

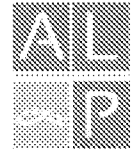
RUSTINGTON GOLF CENTRE

TRANSPORT ASSESSMENT

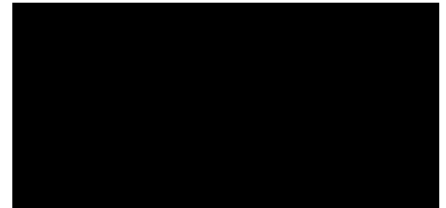
PLN-I-4106-R006

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04 FEBRUARY 2022



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Date:	04 February 2022
Document Reference:	PLN-1-4106 (A351-R006)

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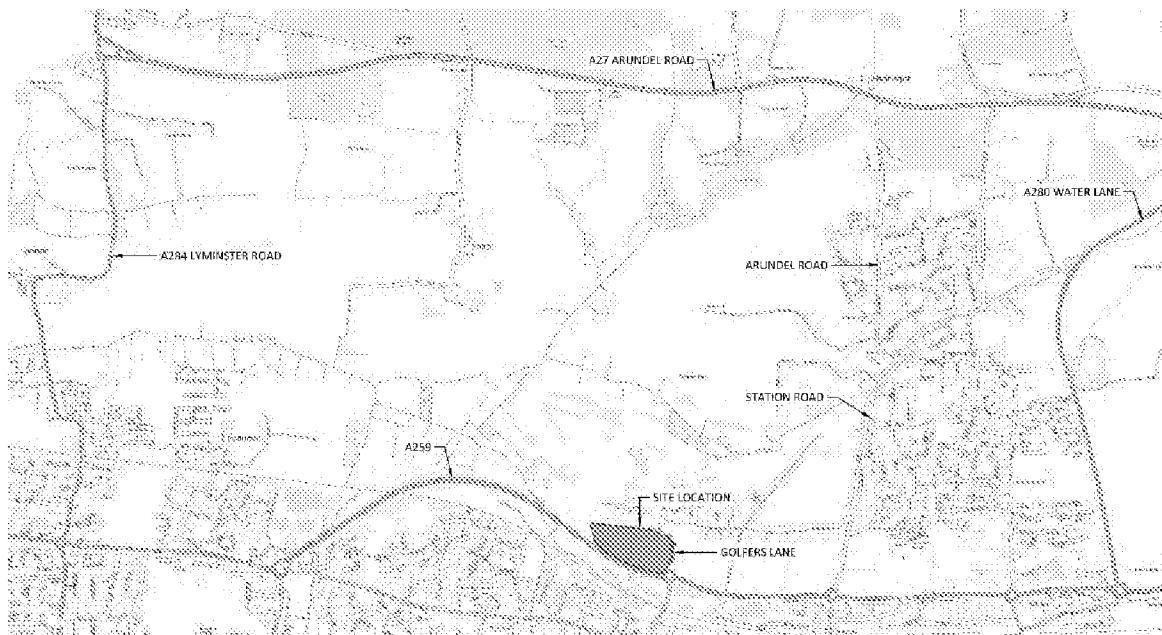
Appendix I – A259 Improvement Scheme

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1.0 Introduction

- 1.1. This Transport Assessment (TA) has been prepared on behalf of Barratt David Wilson Homes as part of a detailed application for a proposed development of 167 dwellings on land located at Rustington Golf Centre. **Figure 1** below shows the site location.

Figure 1 – Site Location



- 1.2. The site currently comprises an area of c.6.4ha and is made up of parts of the golfing green including trees, hedges, fairways, bunkers, and ponds.
- 1.3. The application is to be made in detail, with all matters relating to access, main internal roads, layout and parking being determined at this time. A copy of the site layout is included in **Appendix C**.

Site Planning History

- 1.4. The site has been subject to recent planning permission, the latest being in 2018 (REF: A/84/17/PL) for development of food-retail, leisure, hotel, and nursery land uses. Although this permission has now lapsed.
- 1.5. The approval of this permission, which covers broadly the same area of the red line in this application, was subject to discussions with WSCC Highways and National Highways (Highways England) as to the impact of the development and subsequently an agreed package of mitigation to be delivered.
- 1.6. The proposed development in this application would seek to deliver similar improvements in accordance with such schemes that were previously deemed acceptable. Notwithstanding the fact that these development proposals would have less of a traffic impact to that previously consented as quantified later in the Transport Assessment.



Pre Application Engagement

- 1.7. Formal pre application discussions were entered into with West Sussex County Council (WSCC) highways, which resulted in a meeting being held on Friday 21st June 2021. A copy of the minutes of that meeting are included in **Appendix B** and the items discussed have been incorporated into this TA where appropriate.

Report Structure

- 1.8. This TA is structured to ensure a clear, comprehensive and robust assessment of the proposed developments impact upon the local highway network. As such the report provides the following information and discusses the proposals in the following sections:

Section 2 – Assesses the development in the context of national and local planning policy, demonstrating that the proposals are policy compliant.

Section 3 – Provides a detailed review of the existing site conditions, with particular attention given toward existing sustainable travel opportunities and, where appropriate, identifying potential improvement opportunities.

Section 4 – Sets out the development proposals, including detailed information regarding access, parking and servicing for the development.

Section 5 – Discusses trip rates for the development and shows how traffic generated by the development would be distributed onto the local highway network.

Section 6 – Provides a summary of the junction capacity assessment results at locations identified on the local highway network.

Section 7 – Sets out a summary of the TA findings and concludes the report based upon the evidence provided.



2.0 Planning Policy

Planning Policy Context

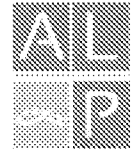
- 2.1. The proposed development site is located within the administrative boundary of Arun District Council (ADC) for which West Sussex County Council (WSCC) act as the Local Highway Authority (LHA). The proposed site area also falls within the Parish of Angmering.
- 2.2. This section reviews the development proposals within the context of national and local planning transport policies.

National Planning Policy Framework (July 2021)

- 2.3. The Department for Communities and Local Government published the 'National Planning Policy Framework' (NPPF) document in March 2012 which was subsequently updated in July 2021. The NPPF sets out the Government's policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced.
- 2.4. The purpose of the planning system is to contribute to the achievement of sustainable development. So that sustainable development is pursued in a positive way, at the heart of the Framework is a presumption in favour of sustainable development.
- 2.5. The NPPF states that transport issues should be considered from the earliest stages of plan-making and development proposals. Significant development should be focussed on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes.
- 2.6. In respect of promoting sustainable travel the NPPF advocates that planning policies and decisions should consider whether:
 - *"Appropriate opportunities to promote sustainable transport modes can be – or have been - taken up, given the type of development and its location.*
 - *Safe and suitable access to the site can be achieved for all users;*
 - *Significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."*
- 2.7. The guidance advises that, subject to the above considerations, development should not be prevented or refused on transport grounds unless the residual impacts of the development are severe.

National Planning Practice Guidance (March 2014)

- 2.8. The National Planning Practice Guidance web-based resource was launched in March 2014 by the Department for Communities and Local Government. The guidance covers all aspects and procedures of the planning process and supports the National Planning Policy Framework.
- 2.9. The guidance states that supporting Transport Assessments for planning applications are important as they should support national planning policy which sets out that the planning process should actively



manage patterns of growth in order to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable.

- 2.10. Such assessments should be proportionate to the size and scope of the proposed development to which they relate and build on existing information wherever possible. Further to this they should be tailored to particular local circumstances.

West Sussex County Council Transport Plan (2011 – 2026)

- 2.11. The West Sussex Transport Plan, adopted February 2011, sets out a long term strategy for the continued development, improvement and management of transport infrastructure in West Sussex.
- 2.12. Relevant adopted policies relating to highways and sustainable travel been taken into consideration in this assessment with particular attention being given to the implementation plan for Arun and Littlehampton.
- 2.13. Section 2.2 of the plan states *'The existing infrastructure deficit along the coast is widely considered by local businesses to contribute to poor economic performance in Arun and the need for regeneration. As a result, Bognor Regis and Littlehampton have both been identified as strategic places where new development is expected to help deliver regeneration during the lifetime of the Plan.'*

'New development will be required to integrate into the existing transport network and deliver enhancements to the infrastructure, stimulating regeneration, improving connectivity and encouraging long term sustainable travel behaviour.'

- 2.14. The key aims for Arun relevant to the scale and location of the proposed development are:
- Maintaining roads and public rights of way to a good standard.
 - All new development should be designed to promote 'local living', for example shops, jobs and homes all being within easy reach of each other.
 - All new development should provide enough secure cycle parking to meet the needs of the development and be within close proximity to public transport.
 - Parking provision at new residential development should provide enough spaces to accommodate the expected number of vehicles at the site or provide measures such as car clubs which reduce the number of vehicles to match the space available.
 - Ensuring that all new development contributes to the regeneration aspirations and the transport issues in Bognor Regis and Littlehampton.
 - Making the best use of the existing road network and improving the way in which the network is managed to reduce levels of congestion. For example, through the introduction of intelligent transport systems and improving public transport reliability.
 - Safeguarding against traffic generated by new development resulting in the capacity of the highway network being exceeded by including measures to encourage sustainable travel behaviour.



- Developing and implementing schemes which contribute to the completion of the Bognor Regis and Littlehampton cycle networks.
- Improving pedestrian accessibility throughout the district by enhancing existing pedestrian crossings and providing new pedestrian crossing facilities at identified key locations.
- Encourage the use of cleaner vehicles such as electric cars, by providing electric recharging posts and recharging bays.

Arun District Council Local Plan 2011 – 2032

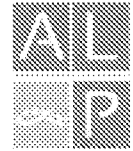
- 2.15. The Arun Local Plan was adopted on the 18th July 2018 and sets out a spatial vision, objectives and a sustainable strategy for delivering the needed growth of the District over the period 2011- 2031.
- 2.16. Chapter 15 of the Local Plan deals with Transport within Arun. The strategic objectives set out are to:
- Reduce the need to travel.
 - Plan for climate change.
 - Create local communities that are provide multiple uses and attractions.
 - Promote healthy lifestyles through the provision of infrastructure geared towards sustainable travel.
 - Provide a range of and improve upon existing travel options to stimulate economic growth.
- 2.17. Having reviewed the key policies in the local plan the development site is considered to align with these primary objectives, in particular with respects policies TSP1, TDM1 and TSP3 through the provision of proposed improvements to the pedestrian and cycle network (see **Section 4**) as well as by way of CIL contributions.

Arun District Council Parking Standards – January 2020

- 2.18. The Arun District Council Parking Standards - January 2020 SPD was adopted on 15th January 2020.
- 2.19. Based upon the parking zone map within the guidance the site falls within Parking Behaviour Zone 2. All parking within the proposed layout has been assessed (see **section 4**) against the standards set out in this document, including cycle parking and the provision of electric vehicle charging infrastructure.

Summary

- 2.20. The overarching principle of national and local transport policy is for new development to be located where it is accessible by a range of transport modes including walking, cycling and public transport and safe access and appropriate parking should be provided.
- 2.21. Fundamentally, development should only be prevented from coming forward for transport reasons if the residual impact would be severe.
- 2.22. The following sections of this Transport Assessment demonstrate how the development proposal complies with these national and local policy considerations.



3.0 Existing Conditions

Site Context

- 3.1. The site comprises an area of c.6.4 hectares which is predominantly golf facility green features such as fairways, bunkers and ponds. The site is bound along its southern side by the A259 and Golfers Lane to the east. To the north is the existing Rustington Golf Club car park and facilities, while to the west is additional land making up the rest of the golf centre.

Local Highway Network

- 3.2. The development site is well located to take advantage of the existing highway network, being in close proximity to strategic roads such as the A27 as well as local links. The site itself is accessed via Golfers Lane, an unadopted private road with an advisory speed limit of 15mph which makes up the northern arm of the Mill Lane Roundabout.
- 3.3. The B2187 Mill Lane forms the southern arm of the same junction and continues as a local link into the urban area of Rustington and West Preston, giving access to a number of local facilities.
- 3.4. The A259 forms the eastern and western arms of the Mill Lane Roundabout. The A259 is a key local distributor road, which in this location is made up of dual carriageway subject to a 50mph speed limit and serves as a by-pass along the northern edges of Littlehampton.
- 3.5. To the west the A259 continues towards Bognor Regis and terminates at The Bognor Road Roundabout connecting with the A27 at the Chichester Bypass. To the east the A259 continues towards Goring-by-Sea and Worthing.
- 3.6. The A27 is a nationally important strategic link in the southeast, providing connections along the southern coast from Eastbourne to Southampton. Residents in the area are able to access the A27 via several routes including the A29 to the west as well as Station Road and the A280 to the east.

Highway Safety

- 3.7. Road Traffic Collision (RTC) information covering a suitable study area (agreed as part of scoping with WSCC) of the local highway network, has been obtained from Sussex Police for the most recent five year period available (01/01/2017-31/12/2021).
- 3.8. Due to the regulations governing the distribution of sensitive information, the official collision report and data has not been included in this public document. Table 3.1 summarises the RTC record.



Table 3.1 – RTC Summary

Road User	Severity			Total
	Slight	Serious	Fatal	
Vehicle	10	3	0	13
Motorcycle	1	0	0	4
Pedestrian	0	0	0	0
Cyclist	3	1	0	1
Total	14	4	0	18

- 3.9. As can be seen a total of 18 collisions were reported, four of which resulted in serious injuries. A concentration of seven collisions occurred on or near Mill Lane Roundabout
- 3.10. Of the four serious collisions, three of them occurred on Mill Lane roundabout one of them involved two cars and occurred because one pulled onto the roundabout in front of another car. The second collision causing a serious accident occurred between a car and a cyclist. This collision occurred because the driver of the car pulled onto the roundabout and hit the cyclist.
- 3.11. The remaining collisions on Mill Lane Roundabout caused only slight injuries and typically involved either single vehicles leaving the carriageway or low speed collisions on the Mill Lane roundabout.
- 3.12. The remaining collisions are spread out through the highway network within the study area and are not indicative of any particular collision trend. Contributing factors cited in the report include, poor turns, in a hurry, failed to look properly, impairment by alcohol, racist assault, swerved and failure to look properly.
- 3.13. While c.20% of reported incidents in the study area involved cyclists, the existing highway network in the locality of the site is extensive and as discussed in **Section 4**, additional provisions will be included as part of this proposal.
- 3.14. On this basis it is considered that development would have little to no negative impact upon the safety of the local highway network.

Site Accessibility

- 3.15. It has long been established that it is generally acceptable for developments that are within 2km walk and 5km cycle distance of local facilities and amenities to be considered accessible, as recommended by the Chartered Institution of Highways and Transportation (CIHT) – Providing for Journeys on Foot.
- 3.16. While not arbitrary and being subject to the existing walking and cycling infrastructure available, these distances provide a suitable guide when assessing the accessibility of the site. As such existing facilities and amenities within acceptable walking (2km) and cycling (5km) distance of the site have been identified and are summarised in Table 3.2. The site accessibility plan, contained in **Appendix A**, illustrates the sites accessibility.



Table 3.2 - Summary of Local Facilities

Facility	Walk / Cycle Distance*	Walk / Cycle Journey Time**
Bus Stop	365m	4 mins / 2 mins
Manor Retail Park • Aldi • Costa • Next • Carpet Store • Chandlers Worthing BMW/Mini	450m	5 mins / 2 mins
Rustington Retail Park • Dunelm Mill • Vets 4 Pets • Halfords • Sainsbury / Argos Superstore	600m	8 mins / 3 mins
Nairn Business Centre	500-800m	7-10mins / 2-3 mins
Rustington Sports and Social Club	1.0km	14 mins / 4 mins
Angmering Railway Station	1.2km	15 mins / 4 mins
Georgian Gardens Primary School	1.2km	15 mins / 4 mins
Rustington Centre • Iceland Foods • Boots • Natwest • Superdrug • KFC • Waitrose	1.3km	16 mins / 4 mins
The Angmering School & 6 th Form	1.3km	16 mins / 4 mins
Angmering Medical Centre	2.0km	25 mins / 8 mins

**Journey times taken from googlemaps.com and account for changes in elevation.

- 3.17. As can be seen there are a wide variety of existing facilities and amenities within acceptable walking and cycling distance including: bus stops, supermarkets, schools, and Angmering Railway station.
- 3.18. The remainder of this section assesses the existing infrastructure, allowing for travel via non-car modes to these facilities from the site.

Walking and Cycling

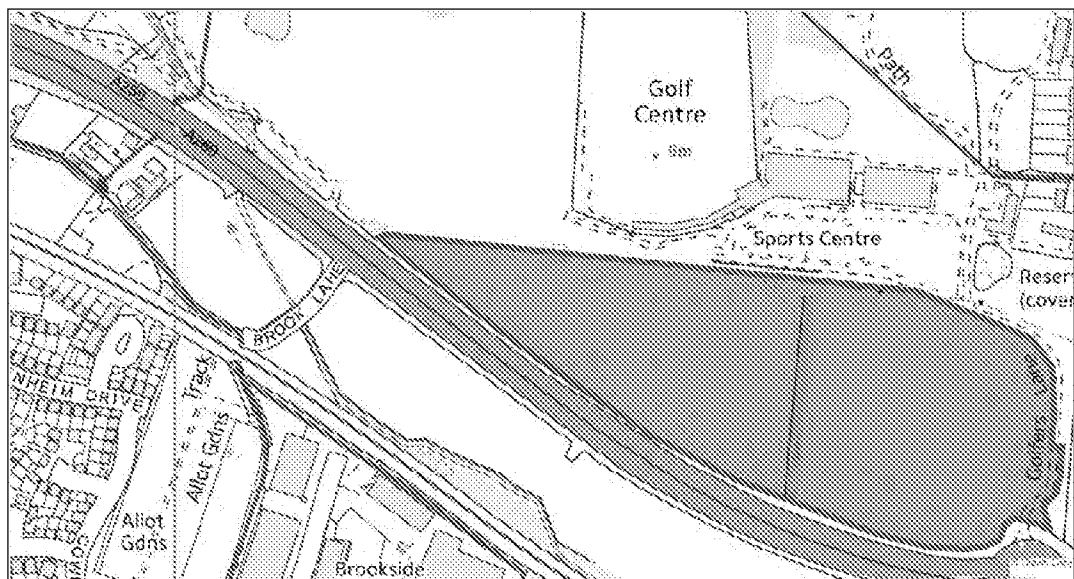
- 3.19. The site is within close proximity to a number of shared footway / cycleway routes allowing for safe access throughout the local area.
- 3.20. Most prominently is the existing segregated footway / cycleway along the southern edge of the A295 to the west of Mill Lane Roundabout, giving access to the retail stores.
- 3.21. This route also continues south along Mill Lane for c.100m where a Toucan crossing is provided and carries on to the east along the southern side of the A259 to the Blue Star Roundabout before diverting north towards Angmering. From the southern arm of the Blue Star Roundabout, B2140 Station Road, pedestrians are able to access Angmering railway station, while cyclists will need to travel on the carriageway for c.160m.
- 3.22. Approximately 300m east of the Mill Lane Roundabout, at South Drive, a footway / cycleway is also provided along the northern side of the A259 to the Blue Star Roundabout.

- 3.23. South Drive forms the route of Public Footpath No.2195. The lane comprises a private road subject to a 20mph speed limit and is suitable for use as an on road footway / cycle route leading towards Angmering medical centre and the village hall.
- 3.24. At present there is nowhere to safely cross the A259 between the site at Golfers Lane and the 3m footway/cycleway. It is expected that a 3m combined walking/cycle path will be constructed to join the existing 3m path north of the A259 at South Drive.
- 3.25. It is also expected that there will be the instillation of a signalled crossing on the A259 to allow pedestrians to safely leave and access the site. This is discussed in greater detail in Section 4.

Footpath 2160

- 3.26. Comments have been raised in pre application discussions regarding the development generating additional movements onto Public Right of Way 2160, and the potential for this to create a safety issue.
- 3.27. The screenshots below show the context of the site in relation to the routing of footpath 2160. As can be seen there is a distance in excess of 200m between the western most point of the site and the footpath, with no link being delivered between the two points. As such there is very limited likelihood of residents utilising this route given that it would involve an extended walk along the verge on the north side of the A259.
- 3.28. This would not be the most direct route to any local facilities.
- 3.29. Further to this the highway boundary records show that Brook Lane is a Private Road with no public right of way along it, therefore the potential that residents may choose to try and walk this route is also minimal.

Screenshot of Footpath 2160 Route



3.30. The nearest bus stops are located at the Manor Retail Park, within a 365m walk of the centre of the site. Table 3.3 summarises the bus service available.

No.	Operator	Route	Avg. Weekday Frequency
12	Compass Bus	Tesco – Littlehampton – Rustington – Sainsbury's	Hourly 10:00 – 14:00

- ### Public Transport – Rail

- ARUN DISTRICT COUNCIL A/45/22/PL



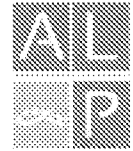
Table 3.4 – Angmering Rail Station (Summary of Services)

Destination	Avg. Journey Time	Frequency (tph*)
London Victoria	1hr 40mins	2-3tph
Brighton	32-40 mins	2-3tph
Hove	26 -30 mins	3-4tph
Littlehampton	10-15 mins	2-3tph
Portsmouth & Southsea	46 mins	2-3tph

- 3.34. As can be seen, destinations further afield are easily accessible by rail and can significantly reduce travel time compared to typical journey times by private car.
- 3.35. The station has car parking facilities (123 spaces) and is also easily accessible by bicycle, having secure storage space for 142 bicycles as well as benefiting from common facilities such as a coffee kiosk, toilets, seating areas and ticket machines.

Potential Barriers to Sustainable Travel

- 3.36. This section shows that the site has the potential to be highly accessible. Currently the biggest barrier to the site's accessibility is the lack of crossing facilities over the A259 in close proximity of the site and extension of the footway / cycleway on the northern side of the A259 to the site. However, through the provision of suitable crossing facilities over the A259 and connections to the existing walking and cycling network this barrier can effectively be removed.
- 3.37. It is of course recognised that travelling via modes other than a private vehicle may not be the most suitable or convenient travel choice for all residents all of the time. However, given the site's proximity to local facilities such as schools, employment areas as well as Rustington centre and Angmering railway station, there is great potential for trips generated by the development to be undertaken by sustainable travel modes.
- 3.38. The development proposals therefore adhere to the first key test of the NPPF given that the site affords appropriate opportunities for sustainable travel modes to be taken up.



4.0 Development Proposals

- 4.1. The development proposals considered in this planning application are for the erection of 167 dwellings along with associated vehicle and non-motorised road user access, internal layout, green space and off-site highway improvements. The proposed layout has been included in **Appendix C**.

Primary Access

- 4.2. A new priority controlled access into the development will be formed off Golfers Lane c.100m north of Mill Lane Roundabout. Its geometric form will be a simple T-junction with 10m radii and a 6m wide carriageway along the minor arm. Drawing A351-PLN-1-4005 A, included in **Appendix A** illustrates the proposed arrangements.
- 4.3. Given that Golfers Lane is a private road and has an advisory 15mph speed limit, the provision of splays for a 20mph design speed are considered more than appropriate in this location, and has been agreed by WSCC. As can be seen, visibility splays of 2.4m x 25m (20mph) as prescribed in Manual for Streets will be provided.
- 4.4. In addition, a 3m shared footway / cycleway will be provided along the southern side of the access, continuing south along the site frontage and western edge of Golfer Lane to the Mill Lane Roundabout. A 2m footway will also be provided along the northern edge of the accesses minor arm leading into the development.

Pedestrian and Cycle Access

- 4.5. An integral part of ensuring the development is sustainable and actively contributes towards sustainable travel choices that do not rely upon a private vehicle, is the provision of pedestrian and cycle connections to the wider network. Proposed off site walking and cycling provisions are also shown on Drawing A351-PLN-1-4005 A.
- 4.6. The primary access will provide a 3m shared footway / cycleway linking the internal layout with the Mill Lane Roundabout, as well as a 2m footway to ensure full permeability throughout the development.
- 4.7. Complementary to this, a secondary 3m wide shared footway / cycleway access will be provided at the south eastern corner of the site, also leading to the Mill Lane Roundabout and proposed footway / cycleway provisions along the A259. This will enable pedestrians and cyclists from within the site to follow a more practical desire line out of the development.
- 4.8. Off-site improvements are also proposed, including the provision of 3m footway / cycleway along the northern edge of the A259 (west arm of Mill Lane Roundabout) for c.50m where a new signalised Toucan crossing is proposed, subject to speed survey results. Such a route will provide for safe movements to the existing footway / cycle network along the southern edge of the A259.
- 4.9. As well as this important connection, new 3m shared footway / cycleway is also proposed along the northern edge of the A259 (eastern arm of Mill Lane Roundabout) between Golfers Lane and the existing signalised crossing and footway / cycleway link at South Drive. In turn this completes the footway / cycleway link between the site and Angmering School as well as the rail station.



- 4.10. This important connection will further contribute toward the accessibility of the site, as well as enhancing the existing wider walking and cycle network.

Speed Survey of A259

- 4.11. The authority has requested that a speed survey be undertaken at a distance of 90m from the proposed location of the crossing of the A259 to confirm speeds on the approach to the crossing.
- 4.12. The speed surveys were undertaken on Friday 10th and Monday 13th September 2021. The data is attached as **Appendix D** to this report and summarised below. The surveys were fully in accordance with DfT's CA 185 guidance. September is a neutral month as identified in Paragraph 2.8.2 of that guidance, and the speeds have been extracted for the time periods of 10am -12pm and 2pm – 4pm again in line with paragraph 2.8.2.
- 4.13. Even when only accounting for such time periods this results in a total of 2,210 measurements being undertaken on the Friday and 2,990 on the Monday, far in excess of the minimum requirement of 200 records as per paragraph 2.60 of CA185. Table 4.1 below summarises the result of the speed survey.

Table 4.1 – Summary of Eastbound Speed Surveys on A259

Street Type	No of Counts	Mean Speed	85 th Percentile Speed
Friday 10 th September	2,210	38.7mph	49.5mph
Monday 13 th September	2,990	48.2mph	55.3mph

- 4.14. The results of the speed survey show that during both survey periods the mean speeds were below 50mph and indeed on the Friday 85th percentile speeds are also below such, although noting that on Monday the 85th percentile speeds were in excess of such thresholds.
- 4.15. The eastbound approach to the crossing has sufficient visibility to the crossing in excess of that required by the 85th percentile speeds. Further to this, with the recent construction of the Manor Retail Park to the south and with residential development to the north, it will result in a significant change in character to this section of the A259 which would alter driver behaviour as they approach the junction. Subsequently it would seem appropriate to extent the existing 50mph speed limit to the west (west of the entrance to the Retail Park) which in turn would result in further lowering of speeds on the approach to the crossing.
- 4.16. The image below shows the speeds at which the police will support reduction in speed limits to 50mph, which extend up to 57mph mean speeds. As such the section of the A259 is appropriate for an extension of the 50mph limit west of the entrance to the Manor Retail Park.
- 4.17. Similarly, the guidance shows that such a reduction in speed limit would see a mean change in vehicle speed of 5mph. This would in turn put the mean and 85th percentile speeds into the 50mph threshold across all the days surveyed.

Guidance on Speed Limit Changes

Change from rural village 50 mph or 60 mph speed limit to 40 mph speed limit																					
Measured mean speed before	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Predicted mean speed after	37.5	38.1	38.8	39.4	40.1	40.8	41.4	42.1	42.8	43.4	44.1	44.8	45.4	46.1	46.7	47.4	48.1	48.7	49.4	50.1	50.8
New lower speed limit allowed								New lower speed limit only allowed with supporting highway measures													
Change from rural single carriageway 50 mph speed limit to 40 mph speed limit																					
Measured mean speed before	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Predicted mean speed after	37.5	38.1	38.8	39.4	40.1	40.8	41.4	42.1	42.8	43.4	44.1	44.8	45.4	46.1	46.7	47.4	48.1	48.7	49.4	50.1	50.8
New lower speed limit allowed								New lower speed limit only allowed with supporting highway measures													
Change from rural single carriageway 60 mph speed limit to 40 mph speed limit																					
Measured mean speed before	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Predicted mean speed after	38.7	39.4	40.1	40.8	41.6	42.3	43.0	43.7	44.5	45.2	45.9	46.6	47.3	48.1	48.8	49.5	50.2	51.0	51.7	52.4	53.1
New lower speed limit allowed								New lower speed limit only allowed with supporting highway measures													
Change from rural single carriageway 60 mph speed limit to 50 mph speed limit																					
Measured mean speed before	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
Predicted mean speed after	47.9	48.3	48.7	49.0	49.6	50.1	50.6	51.1	51.7	52.2	52.7	53.3	53.8	54.3	54.9	55.4	56.0	56.5	57.0	57.6	58.2
New lower speed limit allowed								New lower speed limit only allowed with supporting highway measures													
Changes on rural dual carriageways from 70 mph, 80 mph, or 90 mph to a lower limit																					
Measured mean speed before	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Predicted mean speed after	42.5	43.2	43.8	44.4	44.9	45.4	45.9	46.5	47.0	47.5	48.0	48.5	49.0	49.5	50.1	50.7	51.2	51.7	52.2	52.8	53.3
New lower 40 mph speed limit allowed								New lower 50 mph speed limit allowed													
Measured mean speed before	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Predicted mean speed after	52.5	53.0	53.4	53.9	54.4	54.9	55.3	55.8	56.3	56.8	57.3	57.8	58.3	58.8	59.3	59.8	60.3	60.8	61.3	61.8	62.3
New lower 60 mph speed limit allowed								New lower 70 mph speed limit allowed													

- 4.18. DfT guidance does not state that there is a blanket exclusion from providing signalised crossings where speeds are in excess of 50mph, although speed reduction measures should be considered. In line with a proposed extension of the 50mph speed limit, the proposals could also include for advance warning signs of the crossing, installation of high friction surfacing as well as double height signal poles in line with the comment that has been raised in the Road Safety Audit. All these matters are capable of being addressed as part of the S278 design process for the crossing and access works arrangements.
- 4.19. WSCC in previous discussions, have raised the possibility in respect of delivering a foot / cycle bridge across the A259. However, given the limited land on the southern side (approximately 5m beyond the back of the existing 3.0m footway / cycleway) this does not provide sufficient room to deliver such an arrangement, particularly in light of the almost 2.0m level difference between the cycleway and prevailing land of the Manor Retail Park.

Improvements to Golfers Lane Arm of Mill Lane Roundabout

- 4.20. As mentioned in Section 1, the development site was previously granted planning consent for commercial development. This included minor works to the Golfers Lane arm at the approach to the roundabout, including the following items:
- increasing the flare length through the walled gateway.
 - provision of a kerbed traffic island within the mouth of the Golfers Lane arm, and;
 - easing of the centreline radius of the curve along Golfers Lane.



- 4.21. Given the scale of the proposals now being considered these improvements are still considered relevant and as such it is expected that they would remain part of any S106 agreement resulting from this application and have been included as part of the access arrangements shown on Drawing A351-PLN-1-4005 A.
- 4.22. The agreed improvements also made provision for a footway /cycle link along the northern edge of the A259 between Golfers Lane and South Drive. This link is also retained within this application, albeit with a slight rerouting of the path within the site to avoid existing trees near the south eastern corner.

Road Safety Audit

- 4.23. An independent Road Safety Audit has been undertaken of the access and proposed works in the vicinity of the A259. The RSA is included in **Appendix E** alongside the designers response. The majority of the points are capable of being addressed as part of the detailed design that would accompany the S278 submission as the elements in question relate to work on the highway.
- 4.24. There is nothing fundamental in the response that prevents the works proposed being taken forward through this stage of the planning process.

Internal Layout

- 4.25. The proposed layout (See Appendix C) has been developed in accordance with the WSCC Local Design Guide as well as nationally recognised standard design practices and principles found in Manual for Streets.
- 4.26. As can be seen on the layout, the street network consists mainly of a 6m main spine road, off of which 6m wide shared surface streets are developed as either through links, or cul-de-sacs with an appropriately sized turning head.
- 4.27. While the site is accessed from a private road, the development will be constructed with highways of an adoptable standard, although unlikely to be offered for adoption at this time. On this basis the following street hierarchy will be implemented throughout the development, Table 4.2 summarises:

Table 4.2 – Layout Street Hierarchy

Street Type	Width	Footway / Cycleway	Require Refuse Access
Primary Street	6m	2 m Footway one side / 3.0m Cycleway other side	Yes
Secondary Street	6m shared surface	Shared surface	Yes
Driveways	3.5-4.1m	Shared surface	No (Bin Collection Point to be provided)

Servicing and Emergency Access

- 4.28. Swept path analysis of the proposed layout demonstrates that all areas of the site are accessible to a maximum sized refuse vehicle of 11.2m as required by WSCC refuse collection design.
- 4.29. Generally, bins will be collected from the kerbside, however where driveways are provided, bin collection points have been conveniently located within acceptable drag distances for refuse operatives and residents i.e 25m/ 30m, respectively.



- 4.30. A standard emergency pumping appliance is also able to access all dwellings within 45m and are not required to reverse in excess of 20m as per Part B of the Building Regulations.

Car and Cycle Parking

- 4.31. Parking for the development will be provided in accordance with the adopted ADC parking standards as set out in the Parking Standards SPD – January 2020.
- 4.32. Based upon the parking zone map within the guidance the site currently falls on the border between Parking Behaviour Zones 2 and 4. Table 4.3 summarises the applicable parking standards.

Table 4.3: Parking Standards Summary

No. Bedrooms	Habitable Rooms	Parking Behaviour Zone 2 Standards	Parking Behaviour Zone 4 Standards
1	1-3	2	1
2	4	2	1
3	5-6	2	2
4+	7+	3	2

- 4.33. On the basis of these, the following parking provision should be achieved across the development site. Table 4.4 summarises.

Table 4.4 – Proposed Parking Provision

Tenure	Unit Type	No of Dwellings	Allocated Parking Requirement		Visitor Parking Requirement (0.2 spaces per unit)
			No of Allocated Spaces (per unit)	Total No of Allocated Spaces	
Affordable	1 Bed Apartment	9	2/1	18/9	1.8
	2 Bed Apartment	9	2/1	18/9	1.8
	2 Bed House	20	2/1	40/20	4
	3 Bed House	13	2/2	26/26	2.6
	4 Bed House	2	3/2	6/4	0.4
Private	1 Bed Apartment	0	0	0	0
	2 Bed House	43	2/1	86/43	8.6
	3 Bed House	36	2/2	72/72	7.2
	4 Bed House	35	3/2	105/70	7
Total		167	-	371/253	33.4
					404.4/286.4

- 4.34. As can be seen from the site layout in Appendix C, the majority of all properties are provided with a minimum of 2 allocated parking spaces. Four bedroom properties do have the two allocated spaces as required by parking zone 4 regulations, there are in the form of two driveway spaces in front of a garage. The layout therefore accords with the parking standards.
- 4.35. Further to this a total of 34 visitor spaces have been provided in the layout, meeting the minimum requirement of 33.4 spaces. The layout therefore provides ample space for parking minimising the likelihood of indiscriminate on street parking.
- 4.36. The standards also set out a recommended level of cycle parking provision within residential developments, Table 4.5 summarises.



Table 4.5: Cycle Parking Standards Summary

Dwelling Type	Dwelling Size	Arun Cycle Parking Standards
House	1&2 Bedroom	1
House	3+ Bedrooms	2
Flat	1&2 Bedroom	1
Flat	3+ Bedrooms	1

- 4.37. Based upon the proposed layout, cycle parking is generally be provided by way of secured metal stores within rear gardens where garages are not available. Rear access to dwellings is also allowed for to private gardens with side entry gates, ensuring bicycles do not need to be carried though homes.
- 4.38. The apartment blocks within the development will be provided with secured cycle storage buildings, sized according to the adopted design guidance.

Electric Vehicle Charging

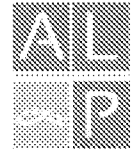
- 4.39. In accordance with the adopted parking standards, active charging points will be provided for all houses with a driveway and garage.
- 4.40. The remainder of the development would seek to implement a minimum coverage of 20-30% of parking spaces with active charging facilities in accordance with Table 2.2 of the standards, Table 4.6 below summarises.

Table 4.6 – Minimum EV Charging Points Provision

Year	% of Parking Spaces with Active EV Charging Points	
	Houses with Driveway and Garage	All Other Development
2018	100%	20%
2023		30%
2028		50%
2033		100%

Travel Plan

- 4.41. A Residential Travel Plan has been developed in line with current WSCC guidance. Following initial baseline surveys, the document will be updated to reflect on-site travel conditions and will be regularly reviewed / revised by the appointed Travel Plan Coordinator.
- 4.42. The overarching objective underpinning the Travel Plan is to reduce single occupancy vehicle trips. The plan focuses on promoting sustainable lifestyles amongst new residents by:
- Encouraging a reducing in the need for travel by private car.
 - Raising awareness of non-car travel options for journeys.
- 4.43. The Travel plan also provides a framework for its implementation and long-term management to:
- Reduce the traffic generated by the proposed development to a lower level than would normally be predicted without the implementation of a Travel Plan; and
 - Encourage those travelling to and from the development to use public transport, cycle or walk in a safe and secure manner.



4.44. The approach and measures set out in the Travel Plan accord with national and local Government objectives and seek to:

- Achieve reductions in traffic generated by the development.
- Promote travel opportunities to residents by raising awareness of wider travel choices.
- Develop places for people that encourage community interaction and avoid a car-dominated environment.
- Reduce the cost of personal travel through promoting opportunities for cost savings such as car-sharing.
- Improve personal and wider community health; and
- Reduce air and noise pollution.

4.45. A Travel Plan Coordinator will be appointed to manage the travel planning processes. The Travel Plan Coordinator will be in place before any occupation at the proposed development and will work alongside the future residents as well as key stakeholders such as the Developer, WSCC, ADC and local public transport providers.

4.46. In addition to linking the site to the cycling and pedestrian transport networks, the other key element of the Travel Plan will be to issue all new residents with a 'Travel Pack', which will include relevant information regarding alternative travel in the local area.

4.47. A Headline Target for the development has been set which represents a 10% reduction in vehicle trips generated when compared to the forecasts set out in this Transport Assessment Report.

4.48. The Travel Plan Coordinator will work to ensure the achievement of this, which at this stage is an indicative target that may be revised following completion and review of the baseline surveys.

4.49. The Travel Plan sets out the key roles for the Travel Plan Coordinator and establishes how the process will be administered, monitored, and reported. In this respect, regular surveys will be undertaken as the build out progresses to gather data from which more bespoke, secondary targets can be reviewed.

4.50. The Travel Plan Coordinator will then refine the overarching measures that are being promoted in response to the performance against the secondary targets to help ensure that the headline target is achieved.

4.51. The monitoring surveys will be repeated on a regular basis which will allow the secondary targets to be revised in future years in response to the results of the bi-annual monitoring surveys.

4.52. The Developer will fund the requirements of the Travel Plan throughout the development period as well as funding the initiatives and the monitoring for the lifetime of the Travel Plan.

Summary

4.53. The development proposals considered in this section demonstrate that the site can be accessed safely and conveniently by all road users.



- 4.54. The proposed layout is highly permeable for pedestrians and cyclists, with a high quality built environment that strikes a balance between providing adequate parking and space for cars, whilst not being dominated by them.
- 4.55. Swept path analysis of the access and internal layout show that the development is in accordance with Building Regulations and that a secondary emergency access is not required.
- 4.56. The development would also enhance the wider pedestrian and cycle network through the provision of new shared footway and cycleway along the northern edge of the A259, as well as a new signalised Toucan crossing, subject to speed survey results, greatly improving highway safety for non-motorised road users.
- 4.57. The development therefore complies with the second key transport test of the National Planning Policy Framework, in that it delivers safe and suitable access for all users.
- 4.58. Moreover, the new footway and cycle links being provided, along with the crossing provision and travel planning measures will all contribute towards maximising the uptake of sustainable modes in accordance with the requirements of the National Planning Policy Framework.



5.0 Traffic Generation, Assignment and Distribution

- 5.1. This section provides a review of the trip rates selected for use in the assessment and the resulting traffic generation, assignment and distribution onto the local highway network.
- 5.2. Also discussed is the selection of growth rates to establish a future traffic base.
- 5.3. The information presented was submitted to WSCC at scoping stage, and the broad principles considered acceptable.

Previous Planning Consent

- 5.4. As previously mentioned, the site previously had planning consent for the development of food retail, leisure, hotel and nursery land uses. Although these permission have now lapsed, to provide context for what was previously considered acceptable development for the site, information as to these proposals is presented below.
- 5.5. Given the primary Food Retail element of the approved development, the previous Transport Assessment only considered the impact during a weekday PM Peak hour (17:00 – 18:00) and the Saturday afternoon peak period (11:45 – 12:45).
- 5.6. Peak periods associated with residential uses generally occur during morning and evenings on weekdays. As such the potential trip generation of the residential proposals can be compared directly with that of the consented traffic associated with the PM peak hour.
- 5.7. To ensure a robust assessment, traffic generated for the AM peak associated with the consented Food Retail use have been obtained and used to enable a comparison of the previously consented and proposed uses.
- 5.8. It should be noted however, that the trips used for the AM peak are potentially lower than would be generated in reality as it excludes the other previously consented land uses on the site, Table 5.1 summarises.

Table 5.1: Trip Rates and Traffic Generation for Consented Development

Time Period	Traffic Generation		
	Arr.	Dep.	Two-Way
AM Peak (taken from TRICS) Food retail Only	101	81	182
Consented PM Peak from Previous TA	150	155	305

- 5.9. As will be demonstrate further within this section, the proposed development will generate significantly less traffic than the previously consented use.

Proposed Development Trip Rates and Traffic Generation

- 5.10. As agreed with WSCC, trip rates taken from comparable residential sites in TRICS (**Appendix F**) have been used to calculate the likely traffic generation of the site. Table 5.2 summarises the selected trip rates and traffic generation of 167 dwellings.



Table 5.2: Trip Rates and Traffic Generation

Time Period	Arrivals	Departures	Two-Way
	Trip Rates		
AM Peak	0.14	0.42	0.56
PM Peak	0.38	0.19	0.57
Traffic Generation – 167 Dwellings			
AM Peak	23	70	94
PM Peak	63	32	95

- 5.11. As can be seen a development of 167 dwellings would generate no more than 94 and 95 two-way vehicle movements during the AM and PM peak hour, respectively. This equates to c.1.5-vehicles movements a minute and represents a c.48% and 69% reduction in traffic compared to the previously consented permission. Table 5.3 summarises.

Table 5.3 – Comparison of Proposed and Consented Development Traffic

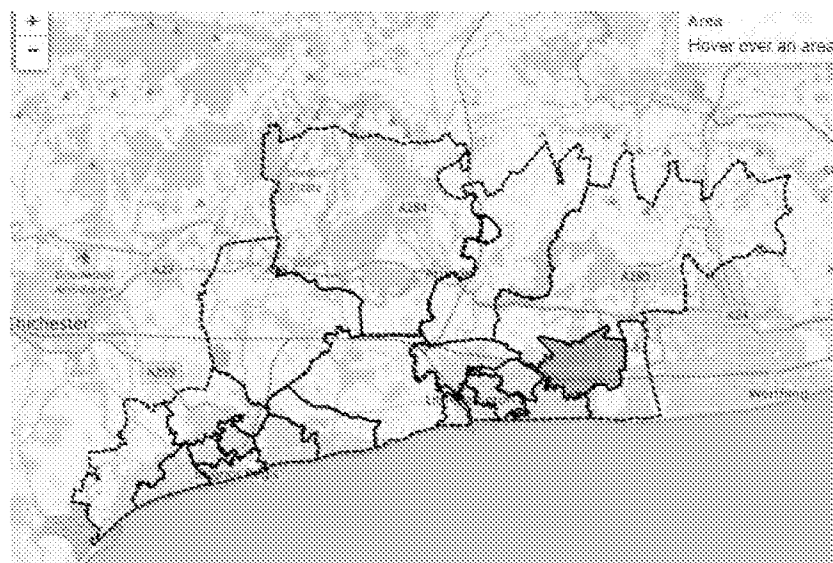
	Consented Use	Proposed Use	Difference Trips / %
AM	182	94	-88/ -48%
PM	305	95	-210/ -69%

- 5.12. As such it is considered that the impacts of this site would be significantly lower than previously considered.

Development Traffic Assignment and Distribution

- 5.13. In order to develop a representative traffic model, the development traffic has been assigned and distributed onto the local highway network based primarily upon journey to work data from the 2011 census (See **Appendix G**). Also taken into consideration are observed turning movements at the Mill Lane Roundabout and average journey times to the key areas identified.
- 5.14. Given that commuter journeys generally make up the majority of peak hour traffic this is considered a robust methodology for the scale of development proposed.
- 5.15. As agreed with WSCC, the ward area of Arun 005 has been selected as the point of origin within the assessment as this is currently the nearest residential area that would be representative of the site when built out. The image below shows the ward boundaries within Arun (005 being highlighted in red).

Image 5.1 – 2011 Census Ward Boundaries for Arun



- 5.16. Based upon the census information the total traffic originating in Area 005 primarily travels to area within either within Arun or other districts within West Sussex. A small percentage travel further afield to other areas of the south east. Table 5.4 summarises this broad distribution of traffic and the resulting level of development traffic assigned.

Table 5.4 – General Distribution of Commuter Traffic

Area	% Traffic Travel to/ from Arun 005
Arun	45%
West Sussex	43%
South East	12%

- 5.17. As can be seen the majority of traffic generated in area 005 remain within Arun or West Sussex, with a small number continuing to areas within the South East.
- 5.18. In order to determine the likely direction of travel from the Mill Lane Roundabout a further breakdown of traffic distribution has been undertaken, and the most likely route to that area identified Table 5.5 summarises.

Table 5.5 – Detailed Breakdown of Commuter Traffic Distribution

Area		Traffic Distribution (%)	Direction of Travel from Mill Lane Roundabout
Arun	E02006542: Arun 001	1.3%	A259 Westbound
	E02006543: Arun 002	2.7%	A259 Eastbound
	E02006544: Arun 003	1.2%	A259 Westbound
	E02006545: Arun 004	3.9%	A259 Westbound
	E02006546: Arun 005	11.2%	A259 Westbound
	E02006547: Arun 006	1.9%	A259 Eastbound
	E02006548: Arun 007	5.4%	B2187 Mill Lane Southbound
	E02006549: Arun 008	1.2%	A259 Eastbound
	E02006550: Arun 009	3.3%	B2187 Mill Lane Southbound
	E02006551: Arun 010	5.4%	B2187 Mill Lane Southbound
	E02006552: Arun 011	3.9%	A259 Westbound
	E02006553: Arun 012	0.3%	A259 Westbound
	E02006554: Arun 013	0.2%	A259 Westbound
	E02006555: Arun 014	1.0%	A259 Westbound
	E02006556: Arun 015	0.3%	A259 Westbound
	E02006557: Arun 016	0.3%	A259 Westbound
	E02006558: Arun 017	1.5%	A259 Westbound
	E02006559: Arun 018	0.0%	A259 Westbound
	E02006560: Arun 019	0.2%	A259 Westbound
Arun Total		45%	
West Sussex	Brighton and Hove	4%	A259 Eastbound
	Chichester	7%	A259 Westbound
	Hastings	0%	A259 Eastbound
	Horsham	5%	A259 Eastbound
	Lewes	1%	A259 Eastbound
	Mid Sussex	1%	A259 Eastbound
	Rother	0%	A259 Eastbound
	Wealden	0%	A259 Eastbound
	Worthing	25%	A259 Eastbound
West Sussex Total		43%	
South East Total		12%	50 / 50 split East and West

- 5.20. Following on from this assessment the following distribution and assignment of development traffic at the Mill Lane Roundabout has been calculated, Table 5.6 summarises.

Table 5.6 – Development Traffic Assignment and Distribution at Mill Lane Roundabout

Direction of Travel	% Traffic	AM			PM		
		Arr.	Dep.	2-Way	Arr.	Dep.	2-Way
A259 Westbound	38%	9	26	35	24	12	36
A259 Eastbound	48%	11	34	45	31	16	46
B2178 Mill Lane Southbound	14%	3	10	13	9	4	13
Total	100%	23	70	94	64	32	95

- 5.21. On the basis of this exercise the likely impact of the development upon the local highway network can be calculated.



Baseline Traffic Flows

- 5.22. Due to the effect of the COVID-19 pandemic upon travel throughout 2020-2022, WSCC guidance at the time of preparing this assessment was that any traffic surveys conducted for purposes other than determining vehicle speeds after March 2020 would be considered invalid until further notice.
- 5.23. On this basis and in lieu of any other information being available, it is considered reasonable to use the information submitted within the previous Transport Assessment for the consented use.
- 5.24. As such the 2016 observed flows at the junction have been obtained and factored up to reflect traffic conditions in 2021 and 2026 by applying the growth factors from TEMPRO for those time periods. Traffic diagrams illustrating the turning movements have been included in **Appendix H**.

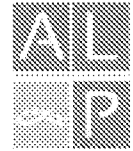
Growth Factors

- 5.25. As agreed with WSCC at Scoping, background traffic growth factors obtained from TEMPRO have been used to establish a future traffic baseline against which to assess the development impact.
- 5.26. Given the sites location, and the area the ward boundaries cover it was considered robust to take an average of the three main wards within which the site is located (Arun 005) and adjacent areas that represent a similar urban area (Arun 007 and 010).
- 5.27. Table 5.7 summarises the average growth factors applied from a number of local areas likely to affect the local highway network.

Table 5.7: TEMPRO Growth Rates

Arun 005	Arun 007	Arun 010	Average
2016 – 2021			
1.07	1.06	1.08	1.07
2021 – 2026			
1.06	1.05	1.07	1.06

- 5.28. It is considered that 2026 is a suitable future year assessment, not least because it follows WSCC guidance that assessment should be undertaken for five years after submission of the planning application.
- 5.29. Furthermore, a detailed planning application is being submitted – which will reduce the number of pre commencement Conditions. On the basis that any consent is likely to be achieved by the end of 2022, it is entirely likely that construction will commence on site during 2023.
- 5.30. Given a modest build out quantum of 50-60 units per year, this provides for a 3-4 year build programme. Therefore full occupation is more than likely to have occurred by 2026 subject to planning.



6.0 Impact Assessment

- 6.1. This section sets out and reviews the impact of the proposed development on the local highway network.
- 6.2. WSCC Guidance states that generally developments that result in an increase of 30 or more vehicles during any hour at a junction or 10 vehicles at already congested junctions should be assessed for capacity and delay, subject to agreement with the local authority.
- 6.3. Given that the proposed development will result in less of an impact than previously consented development on the site, it is considered appropriate that assessment be no more onerous than previously required. Which was limited to the A259 / Golfers Lane / Mill Lane junction.
- 6.4. In addition, improvement works to the A259 are currently underway, creating c.2Km of additional dual carriageway from the Wick Roundabout to the Bodyshop Roundabout and the Blue Star Roundabout to the A280 Roundabout (scheme drawings and impact study can be found in **Appendix I**).
- 6.5. According to WSCC, these works are expected to significantly increase capacity along the link allowing for the strategic delivery of c.800 new residential units and c.9ha of employment use in the area as well as improving the overall capacity of the highway network by 40-50%.
- 6.6. As such, based upon the traffic generation, distribution and assignment of development traffic the modest number of movements this development would generate at the Bodyshop and Blue Star Roundabouts can be more than accommodated in the capacity improvements already being delivered at those junctions. Outside of these junctions, the number of movements would be below the 30 movement threshold.

Assessment Scenarios

- 6.7. To ensure a full and robust assessment the following scenarios have been assessed:
 - 2021 Base
 - 2026 Future Base
 - 2026 with Development (167 dwellings)
- 6.8. Given that this is a detailed application and as such will not be subject to a reserved matters application, which can often result in delays between permission being granted and the commencement of construction, it is considered that a 5-year future assessment is robust and sufficient for the purposes of this application.
- 6.9. The capacity assessments have been undertaken using Junctions 10, with the full capacity output report being included in **Appendix J**. Tables 6.1 summarise the results of the capacity assessment.



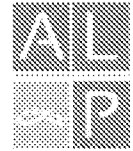
Table 6.1– Mill Lane Roundabout

Arm	AM Peak			PM Peak		
	Queue	Delay (s)	RFC	Queue	Delay (s)	RFC
2021 Base						
Golfers Lane	0	10.26	0.12	0	10.70	0.18
A259 – Westbound	2	3.71	0.62	6	9.34	0.85
B2187 – Mill Lane	2	6.55	0.64	1	6.49	0.56
A259 - Eastbound	1	3.66	0.54	2	3.78	0.59
2026 Base						
Golfers Lane	0	13.15	0.16	0	13.49	0.23
A259 – Westbound	2	4.27	0.67	9	14.72	0.91
B2187 – Mill Lane	2	8.36	0.71	1	5.43	0.53
A259 - Eastbound	2	4.33	0.60	2	4.36	0.64
2026 + Development						
Golfers Lane	1	17.80	0.38	1	15.33	0.32
A259 – Westbound	2	4.51	0.69	11	17.28	0.92
B2187 – Mill Lane	2	5.76	0.63	1	5.56	0.54
A259 - Eastbound	2	4.36	0.60	2	4.67	0.66

- 6.10. As can be seen the Mill Lane Roundabout operates below its theoretical capacity (RFC of 1.0) during all of the scenarios.
- 6.11. The proposed development will have little to no impact upon the capacity or operation of the Mill Lane Roundabout based upon the 2021 traffic flows with a very marginal increase to the RFC and delay in the AM and PM peaks.

Summary

- 6.12. The junction assessment modelling shows the site access junctions can safely accommodate the anticipated development traffic and existing traffic anticipated by 2026.
- 6.13. It is in this context that the proposed development is not considered to result in a 'Severe' highway impact on the operation of the local highway therefore according with the third key transport test of the NPPF.



7.0 Summary and Conclusion

- 7.1. This Transport Assessment has been prepared in support of a planning application for a proposed development of up to 167 dwellings on land at Rustington Golf Centre.
- 7.2. The site has previously been granted planning consent for a mixed use development of food-retail, leisure, hotel, and nursery land uses.
- 7.3. Access to the site is to be taken from a priority controlled junction off Golfers Lane, which is a private road making up the northern arm of the Mill Lane Roundabout. Capacity assessments show the development will have no material impact upon the capacity of the junction and in fact represents a reduction in traffic compared to the previously consented use.
- 7.4. To ensure the sites accessibility by sustainable travel modes new footway and cycleway provision will be delivered as part of the access works to link with the existing provision along the southern side of the A259, including a new Toucan Crossing (subject to speed surveys). Furthermore, footway and cycleway connections will be provided along the northern side of the A259, linking with the existing network at South Drive.

Sustainability

- 7.5. The development site is well located to benefit from safe and convenient access to the extensive existing walking and cycling network, as well as being in close proximity to a number of facilities and amenities such as food and non-food retail stores, schools, leisure and recreation facilities and employment areas.
- 7.6. In addition, existing bus stops are located with a 400m walk of all areas of the site, as well as being within suitable distance of Angmering Railway Station.
- 7.7. As such it is considered the site is ideal for a sustainable residential development.

Conclusion

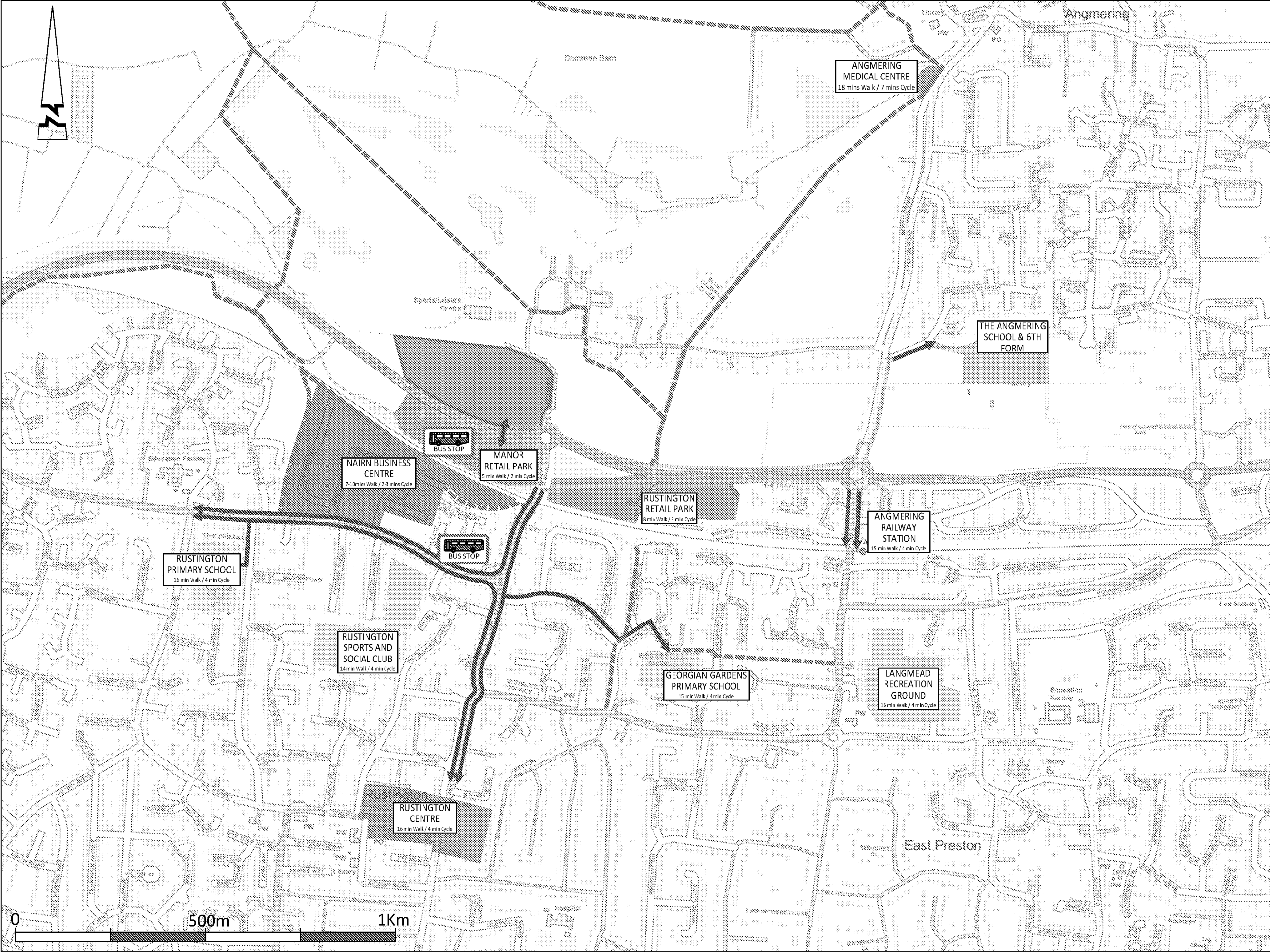
- 7.8. The development has been clearly shown to accord with the three key transport tests of the NPPF, these being:
 - Appropriate opportunities to promote sustainable transport modes have been shown to be able to be taken up;
 - Safe and suitable access to the site has shown to be deliverable for all users; and
 - The development does not have a severe impact on the operation of the local highway network and any cumulative impact could be mitigated through appropriate contributions.
- 7.9. Therefore, on the basis of this assessment, is considered that the are no reasons from a highways or transport perspective why the development proposals should not be approved.



Appendices



Appendix A – Figures and Drawings



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KEY	
	SITE BOUNDARY
	EDUCATION
	RETAIL
	LEISURE
	HEALTH
	EMPLOYMENT
	PUBLIC FOOTPATH
	EXISTING FOOTWAY / CYCLEWAY
	EXISTING FOOTWAY
	PROPOSED FOOTWAY / CYCLEWAY
	PROPOSED SIGNALISED CROSSING

P1	05.21	FIRST ISSUE		TDM	NB
Rev	Date	Description		Drawn	Checked

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Client
**BARRATT,
DAVID WILSON HOMES**

Project
**RUSTINGTON GOLF CENTRE,
ANGMERING**

Title
SITE ACCESSIBILITY PLAN

Status
PRELIMINARY

Scale NTS @ A3	Date APRIL 2021	Drawn TDM	Checked NB
Drawing No FIGURE 1			Revision P1



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NOTE:
THIS CONCEPT DRAWING IS PRODUCED WITHIN THE SCOPE OF OUR CLIENT BRIEF. UNDER THE CDM REGULATIONS, BASED ON THE INFORMATION AVAILABLE TO THE DESIGNER AT THE DATE BELOW, NO RESIDUAL RISKS HAVE BEEN IDENTIFIED.

KEY

- HIGHWAY BOUNDARY
- 2.5m x 25m VISIBILITY SPY (20mph)
- STOPPING SIGHT DISTANCE

Rev	Date	Description	TDM	NB
A	05.21	FIRST DRAFT		

ABLEY LETCHFORD PARTNERSHIP
Consulting Engineers

3 Tealgate, Charnham Park
Hungerford, Berkshire RG17 6YT
www.alpce.co.uk Tel: 01488 684390

Client
**BARRATT
DAVID WILSON HOMES**

Project
**RUSTINGTON GOLF
CENTRE, ANGMERING**

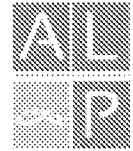
Title
**PROPOSED ACCESS
ARRANGEMENTS**

Status
PRELIMINARY

Scale	Date	Drawn	Checked
1:500 @ A1	APRIL 2021	TDM	NB

Drawing No
A351-PLN-1-4005

Revision
A



Appendix B – Minutes of Scoping Meeting with WSCC

Project Title: Land at Rustington Golf Centre, Littlehampton

Project No/ Document Reference: A351 /WSCC Scoping Meeting

Meeting Title: Highways Scoping Meeting

Location: Virtual – Microsoft Teams

Date: 21st May 2021

Attendees:

Ian Gledhill	- WSCC Highways
Nick Billingham	- Abley Letchford Partnership
Sean Havis	- Barratt David Wilson Homes
Glenn Pendry	- Barratt David Wilson Homes
Jia Mei Tristodianto-Lee	- Strutt and Parker

POINT

ACTION

1.	<u>Introductions</u> NB talked through the key elements of the proposals, including, • Total number of units being c190 - 200. • Access proposed from Golfers Lane (which is a private road and proposed to remain so). • Previous planning consents for the site. • Anticipated to be a full planning application which is submitted or at least part Outline / part detailed (hybrid).	
2.	<u>Access Arrangements</u> NB – Advised that the proposal was for a simple priority junction (no right turn lane required given very low number of vehicles which would turn right from the golf course into the site). Visibility splays as shown are 2.4m x 25m based on a 20mph design speed. It is noted that Golfers Lane whilst a private road has an advisory 15mph speed limit. IG – Was in agreement to the form and visibility splays of the access junction. Requested that the footway be carried on for a short section around the northern side of the access junction to provide some continuity to pedestrian routes. NB agreed with this and stated that as some properties will have direct driveway accesses to the north, the footway will be continued to encompass all such frontages. NB – Indicated that the primary access junction had been sited to provide good separation to the roundabout, whilst maintaining land north and south of the parcel to provide residential blocks either side of the Primary Street. IG happy with access location. NB – Indicated that a second permanent access to the site had been removed, however in time a temporary access in this location may be formed as a construction / access to sales area. IG happy with principle of <u>temporary</u> access in this location. NB – Stated that the works that had previously been agreed on the Golfer Lane arm of the roundabout with the A259 for past planning approvals would be replicated for this application, and would be secured through S106 agreement. IG happy with such proposals.	NB to update access drawing to reflect comments

3.	<u>Walking / Cycling Strategy</u> NB – Presented walking / cycling strategy which included delivery of a 3.0m footway / cycleway eastwards on the northern side of the A259 between Golfers Lane and South Drive where it can pick up existing provision and crossing facilities at the signalised junction with the retail park. This is a similar scheme that has been secured in the past and would be secured again through the S106 agreement. NB – Also indicated that proposals as they currently stand are to deliver an at grade toucan crossing on the western side of the Golfers Lane / A259 roundabout in order to provide a link to the new retail facilities on the southern side and routes along Mill Lane. This will be subject to speed surveys reporting 85th percentile speeds lower than 50mph (surveys of which are being undertaken commencing 21st May). IG – Indicated broad acceptance with the strategy and had no further routes which needed to be examined. Indicated that a route to the west of the roundabout is key, although general agreement other routes do exist although longer. Indicated that more thought would need to be made once the results of the survey are received. IG also raised comments from colleagues who requested greater separation in the stagger of the Toucan Crossing. NB agreed to update access drawing.	NB to update drawing to reflect comments on crossing stagger and report back speed survey results once received.
4.	<u>Highway Impact</u> IG – Was broadly in agreement to the trip generation and distribution methodology used. Requested further details on trip distribution plans / calculations to be sent through. NB agreed to issue. Any further comments would come in WSCC's formal pre application response. IG – Although it was agreed that the site does have history for being acceptable for built development, given that these permissions have now lapsed, they could not be used as existing / permitted use of the site. IG – Notwithstanding the above, IG was supportive of NB's stance that detailed capacity assessment is limited to the Golfers Lane / A259 roundabout, given the level of trip generation of the proposals and the already committed improvement schemes for other adjacent junctions. NB – Agreed therefore to present information from other technical reports previously prepared to support the A259 business case, that show other adjacent junctions have capacity improvements committed which would accommodate the modest level of trips this site would generate at such junctions. NB – Presented that analysis would be prepared for a 2026 future year in line with WSCC guideline of five years after application. IG was happy with this as long as evidence is presented in the TA that shows likely route to completed development by such a timeframe	NB to send through trip distribution info NB to include such analysis / evidence within the TA. NB to include build timetable within TA.
5.	<u>Other Matters</u> NB - indicated that a Framework Residential Travel Plan will be prepared and submitted alongside the planning application. IG in agreement. NB – Suggested that given Golfers Lane is private, roads on site are unlikely to be offered for adoption at this time. Notwithstanding, NB presented an indicative layout for comment. IG – Suggested no specific issues with the layout as presented, but would save any specific comments until the application was submitted. Indicated that the use of shared surfaces as	

	shown would be acceptable. Also suggested, that in light of recent guidance and given the scale of site, the cycleway on the southern side of the Primary Street could be reduced to a 2.0m footway and cyclists accommodated on street. GP – Enquired as to the requirement for APC's. IG indicated that it was not WSCC practice to ask for such.	
6.	IG – Agreed that following on from the meeting, and further info on distribution requested, would look to issue the WSCC pre application response as a matter of urgency.	
7.	Meeting Closed	



Appendix C - Development Layout



Legend			
	Application Boundary		Parking Space
	Indicative Tree Position		Communal Bin Store
	Indicative Landscaping		Communal Cycle Store
	Existing Tree		Shed Location
	Existing Tree		1.8m Brick Wall
	Existing Hedge		1.8m Closed Board Fence
			Bollards
			Informal Path



Appendix D – A259 ATC Traffic and Speed Data

2014-2015	
25	Adjusted Speed Limit
46-50	Percentage of Total Traffic - Offsets (1) can explain the speed limit the previous year, generally within a 10% of 25% (+/-) and
57	Improvement for Transport - and in the road itself (used by the government) - number of vehicles traveling over 100 mph above the 25%

ARUN DISTRICT COUNCIL A/45/22/PL



Appendix E – Stage 1 RSA and Designers Response

Road Safety Audit – Rustington Golf Course

Stage: 1

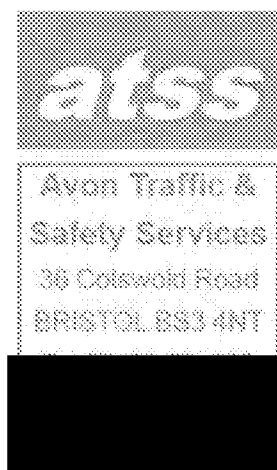
Location: A259 at Rustington Golf Course, Littlehampton, West Sussex

Site: Proposed Toucan Crossings and associated footways

ATSS Ref: 210701

Client Ref: A351/NB/210706/AVONTS

Date: 19 July 2021



Project Details

Report Title:	Stage 1 road safety audit, A259 at Rustington Golf Course, Littlehampton
Date:	19 July 2021
Document reference and revision:	210701 V1
Prepared by:	Avon Traffic & Safety Services Ltd
On behalf of:	Abley Letchford Partnership Ltd

Report Control Sheet

	Name	Position	Date
Audit requested by	Nick Billingham	Abley Letchford Partnership Ltd	6 July 2021
Team leader	Cath Boutwood	Team Leader	
Team Member	Tasos Papaloucas	Team Member	
Observer			
Draft report issued by	Cath Boutwood	Team Leader	19 July 2021
Final report issued by			
Designer's response issued by			

Avon Traffic & Safety Services Ltd disclaims any responsibility to the Client and others in respect of any matters outside the scope of this report. This report has been prepared with reasonable skill, care and diligence within the terms of the Contract with the Client taking account of the manpower, resources, investigations and testing devoted to it by agreement with the Client. This report is confidential to the Client and Avon Traffic & Safety Services Ltd accepts no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.

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3. Other Issues	12
4. Audit Team Statement	13
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1. Introduction

- 1.1 Avon Traffic & Safety Services Ltd has been commissioned by Abley Letchford Partnership Ltd, to undertake a Stage 1 Road Safety Audit, with regard to the proposals to introduce a pair of Toucan crossings on the A259 west of Mill Lane roundabout, Littlehampton. The proposals include new shared-use footways linking to a residential development of approximately 200 units, on part of Rustington Golf Course, and a new shared-use link alongside the A259 for a distance of approximately 300 metres eastwards, to link with the existing network at South Drive.
- 1.2 The RSA Brief was supplied by Abley Letchford Partnership Ltd and accepted by the Audit Team. The Brief and Audit Team were approved by Nick Billingham, Abley Letchford Partnership Ltd.
- 1.3 The A259 is a national speed limit street lit dual carriageway with central reservation which reduces to 50mph on the eastbound approach to Mill Lane roundabout. Manor Retail Park is situated to the west of the roundabout with access from the east only, with other retail parks further to the east near to the furthest extent of the proposals. A shared use path is in place from Manor Retail Park to the south of the roundabout to Mill Lane on one side with no other footpaths around the roundabout. There is a bus stop at the Manor Retail Park for routes westbound. Rushington Golf course is situated to the north of the roundabout off highway.
- 1.4 The audit team members are:
- | | | |
|------------------|---|-------------|
| Cath Boutwood | – | Team Leader |
| Tasos Papaloucas | – | Team Member |
- 1.5 The audit took place during July 2021 and comprised of an examination of the documents/plans listed in Appendix A. The auditors visited site together on Wednesday 14th July from 11.30 to 12.30 when the weather conditions were fine and sunny. Vehicle flows were heavy and speeds appeared commensurate with the speed limit. Only one pedestrian was observed crossing the road at the roundabout from the golf club and no cyclists were observed.
- 1.6 Data from Sussex Road Safety show that there have been 14 reported collisions involving injury, in the 5 years 1/3/2016-28/2/2021 inclusive, in the vicinity of the proposals. 4 of these resulted in serious injury, the remaining being slight.
- 1.7 The audit team have not been made aware of any departures from standards or relaxations in relation to the proposed scheme.
- 1.8 The audit was carried out under the terms and conditions of DMRB GG 119. The team examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design with any other criteria. However, reference may be made to National/Local Guidance in order to verify a point.
- 1.9 Documents and drawings examined in this safety audit are listed at Appendix A.

1.10 General views of site



View of location of proposed toucan crossing facing east (west of Mill Lane Roundabout)



View of existing crossing to the west of the scheme facing east

2. Safety Issues Raised in this Stage 1 Road Safety Audit. (see Appendix B for locations)

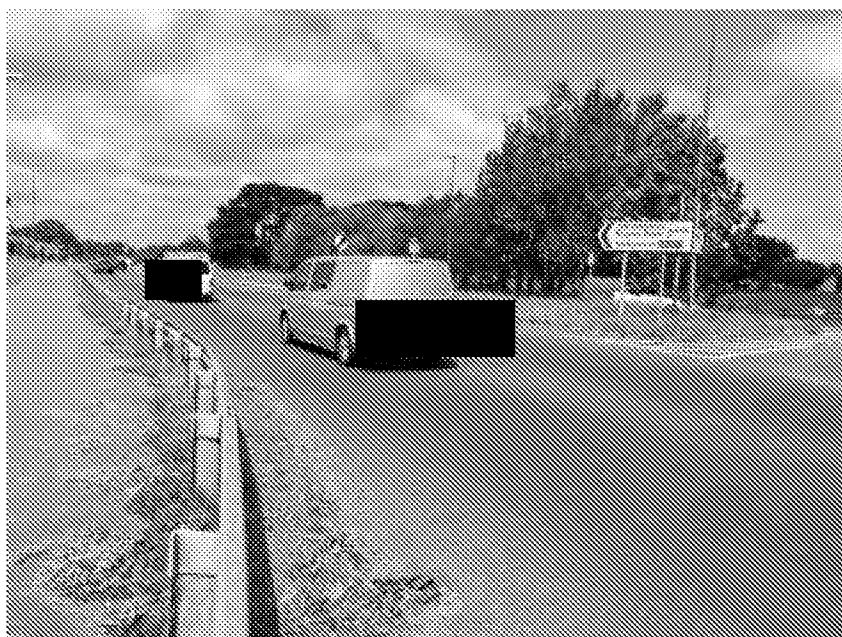
2.1 Problem

Location – Proposed toucan crossing

Summary – Risk of collisions with pedestrians and vehicles and nose to tail type collisions due to visibility

It is observed that vehicle speeds are high and commensurate with the 60/50 mile per hour speed limit. Driver behaviour particularly from the eastbound approach just east of Mill Lane roundabout is observed to speed up after negotiating the roundabout prior to the national speed limit signage. The auditors are concerned that the visibility demonstrated is not sufficient for this direction in particular, and this could lead to late braking endangering pedestrians crossing on a green man or to cause nose to tail collisions with drivers behind unaware of the presence of the crossing and lights changing. In the other direction, the visibility is better, but overhanging branches from the golf course could interfere with this sight line. No speed data has been provided to check if the visibility is appropriate or pedestrian or cycle count information has been provided.

Recommendation – Firstly undertake speed counts to ascertain visibility required from both directions. To improve visibility move the crossing further away westwards from the roundabout, before the retail park entrance. Cut back overhanging branches from the eastbound direction adjacent to the golf course. Reduce the speed limit on approach to the crossing from the west so that the national speed limit starts after the crossing and on the exit of the entrance to the retail park. Install permanent signage to warn of the presence of the crossing. Install double height signals as per the existing signalised crossing east of the Mill Lane roundabout. Install high friction surfacing to reduce the likelihood of late braking causing rear end shunts.



View from roundabout on approach to proposed crossing



View from proposed crossing location facing west with overhanging vegetation

2.2 Problem

Location – Proposed crossing west of roundabout

Summary – Risk of cyclists falling from shared use path

The existing situation is that there is a gap within the vehicle restraint barrier adjacent to the Manor Retail Park with a steep bank below. The provision of the toucan crossing for the eastbound direction will cater for cyclists and pedestrians making a perpendicular movement for the first time. Cyclists particularly crossing at this location will have to turn left or right when reaching the pavement from the north and there is the risk that cyclists will become unstable during the manoeuvre and fall through the missing restraint, down the bank, injuring themselves.

Recommendation – Extend the vehicle restraint barrier either side from Mill Lane to the retail park, bearing in mind the steps, or provide cycle appropriate railings instead.



View of proposed location of southern side of toucan crossing, with gap in vehicle restraint and also steps to retail park

2.3 Problem

Location – Proposed shared use path northwest of Rustington Golf Course

Summary – Risk of cyclists becoming unseated and pedestrian slips and trips

There is a level difference between the A259 and Rustington Golf Course, particularly on the corner. No information has been given on the gradient of the path and there is a risk that cyclists and pedestrians could fall into the land adjacent to the golf course.

Recommendation – Provide level information for the shared use path and ensure that the gradient is appropriate for cyclists and pedestrians. This may involve provision of a retaining structure, or railings at back of the proposed shared use path.



Proposed location of shared use path showing level difference between carriageway and golf club land

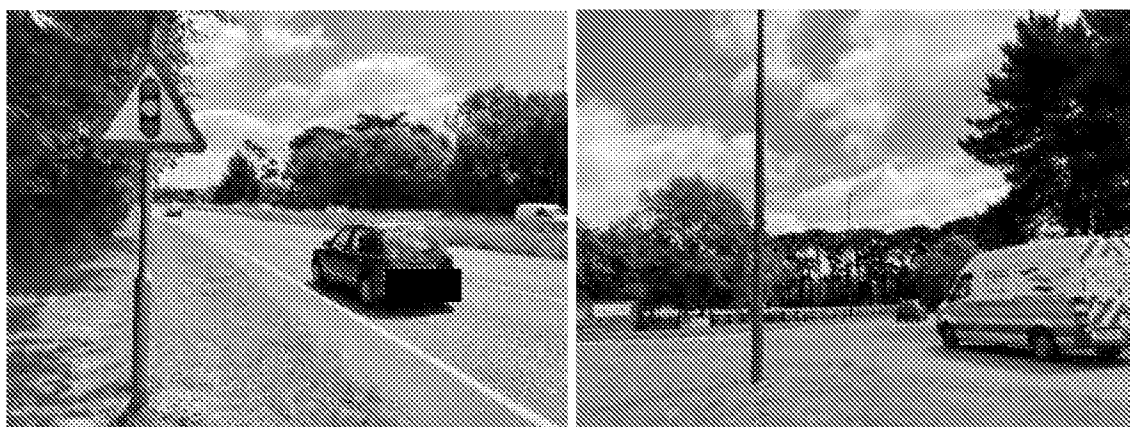
2.4 Problem

Location – Proposed shared use path northwest and east of Rustington Golf Course

Summary – Risk of cyclists and pedestrian conflicting with street furniture and overhanging vegetation

The proposals include siting a shared use path where there are low hanging branches, an existing lamp column and other inappropriately low height signage.

Recommendation – Move the lamp column and other signage out of the proposed location for the shared use path into the verge, or back of shared use path as appropriate, and cut back vegetation.



Locations of existing signing, lamp column and overhanging vegetation in way of proposed shared use path

2.5 Problem

Location – Shared use path on approach to golf course and within development

Summary – The proposals show the path with an acute 90 degree angle. Cyclists need a longer length than a bike to make a sharp manoeuvre and there is therefore a risk of cyclists becoming unseated and injuring themselves.

Recommendation – Reconfigure the path to avoid sharp turns.

2.6 Problem

Location – Entrance to Rushington Golf Course

Summary – Risk of vehicle/cycle, and vehicle/pedestrian collisions

The proposals direct cyclists and pedestrians away from the predicted desire line of the entrance of the development and around the existing walls, one of which is to be rebuilt. There is a risk that users of the path will not make this tortuous route and will instead cross at the shortest and most direct route across the development road.

Recommendation – Cater for the direct route across the development, using the proposed traffic island as an informal crossing. In so doing ensure that visibility is not restricted for cyclists and pedestrians travelling from the east, looking into the development road.



Location of proposed traffic island within the side road for the golf club

2.7 Problem

Location – Proposed toucan crossing

Summary – Risk of pedestrian/cycle slips/trips

No drainage information has been provided, and there is a possibility that surface water will collect and pond in front of the proposed crossing point of the toucan crossing. This could cause issues with pedestrians and cyclists tripping/slipping or choosing to cross instead at an inappropriate or unsafe point.

Recommendation – Assess drainage and provide gullies if necessary adjacent to crossing.

2.8 Problem

Location – Proposed toucan crossing

Summary – Risk of cycle and pedestrian trips

Although there is detail of tactile paving which is presumed to cover flush kerbs, there is no detail of kerbs for access for cyclists. Without flush kerbs cyclists are either at risk of falling into carriageway or not being able to cross.

Recommendation – Provide flush kerbs for cyclists

2.9 Problem

Location – Proposed toucan crossing – vehicle restraint

Summary – Risk of pedestrian/cycle slips/trips and vehicle/pedestrian collisions.

There is an existing vehicle restraint barrier to the south side of the proposed crossings, which the drawing provided does not propose altering. Without removal, pedestrians and cyclists will not be able to access the south of the crossing. Furthermore this may on approaches block visibility to pedestrians and therefore increase the risk of collisions with pedestrians and vehicles.

Recommendation – Remove or alter the barriers to allow access and ensure visibility to pedestrians is not blocked.



View of southern side of proposed toucan crossing with vehicle restraint barrier blocking access

3. Other Issues

3.1 For Stage 2 audit, to assess the proposals more information is needed on signage, signal pole locations, bollards, gradients on new shared use path, lighting and drainage.

3.1 The existing high friction surfacing for the signalised crossing is showing wear and may be ineffectual.

4. Audit Team Statement

We certify that this audit has been carried out in accordance with DMRB GG 119

Audit Team Leader:

Name: Cath Boutwood MCIHT; MSoRSA
Senior Auditor

Signed:

Date:

Audit Team Member:

Name: Tasos Papaloucas MCIHT; MSoRSA
Senior Auditor

Signed:

Date:

Appendix A: Information Utilised in this Stage 1 Road Safety Audit

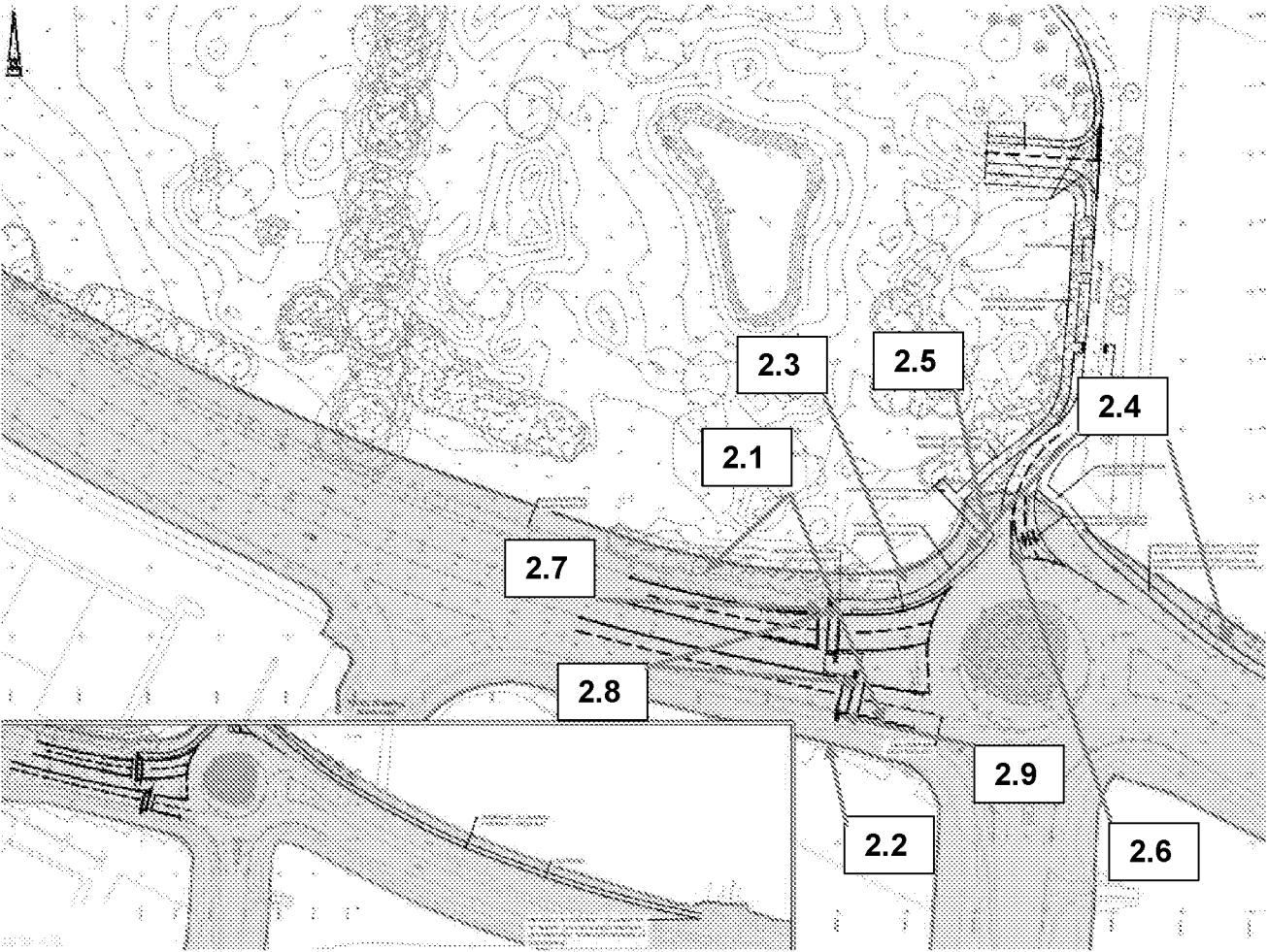
Drawings:

A351-001 P3 Site Access

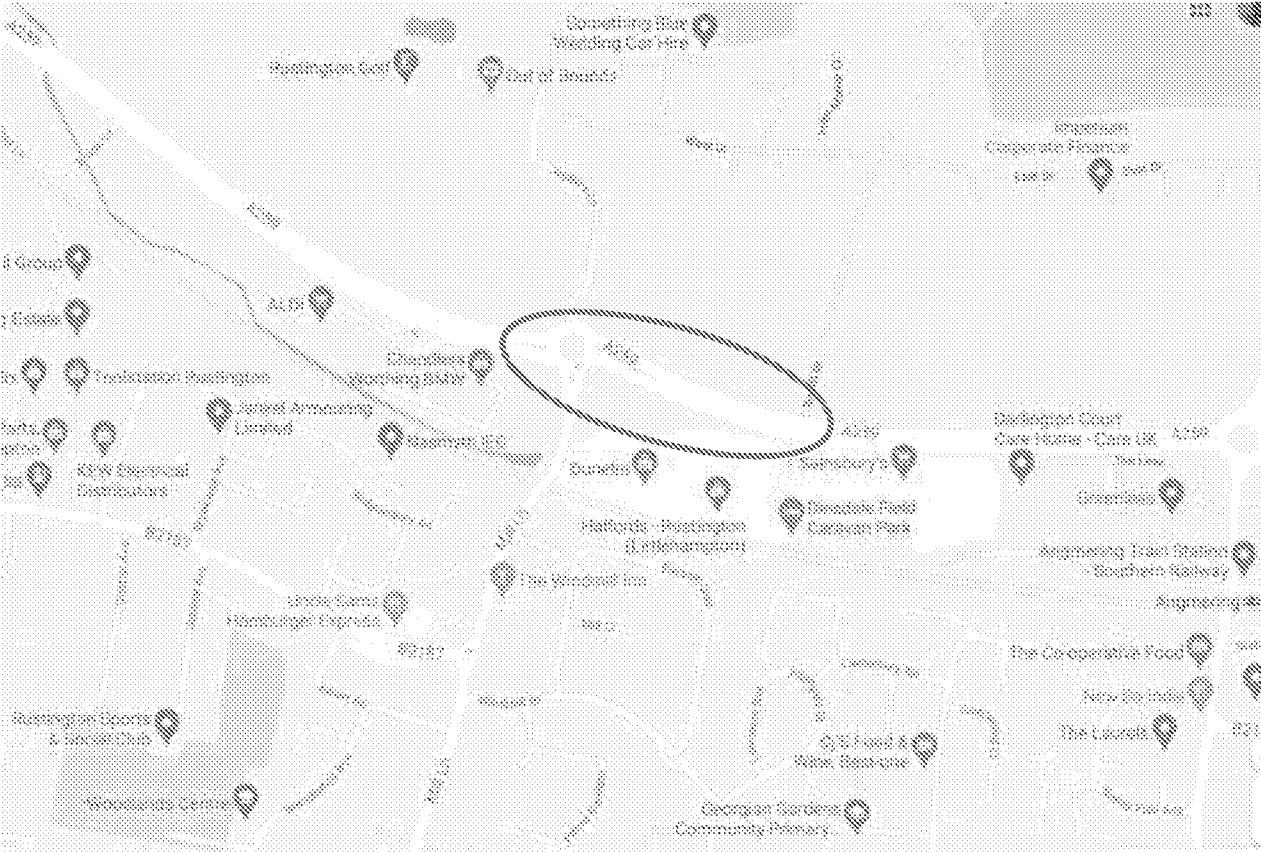
5 year collision record 1/3/2016-28/2/2021 (Sussex Safer Roads Partnership)

Existing and projected traffic flows

Appendix B: Key Plan showing Audit Problems



Appendix C – Site location plan



Designers Response to Stage 1 Road Safety Audit

Location: A259 / Mill Lane Roundabout, Rustington, West Sussex

Site: Proposed works at Golfers Lane arm to facilitate residential development, alongside pedestrian / cycle works on A259 corridor

Safety Auditor: Avon Traffic & Safety Services Ltd

Audit Team Leader: Cath Boutwood MCIHT MSoRSA

Safety Auditors Report Reference: 210701

Ref	Location	Summary of Issue	Recommendation	Designer's Response
2.1	Proposed Toucan Crossing	Risk of Collisions due to visibility	Undertaken speed surveys to ascertain visibility required. Reduce speed limit on approach to crossing. Install warning signs, high friction surfacing and double height signals.	Speed surveys have been undertaken with 85 th percentile speeds of between 49-55mph on the eastbound approach and 33mph on the westbound approach. The visibility splays therefore shown on the drawing from approaches to the junction are commensurate to the observed speeds. Notwithstanding, the developer is willing to support measures such as an extension of the 50mph zone (the observed speeds would support this), as well as double height signals and high friction surfacing on the approach both to reduce vehicle speeds and increase the conspicuous nature of the junction.
2.2	Proposed crossing west of roundabout	Risk of cyclists falling from shared use path	Extend the vehicle restraint barrier either side from Mill Lane to the retail park.	Agreed, the land in question to deliver such works is located within highway land and as such can accommodate such recommendations which can be picked up at detailed design stage as part of the S278 process.
2.3	Proposed shared use path NW of Golf Club	Risk of cyclists becoming unseated and pedestrians slips and trips	Provide level information for the shared use path and ensure that the gradient is appropriate for cyclists and pedestrians.	The footway / cycleway would be provided with a crossfall in line with WSCC standard details with appropriate drainage and fencing (is required) accommodated as part of the detailed design for the S278.
2.4	Proposed shared use path NW of Golf Club	Risk of cyclists and pedestrian conflicting with street furniture and overhanging vegetation	Move the lamp column and other signage out of the proposed location for the shared use path into the verge and cut back vegetation.	Agreed, will be picked up at Detailed Design stage.
2.5	Shared use path on approach to Golf	The proposal shows the path with an acute 90 degree angle, there is therefore a risk of cyclists becoming uninjured	Reconfigure the path to avoid sharp turns.	The speed of cyclists will be low in this area as they will have either just exited the development site or crossed at the Toucan crossing, both of which constrict speed. Notwithstanding, some easing of the radii of such turns can be picked up at detailed design stage,

	Course and within Dev			and available land as shown by highway boundary records does not constrain such from being accommodated.
2.6	Entrance to Golf Course	Risk of vehicle / cycle and vehicle / pedestrian collisions	The proposals direct pedestrians and cyclists away from the desire line at the entrance. Cater for this used the proposed traffic island as an informal crossing.	As evidenced by the site observations of the Auditors and recorded in 1.5 of the Audit, there are no existing demand east to west across the access. Therefore movements will be associated with those travelling from within the site and going either east or west at the entrance. Desire lines for such a point of crossing do not exist.
2.7	Proposed Toucan Crossing	Risk of pedestrian/cycle slips or trips	No drainage information has been provided and there is a possibility the surface water will collect and pond in front of the proposed crossing point. Assess drainage and provide gullies if necessary adjacent to crossing.	Agreed, will be picked up at Detailed Design stage.
2.8	Proposed Toucan Crossing	Risk of cycle and pedestrian trips	Provide flush kerbs for cyclists	Agreed, will be picked up at Detailed Design stage.
2.9	Proposed Toucan Crossing – Vehicle restraint	Risk of pedestrian / cycle slips/trips and vehicle/ pedestrian collisions	There is an existing vehicle restraint barrier to the south side of the proposed crossings. Without removal, pedestrians and cyclists will not be able to access the south of the crossing. Remove or alter the barrier to allow access and ensure visibility to pedestrians is not blocked.	Agreed, will be picked up at Detailed Design stage in terms of the requirement to form a break for the crossing. However, in regards to visibility, as addressed in point 2.1 visibility in excess of the measured speed of westbound vehicles can be achieved with any impact on the existing barrier.



Appendix F – Trip Rates

Calculation Reference: AUDIT-247601-181114-1155

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED

VEHICLESSelected regions and areas:

02 SOUTH EAST	
ES EAST SUSSEX	2 days
KC KENT	2 days
06 WEST MIDLANDS	
ST STAFFORDSHIRE	1 days
07 YORKSHIRE & NORTH LINCOLNSHIRE	
NE NORTH EAST LINCOLNSHIRE	1 days
13 MUNSTER	
WA WATERFORD	1 days
15 GREATER DUBLIN	
DL DUBLIN	1 days
17 ULSTER (NORTHERN IRELAND)	
AN ANTRIM	1 days
AR ARMAGH	1 days

Secondary Filtering selection:

Parameter: Number of dwellings
 Actual Range: 110 to 432 (units:)
 Range Selected by User: 100 to 1000 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 19/04/18

Selected survey days:

Monday	2 days
Tuesday	2 days
Wednesday	3 days
Friday	3 days

Selected survey types:

Manual count	10 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town	10
--------------	----

Selected Location Sub Categories:

Residential Zone	8
No Sub Category	2

Secondary Filtering selection:Use Class:

C3	10 days
----	---------

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	2 days
5,001 to 10,000	1 days
10,001 to 15,000	4 days
15,001 to 20,000	1 days
25,001 to 50,000	1 days

Population within 5 miles:

5,001 to 25,000	2 days
50,001 to 75,000	4 days
75,001 to 100,000	1 days
125,001 to 250,000	2 days
500,001 or More	1 days

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	6 days
1.6 to 2.0	1 days

Secondary Filtering selection (Cont.):

Travel Plan:

No 10 days

PTAL Rating:

No PTAL Present 10 days

LIST OF SITES relevant to selection parameters

1	AN-03-A-09	DETACHED & SEMI-DETACHED	ANTRIM
	SLOEFIELD DRIVE CARRICKFERGUS		
	Edge of Town No Sub Category		
	Total Number of dwellings:	151	
	Survey date: WEDNESDAY	12/10/16	Survey Type: MANUAL
2	AR-03-A-01	MIXED HOUSES	ARMAGH
	BIRCHDALE MANOR LURGAN		
	Edge of Town Residential Zone		
	Total Number of dwellings:	153	
	Survey date: TUESDAY	15/06/10	Survey Type: MANUAL
3	DL-03-A-06	DETACHED	DUBLIN
	UPPER KILMACUD ROAD DUBLIN DUNDRUM		
	Edge of Town Residential Zone		
	Total Number of dwellings:	147	
	Survey date: FRIDAY	30/04/10	Survey Type: MANUAL
4	ES-03-A-03	MIXED HOUSES & FLATS	EAST SUSSEX
	SHEPHAM LANE POLEGATE		
	Edge of Town Residential Zone		
	Total Number of dwellings:	212	
	Survey date: MONDAY	11/07/16	Survey Type: MANUAL
5	ES-03-A-04	MIXED HOUSES & FLATS	EAST SUSSEX
	NEW LYDD ROAD CAMBER		
	Edge of Town Residential Zone		
	Total Number of dwellings:	134	
	Survey date: FRIDAY	15/07/16	Survey Type: MANUAL
6	KC-03-A-04	SEMI-DETACHED & TERRACED	KENT
	KILN BARN ROAD AYLESFORD DITTON		
	Edge of Town Residential Zone		
	Total Number of dwellings:	110	
	Survey date: FRIDAY	22/09/17	Survey Type: MANUAL
7	KC-03-A-07	MIXED HOUSES	KENT
	RECVLVER ROAD HERNE BAY		
	Edge of Town Residential Zone		
	Total Number of dwellings:	288	
	Survey date: WEDNESDAY	27/09/17	Survey Type: MANUAL
8	NE-03-A-02	SEMI DETACHED & DETACHED	NORTH EAST LINCOLNSHIRE
	HANOVER WALK SCUNTHORPE		
	Edge of Town No Sub Category		
	Total Number of dwellings:	432	
	Survey date: MONDAY	12/05/14	Survey Type: MANUAL

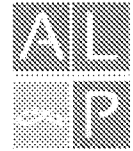
LIST OF SITES relevant to selection parameters (Cont.)

9	ST-03-A-07	DETACHED & SEMI-DETACHED	STAFFORDSHIRE
	BEACONSIDE		
	STAFFORD		
	MARSTON GATE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	248	
	Survey date: WEDNESDAY	22/11/17	Survey Type: MANUAL
10	WA-03-A-04	DETACHED	WATERFORD
	MAYPARK LANE		
	WATERFORD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	280	
	Survey date: TUESDAY	24/06/14	Survey Type: MANUAL

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

VEHICLES**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	216	0.075	10	216	0.251	10	216	0.326
08:00 - 09:00	10	216	0.144	10	216	0.421	10	216	0.565
09:00 - 10:00	10	216	0.144	10	216	0.189	10	216	0.333
10:00 - 11:00	10	216	0.135	10	216	0.164	10	216	0.299
11:00 - 12:00	10	216	0.147	10	216	0.177	10	216	0.324
12:00 - 13:00	10	216	0.191	10	216	0.167	10	216	0.358
13:00 - 14:00	10	216	0.187	10	216	0.183	10	216	0.370
14:00 - 15:00	10	216	0.225	10	216	0.215	10	216	0.440
15:00 - 16:00	10	216	0.284	10	216	0.206	10	216	0.490
16:00 - 17:00	10	216	0.318	10	216	0.202	10	216	0.520
17:00 - 18:00	10	216	0.383	10	216	0.192	10	216	0.575
18:00 - 19:00	10	216	0.315	10	216	0.227	10	216	0.542
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.548			2.594			5.142



Appendix G – 2011 Census Data

Arun District Hove Brighton Chichester Hastings Horsham Lewes Mid Sussex Rother Wealden Worthing	2011 Census Assignment and Distribution Assessment					
	Census Trips	Census Assig%	Dev Tips		Dev Assign %	Route Likley to Travel
			AM	PM		
E02006542 : Arun 001	40	1.3%	1	1	1%	A259 Westbound
E02006543 : Arun 002	85	2.7%	3	3	3%	A259 Eastbound
E02006544 : Arun 003	37	1.2%	1	1	1%	A259 Westbound
E02006545 : Arun 004	124	3.9%	4	4	4%	A259 Westbound
E02006546 : Arun 005	352	11.2%	12	12	11%	A259 Westbound
E02006547 : Arun 006	60	1.9%	2	2	2%	A259 Eastbound
E02006548 : Arun 007						B2187 Mill Lane Southbound
	170	5.4%	6	6	5%	
E02006549 : Arun 008						A259 Eastbound
	39	1.2%	1	1	1%	
E02006550 : Arun 009						B2187 Mill Lane Southbound
	103	3.3%	3	3	3%	
E02006551 : Arun 010						B2187 Mill Lane Southbound
	169	5.4%	6	6	5%	
E02006552 : Arun 011	123	3.9%	4	4	4%	A259 Westbound
E02006553 : Arun 012	9	0.3%	0	0	0%	A259 Westbound
E02006554 : Arun 013	5	0.2%	0	0	0%	A259 Westbound
E02006555 : Arun 014	31	1.0%	1	1	1%	A259 Westbound
E02006556 : Arun 015	10	0.3%	0	0	0%	A259 Westbound
E02006557 : Arun 016	10	0.3%	0	0	0%	A259 Westbound
E02006558 : Arun 017	48	1.5%	2	2	2%	A259 Westbound
E02006559 : Arun 018	0	0.0%	0	0	0%	A259 Westbound
E02006560 : Arun 019	7	0.2%	0	0	0%	A259 Westbound
Arun Total	1,422	45%	47	48	45%	
West Sussex Total	1,357	43%	45	46	43%	
Rest of South East Total	373	12%	12	13	12%	
Total	3,152		104	106		
Tavel within West Sussex from Arun 005						
Arun	1,422	51%				A259 Eastbound
Brighton and Hove	129	5%	4%			A259 Westbound
Chichester	208	7%	7%			A259 Eastbound
Hastings	0	0%	0%			A259 Eastbound
Horsham	171	6%	5%			A259 Eastbound
Lewes	22	1%	1%			A259 Eastbound
Mid Sussex	42	2%	1%			A259 Eastbound
Rother	1	0%	0%			A259 Eastbound
Wealden	4	0%	0%			A259 Eastbound
Worthing	780	28%	25%			
	2,779	43%				
						Summary of Routes Taken
						Westbound Eastbound Southbound
						38% 48% 14%
						39 50 15
						40 51 15

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)

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population All usual residents aged 16 and over in employment the week before the census

units Persons

date 2011

usual residence E02006546 : Arun 005 (2011 super output area - middle layer)

place of work	All categories: Method of travel to work (2001 specification)	Work mainly at or from home	Underground, metro, light rail or tram	Train	Bus, minibuss or coach	Taxi	Motorcycle, scooter or moped	Driving a car or van	Passenger in a car or van	Bicycle	On foot	Other method of travel to work
Adur	109	0	0	6	3	0	4	87	3	3	3	0
Arun	1,422	0	0	29	27	4	15	891	100	109	245	2
Ashford	0	0	0	0	0	0	0	0	0	0	0	0
Aylesbury Vale	0	0	0	0	0	0	0	0	0	0	0	0
Basingstoke and Deane	4	0	0	0	0	0	0	4	0	0	0	0
Bracknell Forest	2	0	0	1	0	0	0	1	0	0	0	0
Brighton and Hove	129	0	1	34	3	0	1	84	3	1	1	1
Canterbury	0	0	0	0	0	0	0	0	0	0	0	0
Cherwell	0	0	0	0	0	0	0	0	0	0	0	0
Chichester	208	0	0	33	0	0	0	158	12	0	5	0
Chiltern	0	0	0	0	0	0	0	0	0	0	0	0
Crawley	99	0	0	9	0	0	1	87	0	1	0	1
Dartford	2	0	0	0	0	0	0	2	0	0	0	0
Dover	0	0	0	0	0	0	0	0	0	0	0	0
East Hampshire	7	0	0	1	0	0	0	6	0	0	0	0
Eastbourne	4	0	0	1	0	0	0	3	0	0	0	0
Eastleigh	5	0	0	1	0	0	0	4	0	0	0	0
Elmbridge	3	0	0	0	0	0	0	3	0	0	0	0
Epsom and Ewell	0	0	0	0	0	0	0	0	0	0	0	0
Fareham	5	0	0	1	0	0	0	4	0	0	0	0
Gosport	1	0	0	0	0	0	0	1	0	0	0	0
Gravesham	0	0	0	0	0	0	0	0	0	0	0	0
Guildford	12	0	0	0	0	0	0	12	0	0	0	0
Hart	1	0	0	0	0	0	0	1	0	0	0	0
Hastings	0	0	0	0	0	0	0	0	0	0	0	0
Havant	13	0	0	1	0	0	0	12	0	0	0	0
Horsham	171	0	0	1	0	0	4	154	10	1	1	0
Isle of Wight	0	0	0	0	0	0	0	0	0	0	0	0
Lewes	22	0	0	1	0	0	2	18	0	0	1	0
Maidstone	0	0	0	0	0	0	0	0	0	0	0	0
Medway	1	0	0	0	0	0	0	1	0	0	0	0
Mid Sussex	42	0	0	4	0	0	0	33	4	1	0	0
Milton Keynes	0	0	0	0	0	0	0	0	0	0	0	0
Mole Valley	20	0	0	1	0	0	0	16	3	0	0	0
New Forest	2	0	0	0	0	0	0	2	0	0	0	0
Oxford	0	0	0	0	0	0	0	0	0	0	0	0
Portsmouth	15	0	0	2	0	0	2	11	0	0	0	0
Reading	3	0	0	0	0	0	0	3	0	0	0	0
Reigate and Banstead	19	0	0	4	0	0	0	15	0	0	0	0
Rother	1	0	0	0	0	0	0	1	0	0	0	0
Runnymede	1	0	0	0	0	0	0	1	0	0	0	0
Rushmoor	3	0	0	0	0	0	0	3	0	0	0	0
Sevenoaks	3	0	0	0	0	0	0	3	0	0	0	0
Shepway	0	0	0	0	0	0	0	0	0	0	0	0
Slough	2	0	0	1	0	0	0	1	0	0	0	0
South Bucks	7	0	0	0	0	0	0	7	0	0	0	0
South Oxfordshire	1	0	0	0	0	0	0	1	0	0	0	0
Southampton	3	0	0	1	0	0	0	2	0	0	0	0
Spelthorne	3	0	0	1	0	0	0	1	1	0	0	0
Surrey Heath	0	0	0	0	0	0	0	0	0	0	0	0
Swale	0	0	0	0	0	0	0	0	0	0	0	0
Tandridge	9	0	0	0	0	0	1	7	1	0	0	0
Test Valley	3	0	0	0	0	0	0	3	0	0	0	0
Thanet	0	0	0	0	0	0	0	0	0	0	0	0
Tonbridge and Malling	1	0	0	0	0	0	0	1	0	0	0	0
Tunbridge Wells	0	0	0	0	0	0	0	0	0	0	0	0
Vale of White Horse	0	0	0	0	0	0	0	0	0	0	0	0
Waverley	5	0	0	0	0	0	0	4	1	0	0	0
Wealden	4	0	0	0	0	0	0	3	1	0	0	0
West Berkshire	0	0	0	0	0	0	0	0	0	0	0	0
West Oxfordshire	0	0	0	0	0	0	0	0	0	0	0	0
Winchester	2	0	0	0	0	0	0	2	0	0	0	0
Windsor and Maidenhead	1	0	0	1	0	0	0	0	0	0	0	0
Woking	1	0	0	0	0	0	0	1	0	0	0	0
Wokingham	0	0	0	0	0	0	0	0	0	0	0	0
Worthing	780	0	1	63	25	2	16	605	33	28	6	1
Wycombe	1	0	0	0	0	0	0	1	0	0	0	0
E02006545 : Arun 004	124	0	0	1	2	0	3	96	10	10	2	0
E02006546 : Arun 005	352	0	0	4	2	2	3	166	15	35	123	2
E02006548 : Arun 007	170	0	0	2	5	0	1	101	16	15	30	0
E02006549 : Arun 008	39	0	0	1	1	0	0	29	1	5	2	0
E02006550 : Arun 009	103	0	0	1	1	0	0	74	10	6	11	0
E02006551 : Arun 010	169	0	0	2	3	2	2	78	18	18	46	0
E02006552 : Arun 011	123	0	0	2	8	0	1	88	7	6	11	0

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)

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population All usual residents aged 16 and over in employment the week before the census
 units Persons
 date 2011
 usual residence E02006546 : Arun 005 (2011 super output area - middle layer) Site Location

place of work : 2011 super output area - middle layer	All categories: Method of travel to work (2001 specification)	Work mainly at or from home	Underground, metro, light rail or tram	Train	Bus, minibus or coach	Taxi	Motorcycle, scooter or moped	Driving a car or van	Passenger in a car or van	Bicycle	On foot	Other method of travel to work
E02006542 : Arun 001	40	0	0	1	2	0	0	32	3	1	1	0
E02006543 : Arun 002	85	0	0	0	0	0	2	68	6	3	6	0
E02006544 : Arun 003	37	0	0	7	0	0	1	20	5	1	3	0
E02006545 : Arun 004	124	0	0	1	2	0	3	96	10	10	2	0
E02006546 : Arun 005	352	0	0	4	2	2	3	188	15	35	123	2
E02006547 : Arun 006	60	0	0	0	0	0	2	52	2	4	0	0
E02006548 : Arun 007	170	0	0	2	5	0	1	101	16	15	30	0
E02006549 : Arun 008	39	0	0	1	1	0	0	29	1	5	2	0
E02006550 : Arun 009	103	0	0	1	1	0	0	74	10	6	11	0
E02006551 : Arun 010	169	0	0	2	3	2	2	78	18	18	46	0
E02006552 : Arun 011	123	0	0	2	8	0	1	88	7	6	11	0
E02006553 : Arun 012	9	0	0	1	0	0	0	8	0	0	0	0
E02006554 : Arun 013	5	0	0	0	0	0	0	5	0	0	0	0
E02006555 : Arun 014	31	0	0	1	1	0	0	23	2	2	2	0
E02006556 : Arun 015	10	0	0	0	0	0	0	7	1	1	1	0
E02006557 : Arun 016	10	0	0	1	0	0	0	9	0	0	0	0
E02006558 : Arun 017	48	0	0	5	2	0	0	29	4	2	6	0
E02006559 : Arun 018	0	0	0	0	0	0	0	0	0	0	0	0
E02006560 : Arun 019	7	0	0	0	0	0	0	6	0	0	1	0
	1,422	0	0	29	27	4	15	891	100	109	245	2

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

0% 0% 2% 2% 0% 1% 63% 7% 8% 17% 0%

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)

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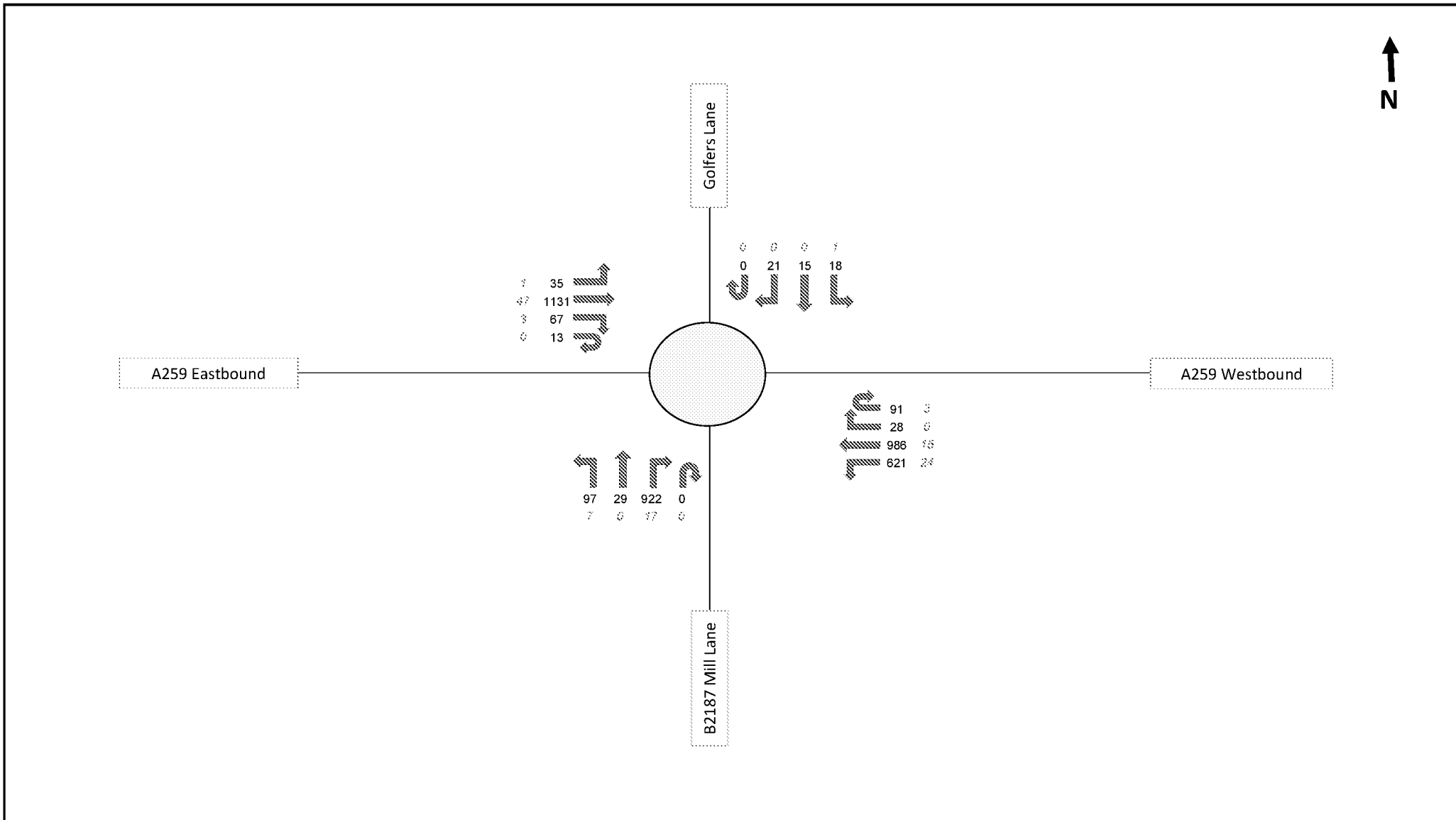
population All usual residents aged 16 and over in employment the week before the census
units Persons
date 2011
method of travel All categories: Method of travel to work (2001 specification)

usual residence	
place of work : 2011 census	E02006546 : Arun 005
Arun	1,422
Brighton and Hc	129
Chichester	208
Hastings	0
Horsham	171
Lewes	22
Mid Sussex	42
Rother	1
Wealden	4
Worthing	780

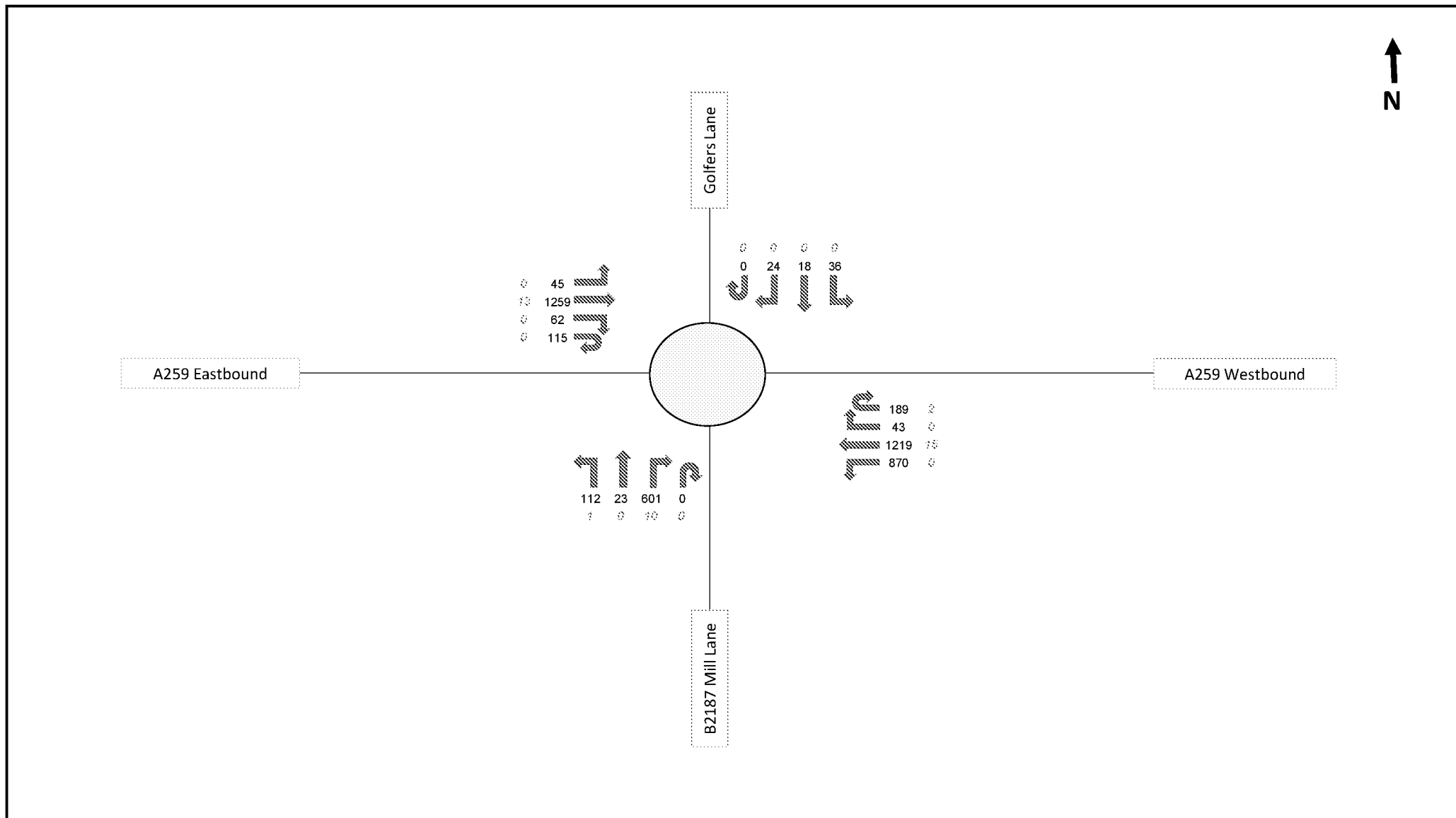
In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, particularly small counts at the lowest geographies.



Appendix H – Traffic Diagrams



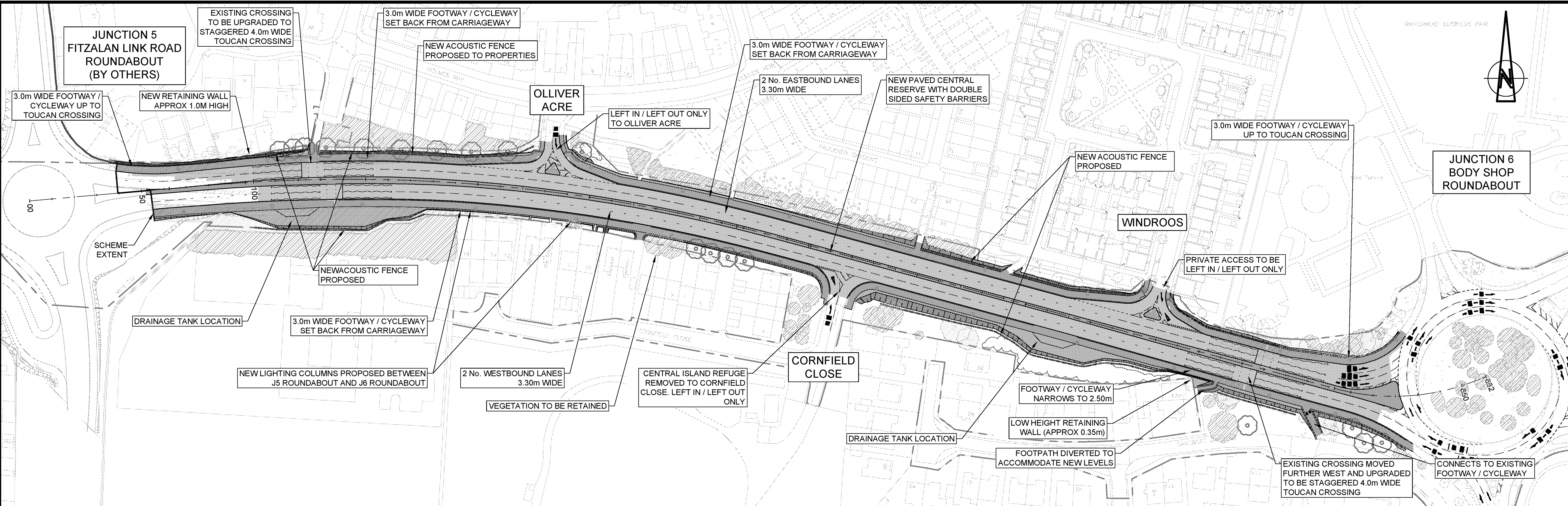
	Job No A351	Project : Rustington Golf Course
	Date April 2021	Title : 2026 Base Flows AM Peak
	Drawn TDM	Figure No : -



	Job No A351	Project : Rustington Golf Course
	Date April 2021	Title : 2026 Base Flows PM Peak
	Drawn TDM	Figure No : -

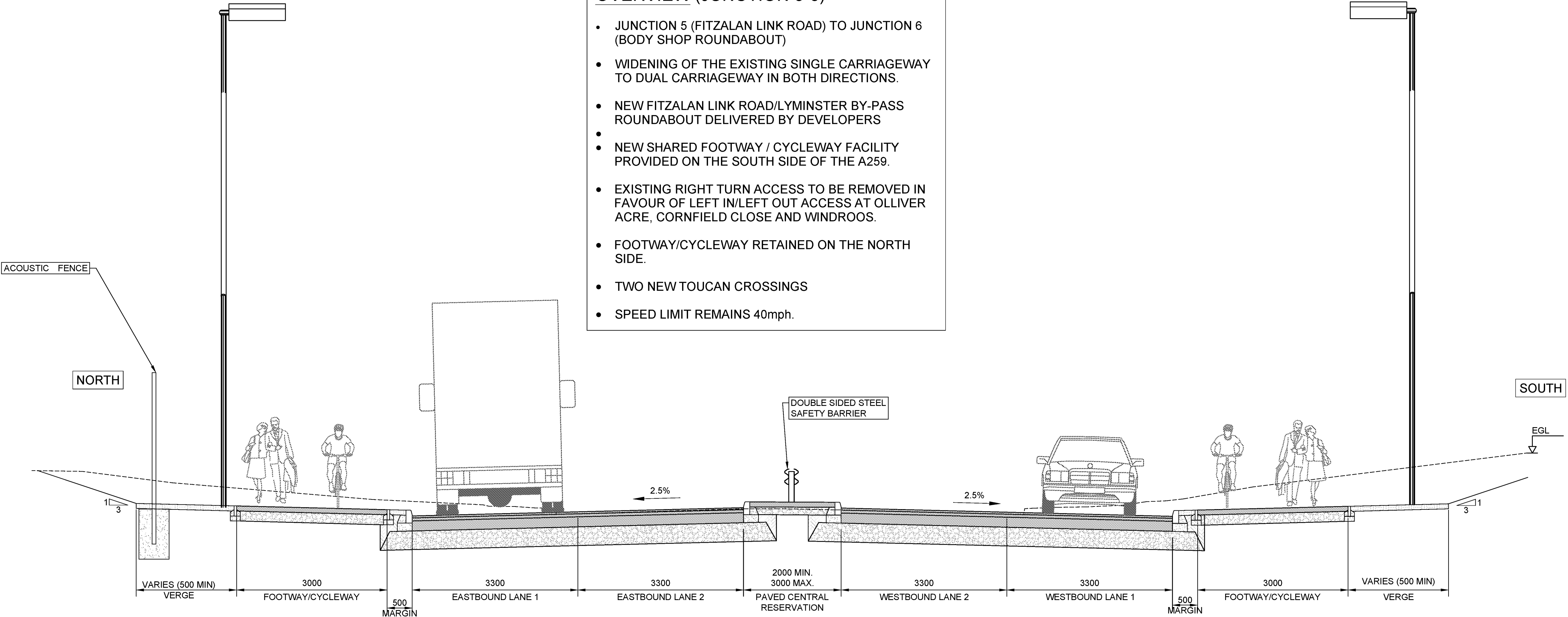


Appendix I – A259 Improvement Scheme



PHASE 1 DUALLING
JUNCTION 5 (FITZALAN LINK ROAD ROUNDABOUT) TO JUNCTION 6 (BODY SHOP ROUNDABOUT)
SCALE 1:1000

- OVERVIEW (JUNCTION 5-6)
- JUNCTION 5 (FITZALAN LINK ROAD) TO JUNCTION 6 (BODY SHOP ROUNDABOUT)
 - WIDENING OF THE EXISTING SINGLE CARRIAGEWAY TO DUAL CARRIAGEWAY IN BOTH DIRECTIONS.
 - NEW FITZALAN LINK ROAD/LYMINSTER BY-PASS ROUNDABOUT DELIVERED BY DEVELOPERS
 - NEW SHARED FOOTWAY / CYCLEWAY FACILITY PROVIDED ON THE SOUTH SIDE OF THE A259.
 - EXISTING RIGHT TURN ACCESS TO BE REMOVED IN FAVOUR OF LEFT IN/LEFT OUT ACCESS AT OLLIVER ACRE, CORNFIELD CLOSE AND WINDROOS.
 - FOOTWAY/CYCLEWAY RETAINED ON THE NORTH SIDE.
 - TWO NEW TOUCAN CROSSINGS
 - SPEED LIMIT REMAINS 40mph.



JUNCTION 5 - 6 TYPICAL SECTION
SCALE 1:50



DO NOT SCALE FROM THIS DRAWING

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES ABOVE ORDNANCE DATUM UNLESS NOTED OTHERWISE.

----- HIGHWAY BOUNDARY INCL CPO
----- ACOUSTIC FENCING
[Hatched Box] PROPOSED EXTENT OF VEGETATION CLEARANCE
[Dotted Box] VEGETATION TO BE RETAINED
[Circle with Cross] NEW TREES/NATIVE SHRUBS

1 2 3 4
KEY PLAN

P04	ARL	ARL	08/08/20	UPDATED BASED ON DETAILED DESIGN
P03	UKG	LD	05/11/18	UPDATED VEG. SITE CLEARANCE HATCHING
P02	TCH	LD	10/04/18	SECOND ISSUE
REV.	BY	CHKD	DATE	DESCRIPTION
CODE	DRAWING STATUS			
S2	FOR INFORMATION			

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ON BEHALF OF

VolkerFitzpatrick

OVERALL CLIENT

west sussex county council

A259 LITTLEHAMPTON CORRIDOR IMPROVEMENTS (EAST ARUN)

HIGHWAYS
DETAILED DESIGN
JUNCTION 5-6
PLAN & TYPICAL SECTION
SHEET 1

DRAWING No. C117083-TG-GEN-S1-DR-CH-4001		
DRAWN : AJT	DESIGNED : CW	REVISION
SCALE : AS SHOWN	ORIGINAL SIZE : A1	P03