7 400m buffer from overlayed on Primary and Secondary access parameter plan



Long term Year 6 to Year 10

On full completion of the Proposed Development, the bus service would route through the Site, either via Mill Lane (Application A) or both A47 roundabouts (Application B):

- A47 –Southern Roundabout – through Site – Mill Lane – Chapel Street - Church Street – Hill Top – High Street – Wood Street – Hinckley Road – Leicester Road (Carrs Hill) – A47 to Hinckley.
- A47 –Southern Roundabout – through Site – Northern Roundabout – A47 to Hinckley.

5. BUS STOP INFRASTRUCTURE

Bus stop locations will be site to enable the majority of residential properties to be within 400m of an existing or a new bus stop. New bus stops would be at suitable intervals, to be agreed with LCC, but anticipated to be no greater than 600 m apart. It is intended to provide high quality Disability Discrimination Act (DDA) compliant bus stops which would generally include the following:

- installation of high-quality bus shelters (with at minimum lighting, seats and passenger information panels);

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- raised access kerbs would be installed, providing level access for passengers boarding or alighting the buses;
- an associated maintenance and cleaning programme so the stops do not fall below the required standard;
- be safe, well lit and level pedestrian routes to the bus stops, including suitable points to cross the highway; and
- appropriate traffic management to prevent illegal parking at the bus stops i.e. Clearway Orders.

6. BUS SERVICE COSTINGS AND CONTRIBUTION

Consideration has been given to potential bus service costs and a contribution amount, taking into account potential patronage from the new occupants and existing households and revenue from this.

Assumptions

Table 4 sets out the assumptions on costs and revenue. It should be noted that this does not include assumptions on inflation.

Table 4 Potential Bus Service Scenario Assumptions

	Assumptions
Bus Operating Cost per annum *	£180,000
Patronage	The residential and employment land uses of the Proposed Development Application B and existing households within 400m of a bus stop on the potential bus route.

* based on advice from Arriva regarding an indicative standard annual bus cost for one bus operating a 12 hour per day Monday to Saturday service. Bus operating cost will vary depending on service level and operator, for example.

The following is assumed with regards to the Proposed Development.

- Mode share – consideration has been given to the implications of differing percentages, including the 2011 Census journey to work data which recorded a mode share for bus of 4.23% and the 2021 Census journey to work data which recorded a mode share for bus of 2.83%.
- The mode share has been applied to the person trips for the Proposed Development residential land use. For employment, the estimated number of jobs for the employment land uses has been based on Table 12.9 of the Environmental Statement (ES) and the mode share applied to this.
- A construction period of 10 years for the residential element has been assumed, comprising an average of 50 dwellings per annum for Application A and 100 residential units per annum for Application B. The employment uses are assumed to occur later in the construction programme, from Year 7 to Year 12.

TECHNICAL NOTE: Bus Strategy

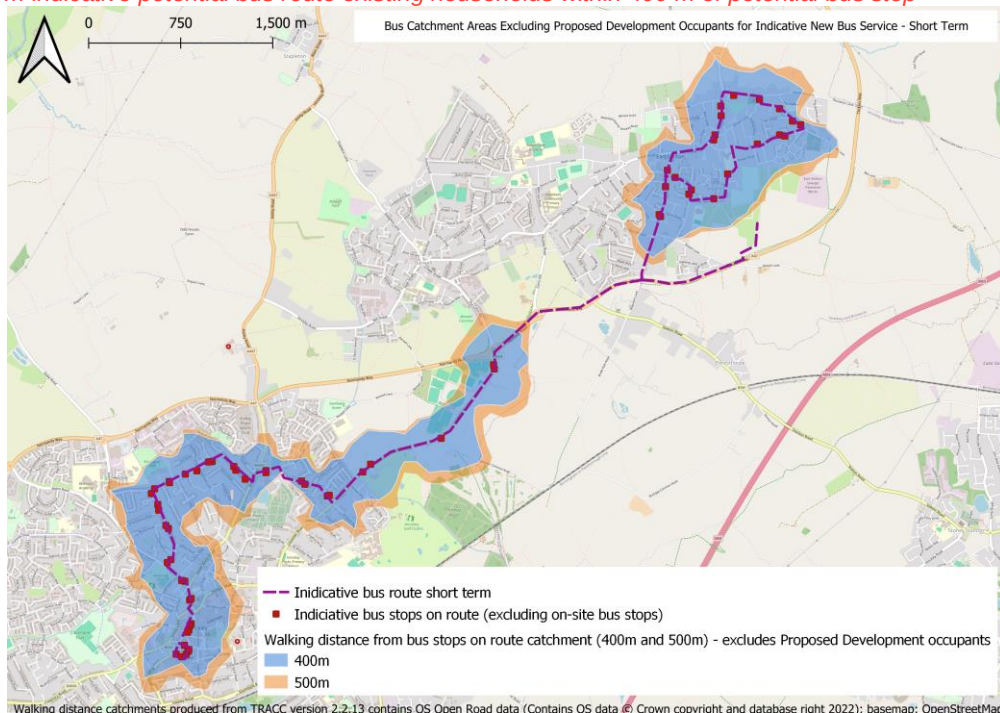
DATE:	19 March 2024	CONFIDENTIALITY:	Public
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- An average fare cost of £1.35 has been assumed based on the current fare structure in the locality and taking into account patronage by full fare paying adults (assumed to be 56.3% based Census 2021 data on age in Hinckley and Bosworth 006A-006F) and children (11.3%) and non-fare paying passengers – children under 4 years old (5.4%) and pensioners with a bus pass (20.6%).

The following is assumed with regards to existing household patronage.

- The mode share for the Proposed Development residential land use is applicable, however, consideration needs to be given to the catchment overlap with existing bus services (148 and 158). To allow for these established, 'competing' services, the potential mode share for the proposed new route from existing households has been reduced to an eighth.
- Existing households within 400m of a bus stop on the potential bus service route have been determined using TRACC (v. 2.2.13 using OS Open Road road network) and bus stops⁷ along the potential bus route taking consideration the locations of the bus stops for the withdrawn service (**Figure 8** and **Figure 9**). The number of households was derived from the 2011 Census 'KS401EW - Dwellings, household spaces and accommodation type'⁸ for 2011 Census Output Areas where the majority of residential areas within the Output Area reside within the 400m bus stop catchment boundary.

Figure 8 Short-term indicative potential bus route existing households within 400 m of potential bus stop



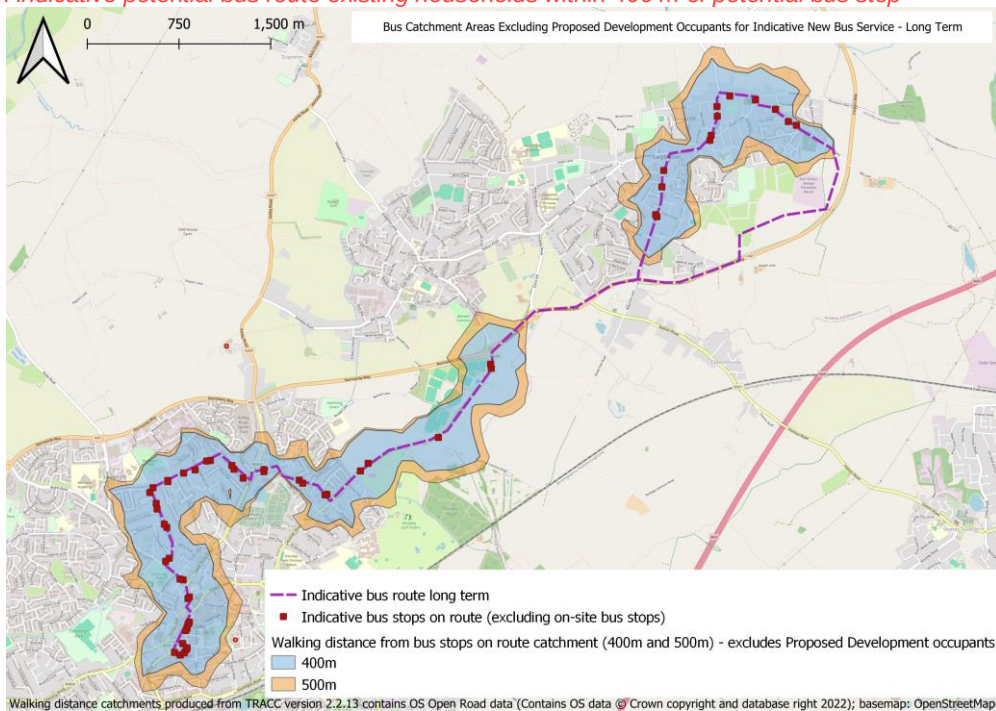
⁷ Department for Transport National Public Transport Access Notes (NaPTAN) dataset (online). Available at: <https://beta-naptan.dft.gov.uk/download/la> [Accessed 13/12/23]

⁸ Nomis 2011 Census Dataset 'KS401EW - Dwellings, household spaces and accommodation type' (online). Available at: https://www.nomisweb.co.uk/sources/census_2011 [Accessed 13/12/23]

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Figure 9 Long-term indicative potential bus route existing households within 400 m of potential bus stop



- Based on the calculation of existing households within 400m of the bus service routes, there are up to 5,777 households along the short term route and 5,631 households along the long term route.
- Based on the bus mode share and allowance for patronage on existing bus services, it is estimated that there would be 282 daily passengers from existing households along the short term route and 275 daily passengers along the long term route.

Results

A summary of the calculations, for commercially viable mode share scenarios, is provided in **Table 5**. This shows that with the inclusion of revenue from existing households within 400m of the proposed bus route, commercial viability will be as follows:

- One bus – by Year three and completion of 450 dwellings
- Two buses – by Year 10 and completion of all of the dwellings, school and community hub and 67% employment

Table 6 provides a summary of the results for the commercial viability showing that a contribution of £55,843 would be needed towards the operation of one bus service and £1,106,215 towards two bus services.

The calculations for each scenario are included in **Appendix A**.

Table 5 – Summary of Bus Cost Revenue by Year

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Estimated Annual Patronage												
Earl Shilton SUE	17815	35630	53445	71775	89590	107405	127256	145071	164923	184774	186810	188846
Existing Households	85,765	85,765	85,765	85,765	85,765	85,765	83,598	83,598	83,598	83,598	83,598	83,598
Total Annual Patronage	103,580	121,395	139,210	157,540	175,355	193,170	210,854	228,669	248,520	268,371	270,407	272,443
Estimated Revenue												
Earl Shilton SUE revenue	£24,085	£48,171	£72,256	£97,037	£121,122	£145,207	£172,045	£196,130	£222,968	£249,806	£172,274	£175,027
Existing household revenue	£115,951	£115,951	£115,951	£115,951	£115,951	£115,951	£113,020	£113,020	£113,020	£113,020	£113,020	£113,020
Total Revenue	£140,036	£164,121	£188,206	£212,987	£237,072	£261,158	£285,065	£309,150	£335,988	£362,826	£365,579	£368,331
Annual Bus cost/revenue – One bus												
Bus cost per annum*	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000
Bus subsidy (-) /bus viability	-£39,964	-£15,879	£8,206	£32,987	£57,072	£81,158	£105,065	£129,150	£155,988	£182,826	£185,579	£188,331
Annual Bus cost/revenue – Two buses												
Bus cost per annum*	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000
Bus subsidy (-) /bus viability	-£219,964	-£195,879	-£171,794	-£147,013	-£122,928	-£98,842	-£74,935	-£50,850	-£24,012	£2,826	£5,579	£8,331

* Based on operator cost provided

Table 6 Commercial Viability Results Summary

Proposed Development Mode Share Value	One Bus	Two Buses
Year of Commercial Viability	Year 3	Year 10
Proposed Development Status at Year of Commercial Viability	450 dwellings have been built and occupied	1,500 dwellings built and occupied School, retail and community hub completed 67% of employment built and occupied
Contribution Amount Overall to Year of Viability*	£55,843	£1,106,215

*Taking into account revenue from fare paying passengers



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It is proposed to provide a contribution of £1,106,215 to fund two buses in order to ensure that there is a good level of frequency. It is anticipated that the contribution will be split into three payment periods, to be confirmed with the public transport officer in LCC. As identified earlier in this TN, it is proposed that the development threshold to trigger the first contribution payment is construction and occupation of 150 dwellings.

7. ADDITIONAL BUS STRATEGY CONTRIBUTIONS

The Applicants will comply with LCC advice and requirements regarding Travel Plan contributions and monitoring. Relative to the bus strategy, this will include the following:

- Travel Information Packs will be produced as part of the Travel Plan implementation. This will include information on the SUE funded bus service and the other services in Earl Shilton, and connections to Hinckley Rail Station. The Applicant will either produce their own Travel Information Packs and will pay LCC £500 to review and approve the content or will pay LCC to produce these, understood to be £52.85 per pack.
- LCC currently asks for two adult passes (each pass being valid for six months) per residential plot. An Arriva bus pass costs £360.00.

8. SUMMARY

There are two existing bus services which provide Earl Shilton with good connectivity to major local destinations. A third service, bus service 1, routed closest to the Site, however, was withdrawn in August 2023.

The bus strategy for the Earl Shilton SUE will need to consider the reinstatement of the withdrawn route as the existing services and associated bus stops are more than 400m from the Site boundary.

The routing for the Earl Shilton SUE bus strategy is anticipated to be as follows:

- Short-term (no internal connectivity within the Site) – reinstate bus service 1 to route along road network in proximity to Site boundary and to Application B site via the proposed southern roundabout junction.
- Medium-term – as per the short-term route.
- Long term - route service through the whole Site.

Based on the provision of one bus, the contribution amounts towards the operation of the bus service would be £55,843 or £1,106,215 towards two bus services.

It is proposed to provide a contribution of £1,106,215 to fund two buses in order to ensure that there is a good level of frequency. It is anticipated that the contribution will be split into three payment periods and that the development threshold to trigger the first contribution payment is construction and occupation of 150 dwellings.



TECHNICAL NOTE: Bus Strategy

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Appendix A

BUS COST/REVENUE

Earl Shilton Bus Patronage Calculations

Mode share			
	2011 Census - Lower Layer Output Area 009c	Future Assumption ES SUE*	Future Assumption Existing HH*
Bus mode share	4.23%	4.23%	0.53%
* 2011 census level reduced to a 1/8 due to the existing services having overlapping catchment areas			

	Person trip rates based on TA		Bus Patronage based on number of jobs derived from Table 12.9 of Environmental Statement			
	Residential		Employment B1	Employment B2	Employment B8	Retail
AM Peak Hour	1.17	Number of Jobs	142	227	204	20
PM Peak Hour	1.078	Two-way trips	284	454	408	40
Daily	9.236	Bus mode share trips	12	19	17	2
Daily bus trip rate based on bus mode share of person trip rate	0.391	Total Employment two-way daily trips by bus	50			

Daily bus trip rate based on mode share of person trip rate - Exising Households	0.049
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	Potential patronage opportunities within 400m of bus route	Annual Growth based on Construction Phasing (year)											
		1	2	3	4	5	6	7	8	9	10	11	12
Residential - dwellings	1,000	150	300	450	600	750	900	1,050	1,200	1,350	1,500	1,500	1,500
Emp B1- m²	2,000							333	667	1,000	1,333	1,667	2,000
Emp B2- m²	11,400							1,900	3,800	5,700	7,600	9,500	11,400
Emp B8- m²	11,400							1,900	3,800	5,700	7,600	9,500	11,400
Existing HH - Short Term and Long Term Bus Routes		5,777	5,777	5,777	5,777	5,777	5,631	5,631	5,631	5,631	5,631	5,631	5,631

	Daily bus patronage based on bus trip rates											
	1	2	3	4	5	6	7	8	9	10	11	12
Residential	59	117	176	234	293	352	410	469	527	586	586	586
Emp B1-	0	0	0	0	0	0	2	4	6	8	10	12
Emp B2-	0	0	0	0	0	0	3	6	10	13	16	19
Emp B8-	0	0	0	0	0	0	3	6	9	12	14	17
Retail (Employment)				2	2	2	2	2	2	2	2	2
Existing HH - Short Term and Long Term Bus Routes	282	282	282	282	282	282	275	275	275	275	275	275

Annual bus patronage

Operating days:

304	Residential	304	Retail	252	Employment
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	Annual bus patronage based on daily trips and annual operating days											
	1	2	3	4	5	6	7	8	9	10	11	12
Residential	17815	35630	53445	71261	89076	106891	124706	142521	160336	178151	178151	178151
Emp B1	0	0	0	0	0	0	505	505	1009	1514	2018	2523
Emp B2	0	0	0	0	0	0	807	807	1613	2420	3226	4033
Emp B8	0	0	0	0	0	0	725	725	1450	2175	2899	3624
Retail (Employment)	0	0	0	514	514	514	514	514	514	514	514	514
Total SUE	17815	35630	53445	71775	89590	107405	127256	145071	164923	184774	186810	188846
Existing HH - Short Term and Long Term Bus Routes	85,765	85,765	85,765	85,765	85,765	85,765	83,598	83,598	83,598	83,598	83,598	83,598
Total	103,580	121,395	139,210	157,540	175,355	193,170	210,854	228,669	248,520	268,371	270,407	272,443

Bus Cost / Revenue Per Annum

Average single bus fare	£1.35	Annual bus cost	No of buses	Bus cost	Total cost
			1	£180,000.00	£180,000.00

Years of Construction	1	2	3	4	5	6	7	8	9	10	11	12
Annual Bus cost	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000	£180,000
SUE Residential	£24,085	£48,171	£72,256	£96,341	£120,426	£144,512	£168,597	£192,682	£216,768	£240,853	£240,853	£240,853
SUE Emp B1	£0	£0	£0	£0	£0	£0	£682	£682	£1,364	£2,046	£2,729	£3,411
SUE Emp B2	£0	£0	£0	£0	£0	£0	£1,090	£1,090	£2,181	£3,271	£4,362	£5,452
SUEEmp B8	£0	£0	£0	£0	£0	£0	£980	£980	£1,960	£2,940	£3,920	£4,900
SUE Retail Employment	£0	£0	£0	£695	£695	£695	£695	£695	£695	£695	£695	£695
SUE Revenue	£24,085	£48,171	£72,256	£97,037	£121,122	£145,207	£172,045	£196,130	£222,968	£249,806	£252,559	£255,311
Existing HH	£115,951	£115,951	£115,951	£115,951	£115,951	£115,951	£113,020	£113,020	£113,020	£113,020	£113,020	£113,020
Total Revenue	£140,036	£164,121	£188,206	£212,987	£237,072	£261,158	£285,065	£309,150	£335,988	£362,826	£365,579	£368,331
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Average single bus fare	£1.35	Annual bus cost	No of buses	Bus cost	Total cost
			2	£180,000.00	£360,000.00

Years of Construction	1	0	1.692	1.692	1.692	1.692	1.692	1.692	1.692	1.692	1.692	0
Annual Bus cost	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000	£360,000
SUE Residential	£24,085	£48,171	£72,256	£96,341	£120,426	£144,512	£168,597	£192,682	£216,768	£240,853	£240,853	£240,853
SUE Emp B1	£0	£0	£0	£0	£0	£0	£682	£682	£1,364	£2,046	£2,729	£3,411
SUE Emp B2	£0	£0	£0	£0	£0	£0	£1,090	£1,090	£2,181	£3,271	£4,362	£5,452
SUEEmp B8	£0	£0	£0	£0	£0	£0	£980	£980	£1,960	£2,940	£3,920	£4,900
SUE Retail Employment	£0	£0	£0	£695	£695	£695	£695	£695	£695	£695	£695	£695
SUE Revenue	£24,085	£48,171	£72,256	£97,037	£121,122	£145,207	£172,045	£196,130	£222,968	£249,806	£252,559	£255,311
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Bus subsidy (-) /bus viability	-£219,964	-£195,879	-£171,794	-£147,013	-£122,928	-£98,842	-£74,935	-£50,850	-£24,012	£2,826	£5,579	£8,331



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