

**LAND AT BAYARDS, EASTERGATE
TRANSPORT STATEMENT
AUGUST 2021**



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TRANSPORT STATEMENT

August 2021

Reside Developments

**RESIDENTIAL DEVELOPMENT
LAND AT BAYARDS
EASTERGATE**

TRANSPORT STATEMENT

CONTROLLED DOCUMENT

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<i>Prepared by:</i>	Adam Ford		August 2021
<i>Checked by:</i>	Shaan Novitzki		August 2021
<i>Approved by:</i>	Mark Smith		August 2021

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reside.

Reside Developments Ltd
The Dutch House
132-134 High Street
Dorking
Surrey
TH4 1BG

 **paulbasham**
associates

Paul Basham Associates Ltd
The Bothy
Cams Hall Estate
Fareham
Hampshire
PO16 8UT

RESIDENTIAL DEVELOPMENT LAND AT BAYARDS EASTERGATE

TRANSPORT STATEMENT

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1. INTRODUCTION

- 1.1 This Transport Statement (TS) has been prepared by Paul Basham Associates on behalf of Reside Developments to support an outline application for up to 69 dwellings with access parking, landscaping and associated works with all matters reserved apart from access at Land at Bayards, Eastergate.
- 1.2 The site directly adjoins and acts a suitable extension to the consented 42 unit residential development at Land West of Fontwell Avenue, Fontwell (application reference: BN/50/20/PL). The application site location (shown in red) and the located of the consented 42 unit development (shown in blue) is displayed in **Figure 1** and **2**.

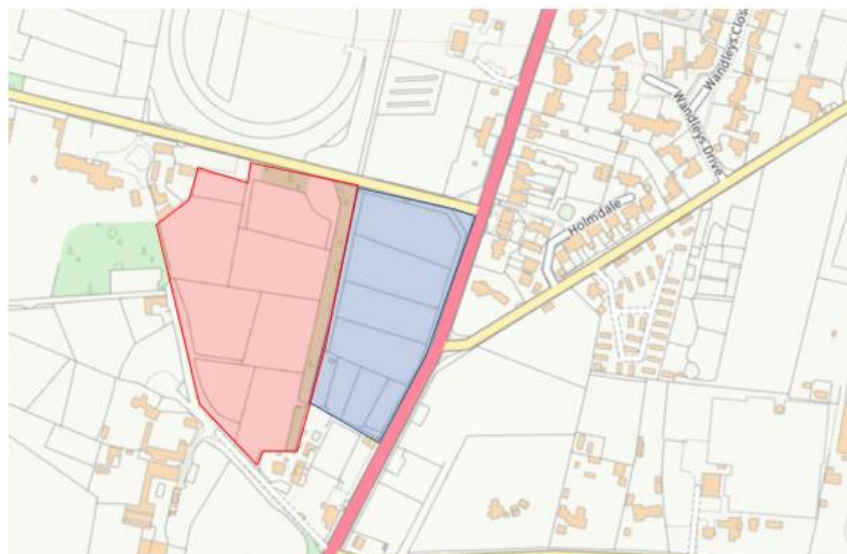


Figure 1: Site Location

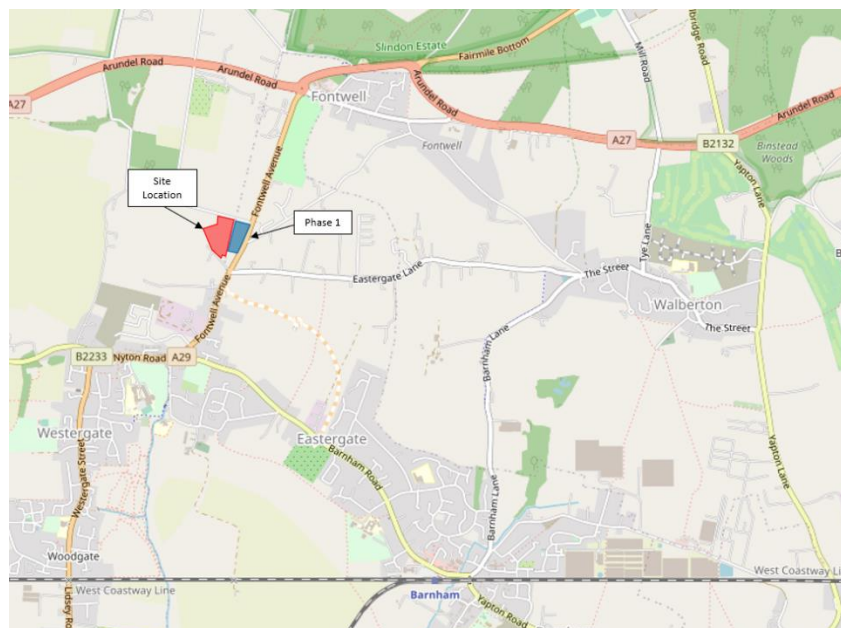


Figure 2: Site Location (Wider Context)

- 1.3 It is proposed that up to an additional 69 units would be provided on land to the west of the consented scheme to provide a maximum total of 111 units. The majority of the currently proposed site (63 units) would be accessed through the consented development with access onto Fontwell Avenue in the form of a ghost island right turn lane. A secondary access to serve six units would also be provided onto Level Mare Lane. An indicative site layout is included in **Appendix A**.
- 1.4 The first phase of the development received planning consent in December 2020 for 42 units with access onto Fontwell Avenue (planning reference: BN/50/20/PL) and is currently being built for Sovereign Housing Association. To support the planning application for the committed development a Transport Statement was prepared by Paul Basham Associates (document reference: 020.0360/TS/3). As part of this application, a number of highways aspects were agreed which included site location and accessibility, access arrangements, trip generation, trip distribution and highway impact. Reference will therefore be made to this application where relevant.
- 1.5 The scope of this TS has been informed by pre-application discussions with West Sussex County Council's (WSCC) highways officer in June 2021. During these discussions the principle of the access arrangement, trip rates and distribution, growth rates and the scope of works required to support a formal planning application were agreed. It was also agreed that where appropriate parameters agreed for the consented 42 unit scheme would be used in this application such as trip rates and distributions.
- 1.6 This TS will discuss existing conditions, site accessibility, development proposals, trip generation, trip distribution, access arrangements, servicing arrangements, parking provision and highway impact before drawing conclusions.
- 1.7 Paul Basham Associates have also prepared a Framework Travel Plan and a draft Construction Traffic Management Plan to support the planning application. These documents should be read in conjunction with this TS.

2. EXISTING CONDITIONS AND SITE ACCESSIBILITY

- 2.1 The site is located approximately 500m south of Fontwell and is currently agricultural land which is accessed via a gated access onto Level Mare Lane. The site is bordered by Level Mare Lane to the north, Phase 1 comprising 42 units to the east and a tree belt/large property to the south and west. Existing conditions of the surrounding area are identified within **Figure 3**.



Figure 3: Existing Conditions

Local Road and Pedestrian Network

- 2.2 Level Mare Lane lies to the north of the site and is a rural route which is bordered by vegetation on both sides of the carriageway. Level Mare Lane has a width of circa 4.5m wide and is subject to a derestricted speed limit. Level Mare Lane facilitate access to residential dwellings to the west and provides a convoluted route to the A27 to the north-west. At present the carriageway acts as an informal shared surface, with pedestrians required to walk along the edge of the carriageway. Conditions on Level Mare Lane in the site vicinity is shown in **Photograph 1**. To the east Level Mare Lane forms a bellmouth arrangement onto Fontwell Avenue (A29).



Photograph 1: Conditions on Level Mare Lane

- 2.3 Fontwell Avenue measures circa 10m wide and runs north to south. Fontwell Avenue is a strategic route which provides access to the A27 to the north and the A259 to the south which in turn facilitate access onto the wider strategic network and local centres such as Chichester, Southampton, Portsmouth and Bognor Regis. The site is therefore considered to be well placed to the strategic network. Fontwell Avenue is subject to a 40mph speed limit across the site frontage (changing to 30mph to the south of the site), with solid white lining in place to prevent vehicles from overtaking/turning right.
- 2.4 Fontwell Avenue is supported by a continuous footway on the eastern side of the carriageway which connects to Arundel Road to the north and Barnham Road and Nyton Road to the south and also provides access to local facilities in Eastergate and Westergate. The footway on Fontwell Avenue is facilitated by dropped kerbs and tactile paving to support the safe crossing of pedestrians. Conditions on Fontwell Avenue are shown in **Photograph 2**.



Photograph 2: Conditions on Fontwell Avenue

- 2.5 A Public Right of Way (PROW), footpath 318, is situated c.805m to the east of the site and provides a walking link to Barnham Road towards Barnham. Other PROW footpaths are located within the vicinity of the site and are demonstrated in **Figure 4**.

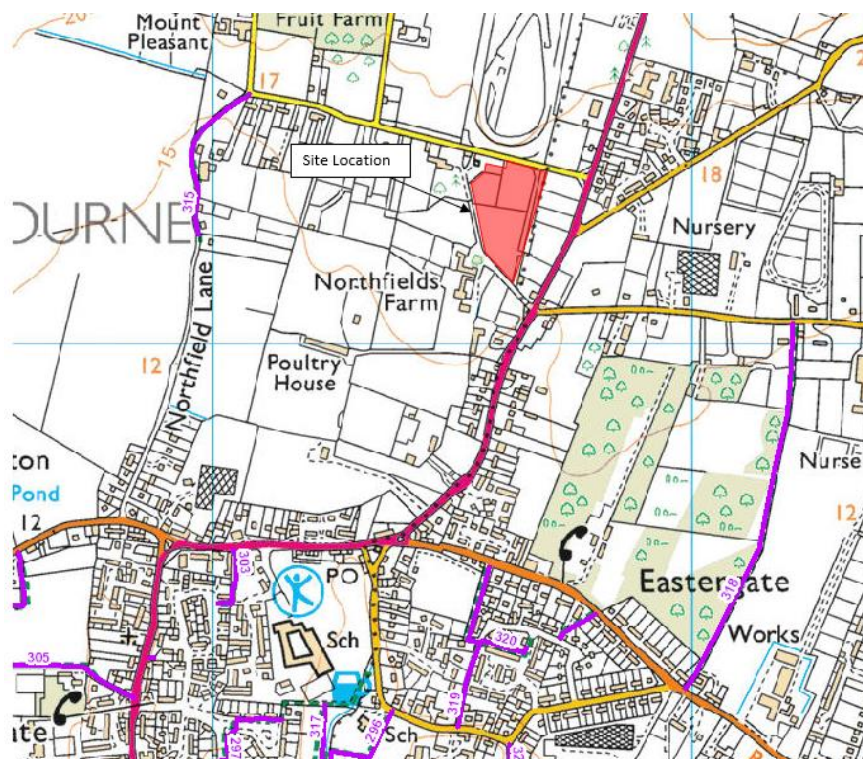


Figure 4: Public Rights of Way (West Sussex County Council)

Cycle Network

- 2.6 Although there are no dedicated cycle lanes on Fontwell Avenue or within the vicinity of the site, the flat topography of the road network promotes an attractive environment for cycling. As the local area is within a village environment, it is also naturally conducive to on-road cycling with the carriageway of Fontwell Avenue sufficient to allow vehicles to pass a cyclist safely. Improved cycle links are to be provided as part of the strategic housing allocation at Barnham Eastergate Westergate (BEW) forming a key part of Arun District Council's Local Plan. This includes off-road cycle links around the three villages as well as improved connectivity for cyclists to destinations such as Barnham Station.
- 2.7 In addition, the site is located circa 1km from the Barham to Walberton cycle path. This is accessible on Arundel Road and provides connection to Lake Lane in Barnham which provides a short cycle to the train station and amenities within Barnham Village. Cycling to the train station and amenities in Barnham using this route has a journey time of circa 11 minutes (from the centre of the site) and provides an alternative route to that using the A29 and Barnham Road. The location of this route in regard to the site is shown in **Figure 5**.

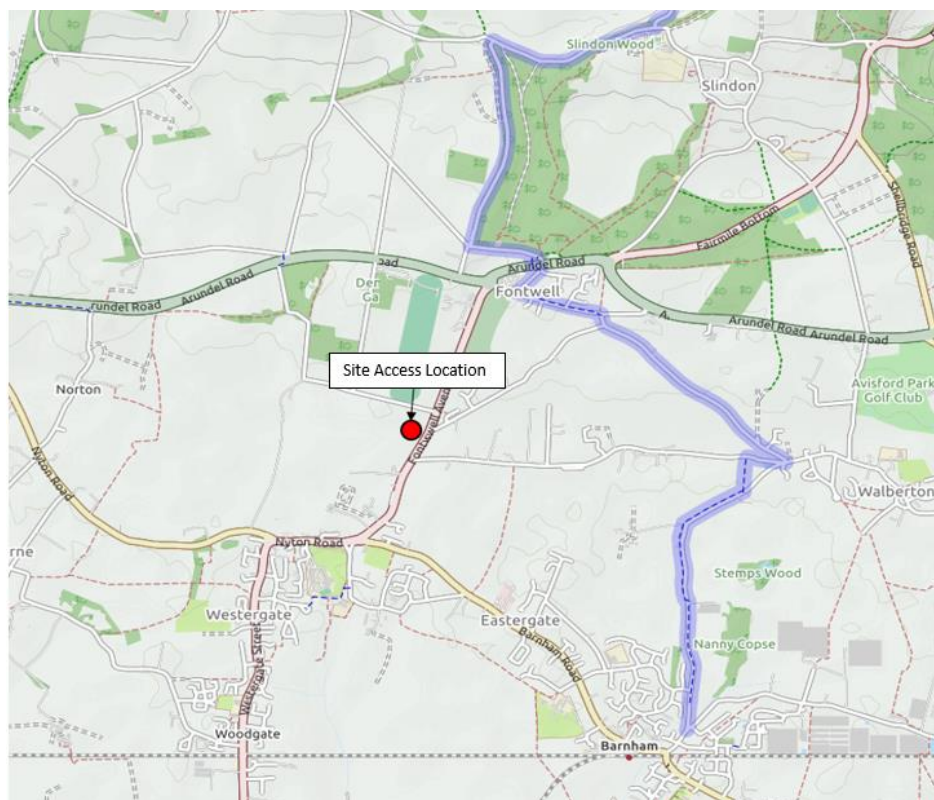


Figure 5: Walberton to Barnham Cycle Path

A29 Realignment Scheme

- 2.8 Within the West Sussex Transport Plan a scheme to redesign the A29 to accommodate for development allocated within Arun District Council (ADC) Local Plan is provided. A feasibility study was commissioned by WSCC to refine the design of the proposed A29 Realignment Scheme, with The Transport Business Case for this scheme submitted in October 2019 where subsequent funding was awarded for the delivery of Phase 1. Planning consent for Phase 1 of the scheme was approved in June 2021 (planning reference: WSCC/052/20/PL) and where relevant documents submitted as part of this application have been utilised.
- 2.9 The A29 Realignment scheme will provide a new road to the east of Eastergate, Westergate and Woodgate Villages, with Phase 1 of the scheme accessible via a new roundabout on Fontwell Avenue (A29) circa 150m south of the site access secured through Phase 1 of this development. Phase 2 of the scheme is located further South connecting onto Lidsey Road (A29).

- 2.10 The improvements made as part of the A29 Realignment Scheme will not only improve capacity on the wider highway network to support future growth, but the scheme will also improve existing pedestrian and cycle infrastructure. Along the new road it is proposed that a continuous footway/cycleway would be provided. The proposed footway/cycleway along the A29 Realignment Scheme would provide connections over the West Coastway Rail Line for cyclists and pedestrians and would also provide connection to existing infrastructure and PROW routes.
- 2.11 The A29 Realignment scheme will also provide improved pedestrian and cycle connection into Barnham through the connection proposed onto Barnham Road (B2233) as part of the Phase 1 scheme.
- 2.12 The proposed development would therefore significantly benefit from the A29 Realignment Scheme, with walking and cycling becoming even more attractive when accessing local amenities and services.
- 2.13 It is noted that the main entrance (and access for all site pedestrians/cyclists) to the proposed development is located c.150m north of the infrastructure proposed as part of the A29 Realignment scheme and thus there would be a 'gap' between the proposed development and the proposed footway/cycleway of the A29 realignment scheme. We suggest a contribution towards the realignment scheme is made as part of this application alongside identification that a possible connection could be secured by WSCC in the future using this contribution. It should however be noted that the existing provision for cyclists and pedestrians on A29 Fontwell Avenue would provide connection to this link within a 2 minute walk or less than a minute cycle.

Site Accessibility

- 2.14 The site is located within approximately 1km of local facilities in Fontwell, and c.1.6km from a larger array of facilities in Westergate and Eastergate which includes a nursery, secondary school, sports centre, post office, doctor's surgery and convenience store. The routes to local services to the north of south of the site benefit from a gentle topography as well as continuous footways which are supported by dropped kerbs, tactile paving and pedestrian refuge islands to allow for the safe crossing of pedestrians and is therefore an attractive route on the pedestrian desire line.
- 2.15 The development is therefore presented with a good opportunity to support sustainable development with its close proximity to local amenities. Details of facilities in the local area and their distance from the middle of the site via walking and cycling are provided in **Table 1**.

Service	Distance from site (m/km)	Travel time (minutes)	
		Walking	Cycling
Bus Stop	300m	4	1
Public House (The Old Stables)	900m	11	4
Post Office	900m	11	4
Convenience Store (Central Convenience Store)	900m	11	4
Medical Centre (The Croft Surgery)	1.2km	15	5
Secondary School & Sixth Form (Ormiston Six Villages Academy)	1.3km	16	5
Nursery (Bright Starts Day Nursery)	1.3km	16	5
Sports Centre (Six Villages Sports Centre)	1.3km	16	5
Church (Westergate Christian Fellowship)	1.6km	20	7
Primary School (Aldingbourne Primary School)	2.3km	29	10
Train Station (Barnham)	2.7km	34	11

Table 1: Distance to Local Amenities

2.16 As demonstrated in **Table 1**, the site provides a good opportunity to promote travel via sustainable modes with a number of local services and amenities accessible within a short walk or cycle of the proposed development site. It would therefore be feasible for site users to travel via sustainable modes, particularly for local journeys.

2.17 Furthermore, the cycle and pedestrian improvements proposed as part of neighbouring strategic developments and the A29 Realignment scheme will allow amenities within Barnham and the area surrounding the site to be easily accessible via walking and cycling.

Bus Services

2.18 The nearest bus stops to the site are located on Fontwell Avenue, travelling in an east and west direction. The bus stops (Level Mare Lane stops) are located approximately 160m to the northeast of the site access and are within a short walk of the site with residents of the development able to utilise the proposed footway connection and crossing point proposed onto Fontwell Avenue to the south of the site access. The bus stop travelling in an easterly direction is characterised by a flagpole.

2.19 The Barnham War Memorial bus stop located approximately 805m (10 minute walk) to the southwest of the site and is serviced on a more frequent basis by the 66A and 66C Compass Travel bus services.

Service	Provider	Route	Timetable		
			Monday – Friday	Saturday	Sunday
85	Compass Travel	Arundel – Fontwell – Chichester	07:13, 12:13, 16:13 (towards Chichester) and 09:24, 11:12, 14:19 (towards Arundel)	N/A	N/A
66A	Compass Travel	Bognor Regis – Yapton – Bognor Regis	07:24, 10:34, 14:57, 17:56 (East bound) and 07:52, 11:03, 15:29 (West bound)	10:34, 14:57, 17:56	N/A
66C	Compass Travel	Bognor Regis – Yapton – Bognor Regis	08:34, 12:53, 16:51 (East Bound) and 09:08, 13:21 and 17:18 (West bound)	08:34, 12:53, 16:51	N/A

Table 2: Local Bus Service Details

- 2.20 **Table 2** demonstrates that the site benefits from a regular bus service which provides access to key local destinations. Journey times on the 85 bus service to Chichester are approximately 15 minutes including a stop at St Richards Hospital. Journey times on the 66A bus service to Yapton is c. 5 minutes, to Walberton c.17 minutes and to Bognor Regis c.15 minutes.

Rail Services

- 2.21 Barnham Railway Station is located approximately 2.7km from the site and is a c.11 minute cycle journey (attractive for multi-modal commuting). Station facilities include bicycle parking with 62 spaces, ticket office and machines, toilets, refreshment facilities and waiting rooms. Direct destinations from Barnham Railway Station include Southampton Central (1h), London Victoria (1h 30m), Brighton (45m), Portsmouth & Southsea (35m), Bognor Regis (7m) and Littlehampton (10m).
- 2.22 As previously described, the cycle route to Barnham Rail Station would be even more attractive following the implementation of the A29 realignment scheme, with the proposed footway/cycleway accessible in less than a 1 minute cycle of the development.

Personal Injury Accident Data

- 2.23 Personal Injury Accident Data (PIA) has been obtained from the Sussex Safer Partnership to establish the existing safety conditions on the local highway network. This data has been assessed for a five-year period from June 2017 to June 2021. Details of the search are provided in **Figure 6**.



Figure 6: PIA data (2017-2021) (Source: Sussex Safer Partnership)

- 2.24 **Figure 6** indicates that two incidents have occurred over a five-year period with one slight incident (marked in green) occurring on Fontwell Avenue to the southeast of the proposed access and one serious incident occurring to the northeast of the site on Wandley Lane (marked in blue). However, there have been no accidents along the site frontage during this period. Given the strategic nature of Fontwell Avenue it is not considered that there are any existing accident trends on the surrounding highways network which would be exacerbated as part of the proposed development.

Summary

- 2.25 The proposed site is within an accessible location and is within walking distance of local amenities and facilities. Numerous facilities are accessible within a 20 minute walk or 10 minute cycle such as a post office, medical centre, nursery and secondary school. The proposed site benefits from regular bus services and rail services from Barnham Station, allowing for both local travel and travel further afield. It is therefore considered that the site facilitates easy access to non-car modes of transport which would encourage sustainable development.

3. PROPOSED DEVELOPMENT

- 3.1 The site proposes the development of land to the west of the existing 42 unit scheme (BN/50/20/4) to provide up to an additional 69 residential units. It is proposed that of the 69 units, 63 units would be accessed from Fontwell Avenue via the right turn lane consented as part of Phase 1. The remaining 6 units would be access via a dropped kerb arrangement onto Level Mare Lane.
- 3.2 The site will provide a mixture of affordable and private housing. An indicative accommodation schedule is summarised in **Table 3**, with the site layout attached as **Appendix A**.

Number of bedrooms	Quantity
1	8
2	18
3	31
4	12
Total	69

Table 3: Accommodation Schedule

Car Parking

- 3.3 Car parking on site will be provided in accordance with the standards set out in Arun District Council's Parking Standards. Parking numbers will be confirmed at the Reserved Matters stage. The indicative layout indicates that parking can be provided broadly in accordance with the standards when utilising the 10% variation that the standards allow for.
- 3.4 Electric Vehicle charging will also be provided in accordance with Arun District Council's parking standards and confirmed at the appropriate reserved matters stage.

Cycle Parking Provisions

- 3.5 To assist in encouraging the use of sustainable modes of transport cycle parking will be provided and again this would be confirmed at the reserved matters stage.

Servicing Arrangements

- 3.6 It is anticipated that all servicing would occur on-site, with the specific arrangements confirmed at the appropriate Reserved Matters stage.
- 3.7 The six units which will be accessed off Level Mare Lane will have a separate servicing arrangement to the rest of the development with it anticipated that these units would be serviced from Level Mare Lane. Further details on these arrangements would again be made at the reserved matters stage.

4. ACCESS ARANGMENTS

- 4.1 The application site would be access via two access locations. The majority of the development (63 units) would be accessed via a connection into Phase 1 to the east with the remaining six units accessed from a new dropped kerb arrangement to the north of the site on Level Mare Lane.

Access onto Phase 1 and Fontwell Avenue

- 4.2 The proposed accessed into Phase 1 to the east would form a bellmouth arrangement adjacent to Plot 21 of Phase 1. The access would measure 5m wide (tapering back to 4.8m wide) with kerb radii of 6m. This will be accompanied by a 1.2m wide footway at the connection point, which lies consistent with the footway widths provided within the consented scheme.
- 4.3 From this access visibility splays of 2.4m x 43m are achievable in both directions in line with Manual for Streets guidance for a 30mph road. In the secondary direction visibility is also achievable to the tangent point (2.4m x 22m).
- 4.4 Tracking has also been undertaken of the site access which demonstrates that a refuse vehicle can enter and exit the site access in a forward gear. The site access design, visibility splays and vehicle tracking are shown in **Appendix B**.
- 4.5 The main entrance into the site from the highway network would be maintained onto Fontwell Road via the consented ghost island right turn lane junction. The approved access design proposes a 6m wide bellmouth arrangement with radii of 9m into the site. The carriageway on Fontwell Avenue would be widened into Phase 1 to allow for the creation of a 3m wide right turn lane, with the right turn lane designed in accordance with CD 123.
- 4.6 The approved access did however require two departures from standard to be agreed with WSCC as part of the previous application (BN/50/20/4). This was with respect to the taper length on Fontwell Avenue being 1:11 instead of 1:20 and that the separation distance between the access and the Wandley's Lane junction is slightly less than 50m at 41m. These departure from standards were accepted and agreed with WSCC as part of the application for Phase 1.
- 4.7 Visibility splays at the access onto Fontwell Avenue were also previously demonstrated as achievable in both directions to 2.4m x 107.5m in line with recorded 85th percentile speeds of 41mph northbound and southbound on Fontwell Avenue. Although three trees are being retained within the visibility splay these measures less than 1m in diameter and in line with CD 109 are not an obstruction.

- 4.8 The Section 278 detailed design for the Phase 1 access is currently being completed by Paul Basham Associates in liaison with WSCC and the most recent drawing of this arrangement is shown in **Appendix C** along with tracking of the access at the Section 278 stage. The access design at the planning stage included as **Appendix D**.

Road Safety Audit

- 4.9 As the proposed development would result in an increase in trips at the ghost island right turn lane junction onto Fontwell Avenue it was agreed during pre-application discussions that a Road Safety Audit would be completed. A Stage 1 Road Safety Audit and a Stage 2 Road Safety Audit have already been completed as part of the works for Phase 1 and therefore a Stage 1/2 Road Safety Audit has been completed by an external auditor. This audit has been informed by a Road Safety Audit brief in line with GG 119 and the auditors have been provided with all previous road safety audits. The Stage 1/2 Road Safety Audit and Designers Response are provided under separate cover with the brief attached in **Appendix E**.

Access onto Level Mare Lane

- 4.10 It is proposed that six units located to the northwest of the development will be accessed onto Level Mare Lane. This access will be a dropped kerb arrangement measuring 4.5m in width and is sufficient to accommodate two cars passing concurrently in line with Manual for Streets guidance. This access design and vehicle tracking is shown in **Appendix F**. The existing gate access into the site would be stopped up. While this could have been used as a possible access location, constraints around trees prevent this existing access from being suitability enhanced.
- 4.11 Level Mare Lane is subject to a derestricted speed limit in theory any potential access would be subject to 215m visibility splay requirements. Therefore, speed surveys were undertaken in April 2019 to record actual speeds along Level Mare Lane. The location of the speed surveys is shown in **Figure 7**. This location is approximately 100m east from the proposed access. The 85th percentile recorded speeds were confirmed to be 30.2mph in the westbound direction and 26.2mph in the eastbound direction, confirming that speeds are in the region of 30mph to the east of the proposed access location. The results of this speed survey are attached in **Appendix G** for reference.



Figure 7: Speed Survey Location

- 4.12 Given the location of the speed survey from the proposed access on Level Mare Lane is it considered unlikely that vehicles would be driving in excess of 40mph past the Phase 2 site frontage. Visibility splays at the access onto Level Mare Lane have been demonstrated as achievable to those required based on MfS guidance for the 85th percentile speeds and 2.4m x 120m in line with the Design Manual for Roads and Bridges for 40mph. The visibility splay assessment attached in **Appendix H** demonstrates that sufficient visibility is achievable from this access location.
- 4.13 Any vegetation within the visibility splay would be maintained to ensure that visibility is not obstructed. As shown on the visibility splay drawing no trees would fall within the visibility splay, however tree canopies would also be maintained as necessary to ensure at vertical visibility is clear between 600mm and 2m.

Construction Access

- 4.14 It is proposed that all construction vehicles associated with the development would access the site via an existing gate on Level Mare Lane. In terms of routing, it is anticipated that all construction vehicles would travel to/from the A27 via Fontwell Avenue as shown in **Figure 8**. Further details on vehicle routing, arrangements and mitigation during the construction phase is provided within the Draft Construction Traffic Management Plan submitted alongside this document.

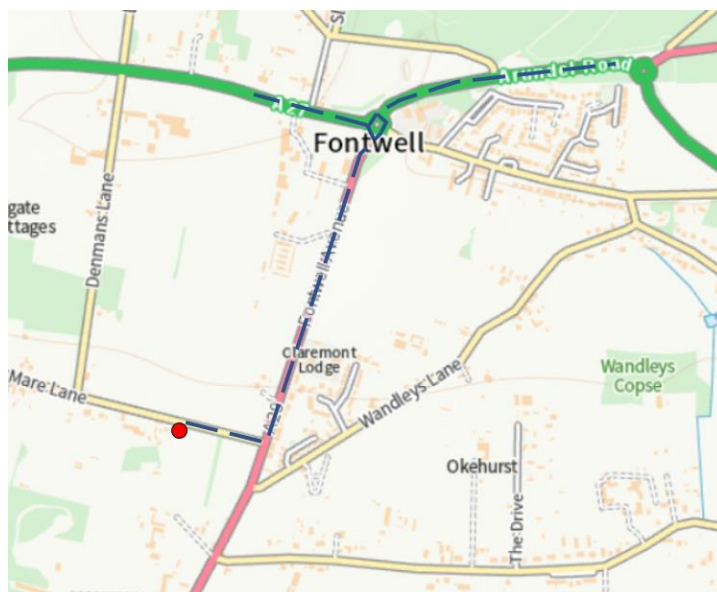


Figure 8: Construction Vehicle Routing

Pedestrian Access

- 4.15 Pedestrian access to the site will be provided through a footway link with the consented development to the east. Pedestrians of the proposed development would utilise the footways and the connections provided within the consented scheme to access Fontwell Avenue and the wider pedestrian network.
- 4.16 Pedestrians of the proposed development would benefit from the formal pedestrian crossing (dropped kerbs, tactile paving and pedestrian refuge island) being delivered as part of the consented scheme's access works. This ensures that users of the proposed development have safe access onto Fontwell Avenue. The location of the proposed pedestrian crossing and refuge island is shown in **Appendix C**.

5. TRIP GENERATION AND DISTRIBUTION

5.1 As part of the consented application (BN/50/20/PL) trip rates were identified for Phase 1. These were derived from the TRICS database for houses privately owned, with the parameters and rates agreed with WSCC's highways officers. The parameters used were the following:

- England and Wales (excluding Greater London);
- Surveys Monday – Friday;
- Dwellings between 10 and 100 units;
- 'Edge of Town' location; and
- No Travel Plans
- Sites with low car ownership excluded (1.0 or less)
- Sites in proximity to significant population (20,001+) excluded

5.2 The agreed trip rates and generation for Phase 1 are identified in **Table 4** and have also been applied to the proposed 69 unit development. For reference the TRICS outputs are provided in **Appendix I**. It should also be noted that it was considered acceptable to apply the consented trip rates for Phase 1 to this development during pre-application discussions with WSCC.

	AM Peak (08:00-09:00)		PM Peak (17:00-18:00)		Daily (12 Hours)
	Arrival	Departure	Arrival	Departure	
Trip rate (per unit)	0.152	0.393	0.364	0.149	4.770
Phase 1 (42 units)	6	17	15	6	200
Phase 2 (69 Units)	10	27	25	10	329
Total (111 Units)	16	44	40	16	529

Table 4: Trip Generation

5.3 **Table 4** indicates that the proposed Phase 2 development is anticipated to generate 37 trips in the AM peak, 35 trips in the PM peak and 329 trips over a 12 hour period. This equates to the addition of one trip every 2 minutes during peak periods and one trip every 2 minutes and 11 seconds on average over the course of the day.

5.4 When combined Phases 1 and 2 are anticipated to generate 60 trips in the AM peak and 56 trips in the PM peak, with a total of 529 trips generated over a 12-hour period. This equates to one additional trip on the highway network every 1 minute and 21 seconds.

- 5.5 The peak period trips that would be generated from the site are modest and anticipated to be easily absorbed onto the local highway network due to the strategic nature of Fontwell Avenue. Overall, the proposed development is not anticipated to have a significant impact on the operation of the surrounding highway network. However, the distribution of this traffic has been assessed to consider the impact at local junctions.

Trip Distribution

- 5.6 As part of the consented scheme distributions for the site were confirmed This was confirmed through obtaining 2011 Census 'Location of Usual Residence and place of work data' for the super output area of E02006544: Arun 003, which encompass the site and the surrounding area. The data indicates destinations that people currently travel to work within the ward selected. This data has been used determine the anticipated trip distribution at the access by consulting work destinations with 5 or more trips. The location and most attractive route from this location was then used to confirm the direction of travel from the proposed site access on Fontwell Avenue. For destinations east of Angmering-on-Sea is it anticipated that there would be a 50/50 split between trips travelling northbound and southbound.
- 5.7 The distributions confirmed as part of the previous application have been applied to the site as agreed during pre-application discussions with WSCC. The distributions are summarised in **Table 5**, with outputs attached as **Appendix J**.

Place of Work	Direction from Site Access	
	North	South
London	0.4%	
Islington	0.1%	
Southwark	0.1%	
Westminster	0.3%	
North of Hove	0.2%	
Brighton	0.6%	
Portsmouth	1.9%	
Lewes	0.3%	
Petersfield	0.4%	
Fareham	0.2%	
Havant	1.6%	
Winchester	0.3%	
Guildford	0.4%	
South of Guildford	0.2%	
Southwick	0.5%	
Shoreham by Sea	0.1%	
West of Lancing	0.1%	

East of Lancing	0.1%	
Lancing	0.3%	
Arundel	4.5%	
North of Littlehampton		2.8%
Westergate/Eastergate		15.6%
Angmering	0.9%	
South of Yapton		2.8%
West of Littlehampton	0.8%	
Ferring	0.3%	
Littlehampton		3.3%
East of Angmering on Sea	0.3%	0.3%
North Bersted		2.3%
Middleton on Sea		0.5%
North of Bognor Regis		4.0%
Felpham		0.4%
Bognor Regis		4.9%
Aldwick		0.4%
West of Aldwick		0.5%
West of Midhurst	0.2%	
Midhurst	0.5%	
Petworth	1.1%	
North of Chichester	4.9%	
North of Emsworth	0.8%	
North Chichester	8.1%	
Southbourne	0.4%	
Chichester	13.3%	
West of Chichester	2.0%	
East of Chichester	4.7%	
North West of Selsey	1.0%	
Selsey		1.0%
Gatwick	0.7%	
Three Bridges	0.6%	
North of Horsham	0.2%	
East of Horsham	0.2%	
Horsham	0.4%	
Southwater	0.2%	
Billingshurst	0.5%	
West Pulborough	0.2%	
East of Bury	0.7%	
West of Steyning	0.4%	
High Salvington	0.3%	
Salvington	0.2%	
Durrington	0.5%	
north Broadwater	0.2%	

East of Broadwater	0.4%	
West of Durrington	0.6%	
North of West Worthing	0.4%	
Worthing	1.7%	
East of Worthing	0.2%	
West Worthing	0.1%	
Goring by Sea	0.5%	
Total	61%	39%

Table 5: 2011 Census 'Journey to Work' Data

5.8 This assessment indicates that the majority (61%) of development trips are anticipated to travel northbound (left) from the site access and 39% of trips anticipated to travel southbound (right) from the site access.

5.9 These distributions are shown diagrammatically in **Appendix K**.

6. JUNCTION CAPACITY MODELLING

- 6.1 In pre-application discussions with WSCC and given the anticipated distribution of trips from the site it was requested that junction capacity modelling assessment would be undertaken of proposed access onto Fontwell Avenue, Fontwell Avenue Roundabout (aka Fontwell West Roundabout) to the north and Eastergate Square Roundabout (aka Memorial Roundabout) to south for five years into the future (2026) and to the end of the Local Plan (2031).

Eastergate Square Roundabout Assessment

- 6.2 Following the receipt of the feedback from WSCC the planning application for Phase 1 of the A29 Realignment Scheme was approved (ref: WSCC/052/20). This committed scheme will change the way trips travelling to the south of the site are routed and whether they travel via the Eastergate Square Roundabout to the south or utilise the A29 realignment scheme (provides connection further south on Barnham Road). A review of the Transport Assessment (TA) prepared for the A29 realignment scheme suggests that there is anticipated to be significant reductions in the trips travelling via the Eastergate Square Roundabout following the delivery of the bypass. The reductions identified for link 5 (approach to the Eastergate Square Roundabout) are which are summarised in **Table 6**, with the figures in the Transport Business Case indicating that this will further increase following the completion of Phase 2.

Reduction %	AM	PM
Southbound	-23%	-24%
Northbound	-24%	-15%

Table 6: Traffic Reduction at Eastergate Square Roundabout as a result of the A29 Realignment Scheme

- 6.3 Given the impacts of the bypass scheme, an updated review of distributions to the south has been undertaken to confirm whether junction capacity modelling is required of the Eastergate Square Roundabout.
- 6.4 As identified in Paragraph 5.8, 39% of trips are anticipated to travel to/from the south, equating to 14 additional trips travelling south in both the AM and PM peaks (when using the trip generation detailed in **Table 4** for the development). The information provided in the realignment TA suggests that in total 47% of trips would utilise the bypass in the AM peak and 39% in the PM peak. When applying this reduction to the trips that would travel to/from the south of the site this suggests that of the 14 trips travelling south 7 trips in the AM peak and 5 trips in the PM peak would use the bypass. This leaves 7 trips in the AM peak and 9 trips in the PM peak traveling via the Eastergate Square Roundabout. This is below the 30 peak period trips threshold which WSCC identify for modelling requirements. It is therefore not considered that the proposed development would have a significant impact on the

operation or capacity of this junction. As a result, no junction capacity modelling has been completed of this junction.

Committed Development

6.5 It was agreed during pre-application discussions with WSCC that the following committed developments would be taken into consideration within our junction capacity modelling assessments:

- Land to the East of Fontwell Avenue (WA/22/15/OUT) – 400 Residential Units, up to 500sqm of A1, A2, A3, D1/2 space and 5,000sqm of light industrial space
- Land at Nyton Road and Northfield Lane (AL/61/13) – 208 residential dwellings and 60 retirement units
- Nyton Nursery, Nyton Road (AL/3/19/PL) – Net increase of 23 residential dwellings to application AL/61/13
- Land West of Fontwell Avenue (Phase 1) (BN/50/20/4) – 42 Residential Units

6.6 The associated trip generation and trip distributions for the above developments has been obtained from the relevant Transport Assessments and is shown in the distribution diagrams attached in **Appendix K**.

6.7 It should be noted that only one distribution diagram has been provided for the Nyton Road/Nyton Nurseries site which includes for the application made to increase the number of units by 23. It should also be noted that the Nyton Road development site received consent at the outline stage for 60 retirement flats however through the Reserved Matters application a 60-bedroom care home was proposed in its place. The trips associated with this development are therefore robust and are likely to be higher than the built scenario.

Source of Baseline Traffic Data

6.8 Given the ongoing circumstances with the COVID 19 pandemic and the subsequent impact on traffic flows a suitable methodology for data collection was agreed with WSCC during the pre-application stage. It was agreed that historic survey data would be utilised.

6.9 An ATC survey was completed on the A29 Fontwell Avenue in the vicinity of the main site access as part of the application for Phase 1 (BN/50/20/4) in September 2018. This data has been factored up as appropriate where required to inform the assessments within this TS.

6.10 Historic turning count data has been obtained from the outline application on land east of Tye Lane (WA/44/17/OUT) for the Fontwell Avenue Roundabout to the north of the site which were completed in early 2017. While this count is over four years old this is considered robust given the impact of COVID

19 on traffic flows particularly along strategic routes. This data has again been factored up where appropriate.

6.11 The baseline data is shown in the distribution diagrams attached in **Appendix K**.

A29 Realignment Scheme Growth Rate

6.12 As part of the previous application the ATC survey results on Fontwell Avenue were factored up using percentage increases detailed within the A29 Realignment Transport Business Case to accommodate for the increase in traffic along Fontwell Avenue following delivery of the scheme. This approach was again agreed by WSCC during pre-application discussions and has been applied to the ATC data on Fontwell Avenue. Growth rate has not been applied to the Fontwell Avenue roundabout to the north given that growth percentages are not provided for all arms of the roundabout.

6.13 The growth factors are summarised in **Table 7** for reference.

Percentage Increase in Trips on Fontwell Avenue (Link 6)		
Southbound	AM	PM
	23%	19%
Northbound	AM	PM
	18%	69%

Table 7: A29 Realignment Scheme Growth Rates (2023)

TEMpro Growth Rate

6.14 In order to assess the impact of the proposed development in the future years of 2026 and 2031 the growth rates in **Table 8** have been identified for Arun district and applied to the baseline data.

	AM	PM
2017-2018	1.0125	1.0121
2018 - 2023	1.0539	1.0529
2023 – 2026	1.0269	1.0273
2026 – 2031	1.0662	1.0678

Table 8: TEMpro Growth Rate (2018 - 2031)

6.15 As the 2023 baseline has been informed by the growth rates identified within the A29 Realignment Transport Assessment (for Fontwell Avenue), the future year scenarios also account for the predicted rise in traffic along this route as a result of the bypass. It should be noted that data within the A29 Realignment application and the Transport Business case do not indicate how flows on all arms on the

Fontwell Avenue Roundabout would be affected by the bypass and the baseline has therefore been factored up using TEMpro.

Junction Modelling Assessment

6.16 Junction capacity modelling has been undertaken of the following junctions:

- Main Site Access/A29 Fontwell Avenue
- Fontwell Avenue Roundabout (aka. Fontwell West Roundabout)

6.17 The junction capacity assessments have been completed using Junctions 9 and LinSig software. Junctions 9 is the industry standard software package for assessing priority junctions and provides a Ratio of Flow to Capacity (RFC) value, which identifies what proportion of each arm's total capacity is currently being utilised. RFC values exceeding 0.85 signify the point at which the capacity of the arm is being approached, and the potential to improve capacity could be explored, whilst RFC values of 1.0 or greater represent a junction operating above capacity. Junctions 9 software also provides values for junction delay (in seconds) and queue length in Passenger Car Units (PCUs).

6.18 LinSig software is the industry standard method for assessing the capacity of signalised junctions. LinSig provides a Degree of Saturation (DoS) value, which identifies the percentage of the junction's total capacity that is in use. DoS values exceeding 90% indicate that the junction is close to operating over capacity, and junction improvements or changes to the signal timings should be considered, whilst DoS values of 100% or greater indicate that the junction is operating over capacity, and not all queuing vehicles will be able to clear the junction within one signal cycle. LinSig software also outputs vehicle delay and queue values to provide indicative details on the operational performance of the junction.

6.19 The method used to estimate the traffic generation of the proposed development and the method used to account for the future years is a worst-case scenario for the following reasons;

- The trip rates used to assess the proposed developments traffic generation are for 'Private Houses' only which produce significantly higher trip rates than mixed/affordable trip rates or mixed housing/flats trip rates. As the rate of affordable housing for this development is 30% in reality trips associated with the site are anticipated to be much lower;
- The modelling and traffic generation does not quantify the impact of a Travel Plan which could achieve a modal shift away from the private car with a sustainable transport strategy; and
- The assessment does not take into account the impact of peak spreading, whereby individuals may exit the development onto the local road network earlier or later to avoid travelling in the

peak period.

Access onto Fontwell Avenue

6.20 The site access has been modelled using the agreed JUNCTIONS 9 model for Phase 1 (as per application BN/50/20/4). The assessment has been undertaken for the following scenarios:

- 2026 Baseline + Committed Development
- 2026 Baseline + Committed Development + Development
- 2031 Baseline + Committed Development
- 2031 Baseline + Committed Development + Development

6.21 The results of the modelling assessment are provided within **Table 9** with the full outputs included in **Appendix L**.

Arm	AM Peak Period			PM Peak Period		
	Queue	Delay (s)	RFC	Queue	Delay (s)	RFC
2026 Baseline + Committed Development						
Fontwell Avenue (SB)	0.0	10.06	0.04	0.0	9.61	0.02
Site Access	0.0	7.87	0.01	0.0	7.59	0.02
2026 Baseline + Committed Development + Development						
Fontwell Avenue (SB)	0.1	10.74	0.11	0.1	10.08	0.04
Site Access	0.0	7.90	0.2	0.0	7.79	0.05
2031 Baseline + Committed Development						
Fontwell Avenue (SB)	0.0	10.06	0.04	0.0	9.61	0.02
Site Access	0.0	7.87	0.01	0.0	7.59	0.02
2031 Baseline + Committed Development + Development						
Fontwell Avenue (SB)	0.1	11.90	0.08	0.1	10.29	0.04
Site Access	0.0	7.99	0.02	0.1	7.86	0.05

Table 9: Site Access Modelling

6.22 **Table 10** demonstrates that the proposed site access would operate well within capacity with a maximum RFC value of 0.11, no queuing and delays of under 12 seconds. Therefore, there are no capacity concerns as to the functioning of the proposed access onto Fontwell Avenue.

Fontwell Avenue Roundabout (aka Fontwell West Roundabout)

6.23 An improvement scheme for the Fontwell Avenue Roundabout (aka Fontwell West Roundabout) was identified as part of the Arun District Local Plan to improve capacity at this junction and support

additional growth within the region. The improvement scheme would see the junction signalised and flare lengths increased.

6.24 As the improvements are to be delivered as part of the local plan modelling has been undertaken for the following scenarios:

- 2031 Baseline + Committed Development
- 2031 Baseline + Committed Development + Development

6.25 This junction has been assessed using LinSig, utilising the information provided within the i-Transport TA for the Linden Homes site to the East of Tye Lane (WA/44/17/OUT). The results of the modelling assessment are provided in **Table 10** with full outputs included as **Appendix M**.

Arm	AM Peak Period			PM Peak Period		
	Queue	Delay (s)	DoS	Queue	Delay (s)	DoS
2031 Baseline + Committed Development						
A27(W) Ahead	11.2	25.9	89.7%	28	43.8	98.3%
A27(W) Ahead	5.4	19.6	64.5%	107.6	298.5	116.9%
A27(E) Ahead/Left	9.4	16.0	79.2%	34.2	98.2	102.3%
Arundel Road	3.8	18.7	73.4%	2.6	25.9	72.4%
A29 Fontwell Avenue	9.7	65.4	97%	3.0	10.5	48.6%
2031 Baseline + Committed Development + Development						
A27(W) Ahead	11.2	25.9	89.7%	28.0	43.8	98.3%
A27(W) Ahead	5.5	20	66%	120.1	330.4	119.4%
A27(E) Ahead/Left	9.8	16.6	80.7%	35.5	101.9	102.7%
Arundel Road	3.8	18.7	73.4%	2.6	25.9	72.4%
A29 Fontwell Avenue	9.7	65.4	97%	3.0	10.5	48.6%

Table 10: Fontwell Avenue Roundabout

6.26 **Table 10** demonstrates that the impact of the proposed development is minimal, and that the junction is expected to operate above capacity with and without the proposed development in both the AM and PM peaks with the highest DoS being 119.4% on the A27 (W) ahead in the PM peak. It should be noted that the Fontwell Avenue arm is operating close to capacity with a DoS of 97% in the 2031 Baseline Plus Committed Development scenario, with the impact of the development not having an impact on the operation of this arm in the 2031 Baseline Plus Committed Development Plus Development scenario.

- 6.27 In the AM peak of the with development scenario DoS increases by 1.5% on the A27 (E) ahead lane and Arundel Road. No increase in DoS is seen across the other arms across the junction with delay increasing by a maximum of 0.6 seconds, and queuing increasing by a maximum of 0.4 vehicles.
- 6.28 In the PM the worst performing arm, which is already over capacity, is impacted further with an increase in its DoS from 116.9% to 119.4%. This impact is only slight and its impact upon queueing vehicles is exaggerated due to already being over capacity at this point.
- 6.29 Overall, the impact of the proposed development is minor on this strategic junction and it is therefore not considered that mitigation would be required to make the development acceptable. Whilst not considered necessary to mitigate the impact of the development monies could be secured via contribution by Highways England towards future mitigation works, a strategy which has been applied to other nearby development sites resulting in a minor impact.

7. SUMMARY AND CONCLUSIONS

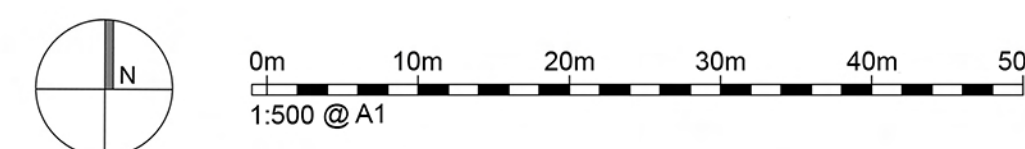
- 7.1 This Transport Statement has been prepared by Paul Basham Associates on behalf of Reside Developments to support an outline application for up to 69 dwellings with access parking, landscaping and associated works with all matters reserved apart from access at Land at Bayards, Eastergate.
- 7.2 The proposed site is located within an accessible location, approximately 450m south of Fontwell. The site is situated on Fontwell Avenue with numerous local facilities available within a 20 minute walk or 10 minute cycle. It is therefore considered to be suitable for occupants of the development to travel via sustainable modes such as walking, cycling and public transport.
- 7.3 Two forms of access are proposed into the development site. The main access (for 63 units) would be provided through Phase 1 to the east in the form of a bellmouth arrangement adjacent to Plot 21 of Phase 1. The proposed 63 units would be accessed from Fontwell Avenue via the consented right turn lane junction. As the proposals would result in the intensification of the consented right turn lane onto Fontwell Avenue a Stage 1/2 Road Safety Audit has been undertaken of the right turn lane junction onto Fontwell Avenue with this provided under separate cover.
- 7.4 A second access for the remaining six units would be provided onto Level Mare Lane through the creation of a dropped kerb arrangement measuring 4.5m in width.
- 7.5 Pedestrian access to the site will be provided through Phase 1. It is proposed that the footway provided at the access onto the consented scheme would continue to the northern of the access into Phase 2. Pedestrians of the proposed development would utilise the footways and the connections provided within the consented scheme to access Fontwell Avenue and the wider pedestrian network.
- 7.6 Internal aspects of the layout including parking provision and servicing arrangements will be confirmed at the appropriate reserved matters stage.
- 7.7 The agreed TRICS trip rates for the consented scheme (Phase 1) have been applied to the proposed development. This indicates that the development would be anticipated to generate 40 trips in the AM peak, 38 trips in the PM peak and 548 trips over a 12-hour period. Given the strategic nature of Fontwell Avenue it is not considered that the development would have a significant highway impact.

- 7.8 2011 Census data has been obtained to confirm the anticipated distribution of trips to/from the site. This assessment indicates that the majority (61%) of development trips are anticipated to travel northbound (left) from the site access and 39% of trips anticipated to travel southbound (right) from the site access.
- 7.9 When using these distributions and the data provided as part of the consented A29 Realignment Scheme application, the proposed development would result in a minor increase in trips travelling to/from Eastergate square Roundabout to the south. It is therefore considered that the site's impact would be negligible, and that assessment of this junction is not required.
- 7.10 A junction capacity assessment has been undertaken of the proposed access onto Fontwell Avenue. This assessment indicates that the junction would continue to operate well under capacity in all modelled scenarios, with no queueing and minimal delay on all arms. It is considered that the proposed right turn lane junction is acceptable to accommodate the additional development proposed.
- 7.11 A junction capacity assessment has also been undertaken of Fontwell Avenue Roundabout to the north of the site. This assessment shows that the development would not have a severe impact on the operation of this junction., of which a number of arms are already operating above or close to capacity in the 2031 Baseline Plus Committed Development scenario.
- 7.12 This Transport Statement has demonstrated that the proposed development is not anticipated to have a material impact on the surrounding highway network, and we would therefore encourage WSCC to look favourably on this application with regard to highways.



29662C_100F_Fontwell Avenue Phase 2_Proposed Site Layout Plan

Proposed development at Land South of Level Mare Lane, West Sussex



CLAGUE ARCHITECTS

62 Burgate Canterbury CT1 2BH t: 01227 762060