

Project Name:	15 Langstone Road, Havant
Document Reference:	020.0377/TN/1
Document Name:	Technical Note
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1. INTRODUCTION

- 1.1 This Technical Note (TN) has been prepared by Paul Basham Associates on behalf of Phillips Build Ltd to support a residential development comprising 9 flats at 15 Langstone Road, Havant. The site location is demonstrated in **Figure 1** with the site layout included in **Appendix A**.

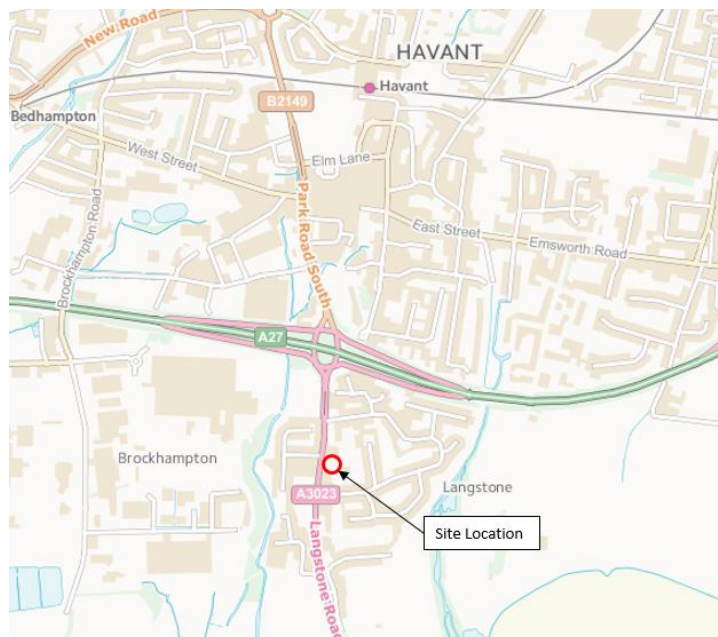


Figure 1: Site Location

- 1.2 An application was submitted in June 2016, and subsequently dismissed at appeal for the 'erection of 4no. 2 bed flats and 1no. 1 bed flat with associated pavilion building housing bins and cycles together with parking and amenity space' (application reference: APP/16/00668). This application received no objection from the highway authority.

- 1.3 The proposed site has also been subject to pre-application discussions (*reference: GEN/18/00344*) with the local highway authority. The main points of concern with regards to the scheme as summarised below;
- An inadequate distance from the proposed site entrance to Langbrook Close; and
 - The level of turning movements anticipated to be generated by the site in the peak periods for which there is queueing on both sides of the road and sight lines are compromised.
- 1.4 This report has been informed by a site visit undertaken on Thursday 14th June 2018 to identify the opportunities and constraints associated with the site.
- 1.5 This TN therefore reviews the existing site conditions and local accessibility, details the development proposals including accommodation, parking provision and servicing arrangement, outlines the access arrangement for the site and assesses the likely impact of the development in comparison to the previous scheme.

2. EXISTING CONDITIONS

Site and Surroundings

- 2.1 This site, which is currently occupied by one large residential dwelling, is approximately 1km south of Havant Town Centre and 2.25km north of Hayling Island. The site is bordered by residential properties in all directions, with Langstone Road (A3023) (onto which access is proposed) to the west. The existing site conditions are demonstrated in **Figure 2**.



Figure 2: Site Context

- 2.2 Langstone Road, which connects the A27 to the north with Hayling Island to the south, measures approximately 6.5m in width and is subject to a 40mph speed limit across the site frontage. Parking restrictions in the form of double yellow lines are present along the eastern side of the carriageway, therefore restricting parking in the vicinity of the site access. The existing conditions along Langstone Road are demonstrated in **Photograph 1**.



Photograph 1. Langstone Road Existing Conditions

Accessibility

- 2.3 The site is located approximately 1km south of Havant Town Centre, accessible via a 12-minute walk or a 3 minute cycle. Havant Town Centre provides a comprehensive range of facilities and services including a post office, banks and national retail stores and eateries. A summary of the facilities and their associated walking/cycling time from the site is provided in **Table 1**.

Service	Distance (m)	Walking Time (minutes)	Cycle Time (minutes)
Bus Stop (North)	40m	1	<1
Bus Stop (South)	110m	1	<1
Langstone Technology Park	500m	6	1
Pharmacy (Tesco)	750m	10	2
Convenience Store (Tesco Extra)	750m	10	2
Post Office (Havant)	800m	10	4
Doctors Surgery (Bosmere Medical Centre)	1km	12	4
Dentist Surgery (Genix Healthcare)	1.1km	13	4
Railway Station (Havant)	1.2km	16	6
Junior School (Bosmere)	1.2km	15	6
Secondary School (Warblington)	2km	24	8

Table 1. Proximity to Local Amenities.

- 2.4 The location of the site in relation to the existing facilities and amenities presents an excellent opportunity to encourage walking and cycling as alternative modes of transport to the private car, particularly for local trips.

Pedestrian Network

- 2.5 The gentle topography experienced in the vicinity of the site and within Havant in general makes it conducive for pedestrians. Langstone Road is flanked by 2m wide footpaths on either side of the carriageway, and with a grass verge provided between the carriageway and the footway, makes it both aesthetically pleasing and safe for all non-motorised users. The existing pedestrian infrastructure along Langstone Road is demonstrated in **Photograph 2**.



Photograph 2. Existing Pedestrian Infrastructure at Langstone Road.

- 2.6 In terms of crossing the carriageway, several pedestrian refuge islands are provided along Langstone Road, with the nearest crossing approximately 65m north of the proposed site access. The crossing is supported by dropped kerbs and tactile paving and is demonstrated in **Photograph 3**.



Photograph 3. Refuge Island to the North of the Site.

- 2.7 Pedestrian movements towards Havant Town Centre are enhanced with the provision of an underpass located approximately 290m north of the proposed site access. The underpass allows a continuous and safe pedestrian route between the site and the facilities provided in the town centre.

Cycle Network

- 2.8 The gentle topography of the area coupled with the wide carriageway helps to make cycling an attractive mode of transport. In addition, the site is located 600m west of National Cycle Network (NCN) Route 2 which locally provides an off-road route between Havant and Hayling Island. Approximately 650m north of the site there is an additional NCN (Route 22) which connects Havant to Portsmouth, Petersfield, Guilford and other areas.
- 2.9 On Hayling Island itself, the Hayling Billy Trail provides a 5-mile traffic free route connecting the north of the island to the south. The trail uses the Hayling Billy Coastal Path (which forms part of NCN Route 2) and runs along the west coast of Hayling Island. At the southern end of Hayling Island a ferry connects the island to Portsmouth where NCN Route 2 continues.
- 2.10 It is also understood that improvements are to be made to the Langstone Road Cycle Link in the vicinity of the site. Phase 1 of the proposals were completed last year and Phase 2 is due to commence in the near future. A third stage is also proposed that will tie the existing NCN Route 22 to the A27 subway.
- 2.11 The local cycle routes in the vicinity of the site are demonstrated in **Figure 3**.

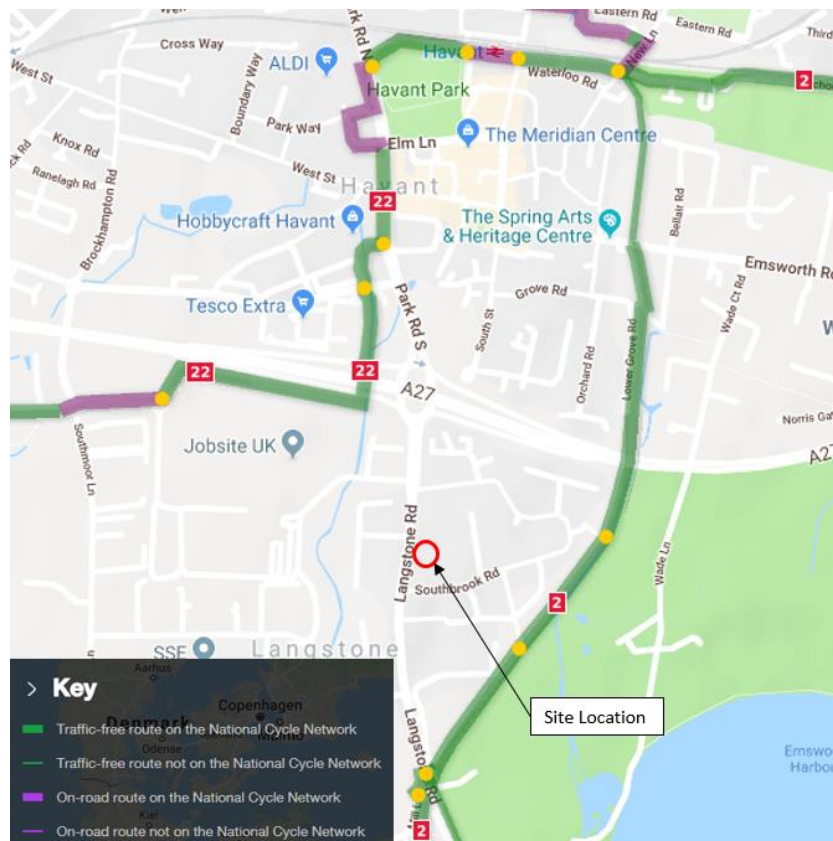


Figure 3. Local Cycle Routes (Source: sustrans.org.uk).

Bus Services

2.12 The site is well located in relation to existing bus services, and with the closest bus stops to the site situated 40m north (northbound service) and 110m south (southbound service), presents an excellent opportunity to encourage bus travel by site users. Both bus stops comprise a single pole and timetable, with the northbound bus stop also comprising a sheltered seating area. The services available from the bus stops along Langstone Road are summarised in **Table 2**.

Number	Bus Service	Route	Timetable		
			Mon-Fri	Weekends	Public Holidays
30/31	Stagecoach	Havant Bus Station - Hayling Island – Havant	Every 10/15 minutes First Bus: Last Bus:	Every 30 minutes First Bus: Last Bus:	Every 30 minutes First Bus: Last Bus:

Table 2: Local Bus Times and Routes.

2.13 In addition, the site is located approximately 1km south of Havant Bus Station which provides a comprehensive range of services to the surrounding area. The location of the site therefore presents a good opportunity to encourage travel by bus.

Rail Services

- 2.14 Havant Railway Station is the closest station to the site, accessible via a 4-minute cycle or a 14 minute walk. The no.30 bus terminates at Havant Bus Depot, which is a 2-minute walk from the Railway Station, therefore presenting an excellent opportunity to encourage bus-rail commuter journeys. The station is equipped with 91 cycle storage spaces, a manned ticket office, CCTV, a range of facilities and step free access.

Personal Injury Accident (PIA) Data

- 2.15 Personal Injury Accident (PIA) data has been assessed for the latest available 5-year period between January 2013 and December 2017. The investigation demonstrates that there have been a small number of incidents in the vicinity of the site during this period, of which all of them were classified as 'slight' in nature. The PIA data is demonstrated in **Figure 4**.

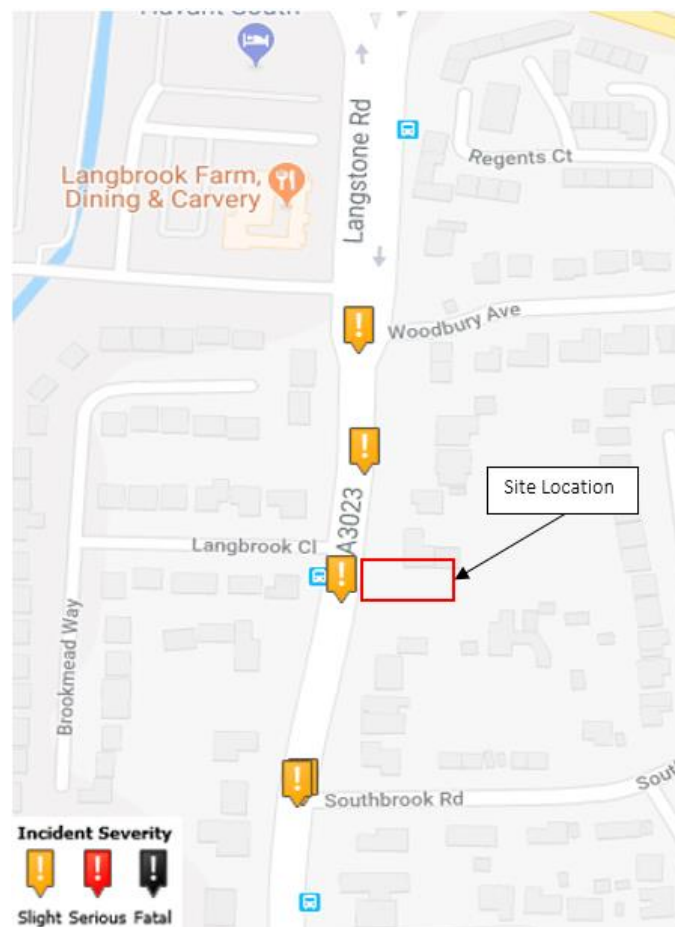


Figure 4. Accident Data.

- 2.16 Whilst an incident has been recorded directly opposite the proposed site access, this did not involve either a pedestrian or cyclist and therefore this does not present a safety concern to non-motorised users associated with the site. Given the volume of traffic that uses Langstone Road, and coupled with the low number of recorded incidents, the PIA data does not indicate any specific highways concern that would worsen as a result of the development or pose a safety concern for future users.

Summary of Local Accessibility

- 2.17 The location of the site in relation to existing pedestrian, cycle and public transport infrastructure presents an excellent opportunity to encourage travel by non-car modes and therefore creates a sustainable development.

3. PROPOSED DEVELOPMENT

- 3.1 The proposed development comprises the erection of 9no. 2 bed flats with associated parking and access from Langstone Road. The site currently comprises one residential dwelling which will be demolished as part of the proposals and the existing access will be closed. The site layout is included in **Appendix A**.

Car Parking Provision

- 3.2 Car parking will be provided in accordance with Havant Borough Council's (HBC) Parking Supplementary Planning Document (2016) which sets out the minimum parking standards for a residential development. The car parking standards and required parking provision is summarised in **Table 3**.

Size of Dwelling	Number of Units	Minimum Car Parking Requirement	Required Provision
2 Bedrooms	9	2 spaces per unit	18

Table 3: Required Parking Provision

- 3.3 A total of 18 car parking spaces are provided on site associated with the dwellings and therefore parking is provided in accordance with the standards. Parking on-site is provided via tandem spaces or car ports.
- 3.4 HBC's standards state that small residential developments are not required to provide additional visitor parking provision. Whilst the site does not provide any formal visitor parking spaces, there is sufficient space within the curtilage of the site to accommodate informal visitor parking.
- 3.5 All parking spaces measure 2.4m x 4.8m in accordance with HBC design guidance, with a 6m aisle width where appropriate. Tracking of the car parking spaces is included in **Appendix B**.

Cycle Parking Provision

- 3.6 Cycle parking will also be provided in accordance with the standards set out within the HBC Supplementary Planning Document. The cycle parking standards are summarised in **Table 4**.

Size of Dwelling	Long Stay Cycle Parking Provision
2 Bedrooms	2 spaces per unit

Table 4: Cycle Parking Standards

- 3.7 A cycle store is provided along the eastern perimeter of the site, which will provide safe and secure cycle storage facilities. The location of the cycle store is demonstrated on the site layout included in **Appendix A**.

Servicing Arrangement

- 3.8 Servicing will take place from the carriageway in line with the existing situation along Langstone Road. A bin collection point is located along the north-western perimeter of the site, ensuring that refuse collection personnel can complete collection swiftly and safely. The location of the bin store is demonstrated on the site layout included in **Appendix A**.
- 3.9 In addition, a fire tender can get within 45m of all dwellings, in accordance with Manual for Streets (MfS) design guidance. Tracking of a fire tender vehicle entering the site has been undertaken and is included in **Appendix C**.

4. TRAFFIC IMPACT ASSESSMENT

4.1 This section of the report assesses the vehicular trip generation associated with the proposed development, including a comparison to the previous application of 5 dwellings (*application reference: APP/16/00668*).

4.2 A TRICS assessment has been undertaken using the parameters outlined below

- TRICS (v.7.5.1) database;
- 'Residential', 'Flats Privately Owned' Use Class;
- Sites in England and Wales (Excluding Greater London);
- 6 – 30 dwellings;
- Weekday Surveys only; and
- 'Suburban', and 'Edge of Town' Locations only

4.3 The results of the TRICS assessment are summarised in **Table 5**, with the full outputs included in **Appendix D**.

TRICS (v.7.5.1)	AM Peak Period (0800 – 0900)		PM Peak Period (1700 – 1800)		Total Daily Trips
	Arrivals	Departures	Arrivals	Departures	
Trip Rate (per dwelling)	0.096	0.340	0.330	0.074	4.186
Trip Generation (5 dwellings)	0	2	2	0	21
Trip Generation (9 dwellings)	1	3	3	1	38

Table 5: Trip Generation

4.4 **Table 5** demonstrates the proposed development would generate 4 vehicle trips in both the AM and PM peak periods and 38 trips across a 12 hour day.

4.5 Whilst the previous application on site was refused (*APP/16/00668*), the principles of development were considered suitable from a highways perspective. As such, an assessment has been made in comparison to the vehicle trips that would have been generated by the previous site.

4.6 The previous application would have generated 2 vehicle trips in both the AM and PM peak periods and 21 vehicle trips across a 12 hour day. The proposed development would therefore only place an additional 2 vehicle trips onto the local road network in the peak periods (1 every 30 minutes) and an additional 17 trips across a 12 hour day (1 every 40 minutes).

- 4.7 As part of the previous application, concerns were raised in relation to the likely volume of movements generated by the site in the peak periods. As previously demonstrated, the proposed development is likely to generate only 4 vehicle movements in the peak periods (an additional 2 per peak in comparison to the previous scheme) which is not considered to be significant volume of traffic movements.
- 4.8 In addition, the PIA data demonstrated in **Figure 4** demonstrates that there have only been 5 incidents (all of which were classified as 'slight' in nature) along approximately 100m of Langstone Road in the vicinity of the site. It therefore cannot be considered that the proposed development would present a safety concern through the volume of vehicle movements.

5. ACCESS ARRANGEMENT

- 5.1 The site will be served via one point of vehicular access located on the western perimeter of the site. The access will be provided in the form of a dropped kerb access with a 5.5m wide access road. The width of the access is sufficient to ensure that vehicles can both access and egress simultaneously (as demonstrated in **Appendix C**), and therefore not causing congestion on Langstone Road. The proposed location of the access is demonstrated in **Photograph 4**.



Photograph 4: Existing Access Location

- 5.2 Comments raised by the highway officers made reference to ensuring that the access is visible to both vehicles and pedestrians along Langstone Road. As such, a brick wall and soft landscaping is provided demarcating the access ensuring safe and visible access for all users.

Pedestrian access

- 5.3 Pedestrian access for the site will be provided in the north-western corner of the sites' boundary, in the location of the existing access. The pedestrian access will tie into the footway that currently flanks the eastern side of Langstone Road, therefore providing a continuous and safe route between the site and onto the wider pedestrian network.

Visibility

- 5.4 Langstone Road is subject to a 40mph speed limit across the site frontage, and therefore visibility will need to be demonstrated to 2.4m x 120m in accordance with Design Manual for Roads and Bridges (DMRB) guidance. Visibility from the proposed site access is visually demonstrated in **Photographs 5** and **6**, with a visibility splay assessment included in **Appendix E**.



Photograph 5: Primary Direction Visibility



Photograph 6: Secondary Direction Visibility

- 5.5 The visibility splay included in **Appendix E** demonstrates that the secondary direction visibility is achievable to 101m to the kerb line. A series of right turn lanes and pedestrian refuge islands (within the subsequent hatching) are present along Langstone Road and it is not unreasonable to assume visibility to the centre line, given that these would restrict the opportunity for overtaking. The visibility to the centreline has therefore been demonstrated as achievable to a 40mph speed limit, and also reduces the likelihood of overtaking. It should also be noted that secondary direction visibility was not raised as a concern as part of the previous application.
- 5.6 Highway comments raised as part of the previous application identified that visibility in the primary direction may be a constraint to development, particularly when queuing occurs southbound along Langstone Road in the PM peak period. In the first instance, it has been successfully demonstrated that the visibility in the primary direction is achievable to 120m in accordance with the standards. In addition, **Table 5** demonstrates that the proposed development is likely to generate 1 departure during this period, and given that there has only been one incident in the vicinity of the site access in the latest available 5 year period, this is not considered to be a highways safety concern.

Proximity to Langstone Road/Langbrook Close Junction

- 5.7 As part of the previous application, concerns were raised with regards to the proximity of the proposed site access to the existing Langstone Road/Langbrook Close junction. The Langbrook Close/Langstone Road junction is situated 15m north of the proposed access and a right turn lane is provided for movements into Langbrook Close. The existing junction is demonstrated in **Photograph 7**.



Photograph 7: Langstone Road/Langbrook Close Junction

- 5.8 Langbrook Close currently provides access to a relatively low number of dwellings and, with the proposed development anticipated to generate a minimal amount of vehicle movements in the peak periods (1 every 30 minutes in comparison to the previous scheme), the potential for conflict is likely to be minimal.
- 5.9 In addition, the existing junction and the proposed would not form a traditional staggered junction in that it is unlikely that vehicles exiting one would want to access another, thus requiring sufficient space and visibility to do so. It is also anticipated that the majority of vehicles associated with both the existing dwellings along Langbrook Close and those of the proposed site are anticipated to head northbound along Langstone Road to the A27. Therefore, vehicles turning right out of the proposed site will see (and will be seen by) those vehicles turning left out of Langbrook Close with sufficient time and space to avoid any potential conflict.
- 5.10 For northbound movements into the site, Langstone Road currently measures approximately 9m in width, and with the taper of the existing right turn lane outside the proposed site access, a car waiting to turn right into the site can wait within the hatched area, therefore obstructing the free flow of traffic along Langstone Road.
- 5.11 It is noted that potential improvements are to be made to the existing Langbrook Close junction with the implementation of a dedicated cycle lane, thus subsequently reducing the carriageway width in this location. However, the number of vehicles anticipated to turn right into the site is minimal with most vehicles expected to arrive from the north. The opportunity for causing congestion or delay to the free-flow of traffic is therefore low.

5.12 In addition, the PIA investigation demonstrated in **Figure 4** indicates that there has been only one incident recorded at this junction for the latest available 5 year period. The proposed development is therefore unlikely to present a highways concern or pose a safety concern for future site users, particularly given that it is only anticipated to generate an additional 2 trips in the peak periods in comparison to the previous application which was not considered unsuitable on highway grounds.

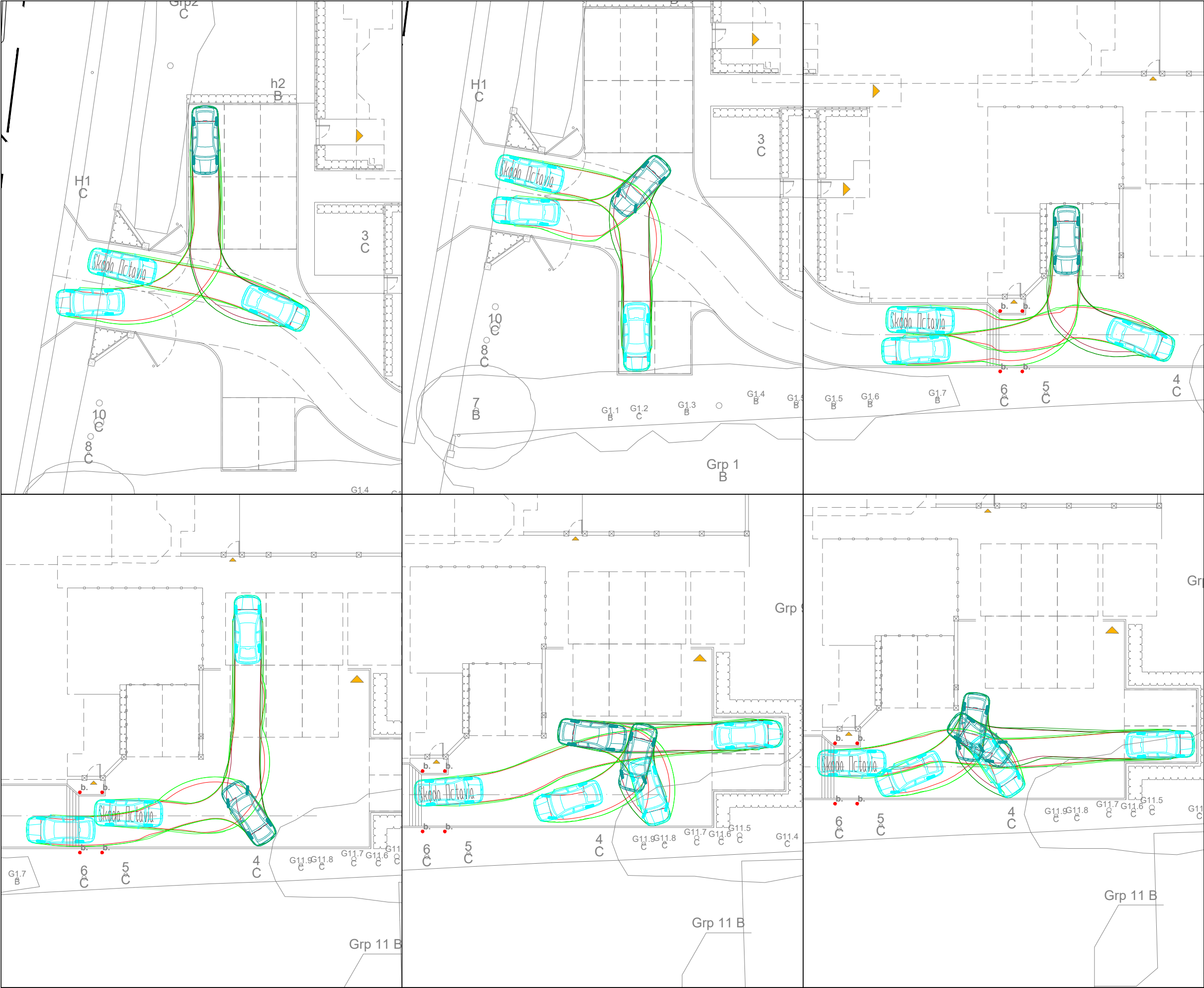
6. SUMMARY AND CONCLUSIONS

- 6.1 This Technical Note has been prepared by Paul Basham Associates on behalf of Phillips Build Ltd to support a residential development comprising 9 flats at 15 Langstone Road, Havant.
- 6.2 This site, located approximately 1km south of Havant Town Centre and 2.25km north of Hayling Island, is bordered by residential properties in all directions, with Langstone Road to the west. The location of the site in relation to existing pedestrian, cycle and public transport infrastructure presents an excellent opportunity to encourage travel by non-car modes and therefore creates a sustainable development.
- 6.3 Car and cycle parking to support the proposed level of development has been provided in accordance with HBC's standards, therefore ensuring that all parking will be accommodated on site with no overspill onto the local road network.
- 6.4 The proposed site is anticipated to generate 4 vehicle trips in both the AM and PM peak periods and 38 trips across a 12 hour day. The net impact of the development in comparison to the previous scheme therefore results in an additional 2 vehicle movements in the peak periods and 17 trips across a 12 hour day.
- 6.5 The site will be accessed via one point of vehicular access onto Langstone Road and will be provided via a vehicle crossover junction. A detailed assessment of the potential for conflict has been undertaken and ultimately the frequency of vehicle trips associated with the proposed development in comparison to the previous scheme and the fact that there is no identified existing safety concern along Langstone Road demonstrates that the proposed development would not generate a 'severe' highway concern in relation to capacity, safety or operation.
- 6.6 This report has therefore demonstrated that the proposed development will not have a material impact on the operation, safety or capacity of the local road network and we therefore encourage HBC to look favourably upon this development in relation to highways.

Appendix A



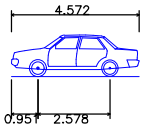
Appendix B



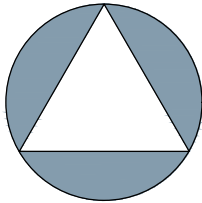
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CAR VEHICLE PROFILE



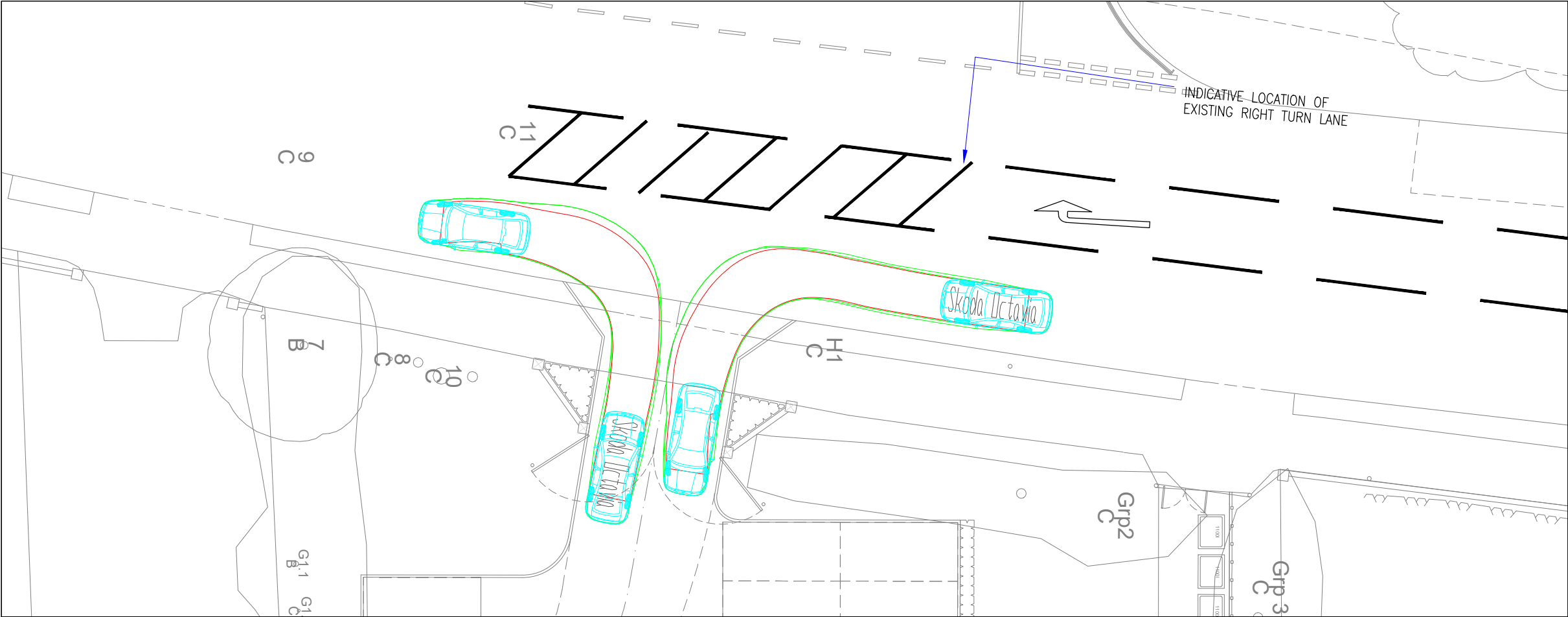
Skoda Octavia
Overall Length 4.572m
Overall Width 1.769m
Overall Body Height 1.488m
Min Body Ground Clearance 0.249m
Max Track Width 1.713m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 5.100m



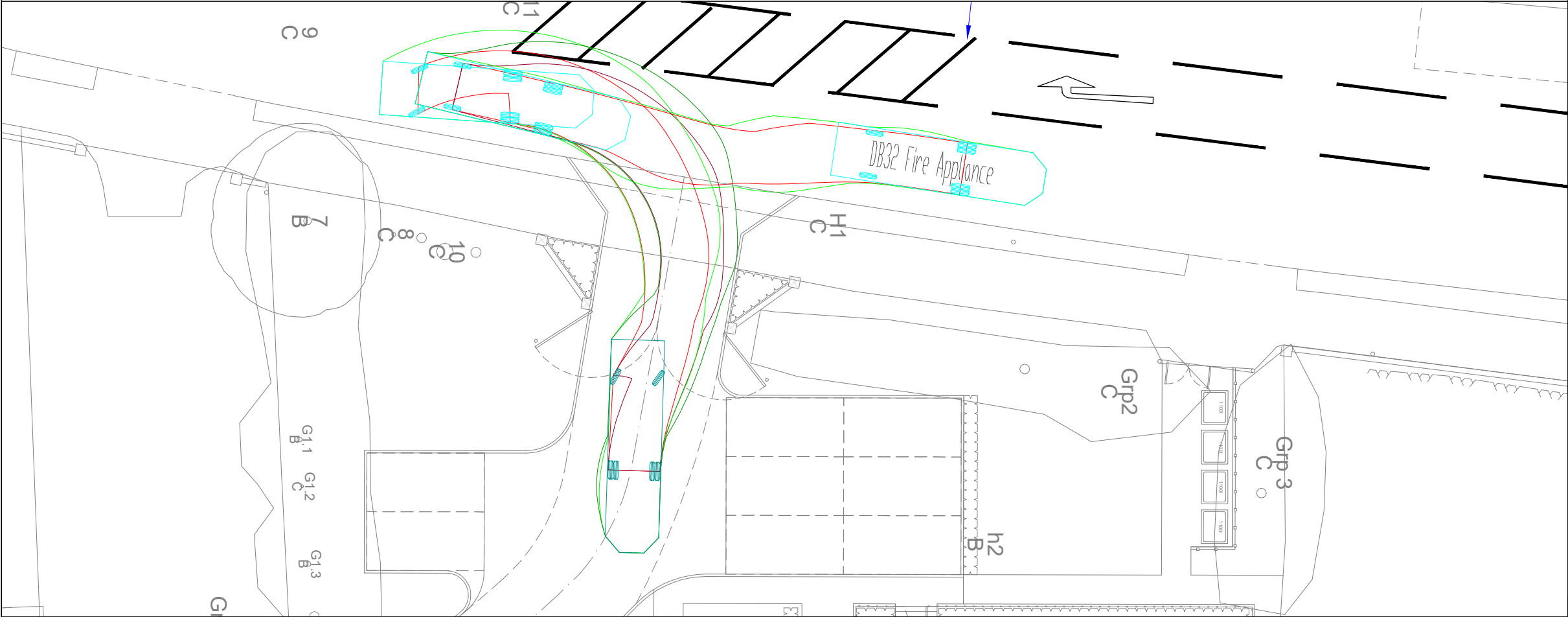
NORTH

Project Name 15 LANGSTONE ROAD, HAVANT		Title CAR PARK TRACKING	 Paul Basham Associates Ltd Lancaster Court, 8 Barnes Wallis Road, Fareham, PO15 5TU 01489 668134 info@paulbashamassociates.com www.paulbashamassociates.com	Client PRIVATE CLIENT	Checked By SB	Checked Date 31.08.18	Scale 1:250 (AT A3 SIZE)		
Project Phase PRELIMINARY					Drawn By SB	Drawn Date 29.08.18	Client Drawing No. -	PBA Drawing No. 020.0377.001	Revision -

Appendix C



SITE ACCESS TRACKING

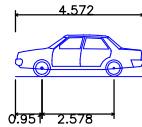


EMERGENCY VEHICLE SITE ACCESS TRACKING

GENERAL NOTES

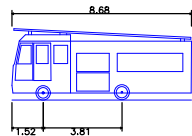
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CAR VEHICLE PROFILE

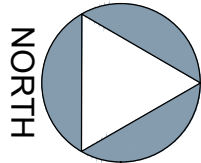


Skoda Octavia
Overall Length 4.572m
Overall Width 1.769m
Overall Body Height 1.488m
Min Body Ground Clearance 0.249m
Max Track Width 1.713m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 5.100m

FIRE TENDER PROFILE



DB32 Fire Appliance
Overall Length 8.680m
Overall Width 2.180m
Overall Body Height 2.452m
Min Body Ground Clearance 0.337m
Max Track Width 2.121m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 7.910m



Rev	Description	Date	By	Chkd
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Project Phase PRELIMINARY				Drawn By SB	Drawn Date 29.08.18	Client Drawing No. -	PBA Drawing No. 020.0377.002	Revision -	

Appendix D

Calculation Reference: AUDIT-247601-180626-0629

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : C - FLATS PRIVATELY OWNED
 VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	1 days
	OX OXFORDSHIRE	1 days
03	SOUTH WEST	
	DC DORSET	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	RI EAST RIDING OF YORKSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
 Actual Range: 14 to 30 (units:)
 Range Selected by User: 6 to 30 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 10/07/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	1 days
Wednesday	2 days
Thursday	1 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	4
Edge of Town	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	5
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This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	5 days
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This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	2 days
10,001 to 15,000	3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

50,001 to 75,000	3 days
100,001 to 125,000	1 days
125,001 to 250,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	5 days
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This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	5 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	DC-03-C-02	FLATS IN BLOCKS		DORSET
	PALM COURT			
	SPA ROAD			
	WEYMOUTH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	14		
	Survey date: FRIDAY	28/03/14	Survey Type: MANUAL	
2	HC-03-C-02	FLATS		HAMPSHIRE
	WORTING ROAD			
	BASINGSTOKE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	16		
	Survey date: THURSDAY	21/10/10	Survey Type: MANUAL	
3	OX-03-C-01	BLOCK OF FLATS		OXFORDSHIRE
	OXFORD ROAD			
	COWLEY			
	OXFORD			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	14		
	Survey date: WEDNESDAY	20/10/10	Survey Type: MANUAL	
4	RI-03-C-01	FLATS		EAST RIDING OF YORKSHIRE
	465 PRIORY ROAD			
	HULL			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	20		
	Survey date: TUESDAY	13/05/14	Survey Type: MANUAL	
5	SF-03-C-03	BLOCKS OF FLATS		SUFFOLK
	TOLLGATE LANE			
	BURY ST EDMUNDS			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	30		
	Survey date: WEDNESDAY	03/12/14	Survey Type: MANUAL	

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	19	0.064	5	19	0.191	5	19	0.255
08:00 - 09:00	5	19	0.096	5	19	0.340	5	19	0.436
09:00 - 10:00	5	19	0.128	5	19	0.213	5	19	0.341
10:00 - 11:00	5	19	0.096	5	19	0.117	5	19	0.213
11:00 - 12:00	5	19	0.117	5	19	0.117	5	19	0.234
12:00 - 13:00	5	19	0.117	5	19	0.085	5	19	0.202
13:00 - 14:00	5	19	0.106	5	19	0.096	5	19	0.202
14:00 - 15:00	5	19	0.138	5	19	0.117	5	19	0.255
15:00 - 16:00	5	19	0.138	5	19	0.128	5	19	0.266
16:00 - 17:00	5	19	0.096	5	19	0.128	5	19	0.224
17:00 - 18:00	5	19	0.330	5	19	0.074	5	19	0.404
18:00 - 19:00	5	19	0.149	5	19	0.106	5	19	0.255
19:00 - 20:00	2	15	0.333	2	15	0.200	2	15	0.533
20:00 - 21:00	2	15	0.100	2	15	0.033	2	15	0.133
21:00 - 22:00	2	15	0.133	2	15	0.100	2	15	0.233
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.141			2.045			4.186

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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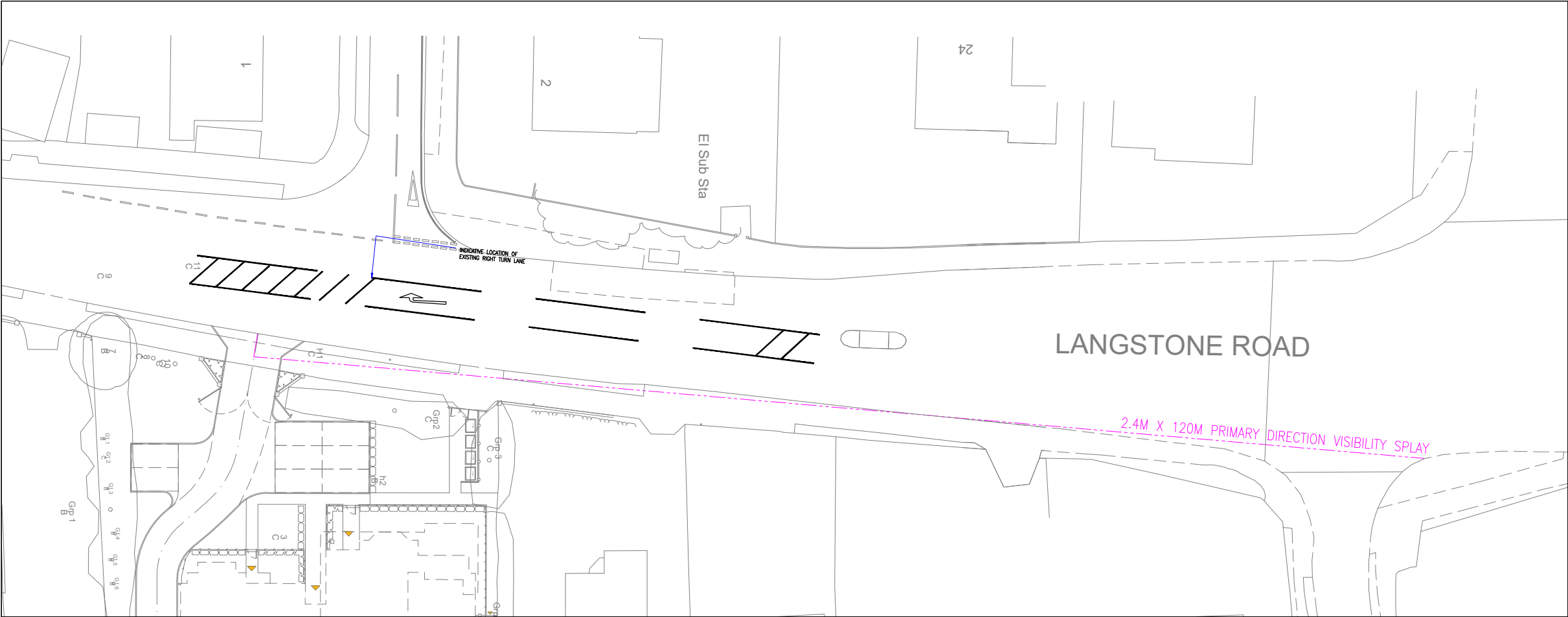
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Parameter summary

Trip rate parameter range selected:	14 - 30 (units:)
Survey date date range:	01/01/10 - 10/07/17
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix E



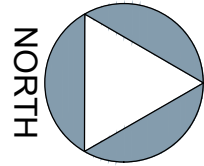
PRIMARY DIRECTION VISIBILITY SPLAY



SECONDARY DIRECTION VISIBILITY SPLAY

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Project Phase PRELIMINARY				Drawn By SB	Drawn Date 29.08.18	Client Drawing No. -	PBA Drawing No. 020.0377.003	Revision -