BONHAMS, FLANSHAM, FELPHAM

Residential Development

Transport Statement

Prepared on behalf of

Pallant Homes Ltd

PAHL/17/3615s

March 2018

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1 INTRODUCTION

1.1 Background

1.1.1 This Transport Statement (TS) has been prepared by Russell Giles Partnership (RGP) on behalf of Pallant Homes Ltd to support a proposed residential development at Bonhams, Flansham, Felpham. The site encompasses an area of c.1.15ha, located on the southern side of Hoe Lane, on the eastern periphery of Bognor Regis. The site's location is demonstrated **Figure 1.1**.

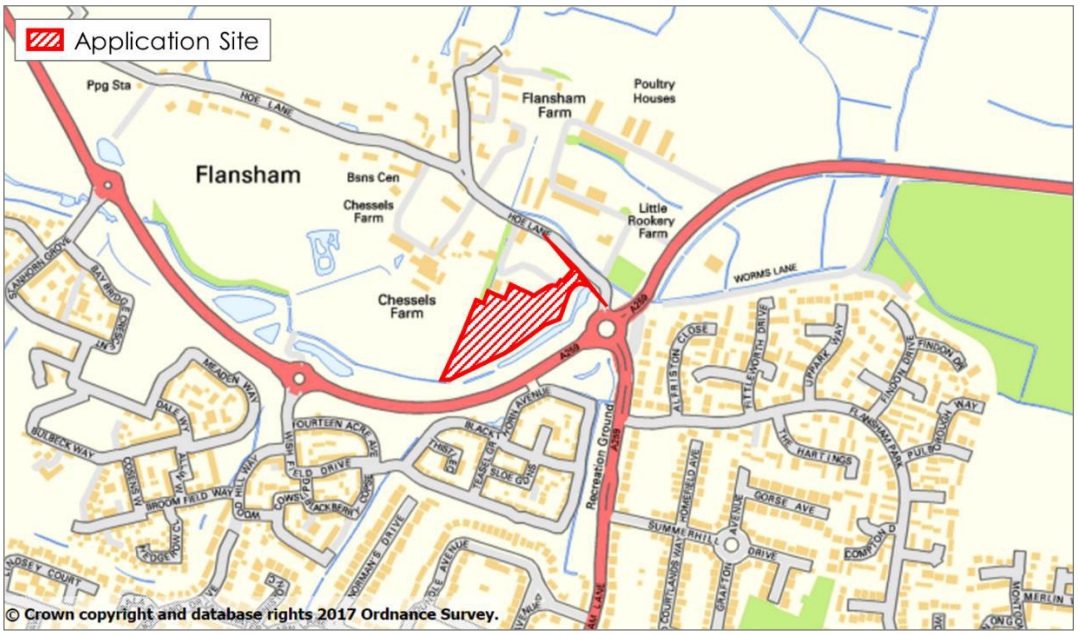

Figure 1.1: Site Location

1.1.2 The existing site is occupied by two dwellings known as 'Bonhams' and 'Flints', as well as an area of undeveloped land. The proposal would involve the construction of 10 dwellings as well as upgrading the existing site access.

1.1.3 This TS outlines the key transport planning matters in accordance with statutory highways consultees WSCC 'Transport Assessment Methodology' (June 2007), reviewing the site's accessibility, relevant planning history, the proposed development layout, car and cycle parking requirements, access arrangements, servicing arrangements, and the proposed trip impact on the local road network.

1.1.4 The remainder of this report is comprised of the following sections:

(i) **Section 2** sets out the baseline transport conditions in the local area and highway network, and provides a review of highway safety;

(ii) **Section 3** provides an assessment of the proposed access and internal layout's design against relevant design guidance;

(iii) **Section 4** considers the anticipated traffic impact on the local highway network supported by trip generation assessment;

(iv) **Section 5** provides a summary of the TS conclusions.

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2 BASELINE CONDITIONS

2.1.1 The site covers an area of approximately 1.15ha on the southern side of Hoe Lane circa 200m to the south of Flansham centre, and circa 3.2km to the north of Bognor Regis town centre. There is a range of services and amenities within walking and cycling distance of the site, as demonstrated on the attached **Plan 01**.

2.1.2 The site is bordered by Hoe Lane to the north, the A259 to the south and east, and a combination of a residential property and an open field to the west of the site. The site context is demonstrated in **Figure 2.1**.

Figure 2.1: Aerial View of Site Location

2.1.3 The site is currently accessed from Hoe Lane toward the east corner of the site. The access takes the form of a c.4m wide bellmouth. Approximately 20m into the site, the access divides into 2 separate driveways associated with the 2 dwellings. The site's existing access is demonstrated in **Figure 2.2**.

Figure 2.2: Existing Site Access

2.2 Local Highway Network

2.2.1 The site fronts on to Hoe Lane, a no through road providing access to a number of residential dwellings and leads to a public right of way heading to the west. Hoe Lane is a two-way carriageway approximately 5m wide in the vicinity of the site, subject to a 30mph speed limit. The carriageway is flanked by a mixture of grass banks and property frontages.

2.2.2 The carriageway is not parking restricted however the existing dwellings on Hoe Lane all have sufficient off-street parking meaning on-street parking is uncommon. A series of bollards are located along the site frontage preventing parking along the site's boundary with the lane. The local carriageway features are demonstrated in **Figures 2.3** and **2.4**.

Figures 2.3: Hoe Lane's Carriageway in the Vicinity of the Site

Figure 2.4: Bollards on Site Frontage

2.3 Wider Highway Network

2.3.1 The site is bordered by the A259 which is accessed via the roundabout to the east of the site. The A259 provides a busy east-west route along the south coast facilitating access locally to Chichester, Worthing and Brighton. The B2259 is also accessed via the roundabout and provides a route to Bognor Regis town centre to the south. The wider highway network is shown in **Figure 2.5**.

Figure 2.5: Wider Highway Network

2.4 Accessibility Credentials

Pedestrian Accessibility

2.4.1 Pedestrian access is currently served by a c.2m wide shared footway cycleway flanking the southern side of Hoe Lane to the east of the site access. The footway connects with the wider footway network and provides a continuous pedestrian link to services and amenities in Felpham 1.2km to the south. The pedestrian infrastructure in the vicinity of the site is shown in **Figures 2.6** and **2.7**.

Figure 2.6: Pedestrian Footway Flanking Hoe Lane

Figure 2.7: Pedestrian Crossing Facilities on Hoe Lane

2.4.2 The Chartered Institute of Highways and Transportation (CIHT) publication 'Providing for Journeys on Foot' (2000) states that the average length of a journey on foot is 1 kilometre. It further recommends a preferred maximum walking distance of 2 kilometres for commuting journeys. As shown on the attached **Plan 01**, the local bus stops and convenience shopping facilities are within 1km of the site.

Cycle Accessibility

2.4.3 As previously identified, a shared cycle and pedestrian link is located immediately south of the site along Hoe Lane as shown in **Figure 2.6**. There is a wide range of cycle routes in the vicinity of the site, and both Bognor Regis and Felpham town centres are within cycling distance allowing access to the town's services and amenities by bike. The traffic conditions along Flansham Lane heading into Felpham are conducive to safe cycling and free of steep gradients.

2.4.4 Local cycle routes provide access to surrounding town centres and link with the National Cycle Route No. 2, situated approximately 1km south of the site, providing a route to Littlehampton. The local cycle infrastructure is demonstrated in the attached **Plan 01**.

2.4.5 The CIHT's publication 'Cycle Friendly Infrastructure' (1996), suggests that reasonably fit individuals can comfortably cycle a distance of 8 kilometres to workplace destinations. Bognor Regis town centre, as well as both Bognor Regis and Barnham railway stations are therefore accessible by bicycle.

Accessibility by Bus

2.4.6 Both northbound and southbound bus stops are located within a desirable walking distance, c.210m to the east of the site. The stops are served by 2 bus services providing frequent access to Littlehampton, Portsmouth and Chichester. Details of all bus services including frequency and route summaries are presented in **Figure 2.6**.

Service No.	Route Summary	Typical Daytime Frequency	Operating Hours
141	Yapton – Bishop Luffa	Twice a day	Mon-Fri: 06:42 – 7:30 Sat: 14:45 – 15:30
600	Elmer – Chichester	Every 25 mins / One per hour	Mon-Sat: 06:05 – 21:53 Sun: 09:00 – 18:40
700 Coastliner	Littlehampton – Chichester	Every 20 mins	Mo-Sat: 06:09-23:23 Sun: 07:32 – 21:43

Figure 2.6: Bus Services Available from Hoe Lane Bus Stop

Accessibility by Rail

2.4.7 Bognor Regis and Barnham railway stations are within the CIHT's recommended cycle distance threshold from the development site. Barnham railway station is served by Southern Rail and Great Western Railway (GWR) and provides services to London, Brighton, Portsmouth, and Southampton. A summary of services from Barnham railway station are provided in **Figure 2.7**.

Destination	Route Summary	Typical Journey Time	Typical Frequency
Bognor Regis	Barnham – Bognor Regis	6 mins	Every 10 mins
Portsmouth Harbour	Barnham – Chichester – Havant – Fratton – Portsmouth Southsea – Portsmouth Harbour	36 mins	Every 15 mins
Southampton Central	Barnham – Chichester – Havant – Cosham – Fareham – Southampton Central	1 hour 2 mins	Every 20 mins
London Victoria	Barnham – Arundel – Pulborough – Horsham – Three Bridges – Gatwick – Clapham – London Victoria	1 hour 37 mins	Every 15 mins

Figure 2.7: Train Services Available from Barnham Station

2.4.8 Full details regarding these services including timetable information and route details are available online from www.nationalrail.co.uk.

2.5 Traffic Survey Data

2.5.1 To establish traffic volumes and vehicles speed on Hoe Lane, RGP commissioned 'Modal Data' to conduct an Auto Traffic Count (ATC) survey from the 6th – 12th May 2017 in the vicinity of the site. The ATC data output is attached at **Appendix A**.

2.5.2 The survey identified an eastbound Annual Average Daily Traffic (AADT) flow of 253 vehicle movements and a westbound AADT of 256 vehicle movements. The survey revealed an average eastbound vehicle speed of 19.4mph with an 85th percentile design speed of 23.5mph, and an average westbound vehicle speed of at 19.0mph with a design speed of 22.8mph.

2.6 Accident Data

2.6.1 To determine highway safety on the local road network an assessment of Personal Injury Accidents (PIAs) has been undertaken for a five-year period between February 2012 and January 2017 using accident data obtained from Sussex Safer Roads Partnership online data portal. PIAs are classified as 'slight', 'serious' and 'fatal' depending on the severity of the injuries sustained.

2.6.2 Patterns displayed in the PIA data can be assessed with regard to the proximity, frequency and severity to establish whether there are any potential underlying highway design issues on the local road network that may require a more detailed investigation. The study area considered includes Hoe Lane, the A259, and the roundabout to the east of the site. A map showing the extent of the study area and each recorded PIA is demonstrated in **Figure 2.8**.

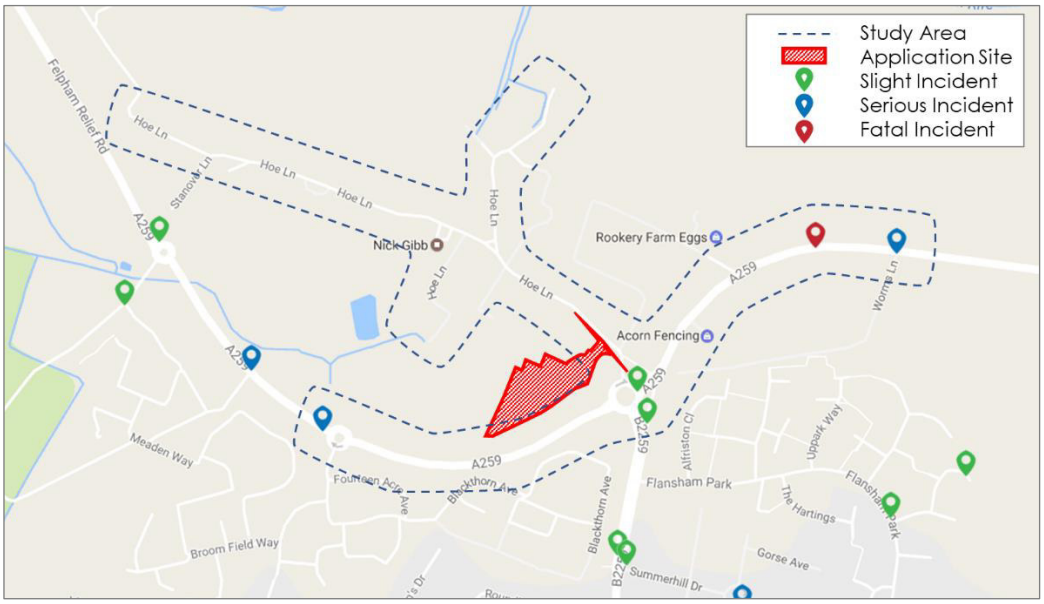

Figure 2.8: PIA Distribution

2.6.3 The study identified a total of 5 incidents comprised of 2 'slight' incidents, 2 'serious' incidents, and 1 'fatal' incident. The incidents show no pattern in terms of the distribution, frequency or severity that would be of concern in terms of highway safety on the local road network.

2.6.4 Table 2/1 of DMRB TD 16/07 'Geometric Design of Roundabouts' states that the mean frequency of accidents at 4-arm roundabouts on single carriageway roads is 1.08 PIAs per year, of which 7.1% are 'serious' or 'fatal'. There were 2 'slight' accidents recorded at the roundabout to the east of the site, over the five-year period which falls well below the national average both in terms of frequency and severity.

3 DEVELOPMENT PROPOSALS

3.1 Overview

3.1.1 The proposed development would involve the construction of 10 new residential dwellings in the grounds of the 2 existing dwellings, as well as upgrading the existing site access. The 2 existing dwellings would be retained. The proposed layout is attached at **Appendix B** and the proposed accommodation schedule is provided in **Figure 3.1**.

Housing Type	Number of Units
3 Bed House	2
4 Bed House	5
5 Bed House	3
Total	**10**

Figure 3.1: Accommodation Schedule

3.2 Proposed Site Access

3.2.1 The proposed development would be served from an upgraded access adjoining the southern side of Hoe Lane at the east corner of the site. The access would take the form of a T-junction with a simple priority arrangement flanked by a footway on its eastern side. The proposed access design is demonstrated in **Drawing 2017/3615/001**.

Access Geometries

3.2.2 The proposed access would have a combined lane width of 6.0m supported by 6.0m bellmouth radii. The access geometries would be sufficient to allow to cars to pass concurrently at the junction and would allow access/egress by large refuse vehicles. A vehicle swept path analysis has been undertaken demonstrating these manoeuvres in **Drawing 2017/3615/001**.

Visibility Requirements

3.2.3 Visibility requirements at the access has been based on the 85th percentile design speed identified by the ATC surveys undertaken on Hoe Lane. The surveys identified eastbound and westbound design speeds of 23.5mph and 22.8mph respectively. Using the calculation coefficients set out Manual for Streets guidance, stopping site distances (adjusted for bonnet length) of 29.5m and 30.7m would be required in the primary and secondary directions respectively.

3.2.4 Visibility from the access accordingly achieves the necessary sight lines in both the primary (looking east) and secondary (looking west) directions. To provide a robust assessment visibility splays of 2.4m x 43.0m for a 30mph design speed (the posted speed limit) have been shown on **Drawing 2017/3615/001**.

Emergency Access

3.2.5 The geometric design of the primary access would allow fire tenders (the largest emergency vehicle) to comfortably negotiate the proposed access. A vehicle tracking exercise demonstrating manoeuvres in and out of the site by less manoeuvrable refuse vehicles serves to demonstrate that fire tenders can negotiate the access in **Drawing 2017/3615/003**.

3.2.6 The proposed development would provide access within 45m of all buildings, in accordance with Building Regulation requirements for emergency vehicles. A minimum carriageway width of 4.1m is maintained throughout the site in accordance with Building Regulation requirements.

3.3 Stage 1 Road Safety Audit

3.3.1 The proposed vehicle and pedestrian access arrangements have been subject to a Stage 1 Road Safety Audit (RSA) which was conducted in June 2017 based on **Drawing 2017/3615/001**. The Stage 1 RSA identified 2 safety concerns with the proposed access design which were both accepted in the Designers Response. A copy of the Stage 1 RSA and Designer's Response is attached at **Appendix C**.

3.4 Pedestrian Access

3.4.1 Pedestrian access to the site would be served from a 2.0m wide footway flanking the eastern side of the access, tying in with the existing shared footway/cycleway on Hoe Lane. The footway would reduce to a 1.5m width approximately 10m into the site and would flank the southern side of the site's main spine road.

3.4.2 Pedestrian crossing facilities in the form of dropped kerbs and tactile paving would be provided at the junction within the site providing pedestrian access to the internal footways.

3.5 Internal Layout

3.5.1 The sites internal carriageways would not be offered for adoption. The site's access road would be 6.0m wide at the access reducing to c.4.8m as the road continues to the south providing access to 6 dwellings. The access road would be flanked by a footway, set back from the southern side of the carriageway by a grass verge, for the first c.170m.

3.5.2 The remainder of the road would be of varying width ranging between 4.5m and 4.8m. The road would use a shared surface arrangement in accordance with MfS guidance which suggests that shared surfaces are appropriate where carriageways form cul-de-sacs, where parking is controlled or takes place in designated areas and the vehicle flow is below 100 movements per hour.

3.5.3 A spur road would adjoin the western side of the main spine road c.170m into the site providing access to the 2 proposed dwellings and the existing 'Flints' property. The carriageway would be 4.8m wide and would allow cars to pass concurrently. The northern carriageway would use a shared surface arrangement.

3.6 Servicing Arrangements

3.6.1 The site's carriageway geometries are such that large service vehicles can negotiate the internal roads and perform turning manoeuvres within the site, allowing service vehicles to safely enter and exit the site in a forward gear. The main spine road width would be sufficient to allow service vehicles and cars to pass along the majority of the spine road. A vehicle swept path analysis has been undertaken in **Drawing 2017/3615/002** demonstrating these manoeuvres.

3.6.2 Bin carry distances between properties and refuse collectors would be within the maximum thresholds set out in MfS from all properties (25m for collectors 30m for residents).

3.7 Parking Provision

Car Parking

3.7.1 Car parking has been provided in line with the anticipated demand as determined by WSCC's Residential Parking Demand Calculator tool. A summary of the calculated provision is provided in **Figure 3.2** and the calculator output is attached in **Appendix D**.

	WSCC Residential Car Parking Demand Calculator	Proposed Parking Provision
Allocated	25	25
Unallocated	3	4

Figure 3.2: Car Parking Provision

3.7.2 The site's car parking would be provided in a mixture of driveways, garages, and on street parking bays. The on-street parking would take the form of parallel parking bays and echelon parking bays. All parking bays use MfS standard dimension providing parking bays of 2.4m x 4.8m and carriageway widths of at least 6.0m to ensure comfortable manoeuvring.

Cycle Parking

3.7.3 Cycle parking has been provided in accordance with WSCC residential cycle parking standards at a ratio of 2 spaces per 3-5 bed house. Cycle parking would be provided within the curtilage of the proposed properties within garages and or in storage within the rear gardens of properties.

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4 TRIP GENERATION AND TRAFFIC IMPACT

4.1.1 The TRICS database (version 7.4.1) has been interrogated to assess the likely traffic volumes that will be generated by the proposed development. The existing site would currently generate a limited number of trips associated with 2 existing dwellings. However, for robustness, it has been assumed that any trips generated by the site post development will be new to the local network.

4.1.2 For the purposes of this assessment the following parameters have been used to filter the TRICS data:

(i) Land Use – Residential (Houses Privately Owned)

(ii) Regions – England and Wales (excluding Greater London)

(iii) Scale of Development – 6 - 100 dwellings (10-70 Actual)

(iv) Date Range – 01/01/09 - 29/11/16

(v) Count Type – Manual and Automated Traffic Count

(vi) Selected Days – Weekdays

(vii) Selected Locations – Suburban Area, Edge of Town

4.1.3 A summary of the weekday peak hour and daily trips are displayed in **Figure 4.1**. The full results of the TRICS interrogation are provided in **Appendix E.**

TRICS Trip Rate per Dwelling (10 + 2 Dwellings)			
	Arrivals	**Departures**	**Two-Way Total**
AM Peak Hour	0.123	0.369	0.492
PM Peak Hour	0.324	0.113	0.437
Daily Traffic	2.250	2.226	4.476
TRICS Vehicle Trip Generation			
AM Peak Hour	1	4	6
PM Peak Hour	4	1	5
Daily Traffic	27	27	54

Figure 4.1: Anticipated Trip Generation

4.1.4 The TRICS assessment suggests that the development will generate an additional 54 daily vehicle trips, with an additional 6 trips in the network AM peak hour (08:00-09:00), and 5 trips in the PM peak hour (17:00-18:00). The peak trip generation equates to 1 additional vehicle movement accessing/egressing the site every c.10 minutes.

4.2 Traffic Impact

4.2.1 The number of daily vehicle trips generated by the proposed development and the low concentrations of movements during the local road network AM and PM peak traffic hours would have a negligible impact upon local road network in terms of highway capacity and safety.

4.2.2 Subject to WSCC's consideration of this report, WSCC Transport Assessment Guidance (2007) identifies that the sites trip generation is such that a capacity modelling assessment would not be necessary. The guidance stipulates that capacity assessments are only required at junctions where there is a predicted increase in total entry flows of 30 or more vehicles in any hour. As demonstrated in **Figure 4.1** the site would generate less than 30 movements during peak hours.

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5 SUMMARY AND CONCLUSIONS

5.1.1 Russell Giles Partnership (RGP) has been commissioned by Pallant Homes Ltd to provide transport planning and highways advice in association with a residential proposal at Bonhams, Flansham, Felpham. The Transport Statement conclusions are as follows:

(i) The site is located within walking and cycling distance of public transport and convenience amenities in Felpham and Bognor Regis.

(ii) An assessment of PIA incidents does not suggest any pattern in terms of distribution, frequency or severity that is of concern in terms of highway safety on the local road network.

(iii) The proposed development would be served from a new access adjoining Hoe Lane. The access would take the form of a simple junction including crossing facility for pedestrians. The new access will be flanked by a footway on its eastern side.

(iv) The site's access geometries are sufficient to allow concurrent car movements at the access and to allow large service vehicles and emergency vehicles to access/ egress the site.

(v) Visibility from the access achieves the necessary sight lines in both the primary and secondary directions based on the 85th percentile design speed identified on Hoe Lane using the calculation coefficients set out in the MfS.

(vi) The site's internal carriageway geometries are such that large service vehicles can negotiate internal roads and perform turning manoeuvres within the site, allowing service vehicles to enter and exit the site in a forward gear. Bin carry distances between properties and collectors would be within the maximum thresholds set out in MfS from all properties.

(vii) The proposed developments parking provision has been provided in line with WSCC's Residential Parking Demand Calculator tool. Cycle parking has been provided in accordance with WSCC's residential cycle parking standards.

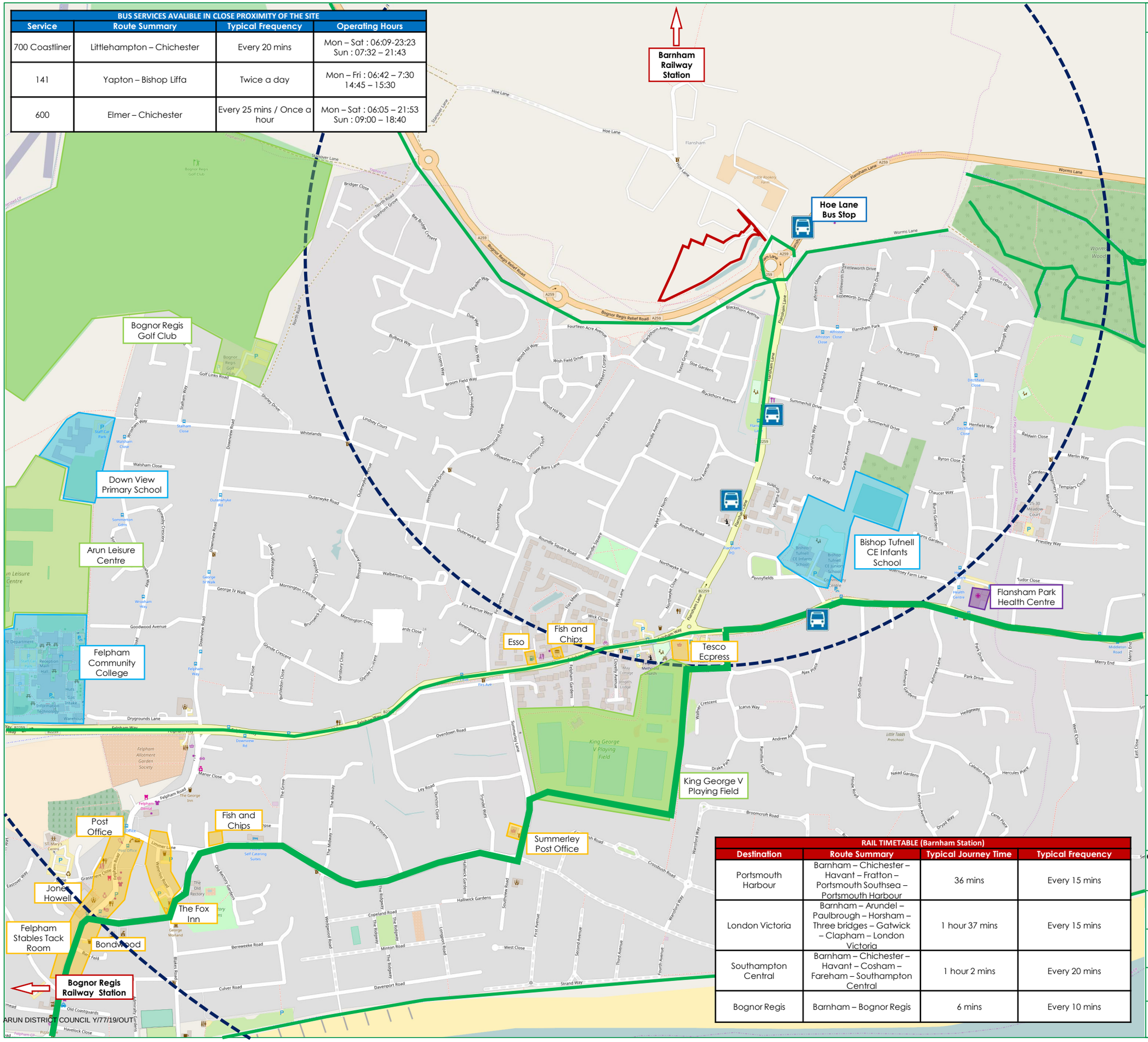
(viii) The TRICS database has been interrogated to assess the likely traffic volumes that will be generated by the proposed development. The TRICS assessment suggests that the development will generate an additional 54 daily vehicle trips, with an additional 6 and 5 trips in the network AM and PM peak traffic hours respectively.

(ix) The number of daily vehicle trips generated by the proposed development and the movements during the AM and PM peak traffic hours would have a negligible impact upon local road network in terms of highway capacity and safety.

(x) The sites trip generation is such that a capacity modelling assessment would not be necessary in accordance with WSCC Transport Assessment Guidance (2007).

PLANS

BUS SERVICES AVALIBLE IN CLOSE PROXIMITY OF THE SITE			
Service	Route Summary	Typical Frequency	Operating Hours
700 Coastliner	Littlehampton – Chichester	Every 20 mins	Mon – Sat : 06:09-23:23 Sun : 07:32 – 21:43
141	Yapton – Bishop Liffa	Twice a day	Mon – Fri : 06:42 – 7:30 14:45 – 15:30
600	Elmer – Chichester	Every 25 mins / Once a hour	Mon – Sat : 06:05 – 21:53 Sun : 09:00 – 18:40



RAIL TIMETABLE (Barnham Station)			
Destination	Route Summary	Typical Journey Time	Typical Frequency
Portsmouth Harbour	Barnham – Chichester – Havant – Fratton – Portsmouth Southsea – Portsmouth Harbour	36 mins	Every 15 mins
London Victoria	Barnham – Arundel – Paulbrough – Horsham – Three bridges – Gatwick – Clapham – London Victoria	1 hour 37 mins	Every 15 mins
Southampton Central	Barnham – Chichester – Havant – Cosham – Fareham – Southampton Central	1 hour 2 mins	Every 20 mins
Bognor Regis	Barnham – Bognor Regis	6 mins	Every 10 mins

LEGEND

- SITE LOCATION
- RAIL STATION
- RAILWAY
- BUS STOPS
- CYCLE ROUTES
- NATIONAL CYCLE ROUTE
- 1KM WALK ISOCHRONE
- RETAIL
- EDUCATION
- LEISURE
- HEALTH CARE

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Client: Pallant Homes Ltd

Project: Bonhams, Flansham, Felpham

Title: Site Location & Accessibility Plan

Plan No:	Job No:	Date:	Scale:
Plan 01	3615	May 17	NTS
Drawn By:	**Checked By:**	**Approved By:**	**Rev:**
SMO	ALB	PMR	-