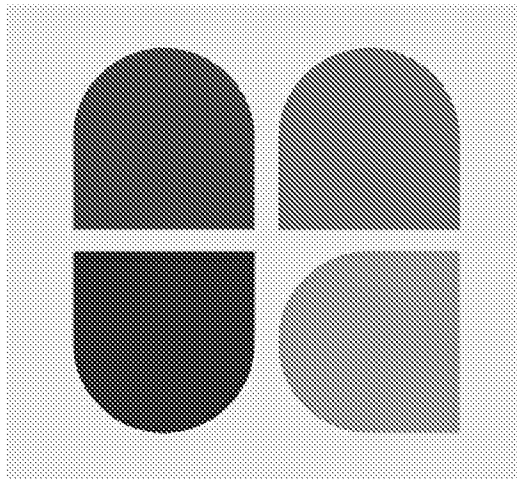




B R I G H T P L A N

LAND AT DAPPER'S LANE, ANGMERING

RESIDENTIAL DEVELOPMENT

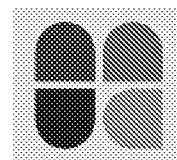
Transport Assessment

Prepared on Behalf of

Persimmon Homes

PEHO/16/3487

May 2020



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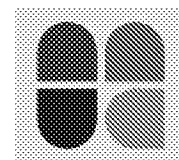
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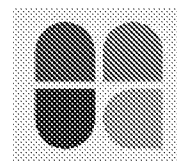
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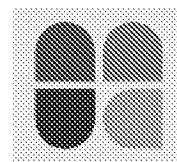


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PLANS

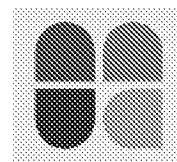
Plan 01 Site Location and Accessibility Plan

DRAWINGS

- 001** Visibility Splays and Vehicle Swept Path Analysis
- 002** Off-Site Infrastructure, Pedestrian Crossings
- 003** Internal Refuse Collection Swept Path Analysis
- 004** Internal Parking Swept Path Analysis
- 005** Fire Tender Swept Path Analysis
- 006** Proposed Footway Tie-in

APPENDCIES

- Appendix A** WSCC Pre-Application Consultation Response
- Appendix B** NMU Audit
- Appendix C** ATC Survey Data
- Appendix D** CrashMap Report
- Appendix E** Site Layout
- Appendix F** Stage 1 Road Safety Audit
- Appendix G** WSCC Residential Car Parking Demand Calculator
- Appendix H** TRICS Data Output



1 INTRODUCTION

- 1.1.1 This Transport Assessment (TA) has been prepared by Bright Plan Ltd on behalf of Persimmon Homes to support a planning application on land at Dapper's Lane, Angmering, West Sussex. The site encompasses an area of approximately 3.6ha on the western side of Dapper's Lane, circa 800m to the north of Angmering. The sites location is demonstrated in **Figure 1.1**.

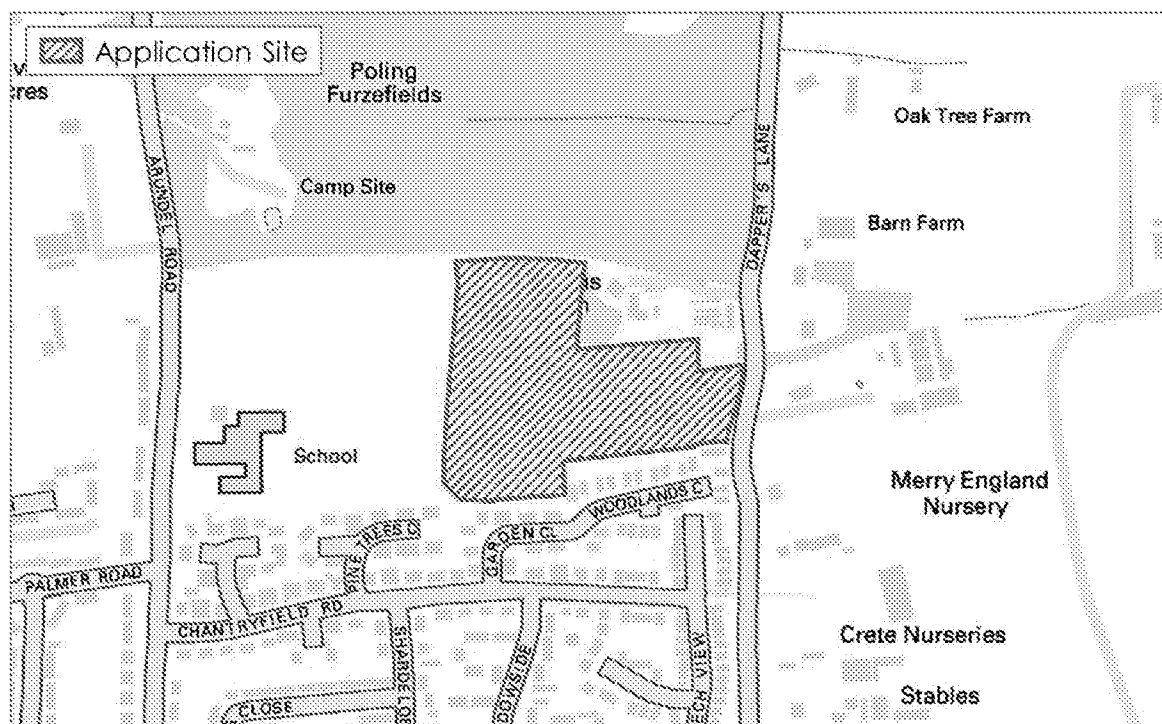
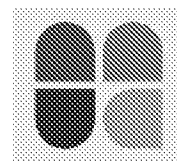


Figure 1.1: Site Location

- 1.1.2 The existing site is comprised of open fields located to the rear of residential dwellings on Gardens Close, Woodlands Close, and Dapper's Lane. The proposed development would involve the construction of 84 new residential dwellings, including the creation of a new access adjoining Dapper's Lane.
- 1.1.3 This document has been prepared in accordance with the relevant national, regional, and local planning policies including the National Planning Policy Framework, Arun District Council's (ADC) emerging Local Plan and the Angmering Neighbourhood Plan. All design work has been undertaken in accordance with the Design Manual for Roads and Bridges (DMRB) and the Manual for Streets (MFS).
- 1.1.4 The application site is allocated for residential development within ADC's Local Plan as part of SD9 Strategic Allocation. The site has not been subject to any recent planning applications which would be of relevance to this proposal.

Pre-Application Consultation

- 1.1.5 The proposed development was subject to pre-application consultation with West Sussex County Council (WSSCC) in November 2018. The consultation response is attached at **Appendix A** and included the following key comments:
- i. A right turn lane would not be required at the site access.
 - ii. A Stage 1 Road Safety Audit of the site access arrangements would be required.

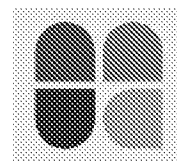


- iii. Junction modelling undertaken within application A/40/18 accounted for an allocation of 100 units at the proposed development site and as such no further junction modelling is required as part of this application.
- iv. A footpath should be provided on Dapper's Lane to tie in with works proposed as part of neighbouring applications.
- v. An NMU audit should be undertaken to identify infrastructure improvements that could be implemented on key NMU routes to/from the site.
- vi. Car and cycle parking should be considered against the WSCC parking demand calculator and standards.

1.2 Scope of Transport Assessment

1.2.1 The remainder of this report is comprised of the following sections: -

- i. **Section 2** provides a review of relevant national, regional and local planning policy;
- ii. **Section 3** reviews the site's baseline transport conditions, including a description of the site's location, the local and wider highway network, accessibility credentials, and a review of highway safety;
- iii. **Section 4** provides an assessment of the proposed development, including the proposed access and internal layout, against relevant design guidance;
- iv. **Section 5** assesses the anticipated traffic impact on the local highway network supported by a TRICS trip generation assessment.
- v. **Section 6** provides a summary of the TA's conclusions.



2 POLICY REVIEW

- 2.1.1 This section summarises the key national and local transport policies relevant to the proposed development site to which the proposed highway strategy adheres.

2.2 National Planning Policy Framework (July 2018)

- 2.2.1 National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. The NPPF assumes a presumption in favour of sustainable development and urges local planning authorities to support development that facilitates the use of sustainable modes of transport.
- 2.2.2 Paragraph 103 states that *"Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes."*
- 2.2.3 Paragraph 109 states that *"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."* Severe' is defined as critical or dangerous, and should be considered in the context of the local area.
- 2.2.4 Paragraph 111 states that *"All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed."*

2.3 West Sussex Transport Plan 2011-2026 (LTP3) (February 2011)

- 2.3.1 The West Sussex Transport Plan (LTP3) sets out the West Sussex County Council's (WSCC) strategy for future investment in highways and transport infrastructure, as well as setting out transport requirements for future developments.
- 2.3.2 In addition to the LTP3, WSCC also provide pre-application advice for developments which includes supplementary planning guidance regarding Transport Assessments; Guidance for West Sussex (2007) and non-residential parking standards. This information has been reviewed and is reflected in this document.

2.4 Arun Local Plan 2011-2031 (July 2018)

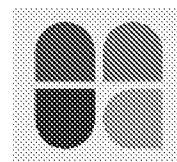
- 2.4.1 Arun District Council's (ADC) Local Plan sets out the council's plans for future development in the district with the following vision:

"By 2031 Arun will be a safer, more inclusive, vibrant and attractive place to live, work and visit. Arun's residents will be healthier and better educated, with reduced inequalities between the most and least affluent"

- 2.4.2 The following policies are of relevance to the proposed development:

- 2.4.3 Policy T SP1:

"To ensure that growth in the District strengthens Arun's economic base, reduces congestion, works to tackle climate change and promotes healthy lifestyles; the Council will ensure that development: provides safe access on to the highway network; contributes to highway improvements and promotes sustainable transport, including the use of low emission fuels, public transport improvements and the cycle, pedestrian and bridleway network."



2.4.4 Policy T DM1:

"New development must ensure ease of movement, prioritising safe pedestrian and cycle access to the green infrastructure network and access to public transport and community transport services where a need has been identified. Access to alternative modes of transport including public transport services, the public right of way and cycle networks, must be available and accessible to all members of the community."

2.5 Angmering Neighbourhood Plan 2014 – 2029 (February 2015)

2.5.1 The Angmering Neighbourhood Plan provides a vision for the future of Angmering village, setting out clear policies and objectives to achieve this vision. The plan highlights core objectives for both Housing, and Traffic and Movement, and sets out policies with the aim of achieving these objectives. The relevant policies are as follows:

2.5.2 Housing HD8: Parking in New Developments

"The Plan supports the WSCC parking standards and encourages all new development to follow them."

2.5.3 Transport and Movement TM1: Local Highways

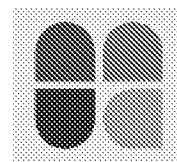
"Proposals for new development shall demonstrate that adequate and satisfactory provision has been made to mitigate the impact of the traffic generated both during development and on completion."

- i. *New developments which seek to provide an access road from Roundstone Lane onto the A280 by-pass to reduce through traffic in the Conservation Area will be considered favourably.*
- ii. *Proposals for development that generate traffic are required to demonstrate that the level of traffic which has to travel through the village conservation area, is minimised through the provision, where possible, of improved vehicular and pedestrian access to key locations in the village, particularly the schools and the railway station."*

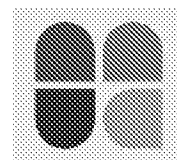
2.5.4 Transport and Movement TM2: Cycling Walking & Equestrian

"Support will be given to proposals which increase or improve the network of cycle ways, footways and footpaths."

- i. *Proposals which harm the following characteristics of public rights of way will be resisted:*
 - a. *Safety.*
 - b. *Directness.*
 - c. *Access and Connections.*
 - d. *Attractiveness.*
 - e. *Convenience.*
 - f. *Features such as trees and hedgerows.*
- ii. *Proposals should seek, where possible, to create cycle paths so as to provide safe and effective routes across the Neighbourhood Area, and where possible join up with National Cycle Ways.*



Developer or CIL contributions will be sought from all new developments to fund improvements to the existing cycle and footpath networks as well as supporting the provision of new connections, where these have been identified and can be delivered."



3 BASELINE CONDITIONS

3.1 Site Location and Description

- 3.1.1 The application site encompasses an approximate area of 3.6ha on the western side of Dapper's Lane, circa 800m to the north of Angmering centre. Angmering provides access to local services and amenities as well as local public transport links.
- 3.1.2 The site is bordered by residential dwellings to the south, school playing fields to the west, woodland and a residential dwelling to the north, and Dapper's Lane to the east. The site context is demonstrated in **Figure 3.1**.



Figure 3.1: Aerial View of Site Location

3.2 Local Highway Network

- 3.2.1 The site fronts onto Dapper's Lane, a 2-way carriageway subject to a 30mph speed limit in the vicinity of the site. The carriageway is flanked by a mixture of thick vegetation, grass verges, and private driveways. Circa 120m to the north of the site, the road transitions to the national speed limit (60mph) carriageway. Dapper's Lane's highway features are shown in **Figures 3.2** and **3.3**.

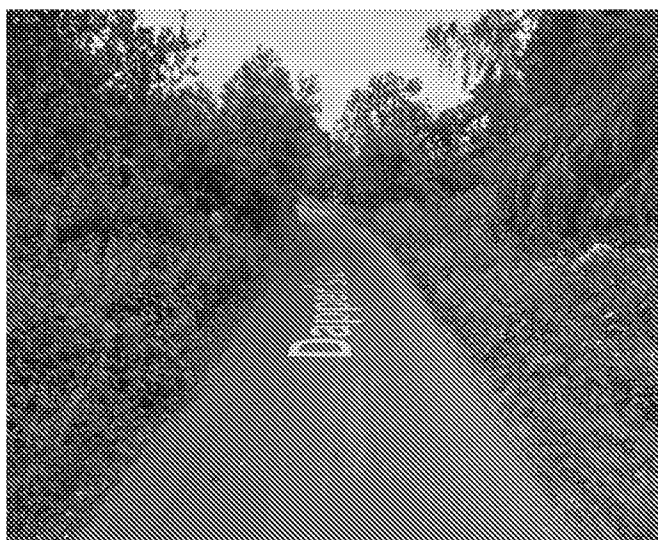
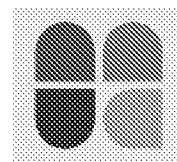


Figure 3.2: Dapper's Lane Heading North

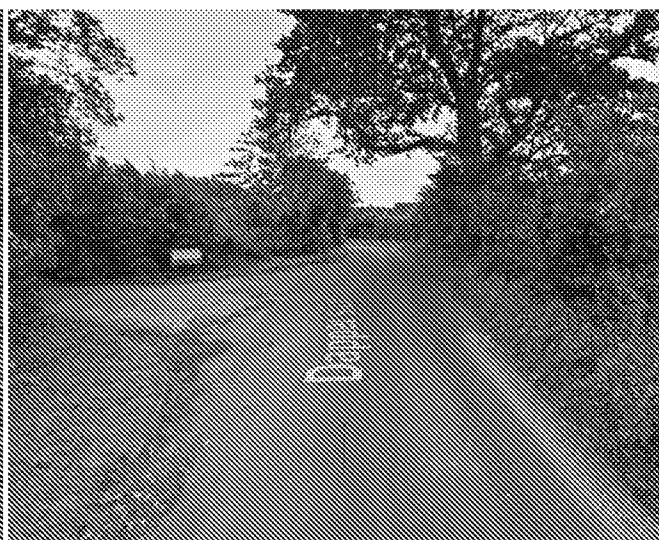


Figure 3.3: Dapper's Lane Heading South

- 3.2.2 Approximately 450m to the north of the site, Dapper's Lane runs under a road bridge. The carriageway narrows at the bridge limiting traffic to a one-way flow with a priority arrangement. Southbound traffic under the bridge is restricted to buses only. A cycle lane runs adjacent to the one-way section of Dapper's Lane. The A27 bridge is shown in **Figures 3.4** and **3.5**.



Figure 3.4: Narrow Carriageway Under the Bridge



Figure 3.5: Restricted Access and Priority Arrangement

3.3 Wider Highway Network

- 3.3.1 The application site is situated approximately 450m to the south of the A27 which can be accessed in a westbound direction via Arundel Road, or in an eastbound direction via the A280/A27 junction. The A27 forms part of the strategic road network and facilitates access locally to Chichester, Worthing, and Brighton.
- 3.3.2 The A259 is located approximately 1km to the south of the site, providing an alternative east-west route running parallel to the A27. Locally, the A259 facilitates access to Bognor Regis, Littlehampton and Worthing. The wider highway network is demonstrated in **Figure 3.6**.

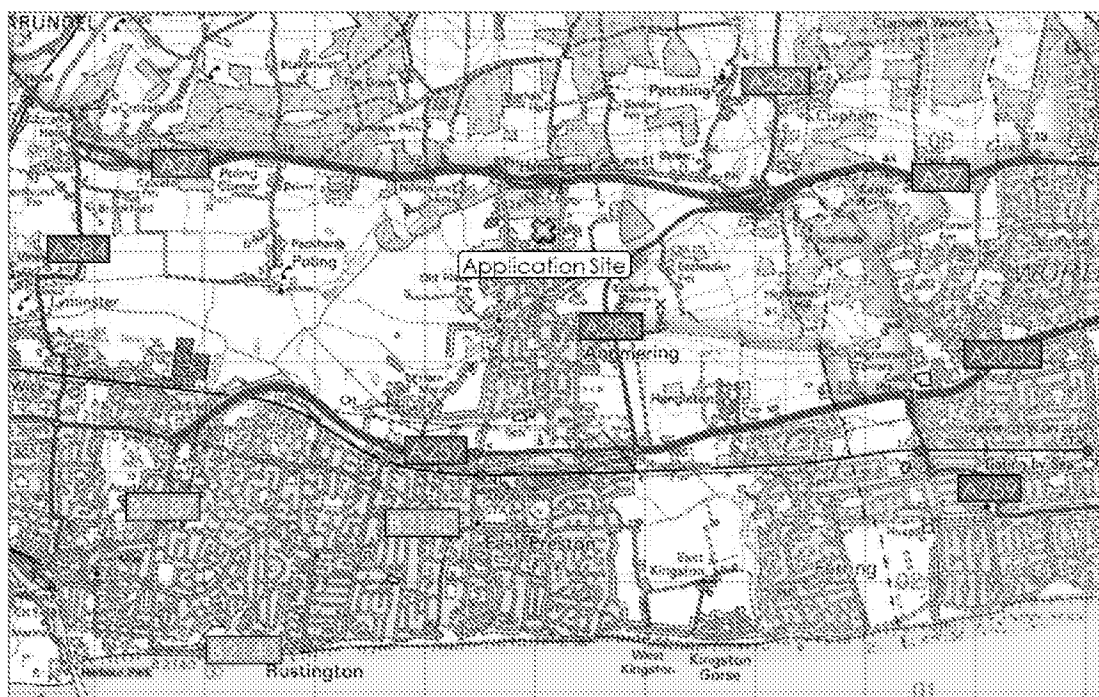
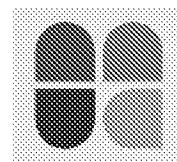


Figure 3.6: Wider Highway Network

3.4 Accessibility Credentials

Pedestrian Accessibility

- 3.4.1 There are a number of neighbouring developments in the vicinity of the site which will provide footways along Dapper's Lane (planning ref: A/91/18, A/40/18). The new footways would connect with the existing footway network providing pedestrian access throughout Angmering.
- 3.4.2 In addition, Public Right of Way (PROW) footpath 2151 runs along the site's western border, connecting with the footway network at the end of Pine Trees Close. The location of the footpath is shown in **Figure 3.7**.

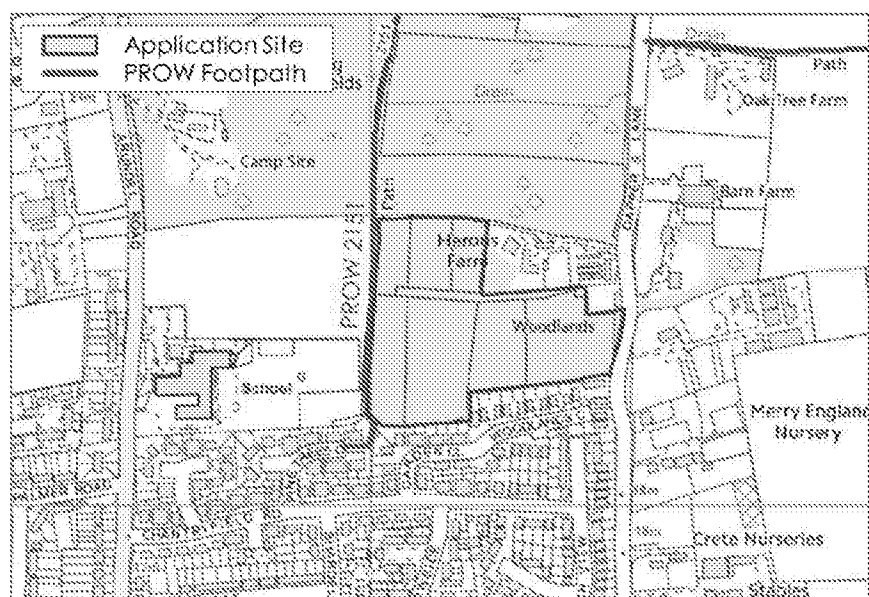
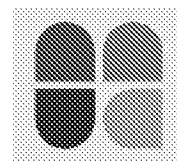


Figure 3.7: Footpath Running Along the Site's Western Border



- 3.4.3 The footpath runs between the boundaries of the dwellings at the south-west corner of the site joining the footways on Pine Trees Close providing a link on the key pedestrian desire line to Angmering centre. The footpath characteristics are shown in **Figures 3.8 and 3.9**.

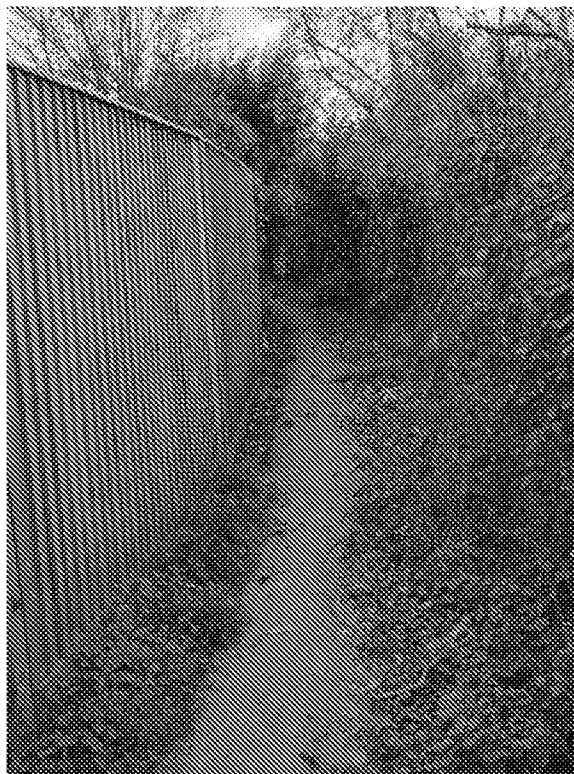


Figure 3.8: PROW Footpath 2151



Figure 3.9: PROW Footpath Joining Pine Trees Close

- 3.4.4 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 in the **Plan 01**, the local bus stops and convenience shopping facilities are within 1km of the site and are therefore accessible from the site.

Cycle Accessibility

- 3.4.5 The South Coast Cycle Route (SCCR) is situated approximately 2.2km to the south of the site and can be accessed via local cycle routes. The SCCR facilitates journeys to Littlehampton and Worthing by bike. The local cycle network is demonstrated in **Figure 3.10**.

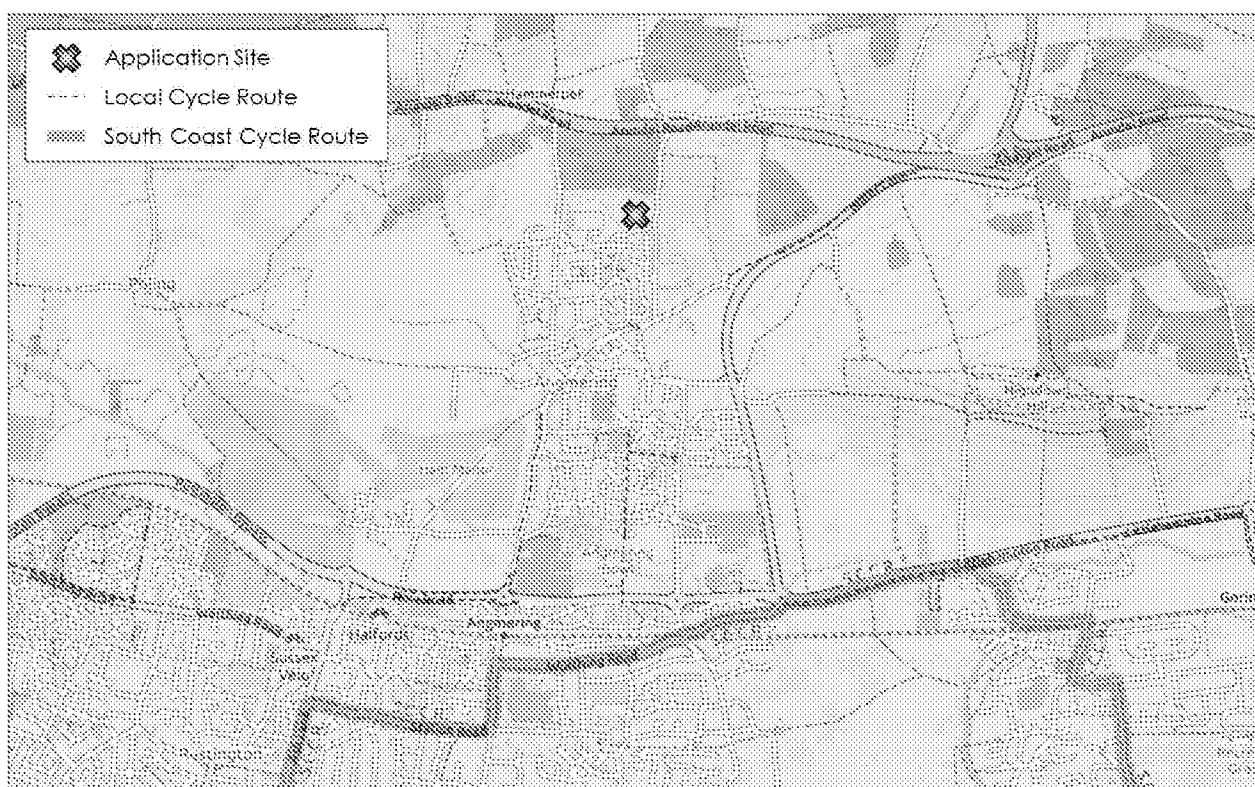
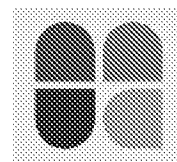


Figure 3.10: Cycle Network in the Vicinity of the Site

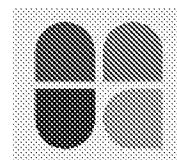
- 3.4.6 The CIHT's publication 'Cycle Friendly Infrastructure' (1996), suggests that reasonably fit individuals can comfortably cycle a distance of 8 kilometres to workplace destinations. The full extents of Angmering, West Preston, and East Preston are all therefore accessible by bicycle. Furthermore, Angmering railway station is situated approximately 2.2km to the south of the site and therefore accessible by bicycle.

Accessibility by Bus

- 3.4.7 The 'Shardeloes Road' bus stop is located approximately 250m to the south west of the site and is conveniently accessible via PROW 2151 and Pine Trees Close. The stop provides a single hourly service (No. 9) which facilitate journeys to Shoreham-by-Sea, Lancing, Worthing, Littlehampton, Arundel, as well as providing a connection to Angmering railway station.

Accessibility by Train

- 3.4.8 Angmering railway station is located approximately 2.2km to the south of the site and provides regular services to a range of destinations including Southampton, Portsmouth, Brighton, and London. A summary of services available from Angmering railway station is provided in **Figure 3.11**.



Destination	Route Summary	Typical Journey Time	Typical Frequency
Worthing	Angmering – Goring-by-Sea – Durrington-on-Sea – West Worthing – Worthing	7 – 11min	4 per hour
Littlehampton	Angmering – Littlehampton	11 – 18min	3 per hour
Brighton	Angmering – Worthing – Lancing – Hove – Brighton	30 – 37min	4 per hour
Portsmouth	Angmering – Chichester – Havant – Fratton – Portsmouth & Southampton	45 – 52min	2 per hour
Southampton	Angmering – Chichester – Havant – Fareham – Southampton Central	1hr 13min – 1hr 30min	2 per hour
London Victoria	Angmering – Worthing – Hove – Burgess Hill – London Victoria	1hr 28min – 1hr 40min	6 per hour

Figure 3.11: Services Available from Angmering Railway Station

3.4.9 Full details regarding services from Angmering railway station, including timetable information and route details are available online from www.nationalrail.co.uk.

3.5 Non-Motorised User Audit

3.5.1 In order to assess the Non-Motorised User (NMU) infrastructure in the vicinity of the site, an NMU audit has been undertaken in December 2018. The audit considered the adequacy of existing pedestrian and cycle infrastructure on key routes to/from the site to accommodate the proposed development, and potential improvements that could be provided in conjunction with the development. The NMU audit is attached at **Appendix B**.

3.6 Traffic Survey Data

3.6.1 To establish vehicle speeds and the volume of traffic on Dapper's Lane, RGP commissioned Modal Data to conduct a 7-day Auto Traffic Count (ATC) survey between 25th April – 1st May 2017. The results of the survey are summarised in **Figure 3.12** and the full ATC data output is attached at **Appendix C**.

Direction	Average Speed	85th Percentile	AADT	HGV Percentage
Northbound	24.4mph	29.5mph	442	0.6%
Southbound	21.2mph	26.6mph	160	2.7%

Figure 3.12: Summary of ATC Survey

3.7 Accident Data

3.7.1 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 March 2014 and February 2019 using the Sussex Safer Roads Partnership online data portal. PIAs are classified as 'slight', 'serious' and 'fatal' depending on the severity of the injuries sustained.

3.7.2 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 Dapper's Lane, Water Lane, and Arundel Road. A map showing the extent of the study area and each recorded PIA is demonstrated in **Figure 3.13**.

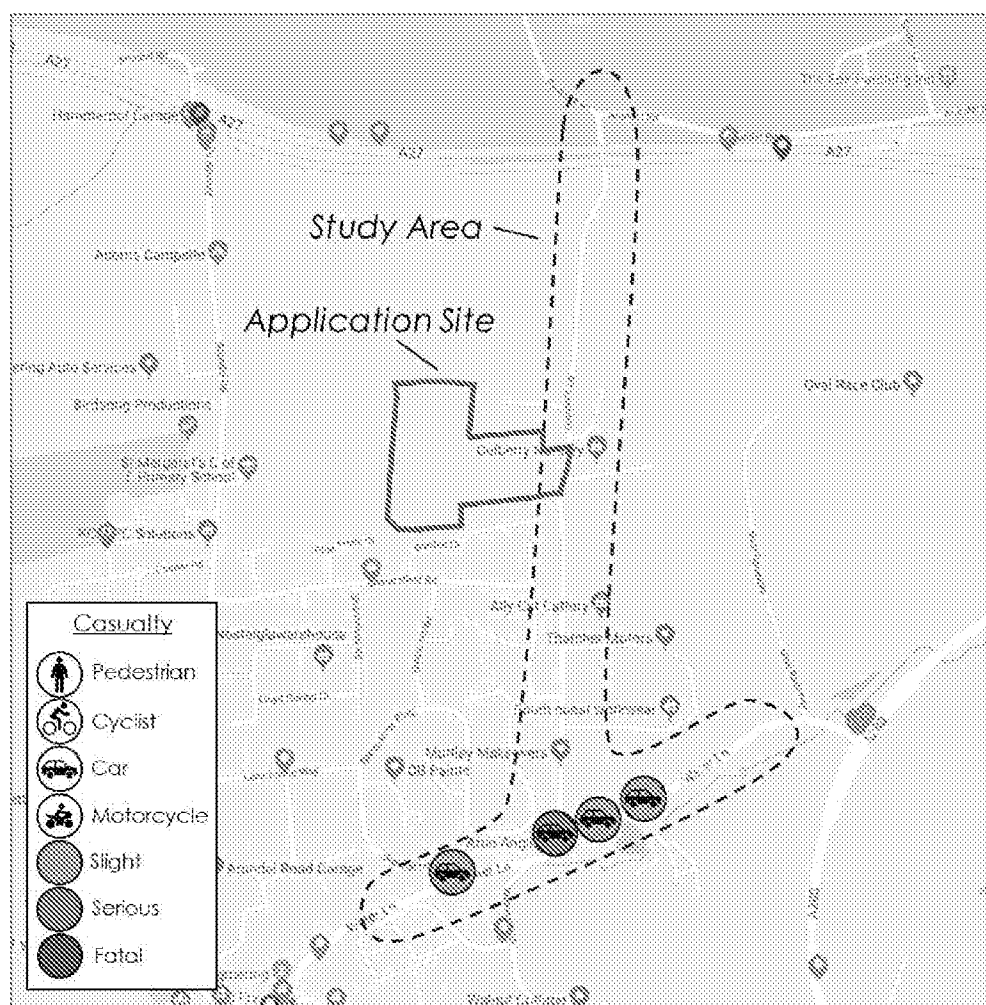
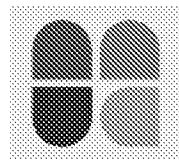
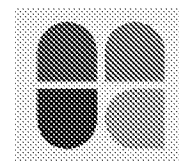


Figure 3.13: Accident Study Area

- 3.7.3 There was a total of 4 incidents recorded within the study area, comprised of 3 'slight' and 1 'serious' incident. The 'serious' incident occurred involved a collision between 2 vehicles at the Dapper's Lane/ Water Lane junction on 22/12/14 during daylight, whilst raining and with high winds. The 'serious' incident is unrelated to the application site and does not suggest an underlying highway problem that would be exacerbated by the proposed development. The CrashMap accident report is attached at **Appendix D**.
- 3.7.4 The overall distribution of PIAs does not suggest any pattern in terms of distribution, frequency or severity that would be of concern to highway safety. It is notable that there are no incidents in the immediate vicinity of the proposed development site.



4 PROPOSED DEVELOPMENT

4.1 Overview

- 4.1.1 The proposed development would involve the construction of 84 new residential dwellings and associated vehicle and pedestrian access. The proposed layout is attached at **Appendix E** and the proposed accommodation schedule is shown in **Figure 4.1**.

	Unit Type	No. of Units
Private	2 bed house	32
	3 bed house	18
	4 bed house	9
	Total	59
Housing Association	2 bed house	18
	3 bed house	7
	Total	25
Overall Site Total		84

Figure 4.1: Proposed Accommodation Schedule

4.2 Vehicle Access

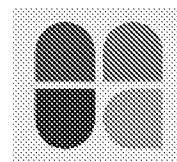
- 4.2.1 The proposed development would be served from a new vehicle access adjoining the western side of Dapper's Lane. The access would take the form of a T-junction with a simple priority arrangement flanked by a footway on its northern side. The access would have a combined lane width of 6.0m supported by 6.0m bellmouth radii. The proposed access is shown in **Drawing 2017/3487/001**.
- 4.2.2 The proposed access geometries would allow concurrent car movements at the access and can accommodate access and egress manoeuvres by larger service vehicles. A vehicle swept path analysis has been undertaken demonstrating these manoeuvres in **Drawing 2017/3487/001**.

Visibility

- 4.2.3 The access visibility requirements have been based on the 30mph speed limit on Dapper's Lane. This provides a robust assessment given that the ATC speed surveys on Dapper's Lane revealed 85th percentile design speeds below 30mph (see **Section 3.6**).
- 4.2.4 Using the 'desirable minimum' calculation coefficients set out in the DMRB TD 9/93 a stopping site distance (adjusted for bonnet length) of 43.0m would be required in both directions. Visibility from the access accordingly achieves the necessary sight lines in both the primary (looking north) and secondary (looking south) directions as demonstrated in **Drawing 2017/3487/001**.

4.3 Pedestrian Access

- 4.3.1 The proposed vehicle access would be flanked by a 1.5m wide footway on its northern side. The footway would connect with a new footway flanking the eastern side of Dapper's Lane via an uncontrolled pedestrian crossing in the form of dropped kerbs and tactile paving. The footway flanking Dapper's Lane would connect to the footways proposed as part of neighbouring developments, (planning ref: A/91/18, A/40/18) providing a continuous pedestrian link between the application site and Water Lane. The proposed footway is shown in **Drawing 2017/3487/001**.



- 4.3.2 In addition, new pedestrian access points would be provided at the northwest and southwest corners of the site tying in with PROW 2151. The route of the PROW through the site would be navigable via internal footways and shared surface carriageways. The pedestrian access points are shown in **Drawing 2017/3487/004**.

4.4 Emergency Access

- 4.4.1 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 in **Drawing 2017/3487/001** serves to demonstrate that fire tenders can comfortably negotiate the access.
- 4.4.2 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 3.7m would be maintained throughout the site in accordance with Building Regulation requirements.

4.5 Stage 1 Road Safety Audit

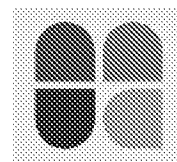
- 4.5.1 The proposed vehicle and pedestrian access arrangements have been subject to a Stage 1 Road Safety Audit (RSA) undertaken by Road Safety Answers in December 2018.
- 4.5.2 The Stage 1 RSA identified 1 safety concern with the proposed access design based on the **Drawing 2017/3487/001 Rev A**. The highway concern has been addressed within the Designer's Response. A copy of the Stage 1 RSA and Designer's Response is shown in **Appendix F**.

4.6 Servicing Arrangements

- 4.6.1 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 site's key internal roads provide sufficient widths to allow service vehicles and cars to pass throughout the site.
- 4.6.2 Bin carry distances for residents and refuse collectors are within the maximum thresholds set out in MfS from all properties (25m for collectors, 30m for residents).

4.7 Internal Layout

- 4.7.1 The site's access road would continue into the site acting as spine road from which spur roads would branch. The spine road would maintain a width of 6.0m through the centre of the site before reducing to a width of 4.8m as it bends to the south, providing access to plots 23-28 and 41-44. The spine road would be flanked by 2.0m footways on either side. An overview of the application site is shown in **Drawing 2017/3487/004**.
- 4.7.2 Approximately 30m into the site, 2 spur roads would adjoin either side of the main spine road providing access to plots 1-2 and 81-84. The roads would be 4.1m wide and would use shared surface arrangements.
- 4.7.3 The remainder of the spur roads would use carriageway widths of 4.8m and would use shared surface arrangements. Turning heads would be provided at the ends of each of the spur roads allowing service vehicles to perform turning manoeuvres.



4.8 Parking Provision

Car Parking

- 4.8.1 The proposed car parking provision for the proposed development has been based on the anticipated parking demand as determined using West Sussex County Council's (WSCC) residential car parking demand calculator tool.
- 4.8.2 The WSCC residential car parking demand calculator tool agreed at pre-application has been used to calculate the required parking demand for the site. A summary of the calculator output is provided in **Figure 4.2** and the full calculator output is attached at **Appendix G**.

	WSCC Residential Car Parking Calculator	Proposed Provision
Allocated	164	164
Unallocated for Residents	9	9
Unallocated for Visitors	17	17
Total	190	190

Figure 4.2: Proposed Car Parking Provision

- 4.8.3 Car parking would be provided in a mixture of driveways, garages, perpendicular bays and parallel bays. Garages would have minimum internal dimensions of 3.0m x 6.0m in accordance with WSCC guidance as set out in "Guidance for Parking in New Residential Developments" (September 2010). All open parking bays would provide minimum dimensions of 2.0m x 6.0m for parallel bays, and 2.4m x 4.8m for echelon bays with at least 6.0m reversing distances to ensure comfortable manoeuvring, in accordance with MfS guidance. A vehicle swept path analysis has been undertaken demonstrating cars manoeuvring to and from parking spaces in **Drawing 2017/3487/004**.

Cycle Parking

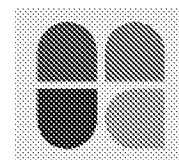
- 4.8.4 Cycle parking has been provided in accordance with WSCC residential cycle parking standards as shown in **Figure 4.3** below. Cycle parking would be provided within the curtilage of the proposed properties within garages or in storage within the rear gardens of properties.

Unit Type	Cycle Provision per unit
1 & 2 Bed House	1 space
3+ Bed House	2 spaces

Figure 4.3: Cycle Parking Provision

4.9 Off-Site Works

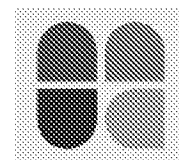
- 4.9.1 The NMU audit undertaken on the local network in the vicinity of the site identified 6 potential improvements which could be made to NMU infrastructure on key routes to/from the site. The improvements identified are shown in **Figure 4.4**.



No.	Location	Potential Improvement
1	PROW 2151	The PROW could be improved with new hard surfacing, lighting, and removal/cutting back overgrown vegetation.
2	Pine Trees Close	A new pedestrian crossing with dropped kerbs and tactile paving could be provided on Pine Trees Close on the new pedestrian desire line.
3	Arundel Road / Furzefield Close junction	Tactile paving could be provided at the existing crossing over Furzefield Close
4	Arundel Road / Chantryfield Road junction	Tactile paving could be provided at the existing crossing over Chantryfield Road.
5	Arundel Road / Lansdowne Way junction	Tactile paving could be provided at the existing crossing over Lansdowne Way.
6	Arundel Road in vicinity of St Wilfrid's Catholic Primary School	A new pedestrian crossing with dropped kerbs and tactile paving could be across Arundel Road in the vicinity of St Wilfrid's Catholic Primary School.
7	Dapper's Lane	New pedestrian footway could be provided between the site access and Water Lane.

Figure 4.4: Potential Improvements Identified in NMU Audit

- 4.9.2 Improvement 1 raised within in audit identified that PROW 2151 could be upgraded with hard surfacing and lighting. The development would provide new footways and shared surface carriageways providing hard surfacing along the route of the PROW. New lighting within the site would improve the attractiveness of the route. The PROW improvements are shown in **Drawing 2017/3487/001**.
- 4.9.3 Improvement 2 identified that a new crossing could be provided on Pine Trees Close on the new pedestrian desire line. A new crossing in the form of dropped kerbs and tactile paving would accordingly be provided on the new pedestrian desire line. The proposed crossing is shown in **Drawing 2017/3487/002**.
- 4.9.4 Improvements 3, 4 and 5 proposed improvements to existing pedestrian crossings following Arundel Road. Accordingly, the existing crossings would be upgraded with new tactile paving. The proposed crossings are shown in **Drawing 2017/3487/002**.
- 4.9.5 Improvement 6 identified that a new crossing could be provided across Arundel Road in the vicinity of St Wilfrid's Catholic Primary School. A new crossing in the form of dropped kerbs and tactile paving would accordingly be provided to the north of the school on Arundel Road. The proposed crossing is shown in **Drawing 2017/3487/002**.
- 4.9.6 Improvement 7 identified that a new footway could be provided on Dapper's Lane connecting the site to Water Lane. Accordingly, a new 1.5m wide footway would be provided on the eastern side of Dapper's Lane connecting with new footways proposed by neighbouring developments (planning refs: A/40/18, A/91/18). The proposed footway is shown in **Drawing 2017/3487/001**.



5 TRIP GENERATION AND TRAFFIC IMPACT

5.1 Overview

- 5.1.1 The TRICS database (version 7.6.2) 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 the horse paddocks and it has therefore robustly been assumed that any trips generated by the development will be new to the local network.
- 5.1.2 To establish the number of the trips generated by the existing site, the parameters identified in **Figure 5.1** have been used to filter the TRICS database.

TRICS (Version 7.6.2)	
Filtering Parameter:	Criteria Selected:
i. Land use	Residential – Houses (Privately Owned)
ii. Regions	England (Excluding Greater London)
iii. Number of Dwellings	50 to 200 units
iv. Date Range	01/01/11 to 09/05/19
v. Count Type	Manual
vi. Selected Days	Weekdays
vii. Selected Locations	- Suburban Area - Edge of Town

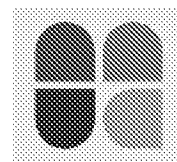
Figure 5.1: TRICS Filtering Parameters

- 5.1.3 A summary of the weekday peak hour and daily trips are displayed in **Figure 5.2**. The full results of the TRICS interrogation are provided in **Appendix H**.

Trip Rate per Dwelling (84 Dwellings)			
Time Period	Arrivals	Departures	Two-way
AM Peak Hour (08:00-09:00)	0.134	0.328	0.462
PM Peak Hour (17:00-18:00)	0.291	0.146	0.437
Daily	2.189	2.303	4.492
TRICS Trip Generation			
AM Peak Hour (08:00-09:00)	11	28	39
PM Peak Hour (17:00-18:00)	24	12	37
Daily	184	193	377

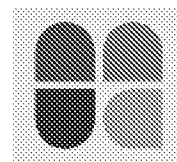
Figure 5.2: Anticipated Trip Generation

- 5.1.4 The TRICS assessment suggests that the development will generate 377 daily vehicle trips, with 39 and 37 trips in the networks AM and PM peak traffic hours (08:00-09:00 and 17:00-18:00) respectively. The peak trip generation equates to 1 vehicle accessing/egressing the site every c.1-2 minutes.



5.2 Traffic Impact

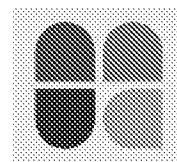
- 5.2.1 The Transport Assessment associated with the development located on land to the north of Water Lane (planning ref: A/40/18) includes junction capacity modelling assessments of local junctions for a 2031 future year scenario, incorporating neighbouring developments. The assessment additionally included sensitivity testing for a development up to 100 dwellings at the current application site.
- 5.2.2 The assessment revealed that local junctions are capable of accommodating the additional traffic generated by the local developments including development at the current application site. As such, WSCC have identified that no further junction capacity modelling would be required to support the site. A copy of WSCC's pre-application consultation response is attached at **Appendix A**.



6 SUMMARY AND CONCLUSIONS

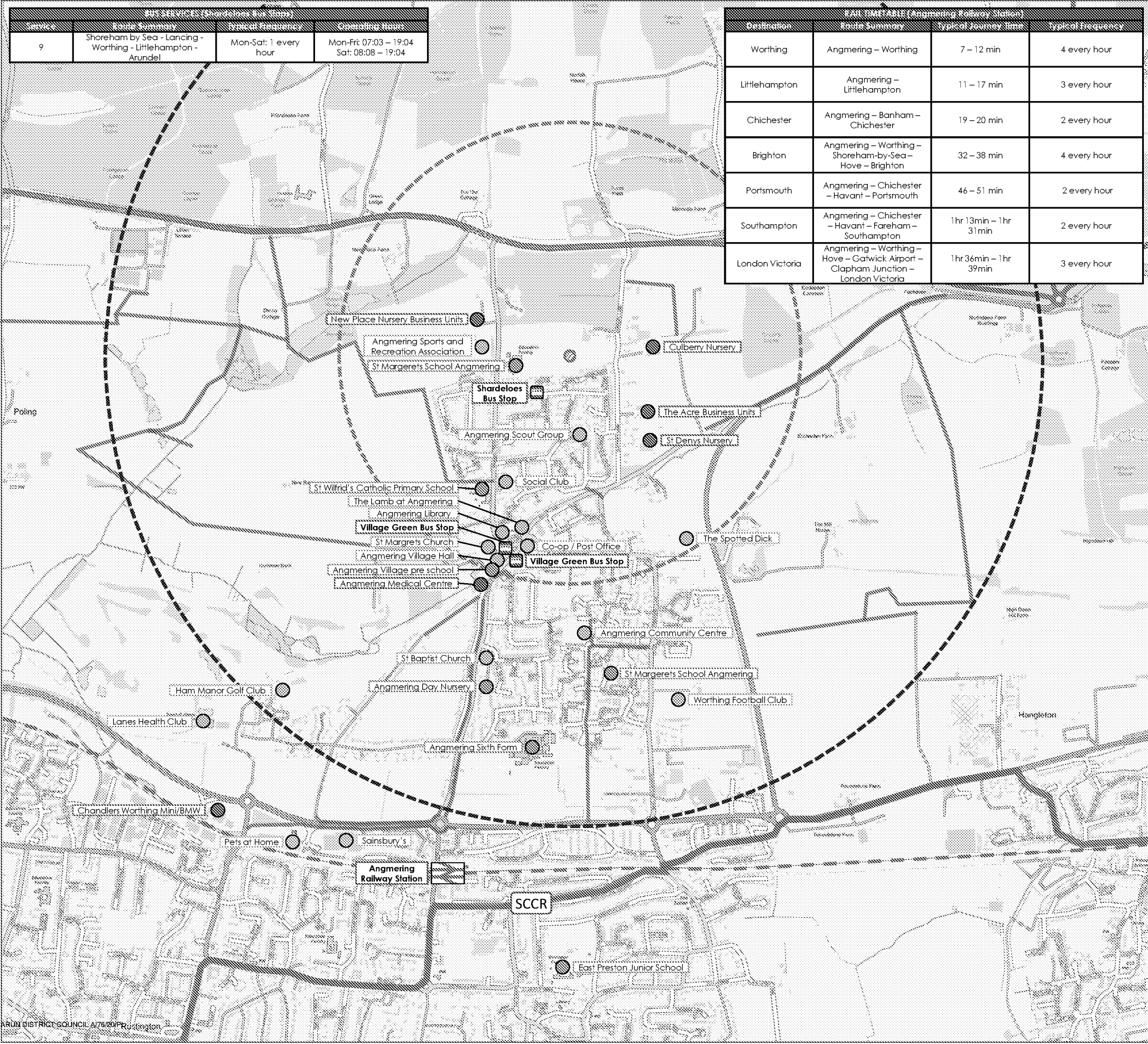
6.1.1 This TA has been prepared by Bright Plan on behalf of Persimmon Homes to support a residential development comprising 84 dwellings on land to the west of Dapper's Lane, Angmering. The findings from this report are as follows:

- i. The site is located within desirable walking and cycling distance of local services and amenities within Angmering including local bus stops and railway station. Footways and pedestrian links in the vicinity of the site provide convenient pedestrian access to Angmering village centre.
- ii. An assessment of PIA data showed no pattern of incidents in terms of distribution, frequency or severity that would be of concern in terms of highway safety on the local road network.
- iii. The proposed development would be served from a new access adjoining the western side of Dapper's Lane. The access would take the form of a T-junction with a simple priority arrangement, flanked by a footway on its northern side.
- iv. Visibility from the access achieves the necessary sight lines in both the primary and secondary directions in accordance with a 30mph design speed on Dapper's Lane using the calculation coefficients set out in MfS.
- v. Pedestrian access to the site would be served from a 1.5m footway flanking the northern side of the site's vehicle access connecting with a new footway on the eastern side of Dapper's Lane. The new footway would tie in with the footways proposed as part of a neighbouring developments providing a continuous pedestrian link along Dapper's Lane to Water Lane.
- vi. The proposed development's parking provision is in line with the anticipated demand as determined using WSCC's Residential Parking Demand Calculator tool. Cycle parking has been provided in accordance with WSCC residential cycle parking standards.
- vii. 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 377 daily vehicle trips, with an additional 39 and 37 trips in the network AM and PM peak traffic hours respectively.
- viii. Junction capacity modelling, including sensitivity tests for a development up to 100 dwellings at the site, has been undertaken within the TA for application A/40/18. The assessment revealed that the local junction can accommodate additional traffic associated with all local developments in the vicinity of the site.



PLANS

Plan 01 Accessibility Plan

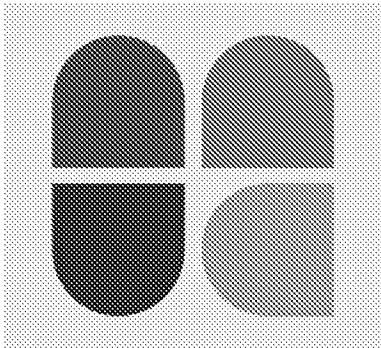


BUS SERVICES (Shoreham Bus Stop)			
Service	Route Summary	Typical Frequency	Operating Hours
9	Shoreham by Sea - Lancing - Worthing - Littlehampton - Arundel	Mon-Sat: 1 every hour	Mon-Fri 07:03 – 19:04 Sat: 08:08 – 19:04

RAIL TIMETABLE (Angmering Railway Station)			
Destination	Route Summary	Typical Journey Time	Typical Frequency
Worthing	Angmering – Worthing	7 – 12 min	4 every hour
Littlehampton	Angmering – Littlehampton	11 – 17 min	3 every hour
Chichester	Angmering – Banham – Chichester	19 – 20 min	2 every hour
Brighton	Angmering – Worthing – Shoreham-by-Sea – Hove – Brighton	32 – 38 min	4 every hour
Portsmouth	Angmering – Chichester – Havant – Portsmouth	46 – 51 min	2 every hour
Southampton	Angmering – Chichester – Havant – Fareham – Southampton	1hr 13min – 1hr 31 min	2 every hour
London Victoria	Angmering – Worthing – Hove – Gatwick Airport – Clapham Junction – London Victoria	1hr 36min – 1hr 39min	3 every hour

LEGEND

- SITE LOCATION
- RAIL STATION
- RAILWAY
- BUS STOPS
- NATIONAL CYCLE ROUTE
- CYCLE ROUTES
- 1KM ISOCHROME
- 2KM ISOCHROME
- RETAIL
- EDUCATION
- LEISURE
- HEALTH CARE
- INDUSTRIAL



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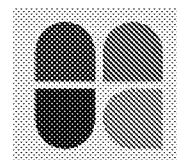
Client: Persimmon Homes

Project: Dapper's Lane, Angmering

Title: Accessibility Plan

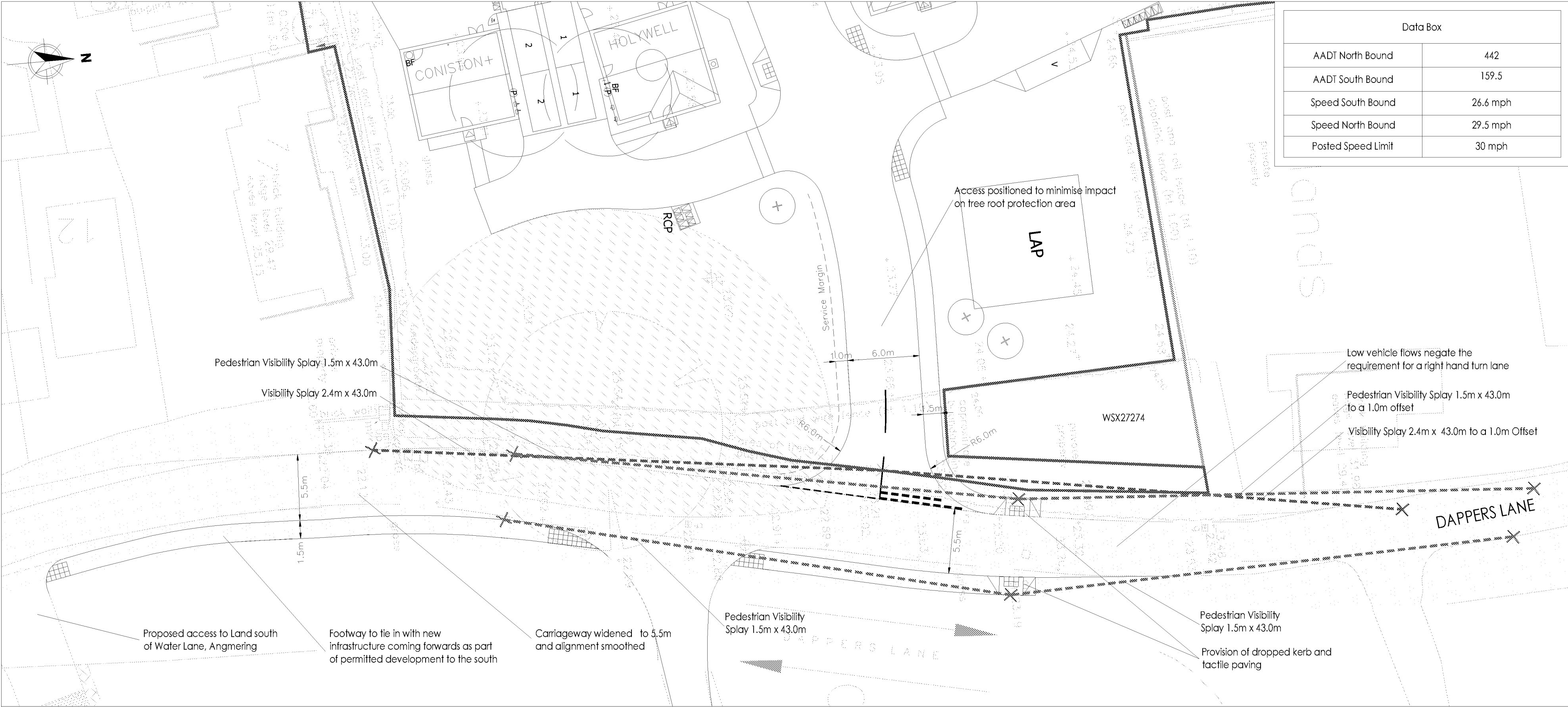
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Plan No: Plan 01	Job No: 3487	Rev: -
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DRAWINGS

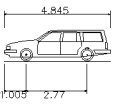
- 001** Visibility Splays and Vehicle Swept Path Analysis
- 002** Off-Site Infrastructure, Pedestrian Crossings
- 003** Internal Refuse Collection Swept Path Analysis
- 004** Internal Parking Swept Path Analysis
- 005** Fire Tender Swept Path Analysis
- 006** Proposed Footway Tie-in



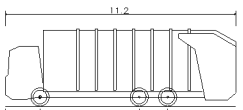
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-LEGEND-

- Site Boundary
- Highway Boundary
- Proposed Road Markings
- Third Party Land (WSX257274)
- Roof Protection Zone
- Pedestrian Visibility Splay 1.5m x 43.0m
- Service Margin



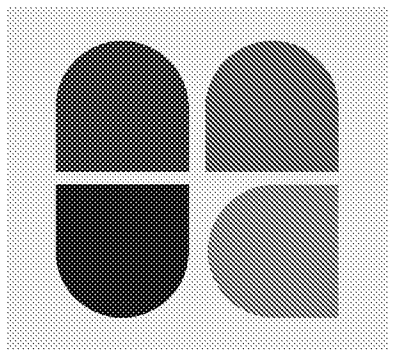
Estate Car
Overall Length 4.845m
Overall Width 1.750m
Overall Body Height 1.424m
Min Body Ground Clearance 0.184m
Max Track Width 0.754m
Lock to lock time 4.000m
Kerb to Kerb Turning Radius 4.950m



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)
Overall Length 11.500m
Overall Width 2.550m
Overall Body Height 3.751m
Min Body Ground Clearance 0.154m
Max Track Width 2.500m
Lock to lock time 4.000m
Kerb to Kerb Turning Radius 4.950m

F	Update to Layout	Mar 2020
E	Update to Footway Tie-in	Jan 2020
D	Update to Layout	Nov 2019
C	Update to Layout	July 2019
B	Update to Layout	Dec 2018
A	Update to Layout	Nov 2018
-	Original Issue	Nov 2018

Rev.	Amendments	Date
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Drawing Status	FINAL
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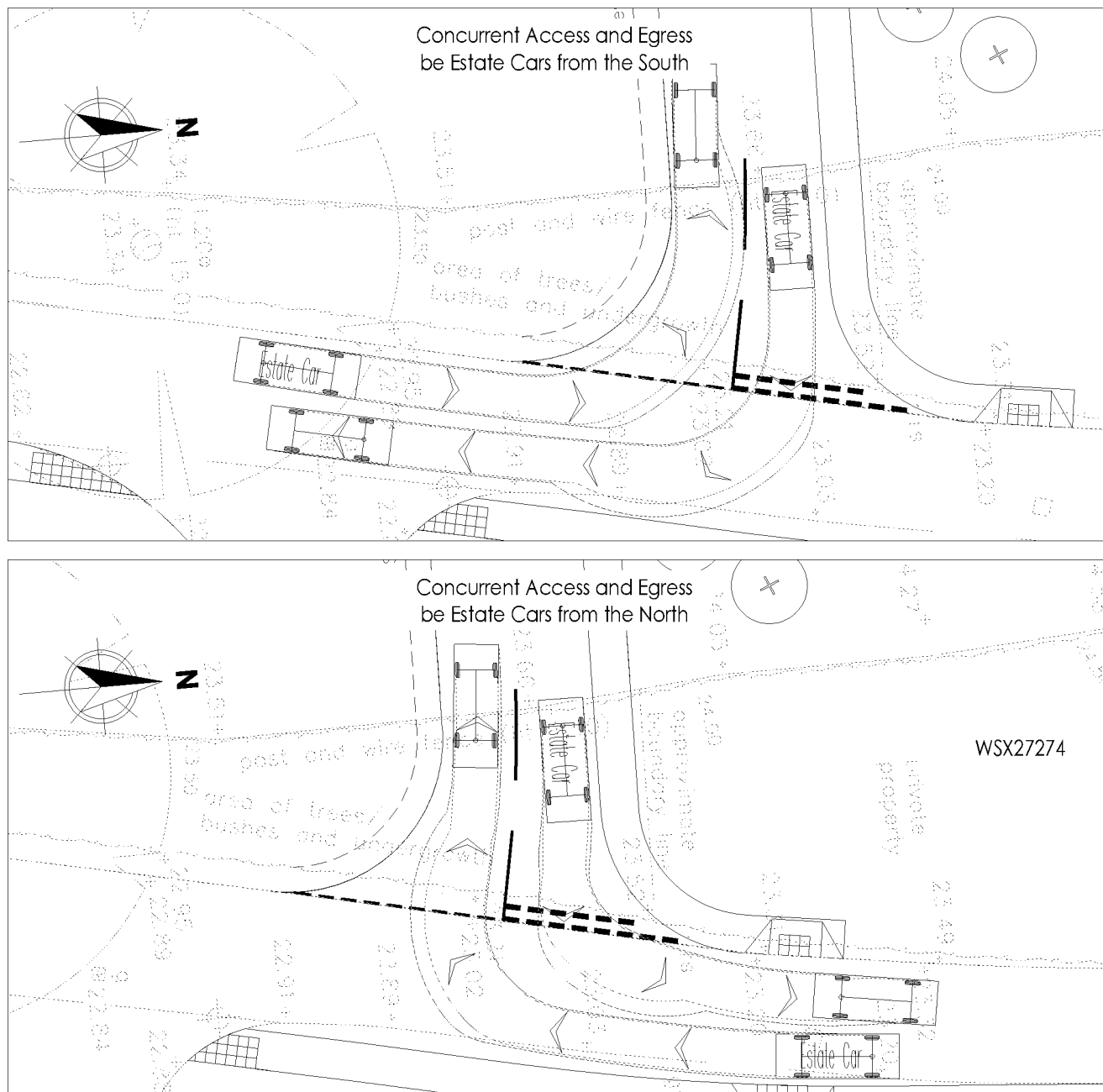
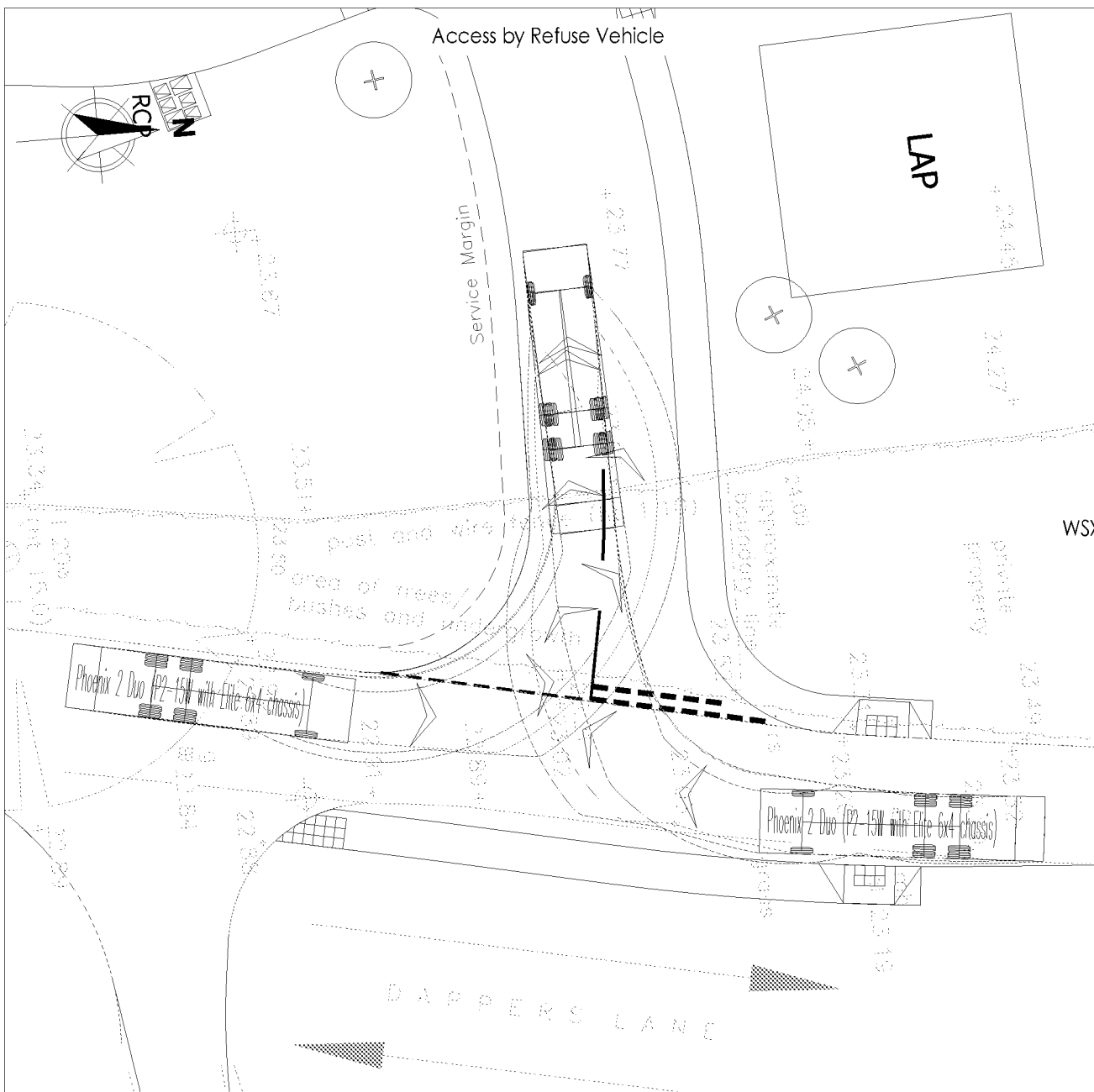
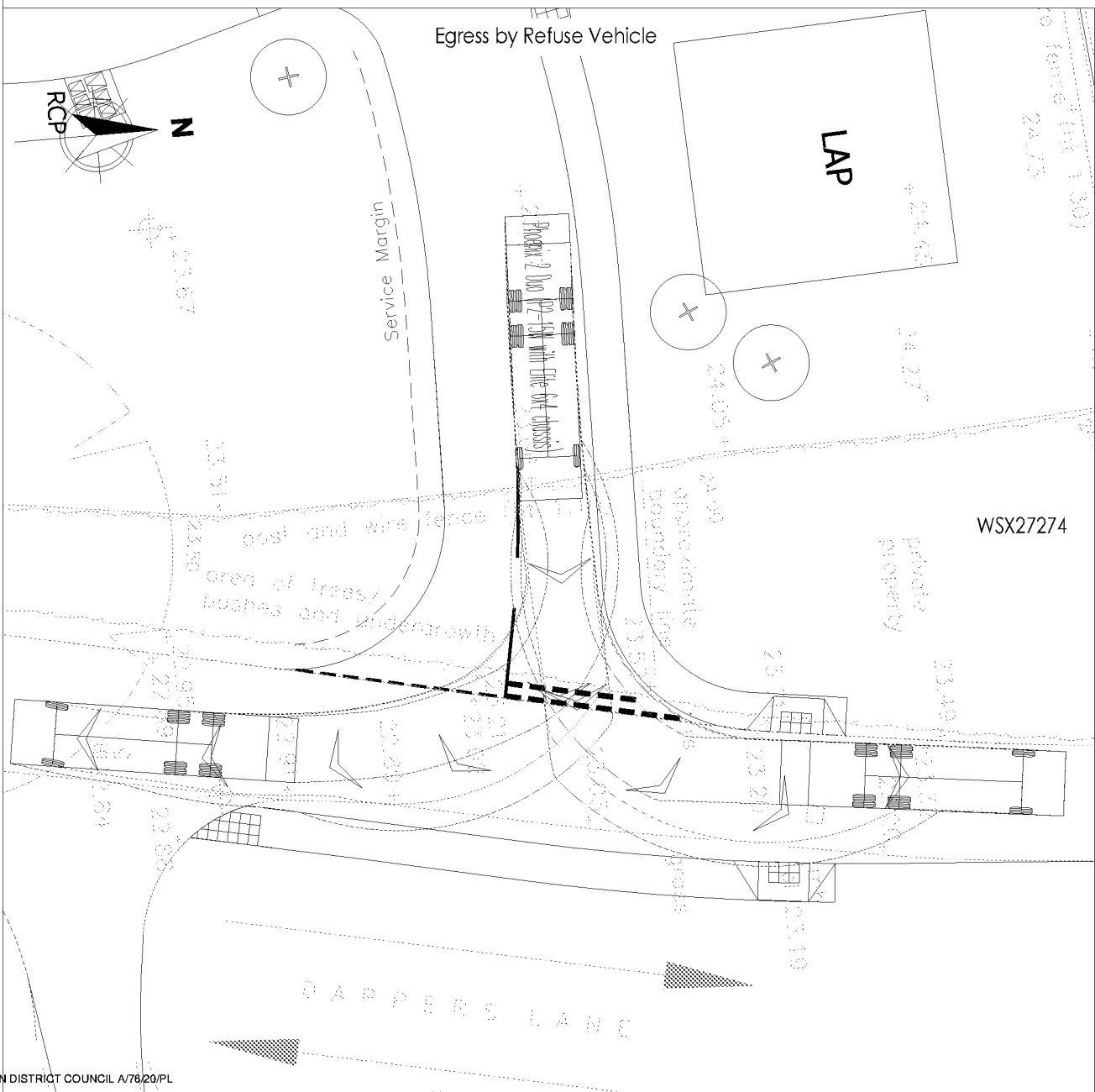
Client	Persimmon Homes
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Drawing Title	Visibility Splays and Vehicle Swept Path Analysis
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Project	Land at Dapper's Lane, Angmering
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Scale	Date	Drawn By	Checked By
1:250	Nov 19	SMO	ALB

Drawing No.	Rev.
2017-3487-001	F



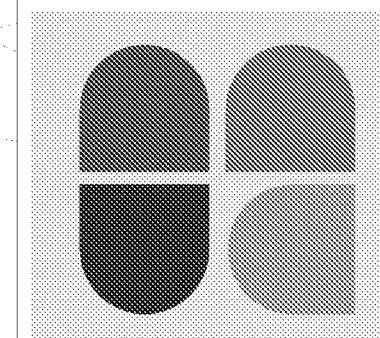
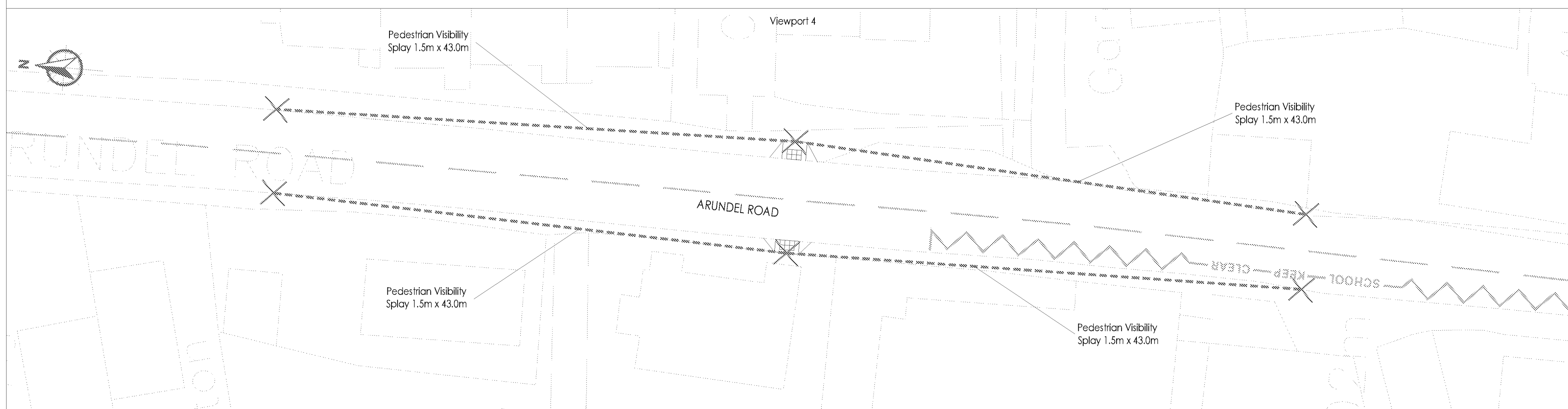
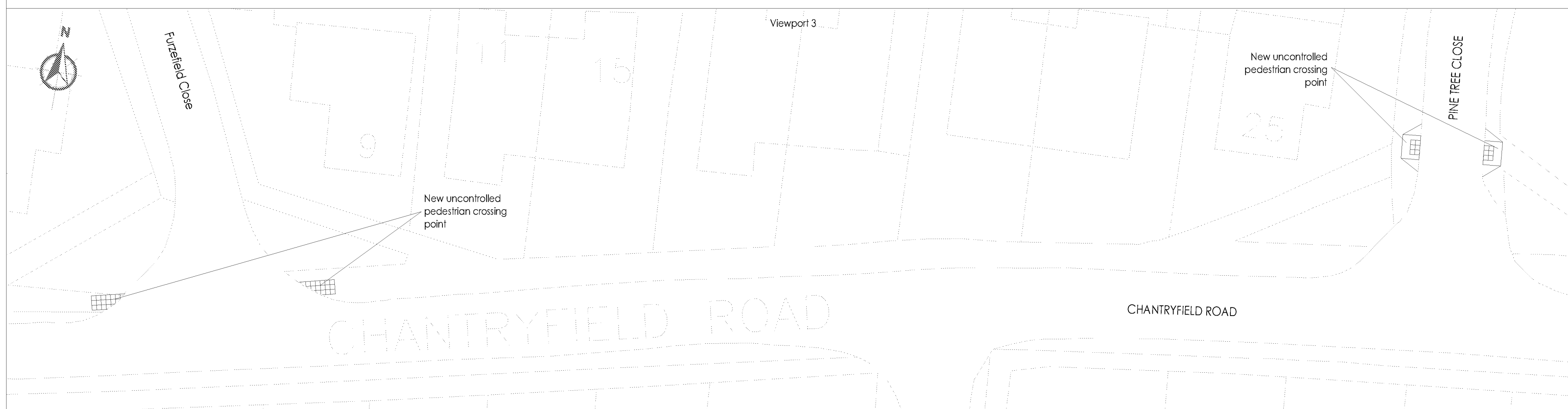
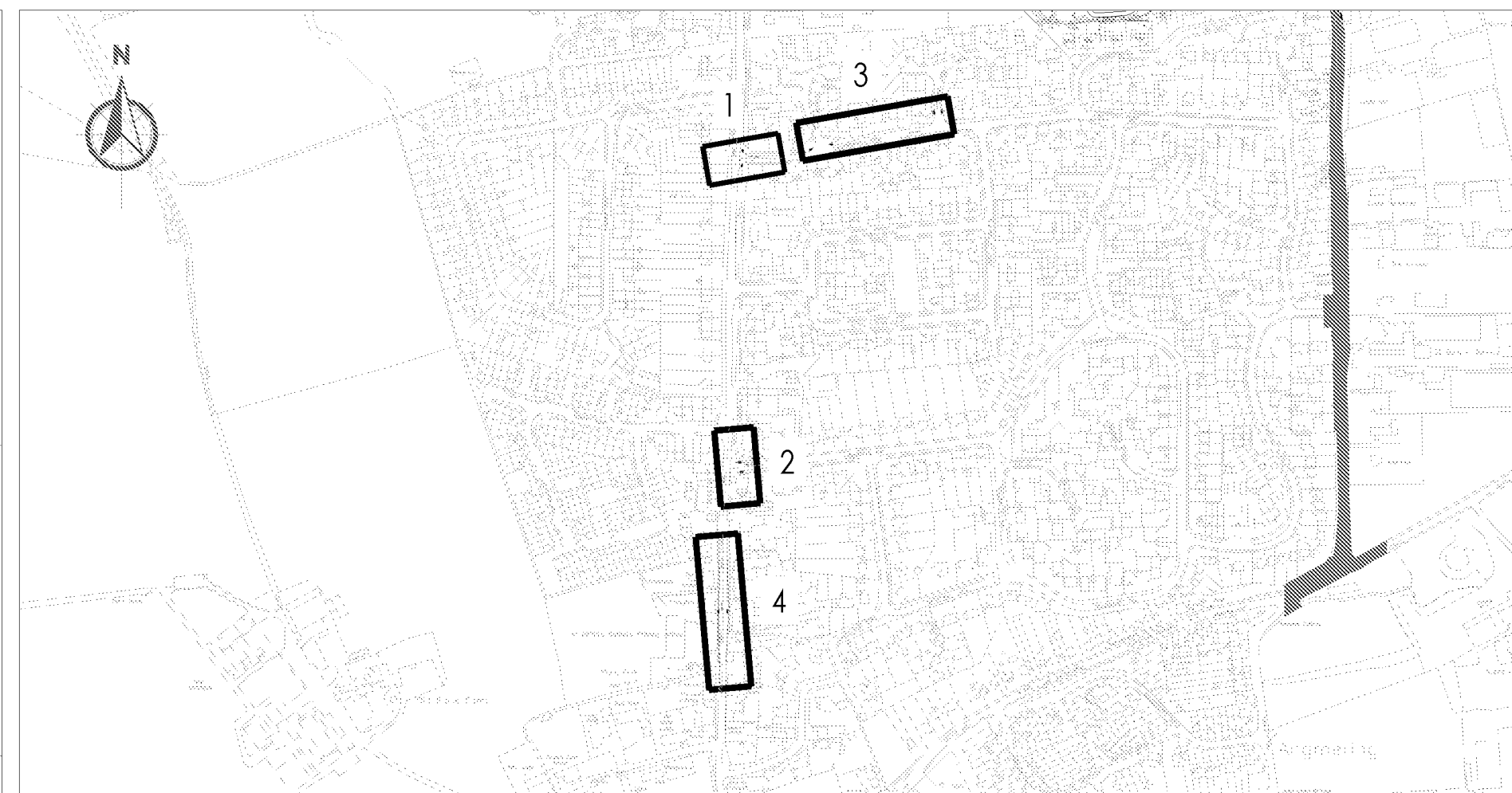
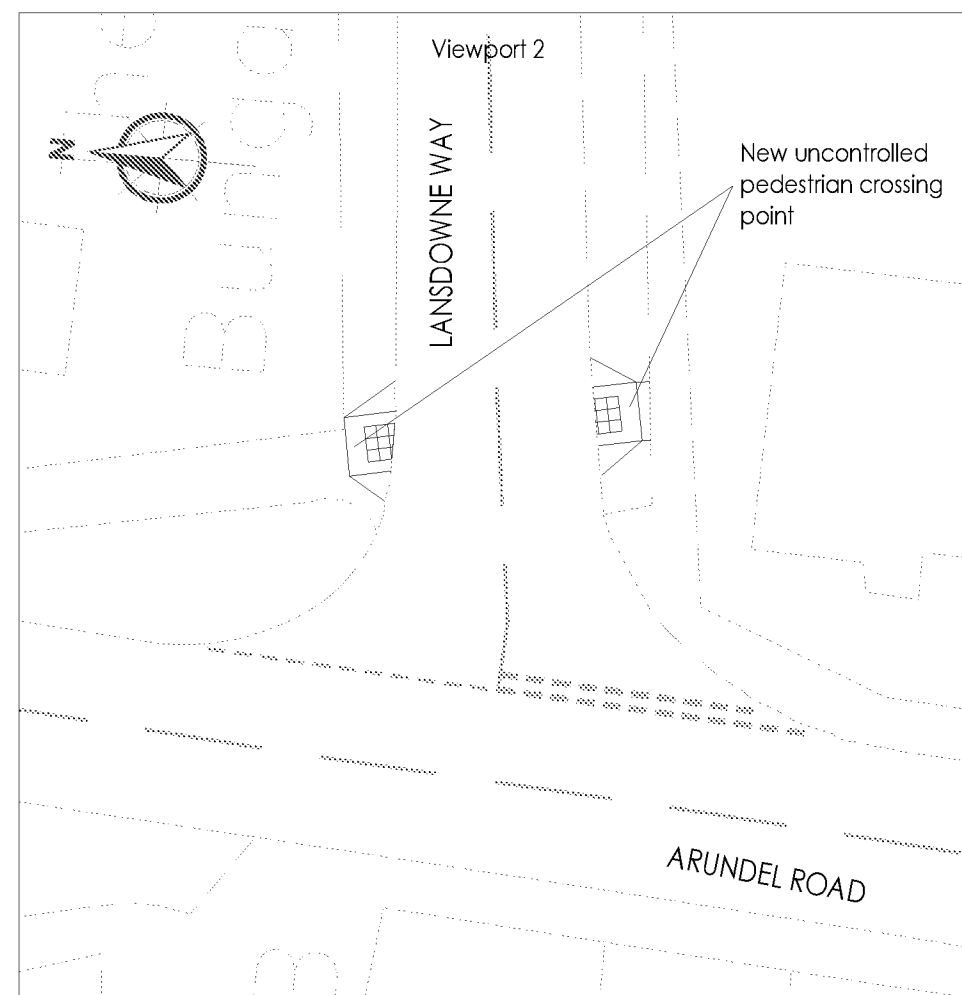
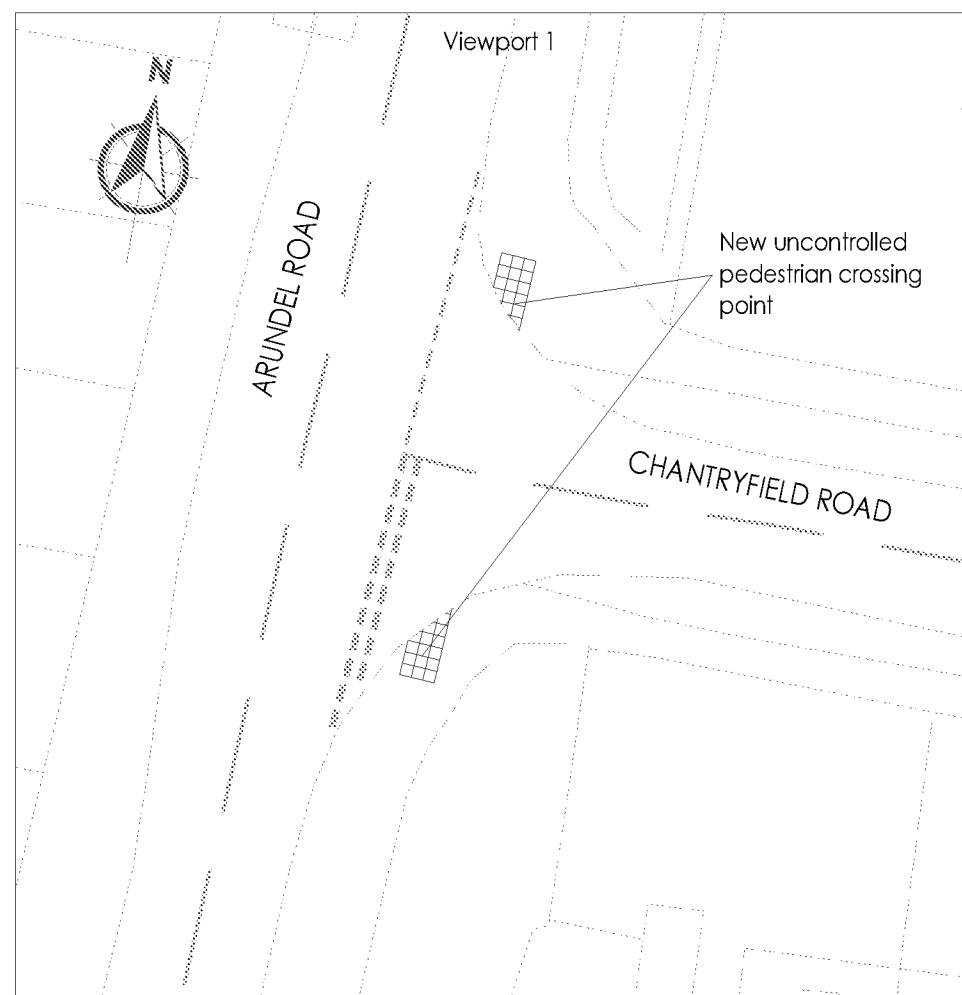
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4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.

-LEGEND-

Road Markings

Pedestrian Visibility
Splay 1.5m x 43.0m



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Drawing Status	FINAL
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Client Persimmon Homes

Drawing Title

Off-Site Infrastructure
Pedestrian Crossings

Project Land at Dapper's Lane,
Angmering

Scale 1:250	Date July 2019	Drawn By SMO	Check AL
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Drawing No.
2017-3487-002

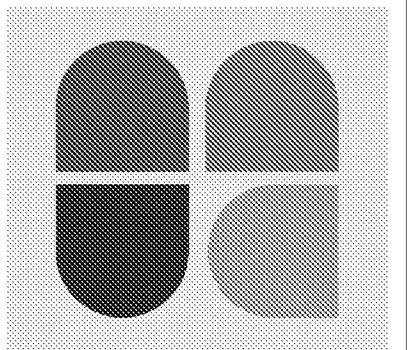
Rev. A

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-LEGEND-

- Site Boundary
- Highway Boundary
- Proposed Road Markings

	DB32 Private Car	4.223m
	Overall Length	1.741m
	Overall Width	1.590m
	Overall Body Height	1.590m
	Min. Body Ground Clearance	0.253m
	Max. Track Width	2.004m
	Lock to lock time	4.00s
	Kerb to Kerb Turning Radius	5.780m
	Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)	11.2m
	Overall Length	11.200m
	Overall Width	4.550m
	Overall Body Height	4.550m
	Min. Body Ground Clearance	0.204m
	Lock to lock time	2.00s
	Kerb to Kerb Turning Radius	9.500m



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Drawing Status	FINAL		
Client	Persimmon Homes		
Drawing Title	Internal Refuse Collection Swept Path Analysis		
Project	Land at Dapper's Lane, Angmering		
Scale	1:500	Date	Mar 20
Drawn By	SMO	Checked By	ALB
Drawing No.	2017-3487-003		
Rev.	C		

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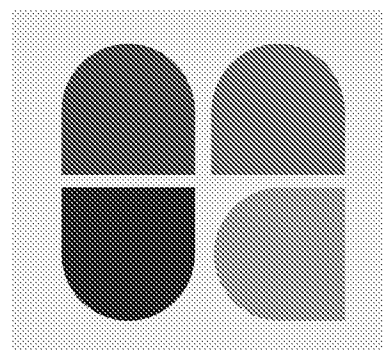
-LEGEND-

- Site Boundary
- Highway Boundary
- Proposed Road Markings
- Visibility Splays
2.4m x 25.0m

DB32 Private Car	4.223m
Overall Length	1.715m
Overall Width	1.942m
Overall Body Height	0.751m
Min. Body Ground Clearance	0.233m
Track Width	1.639m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.780m

Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)	11.2
Overall Length	11.200m
Overall Width	2.541m
Overall Body Height	3.751m
Min. Body Ground Clearance	0.304m
Track Width	2.000m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m

Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)	11.2
Overall Length	11.200m
Overall Width	2.541m
Overall Body Height	3.751m
Min. Body Ground Clearance	0.304m
Track Width	2.000m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m



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Drawing Status **FINAL**

Client **Persimmon Homes**

Drawing Title **Internal Parking
Swept Path Analysis**

Project **Land at Dapper's Lane,
Angmering**

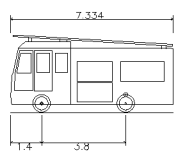
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Drawing No. **2017-3487-004** Rev. **B**

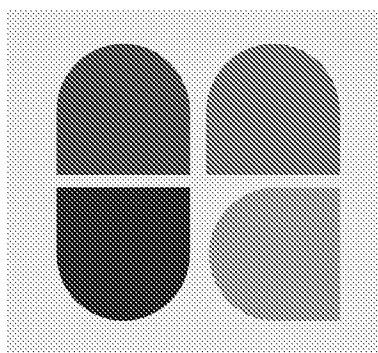
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-LEGEND-

- Site Boundary
- Highway Boundary
- Proposed Road Markings



Fire Tender
Overall Length 7.334m
Overall Width 2.256m
Overall Body Height 3.495m
Min Body Ground Clearance 0.350m
Track Width 2.256m
Lock to lock time 5.00s
Kerb to Kerb Turning Radius 8.000m

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Transport Planning and Civil Engineering Consultants
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Drawing Status **FINAL**

Client **Persimmon Homes**

Drawing Title **Fire Tender
Swept Path Analysis**

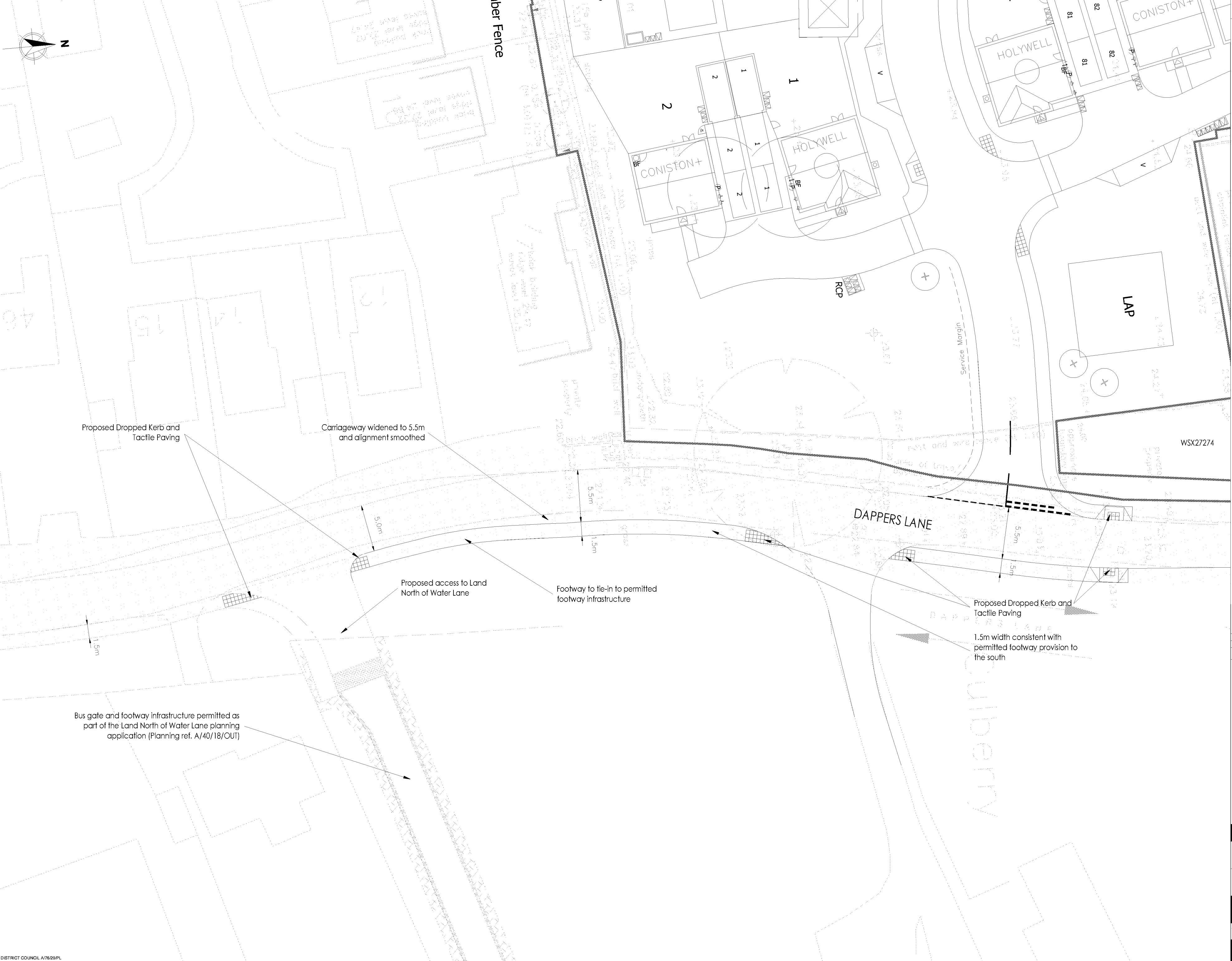
Project **Land at Dapper's Lane,
Angmering**

Scale **1:500** Date **Mar 20** Drawn By **SMO** Checked By **ALB**

Drawing No. **2017-3487-005** Rev. **A**

Fire tender requires access within 45m of units 25 and 26. Path can be widened to serve as emergency route if this matter is raised at detail design stage.

Attenuation Basin 653.202m³ 1.2m deep

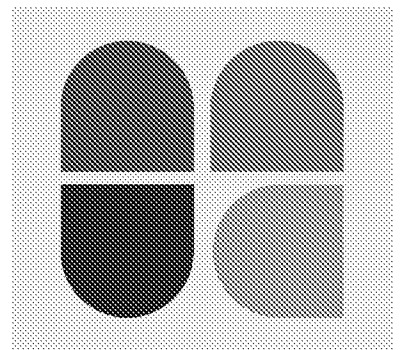


- 1. This drawing is to be read in conjunction with all other Bright Plan drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.
- 2. Bright Plan accepts no responsibility for inaccuracies in data provided by third parties such as topographic surveys or Ordnance Survey mapping.
- 3. Do not scale, work to figured dimensions only. All dimensions are in millimetres unless noted otherwise and all levels are in metres from the topographic survey datum.
- 4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.

-LEGEND-

- Site Boundary
- Highway Boundary
- Proposed Road Markings
- Service Margin
- Planning Application A/40/18/OUT

B	Notes Update	Apr 2020
A	Layout Update	Mar 2020
.	Original Issue	Jan 2020
Rev.	Amendments	Date



BRIGHT PLAN

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Drawing Status **FINAL**

Client **Persimmon Homes**

Drawing Title **Proposed Footway Tie-in**

Project **Land at Dapper's Lane, Angmering**

Scale	Date	Drawn By	Checked By
1:250	Mar 20	SMO	ALB

Drawing No.	Rev.
2017-3487-006	A