



Local Plan 2031 Part 2
Publication Version
Representation Form

Ref:

(For official
use only)

Name of the Local Plan to which this representation relates:

Vale of White Horse
Local Plan 2031 Part 2

Please return by 5pm on Wednesday 22 November 2017 to: Planning Policy, Vale of White Horse District Council, 135 Eastern Avenue, Milton Park, Milton, Abingdon, OX14 4SB or email planning.policy@whitehorsedc.gov.uk

This form has two parts:

Part A – Personal Details

Part B – Your representation(s). Please fill in a separate sheet for each representation you wish to make.

Part A

1. Personal Details*

*If an agent is appointed, please complete only the Title, Name and Organisation boxes below but complete the full contact details of the agent in 2.

Title

Mr

First Name

James

Last Name

Blanchard

Job Title (where relevant)

Organisation representing
(where relevant)

Blanchard Enterprises

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2. Agent's Details (if applicable)

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Sharing your details: please see page 3

Part B – Please use a separate sheet for each representation

Name or organisation:

3. To which part of the Local Plan does this representation relate?

Paragraph

Policy

4a and 8a

Policies Map

4. Do you consider the Local Plan is: *(Please tick as appropriate)*

4. (1) Legally compliant

Yes

No

4. (2) Sound

Yes

No

4. (3) Compiles with the Duty to Cooperate

Yes

No

5. Please provide details of why you consider the Local Plan is not legally compliant or is unsound or fails to comply with the Duty to Cooperate. Please be as precise as possible.

If you wish to support the legal compliance or soundness of the Local Plan or its compliance with the Duty to Cooperate, please also use this box to set out your comments.

Strutt & Parker acts on behalf of Blanchard Enterprises, owner of land south of Spring Hill in Southmoor (identified as site 'KBAG11' in the Housing and Economic Land Availability Assessment (HELAA)). We previously responded to the Preferred Options consultation on behalf of Blanchard Enterprises and promoted the land in Southmoor as part of this process. This current representation relates to the Publication Version of the emerging Local Plan 2031 Part 2, but also continues the promotion of our client's land.

We are broadly supportive of Core Policy 4a (Meeting our Housing Needs) which sets out how the Council will address housing needs arising from elsewhere in the Housing Market Area, expressly the quantum of unmet housing need for Oxford City to be addressed within the Vale of White Horse of 2,200 homes. We are also supportive of the strategy to meet this unmet housing need through either strategic or additional sites within the Abingdon-on-Thames and Oxford Fringe Sub-Area, which our client's site falls within. However, our concerns relate to the deliverability of the additional allocations identified in Core Policies 4a and 8a (Additional Site Allocations for Abingdon-on-Thames and Oxford Fringe Sub-Area) and, as a result, whether the overall quantum of development proposed in this Sub-Area is sufficient to meet the identified need during the plan period.

The Council's preferred allocation for the settlement of Kingston Bagpuize with Southmoor is located to the east of the village and has been identified for 600 new homes. While this draft allocation may deliver some new infrastructure for the settlement, it will be reliant on the A415 being re-routed to the eastern edge of the development to effectively create a bypass around the settlement. While there could be merit in this new bypass, it is apparent that the cost and construction period of this re-routed road will be significant, which could potentially delay or jeopardise the delivery of the new housing and associated infrastructure.

In other words, the projected delivery of 200 dwellings in the next 5 years and the remaining 400 dwellings in the 6-15 year window could be overly optimistic. The estimated cost of the link road within this draft allocation has not been specified within the Infrastructure Delivery Plan produced by Arup on behalf of the Council, presumably as the full cost is expected to be met by the land promoter or future developer(s) of the site. Nevertheless, it is safe to assume that the cost will be in the millions of pounds. Should any unexpected technical or environmental constraints, for example, additional biodiversity mitigation costs, be discovered further down the line during the promotion or development of this site, then the viability of providing the new link road could become a significant factor in whether the site is fully developed or, at the very least, delivers the number of homes currently anticipated, particularly affordable homes.

The additional allocation for 1,200 new homes at the Dalton Barracks is also a significant sized development that could experience delays in delivery. The allocation is tantamount to a new sustainable settlement, which by definition will have a large number of infrastructure requirements. The delivery of such infrastructure is often delayed on sites of this scale, which means the delivery of new homes and the associated community facilities will also be pushed back. The relocation of any existing occupiers displaced by the development of the former Barracks could also be an issue.

Any slippage or delay in the delivery of the additional allocations identified in the Local Plan Part 2, most notably the large sites at Kingston Bagpuize and Dalton Barracks, will have a considerable effect on the Council's housing trajectory, which in turn will jeopardise the Council's housing land supply and present the opportunity for speculative developments to be brought forward, contrary to the Council's spatial strategy. Moreover, any delays in the delivery of these additional allocations will harm Oxford City Council as its unmet housing need will persist.

In our view, the Council is overly reliant on the large scale allocations in the Abingdon-on-Thames and Oxford Fringe Sub-Area and has not given enough consideration to the implications of any slippage in the delivery of these sites. It is therefore submitted that the Local Plan Part 2 is unsound in its current form as robust and credible evidence has not been presented to confirm that these additional allocations will deliver the projected level of housing need during the plan period. In other words, the emerging Plan may not be deliverable. Furthermore, it is considered that the emerging Plan does not incorporate a sufficient degree of flexibility to compensate or mitigate against any changing circumstances across the district and, specifically, delays in the delivery of infrastructure and/or the new housing on the current allocations.

It is therefore considered that Core Policies 4a and 8a are not sound and require modification prior to the submission of the Local Plan for examination.

(Continue on page 4 /expand box if necessary)

6. Please set out what modification(s) you consider necessary to make the Local Plan legally compliant or sound, having regard to the matter you have identified at 5 above. (NB Please note that any non-compliance with the duty to cooperate is incapable of modification at examination). You will need to say why this modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible.

Based on our comments above, we believe that the current allocation to the east of Kingston Bagpuize with Southmoor could potentially encounter significant issues with regard to viability and delivery and, therefore, we feel our client's land to the south of Spring Hill (at the western end of Southmoor) is a more suitable allocation.

The Housing and Economic Land Availability Assessment (HELAA) that has been prepared as part of the evidence base for the Local Plan Part 2 identifies our client's site off Spring Hill as 'KBAG11'. The HELAA confirms that the site is suitable in principle for development and is not affected by any fundamental constraints, such as a risk of flooding or special landscape designations. It is also apparent that the site is a significant distance from any heritage constraints, including the Kingston Bagpuize Conservation Area at the eastern end of the settlement and near to the draft allocation for 600 homes. The HELAA also acknowledges that the site south of Spring Hill is available and that it could deliver around 200 dwellings in the next five years and a further 200 in 6-15 years. We support this assessment.

The Sustainability Appraisal (SA, September 2017) for the Local Plan Part 2 highlights the biodiversity constraints associated with the land east of Kingston Bagpuize stating that "*The eastern site is constrained, to some extent, by Appleton Lower Common SSSI and Frilford Heath, Ponds and Fens SSSI, which are within c.2km; and the adjacent Millennium Green is associated with a population of Great Crested Newts*". These constraints could also impact the delivery of new homes in this location.

The Sustainability Appraisal comments that our client's land at the western end of Southmoor would be more distant from the village centre than the draft eastern allocation, although we disagree and consider that the land south of Spring Hill is actually well-located in relation to the settlement's existing services and facilities and the strategic highway network. While the development of land south of Spring Hill would not lead to the delivery of a link road to the east of Kingston Bagpuize, it could be argued that this link road would be unnecessary if the current draft allocation for 600 homes was omitted or replaced. The existing commitments elsewhere in the settlement are being delivered or have already been completed without the need for a new link road and, therefore, it is assumed that the current and projected traffic levels along the A415 are acceptable should the 600 home allocation not be taken forward.

The delivery of new homes on land south of Spring Hill, and potentially on land north of Spring Hill as well, would not require a large scale link road and therefore would not be reliant on the same level of infrastructure. Further transport analysis has been undertaken since our representation to the Preferred Options consultation was submitted to understand the impact of development on our client's land on the surrounding highway network, particularly the junction onto the A420 to the north-west of the site which has been the location of past accidents. A Transport Impact Assessment Report (TIAR) has been prepared by Paul Basham Associates, which builds upon the Land Promotion Transport Report (LPTR) that the consultancy previously prepared, and has been submitted alongside this representation.

Traffic surveys were undertaken to inform the design of high level options for improving the junction onto the A420. It was assumed that the proposed site to the south of Spring Hill will come forward and be fully operational by 2027 along with other local developments and therefore 2027 was chosen as the future year of assessment. The impact of two scenarios was investigated:

- Scenario 1: 2027 Baseline with Committed developments + 300 units on the site South of Spring Hill; and
- Scenario 2: 2027 Baseline with Committed developments + 480 units on the site South of Spring Hill + 240 units on the site North of Spring Hill (to consider the potential development of this adjacent site in conjunction with our client's).

Scenario 1 resulted in a 2% increase in total traffic travelling through the junction in each of the morning and afternoon peaks whereas scenario 2 resulted in a 7% increase.

Scenario 2 assessed the “worst-case” impact of a total of 720 homes being developed across both the north and south sites on Spring Hill (this corresponds with the capacity assessment provided in the Council's Site Selection topic paper). The maximum increase of trips on a single manoeuvre was shown to be from Charney Road onto the A420 eastbound (towards Oxford), and totalled 115 trips in the AM Peak which equates to an 85% increase when compared to the 20 trips in the ‘2027 Baseline with Committed Developments’ diagram.

Regardless of the amount of additional traffic that would travel through the junction two possible options have been proposed which would slow traffic along the A420 and manage turning vehicles through this junction and therefore improve safety. These two high level options (i.e. potential solutions that may be appropriate depending on the actual quantum and design of development on one or both of the sites off Spring Hill) are shown in Appendix G of the TIAR. The first of these options is a gyratory/elongated roundabout, while the second option is a signalised staggered junction. Paul Basham Associates are confident that these potential solutions are feasible in transport terms and would provide a lower speed and safer junction. The allocation of the sites either side of Spring Hill, or even our client's site in isolation, should not therefore be discounted on grounds of highway safety. More detailed technical work would of course be undertaken to support any planning submission in the future to fully demonstrate the acceptability of the proposals.

If the Council or the examining Inspector were minded to allocate land west of Southmoor rather than the current allocation to the east of Kingston Bagpuize, then we are of the opinion that a new primary school could form part of the proposals as the scale of development would be sufficient to support such infrastructure. This would therefore overcome one of the other criticisms of the site raised in the Sustainability Appraisal.

Further ecology activity surveys have also been undertaken since our Preferred Options representation was submitted and this confirms that bats and reptiles within and surrounding the site would not be adversely affected by any residential development subject to suitable biodiversity mitigation and enhancement measures being incorporated.

On the basis of the above, it is submitted that our client's land to the south of Spring Hill (potentially alongside the adjacent land to the north) is a more suitable location for the delivery of new housing in this settlement than the current draft allocation. Core Policies 4a and 8a could be modified to incorporate this suggested alternative allocation, particularly as the Local Plan Part 2 evidence base exists to support the allocation of our client's land without further consultation being required.

Alternatively, if the current draft allocation of 600 homes to the east of Kingston Bagpuize remains part of the emerging Local Plan Part 2, then we are of the opinion that reserve sites could be identified and incorporated into Core Policies 4a and 8a to act as a contingency should there be any slippage in the delivery of the identified allocations during the plan period, particularly at Dalton Barracks. At present, the Council has given little weight to the adverse effects that any delay in housing delivery would have on their trajectory and overall spatial strategy and, therefore, it is considered that the identification of reserve sites could be a worthwhile approach. Our client's land south of Spring Hill in Southmoor would be a highly suitable and deliverable site should reserve sites be deemed appropriate.

(Continue on page 4 /expand box if necessary)

Please note your representation should cover succinctly all the information, evidence and supporting information necessary to support/justify the representation and the suggested modification, as there will not normally be a subsequent opportunity to make further representations based on the original representation at publication stage.

After this stage, further submissions will be only at the request of the Inspector, based on the matters and issues he/she identifies for examination.

7. If your representation is seeking a modification, do you consider it necessary to participate at the oral part of the examination?

No, I do not wish to participate at the oral examination

Yes, I wish to participate at the oral examination

8. If you wish to participate at the oral part of the examination, please outline why you consider this to be necessary:

To provide further detail and background information regarding the shortcomings of Core Policies 4a and 8a and to discuss the merits of our client's land and the justification for its allocation.

Please note the Inspector will determine the most appropriate procedure to hear those who have indicated that they wish to participate at the oral part of the examination.

Signature:

Date:

22/11/2017

Sharing your personal details

Please be aware that, due to the process of having an Independent Examination, a name and means of contact is required for your representation to be considered. Respondent details and representations will be forwarded to the Inspector carrying out the examination of the Local Plan after the Publicity Period has ended. This data will be managed by a Programme Officer who acts as the point of contact between the council and the Inspector and respondents and the Inspector.

Representations cannot be treated as confidential and will be published on our website alongside your name. If you are responding as an individual rather than a company or organisation, we will not publish your contact details (email / postal address and telephone numbers) or signatures online, however the original representations are available for public viewing at our council office by prior appointment. All representations and related documents will be held by Vale of White Horse District Council for a period of 6 months after the Local Plan is adopted.

Would you like to hear from us in the future?

I would like to be kept informed about the progress of the Local Plan

I would like to be added to the database to receive general planning updates

Please do not contact me again

Further comment: Please use this space to provide further comment on the relevant questions in this form. **You must state which question your comment relates to.**

Alternative formats of this form are available on request. Please contact our customer service team on 01235 422600 (Text phone users add 18001 before you dial) or email planning.policy@whitehorsedc.gov.uk

Please return this form by 5pm on Wednesday 22 November 2017 to: Planning Policy, Vale of White Horse District Council, 135 Eastern Avenue, Milton Park, Milton, Abingdon, OX14 4SB or email planning.policy@whitehorsedc.gov.uk



SPRING HILL, SOUTHMOOR

TRANSPORT IMPACT ASSESSMENT REPORT

November 2017

Blanchard Enterprises

**RESIDENTIAL DEVELOPMENT
LAND OFF SPRING HILL
SOUTHMOOR**

TRANSPORT IMPACT ASSESSMENT

CONTROLLED DOCUMENT

<i>PB-Associates Document No:</i>		512.0004/TIAR/2	
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2	22.11.17	LF	Project team comments	VT	JR



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RESIDENTIAL DEVELOPMENT
SPRING HILL
SOUTHMOOR

TRANSPORT IMPACT ASSESSMENT REPORT

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1. INTRODUCTION

- 1.1 This Traffic Impact Assessment Report (TIAR) has been prepared by Paul Basham Associates (PBA) on behalf of Blanchard Enterprises in order to assess the transport impact of a residential development of at least 300 dwellings at Land South of Spring Hill, Southmoor on the local road network.
- 1.2 This TIAR builds upon the Land Promotion Transport Report (LPTR) supporting the inclusion of the site to the south of Spring Hill in the Vale of White Horse District Council's Local Plan Part 2 (Detailed Policies and Additional Sites). This was also prepared by Paul Basham Associates.
- 1.3 The supporting evidence associated with the publication version of the Local Plan Part 2 includes a document, "Topic Paper 2: site selection." The site, in combination with land north of Spring Hill, was considered for inclusion for up to 720 dwellings. A planning application (ref: P16/V2568/O) was submitted and subsequently withdrawn for 180 dwellings on Land north of Spring Hill.
- 1.4 The majority of traffic to/from these two sites will route onto the A420 via the junction with Charney Road and Pine Woods Road and Vale of White Horse highlighted safety concerns with this junction, suggesting that a new solution would be needed. This assessment therefore focuses on this junction. In order to understand the full impact of these two sites, a worst-case scenario has been considered if they both came forward in addition to committed developments in the local area. The assessment therefore includes a proposed development of circa 300 homes south of Spring Hill (Scenario 1) and both sites totalling 720 homes (Scenario 2).
- 1.5 The proposed site locations, south and north of Spring Hill, are demonstrated in **Figure 1**.

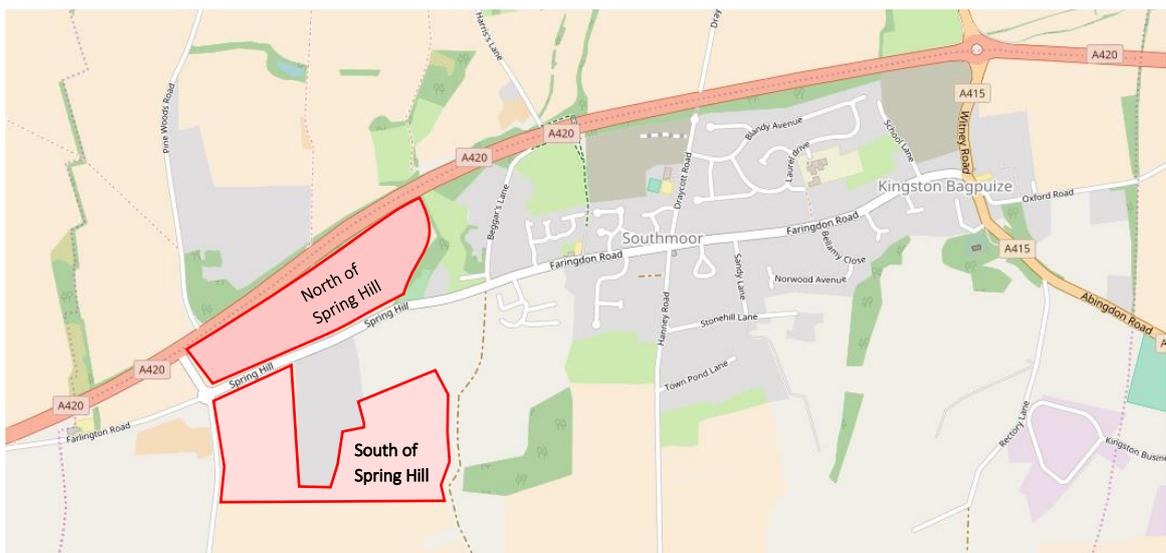


Figure 1: Site locations

2. EXISTING CONDITIONS

Site and Surroundings

- 2.1 The proposed sites are located on the western edge of Southmoor adjacent to existing and recently consented residential developments, 550m from the local pub and 750m from the local shop. Southmoor is situated next to Kingston Bagpuize, to the south of the A420, approximately 8km west of Abingdon, 12km east of Faringdon and 14km southwest of Oxford.
- 2.2 The southern site currently consists of several agricultural fields bordered by Spring Hill and residential dwellings to the north, further agricultural land to the south and Charney Road bordering the site to the west. Planning consent has been granted for 43 residential dwellings (planning application ref. P15/V0251/O) on land directly northeast of the site. Planning consent has also been granted for 25 residential dwellings (planning application ref. P16/V0234/O) east of Bullockspits Lane. Further agricultural land exists west of Charney Road.
- 2.3 The northern site also currently consists of agricultural land and is bordered by Spring Hill to the south, Charney Road to the west, the A420 dual carriageway to the north and Beggars Lane to the east. The sites and their relation to the adjacent developments are shown in **Figure 2**.

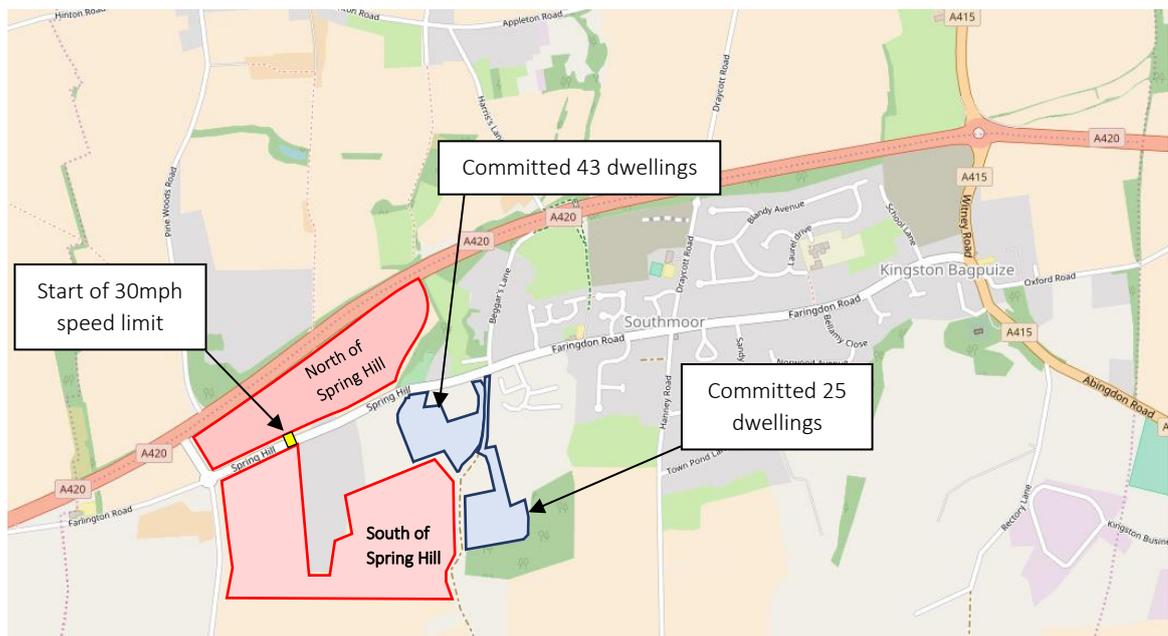


Figure 2: Committed Developments and Proposed Sites

Access & Local Highway Network

- 2.4 The southern site is currently accessed via Charney Road approximately 70m south of the Faringdon Road roundabout. The northern site is currently accessed via Spring Hill.

- 2.5 Spring Hill is a single carriageway road and is subject to a 60mph speed limit stretching from the Farlington Road roundabout 200m east. At this point, Spring Hill converts to a 30mph road heading east towards Kingston Bagpuize as shown in **Figure 2**.
- 2.6 To better understand the existing situation, traffic counts have been undertaken on Spring Hill and more recently also at the junction onto the A420 to capture all turning movements.
- 2.7 An Automatic Traffic Count (ATC) speed survey was carried out on Spring Hill between Tuesday 4th April 2017 and Thursday 6th April 2017. The results showed 85th percentile speeds at 35.1mph eastbound and 38mph westbound. The data is provided in **Appendix A**.
- 2.8 Junction turning counts were undertaken at the staggered junction of Charney Road | A420 | Pine Woods Road on Thursday 2nd November 2017 at two separate intervals to cover the AM (07:00-10:00) and PM (16:00-19:00) peak periods. The data shows that the busiest periods were 07:15-08:15 and 16:30-17:30, which have been used in this assessment as a worst case. The data indicates that, as expected, the majority (90-95%) of A420 traffic at the staggered junction continues straight (westbound or eastbound) along the A420 a total volume of traffic of 2,319 vehicles in the AM peak and 2,209 vehicles in the PM peak as shown in **Figure 3**. The survey data is provided in **Appendix B**.

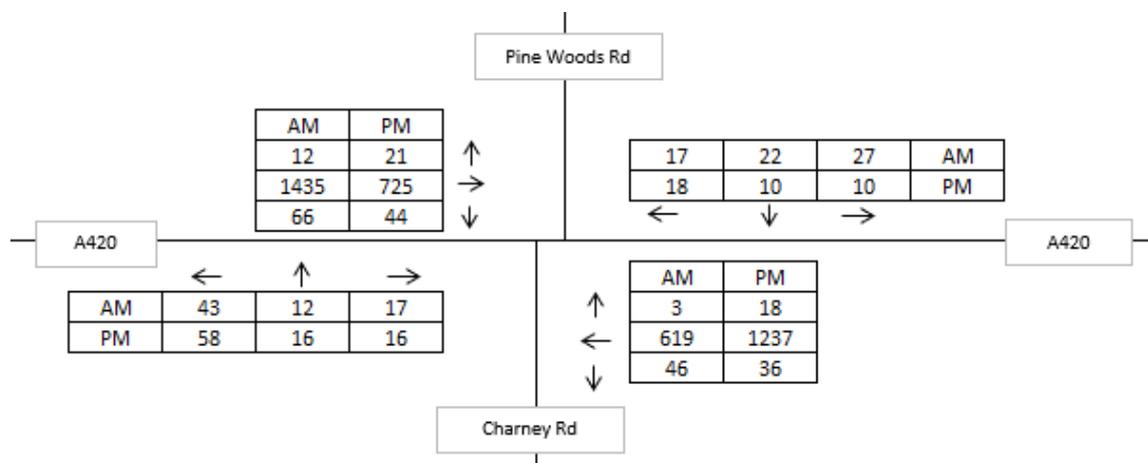


Figure 3: 2017 Baseline Turning Counts

PIA Data

- 2.9 Analysis of Personal Injury Accident (PIA) data between January 2012 and December 2016 reveals no incidents occurring along Spring Hill and a low recurrence of comparable types of incident at the staggered A420 junction to the northwest of the sites. The PIA data is demonstrated in **Figure 4**.



Figure 4: Local PIA Data (2012-2016). Retrieved from www.crashmap.com

- 2.10 The PIA data indicates that the junction between the A420 and Charney Road has experienced 3 incidents over the 5-year period between 2012 and 2016 including one fatal and one serious accident. The fatal accident occurred in April 2014 which involved a car traveling westbound along the A420 hitting a pedal cyclist on their offside. This accident did not involve a right-turning manoeuvre. The serious accident occurred between a car and a motorbike and both vehicles were reported as “proceeding normally along the carriageway, not on a bend”.
- 2.11 The PIA data indicates that the junction between the A420 and the A415 has experienced a cluster of 8 incidents over the 5-year period between 2012 and 2016 including two serious accidents. The first occurred in May 2012 between a car and a motorbike and the motorbike rider suffered serious injuries. The second occurred in April 2015 between a car and a cyclist and the cyclist suffered serious injuries.

3. PROPOSED DEVELOPMENT

Southern Site

- 3.1 The southern site could accommodate at least 300 dwellings with primary and secondary access from Spring Hill as shown within **Figure 5** and an illustrative masterplan in **Appendix C**. The proposed primary access will be located approximately 80m east of the Farlington Road roundabout with the secondary access a further 400m east of this.

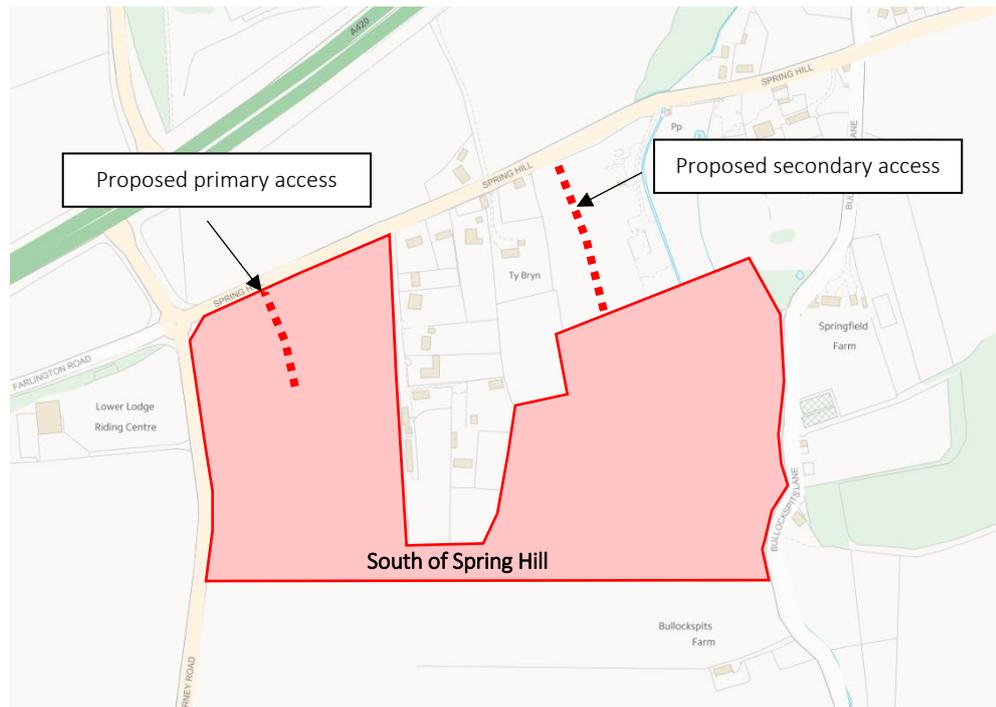


Figure 5: Proposed Access Locations

- 3.2 In accordance with the ATC speed survey results, the proposed primary access will be able to achieve the required clear visibility splays of 2.4m x 94.2m in the primary direction and 2.4m x 84m in the secondary direction. The alignment of the road and extent of land under the promoters control ensures visibility splays of 2.4m x 215m are also achievable in accordance with DMRB standards for a 60mph road.
- 3.3 The secondary access will also be able to achieve clear visibility splays in accordance with the ATC speed survey results and the speeds are likely to be lower as the access sits further into the 30mph speed limit. The ATC speed survey results are included within **Appendix A** with the visibility splays for both accesses demonstrated within **Appendix D**.

3.4 As part of the proposed development, it is anticipated that the 30mph speed limit could be extended beyond the site access to the Farlington Road roundabout and that vehicles could therefore be travelling at lower speeds along the full extent of Spring Hill.

Northern Site

3.5 As per the Transport Assessment submitted as part of the now withdrawn planning application [ref: P16/V2568/O], vehicular access to the site is anticipated to be from Spring Hill. Access has to be provided in the form of two simple priority junctions located approximately 265m and 440m to the East of the Spring Hill/Charney Road roundabout as illustrated within **Figure 6**. The minimum required visibility splays were evaluated by others as achievable for both accesses.

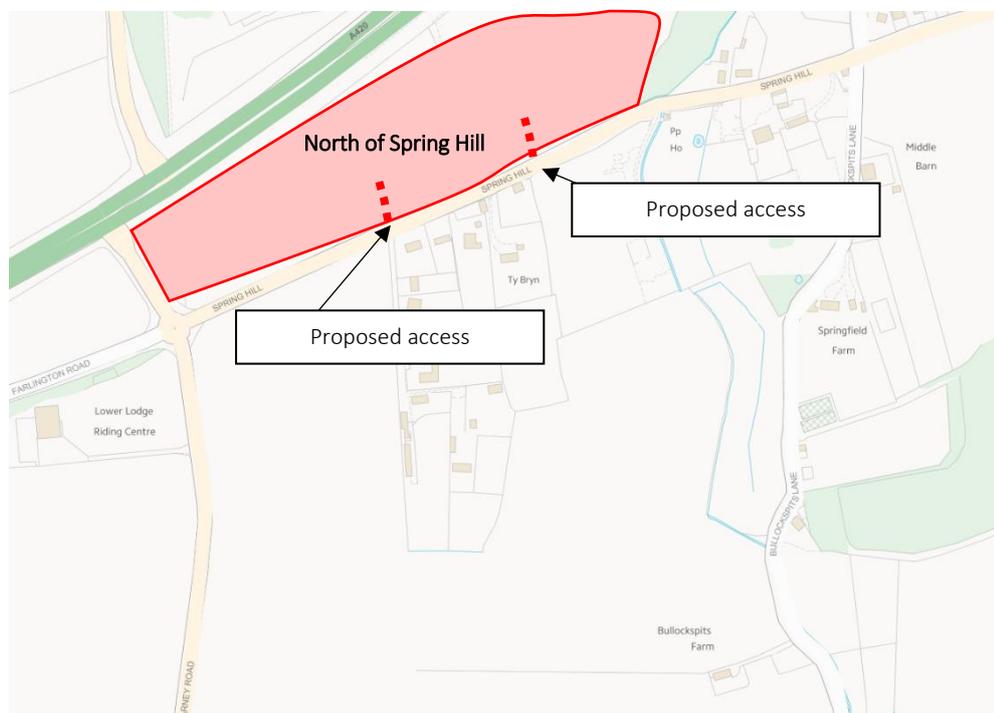


Figure 6: Northern Site Proposed Access Locations

4. BASELINE TRAFFIC FLOWS AND COMMITTED DEVELOPMENTS

2027 Baseline

- 4.1 Analysis of the traffic impact has been undertaken for 2027, the assumed year of full occupation of all developments. To factor up the base 2017 AM and PM peak traffic data to the required assessment year, TEMPRO growth factors for the area have been applied. The growth factors applied are given in **Table 1**.

Period	Growth Factor	
	AM Peak	PM Peak
2017 - 2027	1.112	1.1113

Table 1: Tempro Growth Factors

- 4.2 The resultant 2027 baseline flows at the A420 staggered junction are provided in **Appendix F**.

Committed developments

- 4.3 There are a number of developments in and around Kingston Bagpuize and Southmoor that are either already built, have planning permission or are allocated for development within the Local Plan as shown in **Figure 7** below. Each of these has been included as committed developments within the traffic flow diagrams as a worst-case scenario, even though a number of these schemes may have been occupied and the trips associated with them picked up by the turning counts.
- 4.4 The majority of the sites shown in **Figure 7** are reliant upon access to the surrounding local road network through the centre of Kingston Bagpuize and via the A415/A420 roundabout to the north. The following section outlines the trip generation for each of the developments which have been sourced from their individual Transport Assessments/Statements where possible.



Figure 7: Local Developments



4.5 The exception to this is 'site 1' considered in **Figure 7**, where an assessment is not yet publicly available. As such trip rates sourced from TRICS (V 7.4.1) database have been applied by using the following selection criteria; 'residential house privately owned', locations in suburban and edge of town areas in England and Wales (excluding London), parameters of 50-600 units and only weekday surveys.

1. Land east of Kingston Bagpuize - 600 dwellings;

TRICS 7.4.1	AM Peak (0800-0900)			PM Peak (1700-1800)			Total Daily Trips
	Arrivals	Departures	Total	Arrivals	Departures	Total	
<i>Trip rate value per 1 dwelling</i>	0.112	0.344	0.456	0.310	0.163	0.723	4.231
<i>Trip generation for 600 units</i>	62	206	268	186	98	284	2539

Table 2: Trip Generation for Site 1 (TRICS)

2. Land south of A420 and east of A415 (ref. P15/V1808/O) - 280 dwellings;

TRICS 7.4.1	AM Peak (0800-0900)			PM Peak (1700-1800)			Total Daily Trips
	Arrivals	Departures	Total	Arrivals	Departures	Total	
<i>Trip rate value per 1 open market unit</i>	0.148	0.414	0.562	0.376	0.213	0.589	5.125
<i>Trip generation for 182 units</i>	27	75	102	68	39	107	933
<i>Trip rate value per 1 affordable unit</i>	0.133	0.244	0.377	0.248	0.178	0.426	3.554
<i>Trip generation for 98 units</i>	13	24	37	24	17	42	348
<i>Total</i>	40	99	139	92	56	149	1281

Table 3: Trip Generation for Site 2

3. Land off Draycott Road (ref. P12/V2653/FUL) - 98 residential dwellings;

TRICS 7.4.1	AM Peak (0800-0900)			PM Peak (1700-1800)			Total Daily Trips
	Arrivals	Departures	Total	Arrivals	Departures	Total	
<i>Trip rate value per 1 dwelling</i>	0.513	0.414	0.567	0.396	0.238	0.634	5.398
<i>Trip generation for 98 units</i>	15	41	56	39	23	62	529

Table 4: Trip Generation for Site 3

4. Land west of Witney Road (ref. P12/V1836/O) - 63 dwellings and 45 extra care units;

TRICS 7.4.1	AM Peak (0800-0900)			PM Peak (1700-1800)			Total Daily Trips
	Arrivals	Departures	Total	Arrivals	Departures	Total	
<i>Trip rate value per 1 dwelling</i>	0.2	0.5	0.7	0.525	0.228	0.753	4.737
<i>Trip generation for 63 units</i>	13	32	45	33	14	47	298
<i>Trip rate value per 1 extra care unit</i>	0.222	0.111	0.333	0.111	0.111	0.222	2.876
<i>Trip generation for 45 units</i>	10	5	15	5	5	10	129
<i>Total</i>	23	37	60	38	19	57	427

Table 5: Trip Generation for Site 4

5. Land off Field Close (ref. P15/V1795/FUL) - 73 dwellings;

TRICS 7.4.1	AM Peak (0800-0900)			PM Peak (1700-1800)			Total Daily Trips
	Arrivals	Departures	Total	Arrivals	Departures	Total	
<i>Trip rate value per 1 dwelling</i>	0.068	0.239	0.307	0.292	0.155	0.447	4.082
<i>Trip generation for 73 units</i>	5	17	22	21	11	33	298

Table 6: Trip Generation for Site 5

6. Land south of Faringdon Road (ref. P12/V1302/O) - 50 dwellings;

TRICS 7.4.1	AM Peak (0800-0900)			PM Peak (1700-1800)			Total Daily Trips
	Arrivals	Departures	Total	Arrivals	Departures	Total	
<i>Trip rate value per 1 dwelling</i>	0.153	0.414	0.567	0.396	0.238	0.634	5.38
<i>Trip generation for 50 units</i>	8	21	29	20	12	32	269

Table 7: Trip Generation for Site 6

7. Land at Fallowfields (ref. P15/V0251/O) - 43 dwellings;

TRICS 7.4.1	AM Peak (0800-0900)			PM Peak (1700-1800)			Total Daily Trips
	Arrivals	Departures	Total	Arrivals	Departures	Total	
<i>Trip rate value per 1 dwelling</i>	0.146	0.415	0.561	0.368	0.212	0.580	4.975
<i>Trip generation for 43 units</i>	6	18	24	16	9	25	214

Table 8: Trip Generation for Site 7

8. Sports Ground and Pavilion (ref. P13/V182/FUL) - 30 dwellings and replacement sports pavilion;

TRICS 7.4.1	AM Peak (0800-0900)			PM Peak (1700-1800)			Total Daily Trips
	Arrivals	Departures	Total	Arrivals	Departures	Total	
<i>Trip rate value per 1 dwelling</i>	0.166	0.435	0.601	0.419	0.265	0.684	5.844
<i>Trip generation for 30 units</i>	5	13	18	13	8	21	175

Table 9: Trip Generation for Site 8

- 4.6 As the consented sports pavilion is replacing an existing facility the trips generated by this part of the development has not been considered in the trip assessment.

9. Springfield Farm, Bullockspit Lane (ref. P16/V0234/O) - 25 dwellings; and

TRICS 7.4.1	AM Peak (0800-0900)			PM Peak (1700-1800)			Total Daily Trips
	Arrivals	Departures	Total	Arrivals	Departures	Total	
<i>Trip rate value per 1 dwelling</i>	0.181	0.410	0.591	0.387	0.200	0.587	5.278
<i>Trip generation for 25 units</i>	5	10	15	10	5	15	132

Table 10: Trip Generation for Site 9

10. Land off Beggars Lane (ref. P13/V0799/FUL) - 4 dwellings.

- 4.7 Whilst this development has been recognised within this report it has not been included in the traffic impact assessment due to its size which is anticipated to have a negligible effect on the local road network.

Trip Generation and Distribution

- 4.8 The following section provides the trip generation, distribution and assignment of trips on the local road network for each of the proposed sites. Scenario 1 considers the impact of the proposed 300 homes on the site to the south of Spring Hill alongside committed developments.
- 4.9 Scenario 2 considers a total of 720 dwellings across the two sites as assessed by Vale of White Horse in LPP2. No distinction was made between the two sites but Scenario 2 considers an increased development density of each site so that the site to the north of Spring Hill would provide 240 homes and the site to the south of Spring Hill will provide 480 homes.

South of Spring Hill

4.10 The TRICS (V 7.4.1) database has been consulted to provide an indication of the likely traffic generation of the proposed site providing 300 dwellings. Surveys of ‘residential house privately owned’ have been selected using locations in suburban and edge of town areas in England and Wales (excluding London). Chosen parameters of 50-400 units have been set and only using surveys undertaken on weekdays. The full TRICS outputs are available in **Appendix D** with the trip generation summarised in **Table 11**.

TRICS 7.4.1	AM Peak (0800-0900)			PM Peak (1700-1800)			Total Daily Trips
	Arrivals	Departures	Total	Arrivals	Departures	Total	
<i>Trip rate value per 1 dwelling</i>	0.140	0.359	0.499	0.334	0.161	0.495	4.336
Trip generation for 300 units	42	108	150	100	49	149	1301
Trip generation for 480 units	67	173	240	161	77	238	2081

Table 11: Proposed Development Trip Generation (TRICS v.7.4.1)

4.11 The trip rate assessment indicates that the proposed development of 300 homes would generate 150 vehicle trips in the AM peak (0800-0900hrs) and 149 vehicle trips in the PM peak (1700-1800hrs) which equates to 5 trips every two minutes over the AM and PM peak hours.

4.12 The assessment in **Table 11** also provides the trips generated by a development of 480 dwellings to the south of Spring Hill as a worst case as part of scenario 2.

4.13 The trip generation outlined in **Table 11** represents a robust worst-case analysis where all housing units have been treated as ‘Private Houses’. The site layout would likely include a mix of affordable and private units, along with potential for bungalows and a small number of flats. Therefore, the trip generation is likely to be lower than that outlined above.

North of Spring Hill

4.14 The trip generation (based on TRICS) was calculated for the site on Land North of Spring Hill as part of the TA submitted as part of the now withdrawn planning application (P16/V2568/O). This output is shown in **Table 12** based on the 180 homes that formed the planning application and also for the increased density of 240 homes for the purpose of Scenario 2 in this assessment.

TRICS 7.4.1	AM Peak (0800-0900)			PM Peak (1700-1800)			Total Daily Trips
	Arrivals	Departures	Total	Arrivals	Departures	Total	
Trip rate value per 1 dwelling	0.158	0.358	0.516	0.300	0.206	0.506	4.454
Trip generation for 180 units	28	65	93	54	37	91	802
Trip generation for 240 units	38	86	124	72	49	121	1069

Table 12: North of Spring Hill Trip Generation

4.15 This trip assessment indicates that a 240-unit site would generate a total of 124 vehicle trips in the AM peak (0800-0900hrs) and 121 vehicle trips in the PM peak (1700-1800hrs) which equates to approximately 2 trips every minute during the AM and PM peak hours.

Trip Distribution

4.16 Having gathered the trip generation for each of the consented developments being considered, the 2011 Census travel to work data for Kingston Bagpuize has been reviewed in order to assess the likely trip distribution from these developments to destinations in the surrounding area. A breakdown of distribution by destination (Middle Layer Super Output Area) and the percentage of Kingston Bagpuize and Southmoor residents that commute to each destination is provided in **Table 13**.

Destination	Percentage
Oxford	27.6%
Vale of White Horse 007 - Kingston Bagpuize	14.5%
Vale of White Horse 006 - Abingdon	9.4%
South Oxfordshire	8.2%
Vale of White Horse 015 - Chiltern/Harwell	7.1%
West Oxfordshire	7.1%
Vale of White Horse 003 - Marcham/Wooton	4.4%
Cherwell - Banbury/Bicester	3.7%
Vale of White Horse 010 - Drayton	3.1%
Vale of White Horse 016 - Childrey	3.1%
Vale of White Horse 002	2.6%
Vale of White Horse 009	2.4%
Vale of White Horse 001	1.7%
Vale of White Horse 008	1.6%
Vale of White Horse 014	1.3%
Vale of White Horse 011	1.1%
Vale of White Horse 005	0.8%
Vale of White Horse 004	0.2%
TOTAL	100%

Table 13: Census travel to work data for Kingston Bagpuize

4.17 The above distribution was applied to each site and the most likely route taken to reach each destination was determined, in order to provide the split of new trips travelling along each arm of the local road network as shown in **Table 14**. This was combined with the trip generation for each site to calculate the number of trips that committed developments would generate through the study area, as shown in **Appendix E**.

Site	Kingston Bagpuize	A415 south	A415 north	A420 east	A420 west	Charney Rd
Proposed site (South of Spring Hill)	14.5%	34.8%	7.1%	35.6%	2.4%	5.6%
Opposite site (North of Spring Hill)	14.5%	34.8%	7.1%	35.6%	2.4%	5.6%
1. East of Kingston Bagpuize	14.5%	40.4%	7.1%	35.6%	2.4%	0.0%
2. South of A420 and east of A415	14.5%	37.3%	7.1%	35.6%	5.5%	3.1%
3. Land off Draycott Rd	17.0%	34.8%	7.1%	35.6%	2.4%	3.1%
4. West of Witney Rd	14.5%	37.3%	7.1%	35.6%	5.5%	3.1%
5. Land off Field Close	56.4%	34.8%	7.1%	35.6%	2.4%	5.6%
6. South of Faringdon Rd	56.4%	34.8%	7.1%	35.6%	2.4%	5.6%
7. Land at Fallowfields	56.4%	34.8%	7.1%	35.6%	2.4%	5.6%
8. Sports ground and pavilion	14.5%	40.4%	7.1%	35.6%	2.4%	0.0%
9. Springfield Farm	56.4	26.6%	7.1%	35.6%	2.4%	5.6%

Table 14: Trip Allocation to each arm of the local road network

N.B. Some trips were allocated to more than one arm of the defined local road network so that the sum of percentages for each site does not always total 100%.

2027 Baseline + Committed Developments + Proposed Developments

4.18 Traffic flow diagrams illustrating the 2027 baseline with committed developments and the impact of Scenarios 1 and 2 are provided in **Appendix F**.

4.19 These diagrams show that Scenario 1 will have a relatively marginal impact on the A420 staggered junction with an overall 2% increase in traffic flows in the AM and PM peaks respectively as per **Table 15**. There is a maximum increase of 38 trips on a single manoeuvre, from Charney Road onto the A420 eastbound in the AM Peak. With the exception of Charney Road movements, the impact of Scenario 1 on all other manoeuvres (i.e. the A420 flows) is marginal.

	AM	PM
2027 + Committed Development	2600	2478
S1	2657 (2%)	2534 (2%)
S2	2777 (7%)	2660 (7%)

Table 15: % Increase on Local Road Network

4.20 Scenario 2 considers the addition of 720 homes across both sites either side of Spring Hill. The impact on the A420 staggered junction is more significant as shown in **Appendix F** with an overall 7% increase in traffic flows in each of the peak periods as per **Table 15**. The maximum increase of trips on a single manoeuvre, from Charney Road onto the A420 eastbound, is 115 trips in the AM Peak.

5. POSSIBLE JUNCTION IMPROVEMENTS

- 5.1 Regardless of the amount of additional traffic anticipated to use the A420 | Charney Road | Pinewoods Road, existing safety concerns have been raised by Vale of White Horse. Possible junction improvements have therefore been considered that could increase capacity but also resolve existing safety concerns. These have been informed by a design to manage vehicle speeds on the A420, and have been undertaken as high-level feasibility studies. Further, more detailed technical assessments would be undertaken to support any planning submission.
- 5.2 The staggered junction could be improved to better manage traffic speeds, slowing vehicles along the A420 and minimising the risk of accidents. Two possible options for the improved A420 junction are the introduction of an elongated roundabout, or the introduction of traffic signals as shown in the drawings in **Appendix G**.
- 5.3 Due to the separation distance between Charney Road to the south and Pine Woods Road to the north, a conventional circular roundabout would likely be ineffective in controlling vehicle speeds. The proposed roundabout has therefore been designed to increase vehicle deflection in a gyratory arrangement. This proposed shape also appears to be achievable within the verges of the existing junction however, highway boundary mapping would need to be overlaid to confirm this.
- 5.4 A second high-level option has been designed by providing traffic signals on each arm of the staggered junction which would effectively control vehicle speeds on the A420. At this stage, the design is high-level, but it does also afford the opportunity to incorporate pedestrian/cycle crossings within the design to improve safety. The lanes are all 3.5m wide with a 1m hard standing strip either side. The layout provides a continuous dual carriageway for both east and west bound traffic, with right and left turn filtering lanes added. This design appears to be achievable within the highway boundary, but mapping would be needed to confirm this.

6. SUMMARY & CONCLUSIONS

- 6.1 This Transport Impact Assessment Report (TIAR) has been prepared by Paul Basham Associates (PBA) on behalf of Blanchard Enterprises in order to assess the transport impact of a residential development of at least 300 dwellings at Land South of Spring Hill, Southmoor on the A420 staggered junction and this report therefore considers high level design for improving this junction.
- 6.2 Traffic surveys have been undertaken to inform the design of these options. It has been assumed that the proposed site to the south of Spring Hill will come forward and be fully operational by 2027 along with other local development and therefore 2027 is the future year of assessment. The impact of two Scenarios has been investigated:
- **Scenario 1:** 2027 Baseline with Committed developments + 300 units on the site South of Spring Hill; and
 - **Scenario 2:** 2027 Baseline with Committed developments + 480 units on the site South of Spring Hill + 240 units on the site North of Spring Hill.
- 6.3 Scenario 1 results in a 2% increase in total traffic travelling through the junction in each of the peaks whereas scenario 2 results in a 7% increase.
- 6.4 Scenario 2 assesses the worst-case impact of a total of 720 homes proposed across both the north and south sites on Spring Hill. The maximum increase of trips on a single manoeuvre is from Charney Road onto the A420 eastbound, and totals 115 trips in the AM Peak which equates to an 85% increase when compared to the 20 trips in the '2027 Baseline with Committed Developments' diagram.
- 6.5 Regardless of the amount of additional traffic that would travel through the junction two possible options have been proposed which would slow traffic and manage turning vehicles through this junction and therefore improve safety:
- **Option 1:** A gyratory which slows vehicles by providing deflection for traffic heading eastbound/westbound along the A420. The proposed junction also appears to fit within the verges of the staggered junction however highway boundary mapping would need to be overlaid to confirm this. The A420 either side of the junction remains a dual carriageway.

- **Option 2:** Signalising the staggered junction allows management of reduced speeds, especially turning manoeuvres. The layout provides a continuous dual carriageway for both east and west bound traffic, with right and left turn filtering lanes added. The high-level design provides 3.5m wide carriageways with a 1m hard standing strip either side and shows that pedestrian/cycle crossings could also be accommodated.

6.6 The two options appear to be feasible in transport terms and would provide a lower speed and safer junction. The possible allocation of the sites either side of Spring Hill should therefore not be discounted on grounds of highway safety. Further, more detailed technical work would be undertaken to support any planning submission to fully demonstrate the acceptability of the proposals.

Appendix A

TSP Class Profile All Days 15 Mins

Report Id - CustomList-19
 Site Name - SPRING HILL
 Description - SPRING HILL [60M]
 Direction - East

04 April 2017

Time	Total	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Fix1	Time	Vbin 0 5	Vbin 5 10	Vbin 10 15	Vbin 15 20	Vbin 20 25	Vbin 25 30	Vbin 30 35	Vbin 35 40	Vbin 40 45	Vbin 45 50	Vbin 50 55	Vbin 55 60	Vbin 60 130	Mean	Vpp 85	JPSL 60	JPSL% 60	JSL1 68 ACPO	JSL1% 68 ACPO	JSL2 75 DFT	JSL2% 75 DFT	Fix1
0000	2	0	2	0	0	0	0	0	0	0	0	0	0000	0	0	0	0	0	0	0	0	0	0	0	0	0	32.9	-	0	0	0	0	0	0	0
0015	0	0	0	0	0	0	0	0	0	0	0	0	0015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0030	0	0	0	0	0	0	0	0	0	0	0	0	0030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0045	0	0	0	0	0	0	0	0	0	0	0	0	0045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0100	0	0	0	0	0	0	0	0	0	0	0	0	0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0115	0	0	0	0	0	0	0	0	0	0	0	0	0115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0130	0	0	0	0	0	0	0	0	0	0	0	0	0130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0145	0	0	0	0	0	0	0	0	0	0	0	0	0145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0200	0	0	0	0	0	0	0	0	0	0	0	0	0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0215	1	0	1	0	0	0	0	0	0	0	0	0	0215	0	0	0	0	0	1	0	0	0	0	0	0	0	0	29.1	-	0	0	0	0	0	0
0230	0	0	0	0	0	0	0	0	0	0	0	0	0230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0245	0	0	0	0	0	0	0	0	0	0	0	0	0245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0300	0	0	0	0	0	0	0	0	0	0	0	0	0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0315	0	0	0	0	0	0	0	0	0	0	0	0	0315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0330	0	0	0	0	0	0	0	0	0	0	0	0	0330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0345	0	0	0	0	0	0	0	0	0	0	0	0	0345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0400	0	0	0	0	0	0	0	0	0	0	0	0	0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0415	0	0	0	0	0	0	0	0	0	0	0	0	0415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0430	0	0	0	0	0	0	0	0	0	0	0	0	0430	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0445	0	0	0	0	0	0	0	0	0	0	0	0	0445	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0500	0	0	0	0	0	0	0	0	0	0	0	0	0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0515	1	0	1	0	0	0	0	0	0	0	0	0	0515	0	0	0	0	0	0	1	0	0	0	0	0	0	0	33	-	0	0	0	0	0	0
0530	0	0	0	0	0	0	0	0	0	0	0	0	0530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0
0545	2	0	1	0	1	0	0	0	0	0	0	0	0545	0	0	0	0	1	0	1	0	0	0	0	0	0	0	27.7	-	0	0	0	0	0	0
0600	1	0	1	0	0	0	0	0	0	0	0	0	0600	0	0	0	0	0	0	0	1	0	0	0	0	0	0	38.9	-	0	0	0	0	0	0
0615	4	0	2	0	2	0	0	0	0	0	0	0	0615	0	0	0	0	1	0	0	2	1	0	0	0	0	0	34.3	-	0	0	0	0	0	0
0630	12	0	9	0	3	0	0	0	0	0	0	0	0630	0	0	0	0	2	2	6	2	0	0	0	0	0	0	30.9	36.2	0	0	0	0	0	0
0645	20	0	19	0	1	0	0	0	0	0	0	0	0645	0	0	0	0	0	10	8	2	0	0	0	0	0	0	30.5	34.6	0	0	0	0	0	0
0700	18	0	16	0	2	0	0	0	0	0	0	0	0700	0	0	0	0	1	11	4	2	0	0	0	0	0	0	29.4	33.8	0	0	0	0	0	0
0715	24	0	22	0	2	0	0	0	0	0	0	0	0715	0	0	1	0	3	9	9	2	0	0	0	0	0	0	29.6	34.3	0	0	0	0	0	0
0730	26	0	23	0	3	0	0	0	0	0	0	0	0730	0	1	0	1	2	11	7	4	0	0	0	0	0	0	29	35.3	0	0	0	0	0	0
0745	28	0	25	1	2	0	0	0	0	0	0	0	0745	0	0	0	0	3	4	18	3	0	0	0	0	0	0	31.2	34.6	0	0	0	0	0	0
0800	20	1	15	0	4	0	0	0	0	0	0	0	0800	0	0	1	0	1	9	5	2	2	0	0	0	0	0	30.1	36.9	0	0	0	0	0	0
0815	16	1	15	0	0	0	0	0	0	0	0	0	0815	0	0	0	0	3	5	8	0	0	0	0	0	0	0	28.8	32.4	0	0	0	0	0	0
0830	22	0	20	0	2	0	0	0	0	0	0	0	0830	0	0	0	0	1	10	11	0	0	0	0	0	0	0	29.9	32.4	0	0	0	0	0	0
0845	14	0	11	0	3	0	0	0	0	0	0	0	0845	0	0	0	0	3	4	3	4	0	0	0	0	0	0	30.3	36	0	0	0	0	0	0
0900	9	0	7	0	2	0	0	0	0	0	0	0	0900	0	0	0	0	1	5	0	1	2	0	0	0	0	0	31.2	-	0	0	0	0	0	0
0915	11	0	9	0	2	0	0	0	0	0	0	0	0915	0	0	0	0	3	3	3	0	2	0	0	0	0	0	30.2	40.4	0	0	0	0	0	0
0930	11	0	10	0	1	0	0	0	0	0	0	0	0930	0	0	0	0	4	1	5	1	0	0	0	0	0	0	29.2	35.3	0	0	0	0	0	0
0945	12	0	10	0	2	0	0	0	0	0	0	0	0945	0	0	0	0	2	2	7	1	0	0	0	0	0	0	30.2	32.9	0	0	0	0	0	0
1000	18	1	16	0	1	0	0	0	0	0	0	0	1000	0	0	0	0	2	6	8	2	0	0	0	0	0	0	30.4	34.4	0	0	0	0	0	0
1015	9	0	7	0	2	0	0	0	0	0	0	0	1015	0	0	0	1	2	3	2	1	0	0	0	0	0	0	27.4	-	0	0	0	0	0	0
1030	11	0	10	0	1	0	0	0	0	0	0	0	1030	0	0	0	0	0	6	2	2	1	0	0	0	0	0	30.9	38	0	0	0	0	0	0
1045	14	0	12	0	2	0	0	0	0	0	0	0	1045	0	0	0	0	2	5	6	1	0	0	0	0	0	0	29	33	0	0	0	0	0	0
1100	15	0	15	0	0	0	0	0	0	0	0	0	1100	0	0	0	0	1	5	8	1	0	0	0	0	0	0	29.8	34.2	0	0	0	0	0	0
1115	10	0	9	0	1	0	0	0	0	0	0	0	1115	0	0	0	0	2	7	1	0	0	0	0	0	0	0	27.7	-	0	0	0	0	0	0
1130	15	1	12	0	2	0	0	0	0	0	0	0	1130	0	0	1	1	6	4	0	1	2	0	0	0	0	0	26.9	38.5	0	0	0	0	0	0
1145	11	0	7	0	3	0	1	0	0	0	0	0	1145	0	0	0	0	3	3	2	3	0	0	0	0	0	0	29.4	37.2	0	0	0	0	0	0
1200	13	1	11	0	0	0	1	0	0	0	0	0	1200	0	0	0	1	0	7	3	2	0	0	0	0	0	0	29.8	35.5	0	0	0	0	0	0
1215	15	0	13	0	2	0	0	0	0	0	0	0	1215	0	0	1	0	2	7	4	1	0	0	0	0	0	0	27.8	33.7	0	0	0	0	0	0
1230	11	0	7	0	2	1	1	0	0	0	0	0	1230	0	0	0	0	1	8	1	1	0	0	0	0	0	0	28.5	34.7	0	0	0	0	0	0
1245	10	0	10	0	0																														

Appendix B

A420/PINE WOODS RD/CHARNEY RD SOUTHMOOR
DATE: 2 NOV 2017
TRAFFIC SURVEY
SITE MAP

PINE WOODS RD

A420 W

A420 E



CHARNEY RD

A420/PINE WOODS RD/CHARNEY RD SOUTHMOOR
 DATE: 2 NOV 2017
 TRAFFIC SURVEY
 JUNCTION 1 SUMMARY

AM	PINE WOODS RD											A420 E											CHARNEY RD											A420 W											TOTAL										
	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS					
																																																			TIME				
07:00 - 07:15	10	1	11	0	0	0	0	0.0	11	96	6	102	14	3	17	0	0	14.3	119	11	5	16	0	0	0	0	0.0	16	340	64	404	15	1	16	0	0	3.8	420	457	76	533	29	4	33	0	0	5.8	566							
07:15 - 07:30	19	1	20	0	0	0	0	0.0	20	118	16	134	17	0	17	0	0	11.3	151	17	3	20	0	1	1	0	0	4.8	21	345	74	419	21	1	22	0	1	5.0	442	499	94	593	38	2	40	0	1	6.3	634						
07:30 - 07:45	9	1	10	0	0	0	0	0.0	10	128	20	148	22	3	25	0	0	14.5	173	10	3	13	0	1	1	0	0	13.3	15	278	34	312	25	1	26	0	1	7.7	339	425	58	483	48	5	53	0	1	9.9	537						
07:45 - 08:00	12	6	18	0	1	1	0	5.3	19	116	30	146	18	1	19	1	0	11.5	166	20	0	20	1	0	1	0	0	4.8	21	300	37	337	20	2	22	0	0	6.1	359	448	73	521	39	4	43	1	0	7.6	565						
08:00 - 08:15	14	3	17	0	0	0	0	0.0	17	137	19	156	20	2	22	0	0	12.4	178	14	0	14	0	1	1	0	0	6.7	15	307	43	350	19	2	21	0	2	5.7	373	472	65	537	39	5	44	0	2	7.6	583						
08:15 - 08:30	13	1	14	0	0	0	0	0.0	14	134	23	157	26	1	27	0	1	14.7	185	20	1	21	0	1	1	0	0	4.5	22	281	29	310	18	1	19	1	2	5.8	332	448	54	502	44	3	47	1	3	8.6	553						
08:30 - 08:45	16	2	18	0	0	0	0	0.0	18	116	25	141	20	0	20	1	0	12.4	162	17	3	20	0	1	1	0	0	4.8	21	205	23	228	24	1	25	0	1	9.9	254	354	53	407	44	2	46	1	1	10.2	455						
08:45 - 09:00	9	2	11	0	0	0	0	0.0	11	108	12	120	14	0	14	1	0	10.4	135	14	1	15	0	2	2	0	0	11.8	17	208	20	228	20	2	22	0	1	8.8	251	339	35	374	34	4	38	1	1	9.2	414						
09:00 - 09:15	15	5	20	0	0	0	0	0.0	20	109	16	125	11	0	11	0	0	8.1	136	11	3	14	0	0	0	0	0	10.4	14	210	28	238	26	1	27	0	2	10.2	267	345	52	397	37	1	38	0	2	8.7	437						
09:15 - 09:30	11	2	13	0	0	0	0	0.0	13	91	16	107	20	2	22	0	0	17.1	129	17	2	19	0	1	1	0	0	5.0	20	152	21	173	23	2	25	0	1	12.6	199	271	41	312	43	5	48	0	1	13.3	361						
09:30 - 09:45	10	4	14	0	0	0	0	0.0	14	89	18	107	24	0	24	0	0	18.3	131	12	4	16	1	1	2	1	0	11.1	19	125	24	149	20	1	21	0	1	12.4	171	236	50	286	45	2	47	1	1	14.1	335						
09:45 - 10:00	10	3	13	0	0	0	0	0.0	13	83	17	100	23	1	24	0	0	19.4	124	14	3	17	1	1	2	0	0	10.5	19	162	34	196	27	0	27	0	2	12.1	225	269	57	326	51	2	53	0	2	14.0	381						
HOOR TOTALS																																																							
07:00 - 08:00	50	9	59	0	1	1	0	1.7	60	458	72	530	71	7	78	1	0	12.8	609	58	11	69	2	2	4	0	0	5.5	73	1263	209	1472	81	5	86	0	2	5.5	1560	1829	301	2130	154	15	169	1	2	7.4	2302						
07:15 - 08:15	54	11	65	0	1	1	0	1.7	66	499	85	584	77	6	83	1	0	12.4	668	61	6	67	2	3	5	0	0	6.9	72	1230	188	1418	85	6	91	0	4	6.0	1513	1844	290	2134	164	16	180	1	4	7.8	2319						
07:30 - 08:30	48	11	59	0	1	1	0	1.7	60	515	92	607	86	7	93	1	1	13.3	702	64	4	68	2	3	5	0	0	6.8	73	1166	143	1309	82	6	88	1	5	6.3	1403	1793	250	2043	170	17	187	2	6	8.4	2338						
07:45 - 08:45	55	12	67	0	1	1	0	1.5	69	503	82	600	84	4	88	2	1	12.8	691	71	4	75	1	3	4	0	0	5.4	79	1093	132	1225	81	6	87	1	5	6.6	1318	1722	245	1967	166	14	180	3	6	8.4	2156						
08:00 - 09:00	52	8	60	0	0	0	0	0.0	60	495	78	574	80	3	83	2	1	12.6	660	65	5	70	0	5	5	0	0	6.7	75	1001	115	1116	81	6	87	1	6	7.2	1210	1613	207	1820	151	14	175	3	7	8.8	2005						
08:15 - 09:15	53	10	63	0	0	0	0	0.0	63	467	76	543	71	1	72	2	1	11.7	618	62	8	70	0	4	4	0	0	5.4	74	904	100	1004	88	5	93	1	6	8.5	1104	1486	194	1680	159	10	169	3	7	9.1	1859						
08:30 - 09:30	51	11	62	0	0	0	0	0.0	62	424	69	493	65	2	67	2	0	12.0	562	59	9	68	0	4	4	0	0	5.6	72	775	92	867	93	6	99	0	5	10.2	971	1309	181	1490	158	12	170	2	5	10.2	1667						
08:45 - 09:45	45	13	58	0	0	0	0	0.0	58	397	62	459	69	2	71	1	0	13.4	531	54	10	64	1	4	5	1	0	7.2	70	695	93	788	89	6	95	0	5	10.8	888	1191	178	1369	159	12	171	2	5	11.1	1547						
09:00 - 10:00	46	14	60	0	0	0	0	0.0	60	372	67	439	78	3	81	0	0	15.6	520	54	12	66	2	3	5	1	0	7.0	72	649	107	756	96	4	100	0	6	11.7	862	1121	200	1321	176	10	186	1	6	12.3	1514						

PM	PINE WOODS RD											A420 E											CHARNEY RD											A420 W											TOTAL										
	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS					
																																																			TIME				
16:00 - 16:15	8	6	14	0	0	0	0	0.0	14	184	49	233	11	0	11	0	3	4.5	247	16	8	24	1	2	3	0	0	11.1	27	159	33	192	9	1	10	0	0	5.0	202	367	96	463	21	3	24	0	3	4.9	490						
16:15 - 16:30	9	1	10	0	0	0	0	0.0	10	238	52	290	14	0	14	0	3	4.6	307	18	14	32	1	1	2	0	0	5.9	34	156	22	178	12	2	14	0	1	7.3	193	421	89	510	27	3	30	0	4	5.6	544						
16:30 - 16:45	11	6	17	2	0	2	0	10.5	19	267	54	321	8	0	8	0	1	2.4	330	17	9	26	0	2	2	1	0	7.1	29	158	23	181	14	1	15	0	1	7.7	197	453	92	545	24	3	27	1	2	4.7	575						
16:45 - 17:00	4	3	7	0	0	0	0	0.0	7	234	51	285	16	0	16	0	2	5.3	303	10	8	18	2	1	3	0	0	14.3	21	160	23	183	21	1	22	0	0	10.7	205	408	85	493	39	2	41	0	2	7.7	536						
17:00 - 17:15	6	0	6	0	0	0	0	0.0	6	263	25	288	9	1	10	0	1	3.4	299	16	3	19	0	1	1	0	0	5.0	20	172	20	192	12	1	13	0	1	6.3	206	457	48	505	21	3	24	0	2	4.3	531						
17:15 - 17:30	6	0	6	0	0	0	0	0.0	6	311	30	341	18	2	18	0	0	5.4	359	18	3	19	0	1	1	0	0	5.0	20	159	11	170	11	1	12	0	0	6.6	182	492	44	536	27	4	31	0	1	5.3	567						
17:30 - 17:45	13	0	13	0	0	0	0	0.0	13	294	23	317	10	1	11	0	1	3.4	329	13	2	15	3	0	3	0	0	16.7	18	156	9	165	13	1	14	0	0	7.8	179	476	34	510	26	2	28	0	0	5.2	539						
17:45 - 18:00	9	1	10	0	0	1	0	0.0	11	302	13	315	9	0	9	0	1	2.8	325	16	1	17	0	2	2	0	0	10.5	19	133	7	140	5	0	5	0	1</																		

A420/PINE WOODS RD/CHARNEY RD SOUTHMOOR
DATE: 2 NOV 2017
 TRAFFIC SURVEY
 JUNCTION 1

AM PINE WOODS RD	LEFT TO A420 E										THROUGH TO CHARNEY RD										RIGHT TO A420 W									
	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS
07:00 - 07:15	6	1	7	0	0	0	0	0.0	7	1	0	1	0	0	0	0	0	0.0	1	3	0	3	0	0	0	0	0	0.0	3	
07:15 - 07:30	12	0	12	0	0	0	0	0.0	12	5	0	5	0	0	0	0	0	0.0	5	2	1	3	0	0	0	0	0	0.0	3	
07:30 - 07:45	5	0	5	0	0	0	0	0.0	5	2	1	3	0	0	0	0	0	0.0	3	2	0	2	0	0	0	0	0	0.0	2	
07:45 - 08:00	3	1	4	0	0	0	0	0.0	4	6	1	7	0	1	1	0	0	12.5	8	3	4	7	0	0	0	0	0	0.0	7	
08:00 - 08:15	4	2	6	0	0	0	0	0.0	6	6	0	6	0	0	0	0	0	0.0	6	4	1	5	0	0	0	0	0	0.0	5	
08:15 - 08:30	4	0	4	0	0	0	0	0.0	4	3	1	4	0	0	0	0	0	0.0	4	3	0	3	0	0	0	0	0	0.0	3	
08:30 - 08:45	7	0	7	0	0	0	0	0.0	7	3	1	4	0	0	0	0	0	0.0	4	6	1	7	0	0	0	0	0	0.0	7	
08:45 - 09:00	1	0	1	0	0	0	0	0.0	1	5	1	6	0	0	0	0	0	0.0	6	3	1	4	0	0	0	0	0	0.0	4	
09:00 - 09:15	6	1	7	0	0	0	0	0.0	7	6	0	6	0	0	0	0	0	0.0	6	3	4	7	0	0	0	0	0	0.0	7	
09:15 - 09:30	5	0	5	0	0	0	0	0.0	5	2	0	2	0	0	0	0	0	0.0	2	4	2	6	0	0	0	0	0	0.0	6	
09:30 - 09:45	3	1	4	0	0	0	0	0.0	4	4	2	6	0	0	0	0	0	0.0	6	3	1	4	0	0	0	0	0	0.0	4	
09:45 - 10:00	5	0	5	0	0	0	0	0.0	5	3	0	3	0	0	0	0	0	0.0	3	2	3	5	0	0	0	0	0	0.0	5	
HOURLY TOTALS																														
07:00 - 08:00	26	2	28	0	0	0	0	0.0	28	14	2	16	0	1	1	0	0	5.9	17	10	5	15	0	0	0	0	0	0.0	15	
07:15 - 08:15	24	3	27	0	0	0	0	0.0	27	19	2	21	0	1	1	0	0	4.5	22	10	6	17	0	0	0	0	0	0.0	17	
07:30 - 08:30	16	3	19	0	0	0	0	0.0	19	20	3	23	0	1	1	0	0	4.2	24	11	5	17	0	0	0	0	0	0.0	17	
07:45 - 08:45	18	3	21	0	0	0	0	0.0	21	21	3	24	0	1	1	0	0	4.0	25	12	6	22	0	0	0	0	0	0.0	22	
08:00 - 09:00	16	2	18	0	0	0	0	0.0	18	20	3	23	0	0	0	0	0	0.0	23	16	3	19	0	0	0	0	0	0.0	19	
08:15 - 09:15	18	1	19	0	0	0	0	0.0	19	20	3	23	0	0	0	0	0	0.0	23	16	6	21	0	0	0	0	0	0.0	21	
08:30 - 09:30	19	1	20	0	0	0	0	0.0	20	16	2	18	0	0	0	0	0	0.0	18	15	8	24	0	0	0	0	0	0.0	24	
08:45 - 09:45	15	2	17	0	0	0	0	0.0	17	17	3	20	0	0	0	0	0	0.0	20	16	8	21	0	0	0	0	0	0.0	21	
09:00 - 10:00	19	2	21	0	0	0	0	0.0	21	15	2	17	0	0	0	0	0	0.0	17	13	10	22	0	0	0	0	0	0.0	22	

A420 E	LEFT TO CHARNEY RD										THROUGH TO A420 W										RIGHT TO PINE WOODS RD									
	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS
07:00 - 07:15	1	1	2	0	1	1	0	33.3	3	95	5	100	14	2	16	0	0	13.8	116	0	0	0	0	0	0	0	0	0.0	0	
07:15 - 07:30	6	0	6	0	0	0	0	0.0	6	112	16	128	17	0	17	0	0	11.7	145	0	0	0	0	0	0	0	0	0.0	0	
07:30 - 07:45	7	1	8	4	1	5	0	38.5	13	121	19	140	18	2	20	0	0	12.5	160	0	0	0	0	0	0	0	0	0.0	0	
07:45 - 08:00	11	2	13	1	1	2	0	13.3	15	105	25	130	17	0	17	1	0	11.6	148	0	3	3	0	0	0	0	0	0.0	3	
08:00 - 08:15	9	2	11	0	1	1	0	8.3	12	128	17	145	20	1	21	0	0	12.7	166	0	0	0	0	0	0	0	0	0.0	0	
08:15 - 08:30	8	1	9	0	0	0	0	0.0	9	125	22	147	26	1	27	0	1	15.5	175	1	0	1	0	0	0	0	0	0.0	1	
08:30 - 08:45	5	1	6	0	0	0	0	0.0	6	111	23	134	20	0	20	1	0	13.0	155	0	1	1	0	0	0	0	0	0.0	1	
08:45 - 09:00	9	1	10	0	0	0	0	0.0	10	98	9	107	14	0	14	1	0	11.6	122	1	2	3	0	0	0	0	0	0.0	3	
09:00 - 09:15	6	0	6	0	0	0	0	0.0	6	102	16	118	11	0	11	0	0	8.5	129	1	0	1	0	0	0	0	0	0.0	1	
09:15 - 09:30	3	0	3	2	0	2	0	40.0	5	85	16	101	18	2	20	0	0	16.5	121	3	0	3	0	0	0	0	0	0.0	3	
09:30 - 09:45	5	4	9	0	0	0	0	0.0	9	83	14	97	24	0	24	0	0	19.8	121	1	0	1	0	0	0	0	0	0.0	1	
09:45 - 10:00	3	1	4	0	0	0	0	0.0	4	79	14	93	23	1	24	0	0	20.5	117	1	2	3	0	0	0	0	0	0.0	3	
HOURLY TOTALS																														
07:00 - 08:00	25	4	29	5	3	8	0	21.6	37	433	65	498	66	4	70	1	0	12.3	569	0	3	3	0	0	0	0	0	0.0	3	
07:15 - 08:15	33	5	38	5	3	8	0	17.4	46	466	77	543	72	3	75	1	0	12.1	619	0	3	3	0	0	0	0	0	0.0	3	
07:30 - 08:30	35	6	41	5	3	8	0	16.3	49	479	83	562	81	4	85	1	1	13.1	649	1	3	4	0	0	0	0	0	0.0	4	
07:45 - 08:45	33	6	39	1	2	3	0	7.1	42	469	87	556	83	2	85	2	1	13.3	644	1	4	5	0	0	0	0	0	0.0	5	
08:00 - 09:00	31	5	36	0	1	1	0	2.7	37	462	71	533	80	2	82	2	1	13.3	618	2	3	5	0	0	0	0	0	0.0	5	
08:15 - 09:15	28	3	31	0	0	0	0	0.0	31	436	70	506	71	1	72	2	1	12.5	581	3	3	6	0	0	0	0	0	0.0	6	
08:30 - 09:30	23	2	25	2	0	2	0	7.4	27	396	64	460	63	2	65	2	0	12.4	527	5	3	8	0	0	0	0	0	0.0	8	
08:45 - 09:45	23	5	28	2	0	2	0	6.7	30	368	55	423	67	2	69	1	0	14.0	493	6	2	8	0	0	0	0	0	0.0	8	
09:00 - 10:00	17	5	22	2	0	2	0	8.3	24	349	60	409	76	3	79	0	0	16.2	488	6	2	8	0	0	0	0	0	0.0	8	

A420/PINE WOODS RD/CHARNEY RD SOUTHMOOR
DATE: 2 NOV 2017
 TRAFFIC SURVEY
 JUNCTION 1

PINE WOODS RD	LEFT TO A420 E										THROUGH TO CHARNEY RD										RIGHT TO A420 W									
	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS
	TIME																													
16:00 - 16:15	3	1	4	0	0	0	0	0.0	4	2	2	4	0	0	0	0	0	0.0	4	3	3	6	0	0	0	0	0.0	6		
16:15 - 16:30	4	1	5	0	0	0	0	0.0	5	2	0	2	0	0	0	0	0	0.0	2	3	0	3	0	0	0	0	0.0	3		
16:30 - 16:45	3	2	5	2	0	2	0	28.6	7	3	1	4	0	0	0	0	0	0.0	4	5	3	8	0	0	0	0	0.0	8		
16:45 - 17:00	1	1	2	0	0	0	0	0.0	2	1	1	2	0	0	0	0	0	0.0	2	2	1	3	0	0	0	0	0.0	3		
17:00 - 17:15	1	0	1	0	0	0	0	0.0	1	3	0	3	0	0	0	0	0	0.0	3	2	0	2	0	0	0	0	0.0	2		
17:15 - 17:30	0	0	0	0	0	0	0	0.0	0	1	0	1	0	0	0	0	0	0.0	1	5	0	5	0	0	0	0	0.0	5		
17:30 - 17:45	4	0	4	0	0	0	0	0.0	4	4	0	4	0	0	0	0	0	0.0	4	5	0	5	0	0	0	0	0.0	5		
17:45 - 18:00	2	0	2	0	0	0	0	0.0	2	4	0	4	0	0	1	0	0	0.0	5	3	1	4	0	0	0	0	0.0	4		
18:00 - 18:15	1	0	1	0	0	0	0	0.0	1	2	0	2	0	0	0	0	0	0.0	2	1	0	1	0	0	0	0	0.0	1		
18:15 - 18:30	4	0	4	0	0	0	0	0.0	4	1	0	1	0	0	0	0	0	0.0	1	2	0	2	0	0	0	0	0.0	2		
18:30 - 18:45	7	0	7	0	0	0	0	0.0	7	0	1	1	0	0	0	0	0	0.0	1	0	1	1	0	0	0	0	0.0	1		
18:45 - 19:00	2	0	2	0	0	0	0	0.0	2	1	1	2	0	0	0	0	0	0.0	2	2	1	3	0	0	0	0	0.0	3		
HOURLY TOTALS	0										0										0									
16:00 - 17:00	11	5	16	2	0	2	0	11.1	18	8	4	12	0	0	0	0	0.0	12	13	7	20	0	0	0	0	0.0	20			
16:15 - 17:15	9	4	13	2	0	2	0	13.3	15	9	2	11	0	0	0	0	0	0.0	11	12	4	16	0	0	0	0	0.0	16		
16:30 - 17:30	5	3	8	2	0	2	0	20.0	10	8	2	10	0	0	0	0	0	0.0	10	14	4	18	0	0	0	0	0.0	18		
16:45 - 17:45	6	1	7	0	0	0	0	0.0	7	9	1	10	0	0	0	0	0	0.0	10	14	1	15	0	0	0	0	0.0	15		
17:00 - 18:00	7	0	7	0	0	0	0	0.0	7	12	0	12	0	0	1	0	0	0.0	13	15	1	16	0	0	0	0	0.0	16		
17:15 - 18:15	7	0	7	0	0	0	0	0.0	7	11	0	11	0	0	1	0	0	0.0	12	14	1	15	0	0	0	0	0.0	15		
17:30 - 18:30	11	0	11	0	0	0	0	0.0	11	11	0	11	0	0	1	0	0	0.0	12	11	1	12	0	0	0	0	0.0	12		
17:45 - 18:45	14	0	14	0	0	0	0	0.0	14	7	1	8	0	0	1	0	0	0.0	9	6	2	8	0	0	0	0	0.0	8		
18:00 - 19:00	14	0	14	0	0	0	0	0.0	14	4	2	6	0	0	0	0	0	0.0	6	5	2	7	0	0	0	0	0.0	7		

A420 E	LEFT TO CHARNEY RD										THROUGH TO A420 W										RIGHT TO PINE WOODS RD									
	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS
	TIME																													
16:00 - 16:15	5	2	7	0	0	0	0	0.0	7	178	46	224	11	0	11	0	3	4.7	238	1	1	2	0	0	0	0	0.0	2		
16:15 - 16:30	7	0	7	1	0	1	0	12.5	8	229	52	281	13	0	13	0	3	4.4	297	2	0	2	0	0	0	0	0.0	2		
16:30 - 16:45	7	1	8	0	0	0	0	0.0	8	259	52	311	8	0	8	0	1	2.5	320	1	1	2	0	0	0	0	0.0	2		
16:45 - 17:00	5	1	6	0	0	0	0	0.0	6	228	50	278	15	0	15	0	2	5.1	295	1	0	1	1	0	1	0	50.0	2		
17:00 - 17:15	9	1	10	1	1	2	0	16.7	12	247	23	270	8	0	8	0	1	2.9	279	7	1	8	0	0	0	0	0.0	8		
17:15 - 17:30	8	1	9	0	1	1	0	10.0	10	297	29	326	16	1	17	0	0	5.0	343	6	0	6	0	0	0	0	0.0	6		
17:30 - 17:45	9	0	9	0	0	0	0	0.0	9	282	23	305	10	1	11	0	1	3.5	317	3	0	3	0	0	0	0	0.0	3		
17:45 - 18:00	11	0	11	0	0	0	0	0.0	12	284	13	297	9	0	9	0	0	2.9	306	7	0	7	0	0	0	0	0.0	7		
18:00 - 18:15	7	0	7	0	0	0	0	0.0	7	256	12	268	6	0	6	0	3	2.2	277	5	1	6	0	0	0	0	0.0	6		
18:15 - 18:30	5	0	5	0	0	0	0	0.0	5	245	11	256	12	0	12	0	0	4.5	268	7	0	7	0	0	0	0	0.0	7		
18:30 - 18:45	4	0	4	0	0	0	0	0.0	4	184	13	197	11	1	12	0	2	5.7	211	2	1	3	0	0	0	0	0.0	3		
18:45 - 19:00	6	1	7	2	0	2	0	22.2	9	188	8	196	8	1	9	0	0	4.4	205	3	0	3	0	0	0	0	0.0	3		
HOURLY TOTALS																														
16:00 - 17:00	24	4	28	1	0	1	0	3.4	29	894	200	1094	0	0	47	0	9	4.1	1150	5	2	7	1	0	1	0	12.5	8		
16:15 - 17:15	28	3	31	2	1	3	0	8.8	34	963	177	1140	0	0	44	0	7	3.7	1191	11	2	13	1	0	1	0	7.1	14		
16:30 - 17:30	29	4	33	1	2	3	0	8.3	36	1031	154	1185	0	1	48	0	4	3.9	1237	15	2	17	1	0	1	0	5.6	18		
16:45 - 17:45	31	3	34	1	2	3	0	8.1	37	1054	125	1179	0	2	51	0	4	4.1	1234	17	1	18	1	0	1	0	5.3	19		
17:00 - 18:00	37	2	39	1	2	3	0	7.1	43	1110	88	1198	0	2	45	0	2	3.6	1245	23	1	24	0	0	0	0	0.0	24		
17:15 - 18:15	35	1	36	0	1	1	0	2.7	38	1119	77	1196	0	2	43	0	4	3.5	1243	21	1	22	0	0	0	0	0.0	22		
17:30 - 18:30	32	0	32	0	0	0	1	0.0	33	1067	59	1126	0	1	38	0	4	3.3	1168	22	1	23	0	0	0	0	0.0	23		
17:45 - 18:45	27	0	27	0	0	0	1	0.0	28	969	49	1018	0	1	39	0	5	3.7	1062	21	2	23	0	0	0	0	0.0	23		
18:00 - 19:00	22	1	23	2	0	2	0	8.0	25	873	44	917	0	2	39	0	5	4.1	961	17	2	19	0	0	0	0	0.0	19		

CHARNEY RD	LEFT TO A420 W										THROUGH TO PINE WOODS RD										RIGHT TO A420 E										
	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	
16:00 - 16:15	9	7	16	0	1	1	0	0	5.9	17	4	0	4	0	0	0	0	0	0.0	4	3	1	4	1	1	2	0	0	0	33.3	6
16:15 - 16:30	15	9	24	1	1	2	0	0	7.7	26	1	0	1	0	0	0	0	0	0.0	1	2	5	7	0	0	0	0	0	0.0	7	
16:30 - 16:45	11	6	17	0	2	2	0	0	10.5	19	3	2	5	0	0	1	0	0	0.0	6	3	1	4	0	0	0	0	0	0.0	4	
16:45 - 17:00	5	7	12	1	1	2	0	0	14.3	14	3	0	3	0	0	0	0	0	0.0	3	2	1	3	1	0	1	0	0	25.0	4	
17:00 - 17:15	9	2	11	0	1	1	0	0	8.3	12	4	0	4	0	0	0	0	0	0.0	4	3	1	4	0	0	0	0	0	0.0	4	
17:15 - 17:30	10	2	12	0	1	1	0	0	7.7	13	3	0	3	0	0	0	0	0	0.0	3	3	1	4	0	0	0	0	0	0.0	4	
17:30 - 17:45	9	2	11	2	0	2	0	0	15.4	13	1	0	1	0	0	0	0	0	0.0	1	3	0	3	1	0	1	0	0	25.0	4	
17:45 - 18:00	13	1	14	0	2	2	0	0	12.5	16	0	0	0	0	0	0	0	0	0.0	0	3	0	3	0	0	0	0	0	0.0	3	
18:00 - 18:15	11	2	13	0	1	1	0	0	7.1	14	2	0	2	0	0	0	0	0	0.0	2	4	0	4	0	0	0	0	0	0.0	4	
18:15 - 18:30	9	0	9	0	1	1	0	0	10.0	10	5	0	5	0	0	0	1	1	0.0	7	1	1	2	0	1	1	1	0	33.3	4	
18:30 - 18:45	7	3	10	0	1	1	0	0	9.1	11	2	1	3	0	0	0	0	0	0.0	3	4	0	4	0	0	0	0	0	0.0	4	
18:45 - 19:00	8	1	9	0	0	0	0	0	0.0	9	2	0	2	0	0	0	0	0	0.0	2	1	0	1	0	0	0	0	0	0.0	1	
HOURLY TOTALS									0																						
16:00 - 17:00	40	29	69	2	5	7	0	0	9.2	76	11	2	13	0	0	0	1	0	0.0	14	10	8	18	2	1	3	0	0	14.3	21	
16:15 - 17:15	40	24	64	2	5	7	0	0	9.9	71	11	2	13	0	0	0	1	0	0.0	14	10	8	18	1	0	1	0	0	5.3	19	
16:30 - 17:30	35	17	52	1	5	6	0	0	10.3	58	13	2	15	0	0	0	1	0	0.0	16	11	4	15	1	0	1	0	0	6.3	16	
16:45 - 17:45	33	13	46	3	3	6	0	0	11.5	52	11	0	11	0	0	0	0	0	0.0	11	11	3	14	2	0	2	0	0	12.5	16	
17:00 - 18:00	41	7	48	2	4	6	0	0	11.1	54	8	0	8	0	0	0	0	0	0.0	8	12	2	14	1	0	1	0	0	6.7	15	
17:15 - 18:15	43	7	50	2	4	6	0	0	10.7	56	6	0	6	0	0	0	0	0	0.0	6	13	1	14	1	0	1	0	0	6.7	15	
17:30 - 18:30	42	5	47	2	4	6	0	0	11.3	53	8	0	8	0	0	0	1	1	0.0	10	11	1	12	1	1	2	1	0	14.3	15	
17:45 - 18:45	40	6	46	0	5	5	0	0	9.8	51	9	1	10	0	0	0	1	1	0.0	12	12	1	13	0	1	1	1	0	7.1	15	
18:00 - 19:00	35	6	41	0	3	3	0	0	6.8	44	11	1	12	0	0	0	1	1	0.0	14	10	1	11	0	1	1	1	0	8.3	13	

A420 W	LEFT TO PINE WOODS RD										THROUGH TO A420 E										RIGHT TO CHARNEY RD									
	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS	CARS	LIGHT GOODS VEHICLES	TOTAL LIGHT	HEAVYS	BUSES AND COACHES	TOTAL HEAVY	PEDAL-CYCLES	MOTORCYCLES	HEAVY %	TOTAL MOVEMENTS
16:00 - 16:15	3	1	4	0	0	0	0	0.0	4	146	30	176	9	1	10	0	0	0	5.4	186	10	2	12	0	0	0	0	0	0.0	12
16:15 - 16:30	2	0	2	0	0	0	0	0.0	2	144	20	164	11	1	12	0	0	0	6.8	176	10	2	12	1	1	2	0	1	14.3	15
16:30 - 16:45	3	2	5	2	0	2	0	0	28.6	7	144	20	164	12	0	12	0	1	6.8	177	11	1	12	0	1	1	0	0	7.7	13
16:45 - 17:00	4	2	6	0	0	0	0	0.0	6	148	19	167	21	1	22	0	0	0	11.6	189	8	2	10	0	0	0	0	0	0.0	10
17:00 - 17:15	4	1	5	0	0	0	0	0.0	5	156	18	174	12	0	12	0	1	6.5	187	12	1	13	0	1	1	0	0	7.1	14	
17:15 - 17:30	2	0	2	1	0	1	0	33.3	3	151	10	161	10	1	11	0	0	6.4	172	6	1	7	0	0	0	0	0	0.0	7	
17:30 - 17:45	2	0	2	0	0	0	0	0.0	2	145	8	153	13	0	13	0	0	7.8	166	9	1	10	0	1	1	0	0	9.1	11	
17:45 - 18:00	3	0	3	2	0	2	0	40.0	5	123	7	130	3	0	3	0	1	2.3	134	7	0	7	0	0	0	0	0	0.0	7	
18:00 - 18:15	2	0	2	0	0	0	0	0.0	2	156	11	167	9	1	10	0	1	5.6	178	3	0	3	0	1	1	0	0	25.0	4	
18:15 - 18:30	3	1	4	1	0	1	0	20.0	5	144	8	152	12	1	13	0	0	7.9	165	8	0	8	0	1	1	0	0	11.1	9	
18:30 - 18:45	1	0	1	0	0	0	0	0.0	1	125	9	134	11	0	11	0	2	7.6	147	8	0	8	0	0	0	0	0	0.0	8	
18:45 - 19:00	4	0	4	0	0	0	0	0.0	4	105	8	113	9	1	10	0	0	8.1	123	14	0	14	0	1	1	0	0	6.7	15	
HOURLY TOTALS																														
16:00 - 17:00	12	5	17	2	0	2	0	10.5	19	582	89	671	53	3	56	0	1	7.7	728	39	7	46	1	2	3	0	1	6.1	50	
16:15 - 17:15	13	5	18	2	0	2	0	10.0	20	592	77	669	56	2	58	0	2	8.0	729	41	6	47	1	3	4	0	1	7.8	52	
16:30 - 17:30	13	5	18	3	0	3	0	14.3	21	599	67	666	55	2	57	0	2	7.9	725	37	5	42	0	2	2	0	0	4.5	44	
16:45 - 17:45	12	3	15	1	0	1	0	6.3	16	600	55	655	56	2	58	0	1	8.1	714	35	5	40	0	2	2	0	0	4.8	42	
17:00 - 18:00	11	1	12	3	0	3	0	20.0	15	575	43	618	38	1	39	0	2	5.9	659	34	3	37	0	2	2	0	0	5.1	39	
17:15 - 18:15	9	0	9	3	0	3	0	25.0	12	575	36	611	35	2	37	0	2	5.7	650	25	2	27	0	2	2	0	0	6.9	29	
17:30 - 18:30	10	1	11	3	0	3	0	21.4	14	568	34	602	37	2	39	0	2	6.1	643	27	1	28	0	3	3	0	0	9.7	31	
17:45 - 18:45	9	1	10	3	0	3	0	23.1	13	548	35	583	35	2	37	0	4	6.0	624	26	0	26	0	2	2	0	0	7.1	28	
18:00 - 19:00	10	1	11	1	0	1	0	8.3	12	530	36	566	41	3	44	0	3	7.2	613	33	0	33	0	3	3	0	0	8.3	36	

ILLUSTRATIVE MASTERPLAN



CONCEPTUAL LAYOUT

The conceptual layout begins to set out our initial proposals for site, including the provision of Public Open Space, transition spaces linking vehicular cycle and pedestrian routes and the development parcels.

It is proposed that the spine of the development will be a tree lined avenue, served from Spring Hill. The Avenue will be broken up along its length by large areas of open space and will run along the edge of the newly established woodland to the South of the site.

The use of perimeter blocks will provide natural surveillance over the public open space and will further shield the private amenity areas of the dwellings from any road noise.

Key:

-  Site boundary
-  Tree lined Route
-  Secondary Route
-  Tertiary Route
-  Byway, open to all traffic
-  Existing PROW
-  Proposed Footpaths
-  Ecology Buffer / Green Corridor
-  Existing managed planted tree buffer zone/existing trees
-  Public Open Space
-  Area for Community Use
-  Developable Area

Constraints and Opportunities

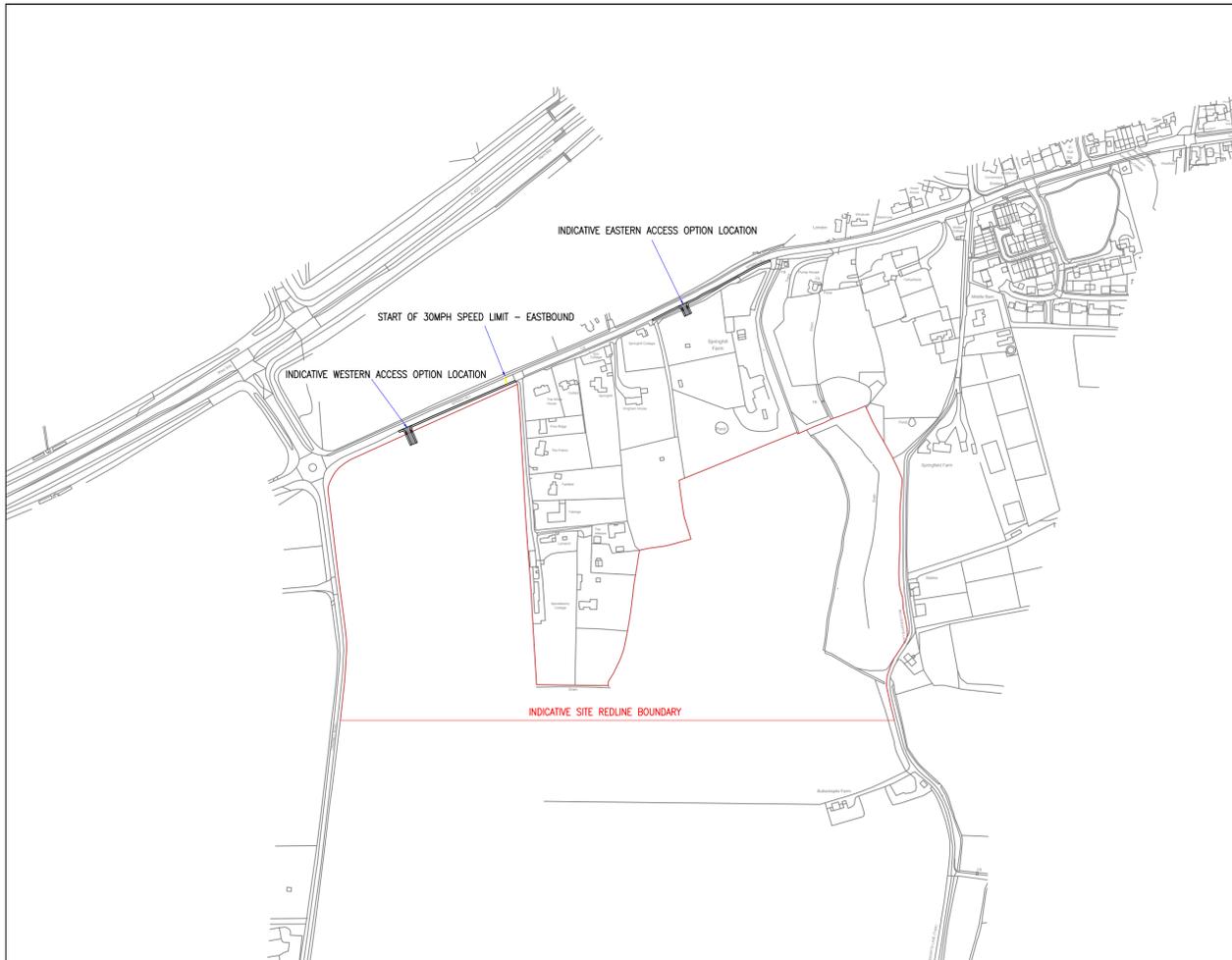
Appendix D

The drawings, information and data recorded in this document ("the information") is the property of Paul Basham Associates. This document and the information are solely for the use of the authorized recipient and this document may not be used, copied or reproduced in whole or part for any purposes other than which it was supplied by Paul Basham Associates. Paul Basham Associates makes no representation, undertakes no duty and accepts no responsibilities to any third party who may use or rely upon this document or the information.

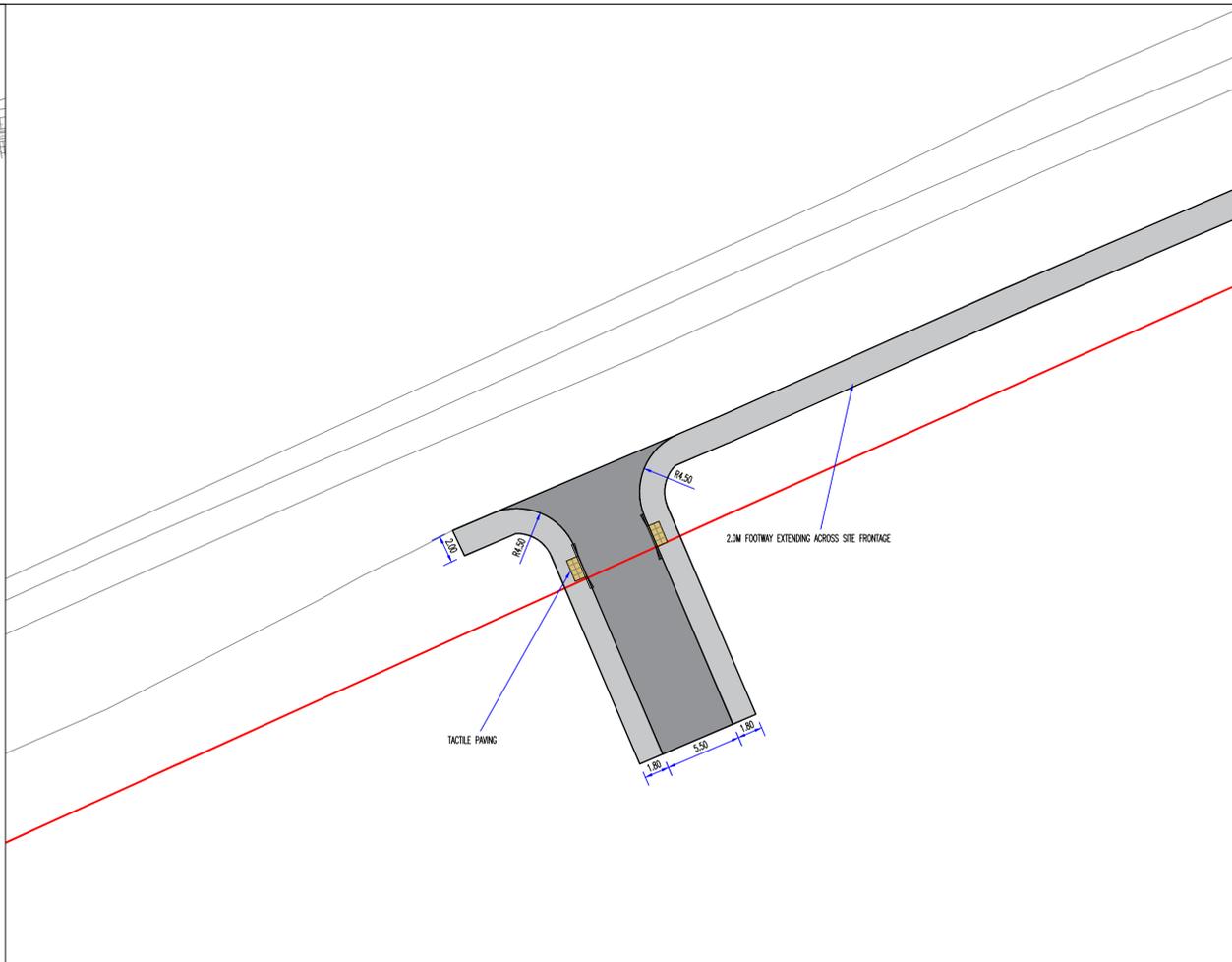
CDM Regulations 2015 : Reg. 9
 None of the below is deemed to relieve any contractor of his obligations under all applicable health and safety legislation.
 In preparing the design shown on this and related drawings Paul Basham Associates has considered and, where reasonably practicable, eliminated foreseeable risks. Any further abnormal or unusual risks, which remain, are numbered below and identified thus (A) and should be given particular attention by all those carrying out construction or of future maintenance works.

1. Abnormal or unusual risks
- 2.
- 3.

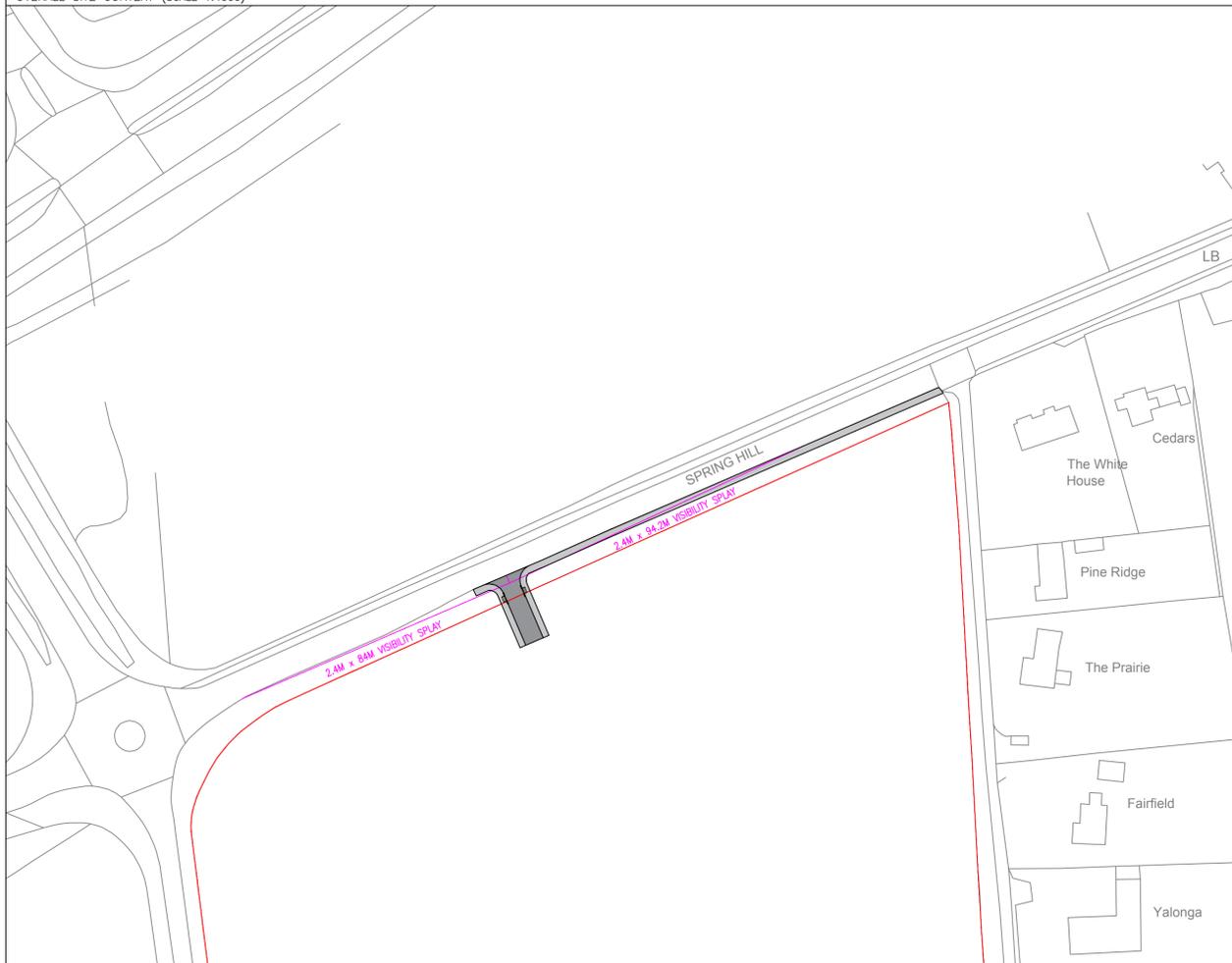
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OVERALL SITE CONTEXT (SCALE 1:4000)



WESTERN SITE ACCESS OPTION (SCALE 1:250)



WESTERN SITE ACCESS OPTION - SPEED SURVEY VISIBILITY SPLAY (SCALE 1:1000)



WESTERN SITE ACCESS OPTION - DMR VISIBILITY SPLAY (SCALE 1:1000)

Rev	Description	Date	By	Chkd

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Client
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Project Name
LAND SOUTH OF SPRING HILL, SOUTHMOOR
 Title
SITE ACCESS OPTIONS & VISIBILITY SPLAYS WESTERN ACCESS

Project Phase
PRELIMINARY

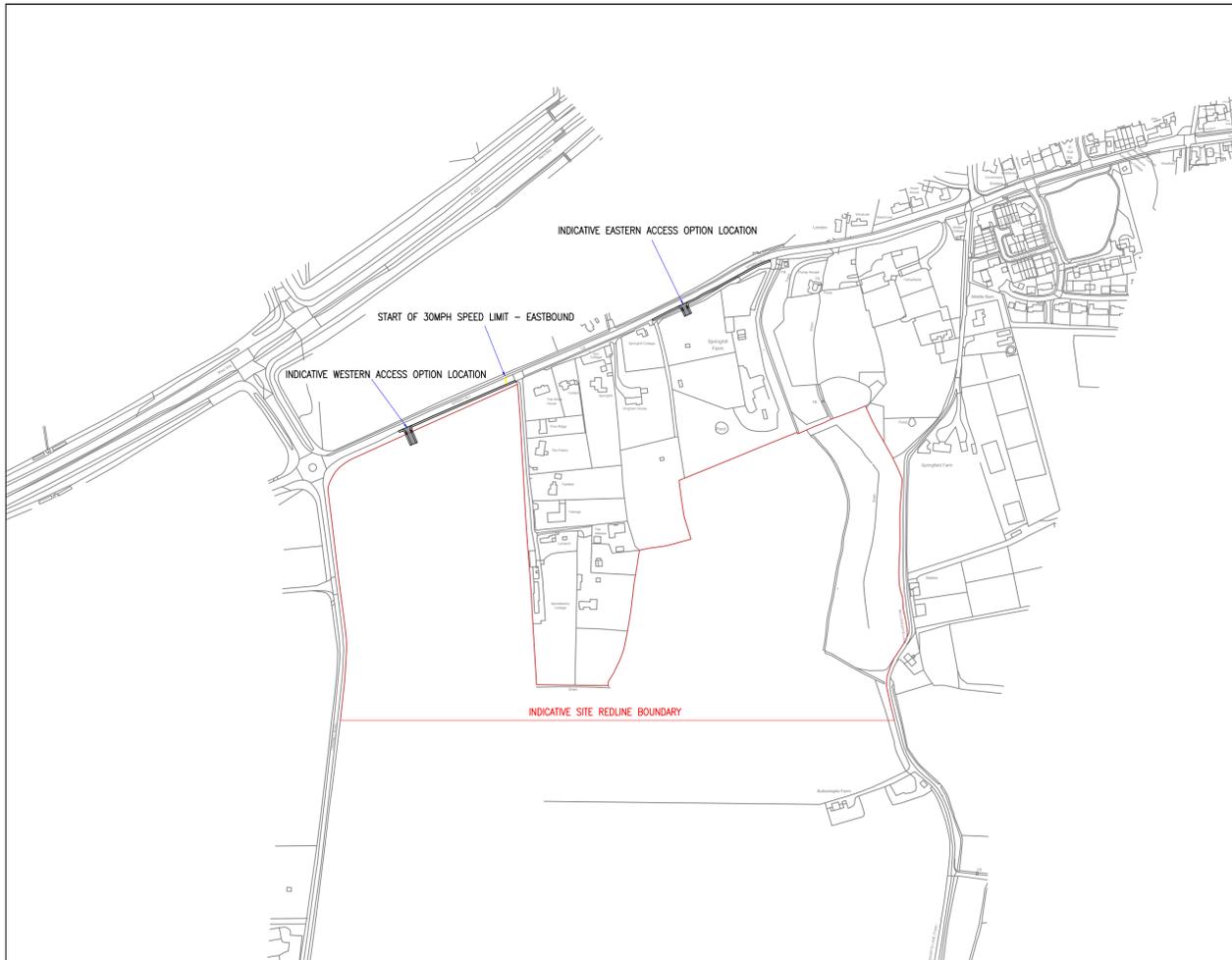
Checked by	Checked Date	Drawn By	Drawn Date
VT	21.04.17	HC	21.04.17
Client Drawing No.	Scale	AS SHOWN (AT A1 SIZE)	
PBA Drawing No.	Revision	512.0004.001	

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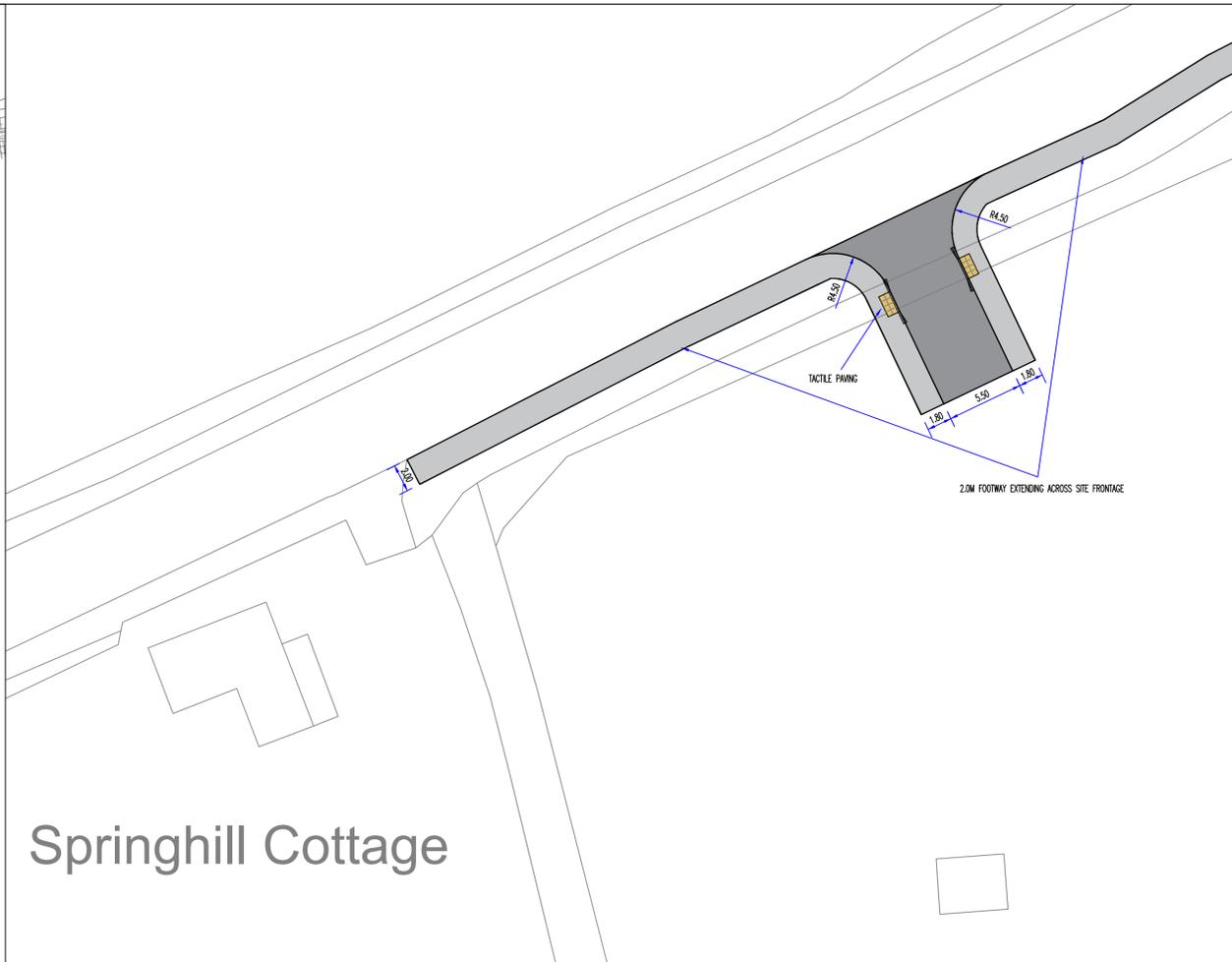
CDM Regulations 2015 : Reg. 9
 None of the below is deemed to relieve any contractor of his obligations under all applicable health and safety legislation.
 In preparing the design shown on this and related drawings Paul Basham Associates has considered and, where reasonably practicable, eliminated foreseeable risks. Any further abnormal or unusual risks, which remain, are numbered below and identified thus (A) and should be given particular attention by all those carrying out construction or of future maintenance works.

1. Abnormal or unusual risks
- 2.
- 3.

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OVERALL SITE CONTEXT (SCALE 1:4000)



WESTERN SITE ACCESS OPTION (SCALE 1:250)



EASTERN SITE ACCESS OPTION - SPEED SURVEY VISIBILITY SPLAY (SCALE 1:500)

Rev	Description	Date	By	Chkd

pb paulbasham associates
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Client
PRIVATE CLIENT

Project Name
 LAND SOUTH OF SPRING HILL,
 SOUTHMOOR

Title
 SITE ACCESS OPTIONS & VISIBILITY SPLAYS
 EASTERN ACCESS

Project Phase
PRELIMINARY

Checked by	Checked Date	Drawn By	Drawn Date
VT	21.04.17	HC	21.04.17
Client Drawing No.	Scale	AS SHOWN (AT A1 SIZE)	
PBA Drawing No.	Revision	512.0004.002	

Appendix E

Calculation Reference: AUDIT-247601-171117-1135

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	HC HAMPSHIRE		1 days
	SC SURREY		1 days
	WS WEST SUSSEX		1 days
03	SOUTH WEST		
	DV DEVON		2 days
04	EAST ANGLIA		
	NF NORFOLK		1 days
06	WEST MIDLANDS		
	SH SHROPSHIRE		2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NE NORTH EAST LINCOLNSHIRE		1 days
	NY NORTH YORKSHIRE		3 days
	SY SOUTH YORKSHIRE		1 days
09	NORTH		
	CB CUMBRIA		1 days
	DH DURHAM		1 days
11	SCOTLAND		
	FA FALKIRK		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: 50 to 432 (units:)
 Range Selected by User: 50 to 600 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 28/03/17

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:

Monday	4 days
Tuesday	3 days
Wednesday	2 days
Thursday	4 days
Friday	3 days

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

Selected survey types:

Manual count	16 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)	10
Edge of Town	6

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	12
No Sub Category	4

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 16 days

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®.

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	6 days
10,001 to 15,000	5 days
15,001 to 20,000	1 days
20,001 to 25,000	2 days

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

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	3 days
50,001 to 75,000	1 days
75,001 to 100,000	5 days
100,001 to 125,000	2 days
125,001 to 250,000	1 days
250,001 to 500,000	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	4 days
1.1 to 1.5	12 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:

Yes	2 days
No	14 days

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	16 days
-----------------	---------

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	CB-03-A-04 SEMI DETACHED MOORCLOSE ROAD SALTERBACK WORKINGTON Edge of Town No Sub Category Total Number of dwellings: 82 <i>Survey date: FRIDAY 24/04/09</i>	CUMBRIA	<i>Survey Type: MANUAL</i>
2	DH-03-A-01 SEMI DETACHED GREENFIELDS ROAD BISHOP AUCKLAND Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 50 <i>Survey date: TUESDAY 28/03/17</i>	DURHAM	<i>Survey Type: MANUAL</i>
3	DV-03-A-02 HOUSES & BUNGALOWS MILLHEAD ROAD HONITON Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 116 <i>Survey date: FRIDAY 25/09/15</i>	DEVON	<i>Survey Type: MANUAL</i>
4	DV-03-A-03 TERRACED & SEMI DETACHED LOWER BRAND LANE HONITON Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 70 <i>Survey date: MONDAY 28/09/15</i>	DEVON	<i>Survey Type: MANUAL</i>
5	FA-03-A-02 MIXED HOUSES ROSEBANK AVENUE & SPRINGFIELD DRIVE FALKIRK Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 161 <i>Survey date: WEDNESDAY 29/05/13</i>	FALKIRK	<i>Survey Type: MANUAL</i>
6	HC-03-A-18 HOUSES & FLATS CANADA WAY LIPHOOK Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 62 <i>Survey date: TUESDAY 29/11/16</i>	HAMPSHIRE	<i>Survey Type: MANUAL</i>
7	NE-03-A-02 SEMI DETACHED & DETACHED HANOVER WALK SCUNTHORPE Edge of Town No Sub Category Total Number of dwellings: 432 <i>Survey date: MONDAY 12/05/14</i>	NORTH EAST LINCOLNSHIRE	<i>Survey Type: MANUAL</i>
8	NF-03-A-02 HOUSES & FLATS DEREHAM ROAD NORWICH Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 98 <i>Survey date: MONDAY 22/10/12</i>	NORFOLK	<i>Survey Type: MANUAL</i>
9	NY-03-A-06 BUNGALOWS & SEMI DET. HORSEFAIR BOROUGHBRIDGE Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 115 <i>Survey date: FRIDAY 14/10/11</i>	NORTH YORKSHIRE	<i>Survey Type: MANUAL</i>

LIST OF SITES relevant to selection parameters (Cont.)

10	NY-03-A-09	MIXED HOUSING		NORTH YORKSHIRE
	GRAMMAR SCHOOL LANE			
	NORTHALLERTON			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		52	
	Survey date: MONDAY		16/09/13	Survey Type: MANUAL
11	NY-03-A-10	HOUSES AND FLATS		NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD			
	RIPON			
	Edge of Town			
	No Sub Category			
	Total Number of dwellings:		71	
	Survey date: TUESDAY		17/09/13	Survey Type: MANUAL
12	SC-03-A-04	DETACHED & TERRACED		SURREY
	HIGH ROAD			
	BYFLEET			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:		71	
	Survey date: THURSDAY		23/01/14	Survey Type: MANUAL
13	SH-03-A-04	TERRACED		SHROPSHIRE
	ST MICHAEL'S STREET			
	SHREWSBURY			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total Number of dwellings:		108	
	Survey date: THURSDAY		11/06/09	Survey Type: MANUAL
14	SH-03-A-05	SEMI -DETACHED/TERRACED		SHROPSHIRE
	SANDCROFT			
	SUTTON HILL			
	TELFORD			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:		54	
	Survey date: THURSDAY		24/10/13	Survey Type: MANUAL
15	SY-03-A-01	SEMI DETACHED HOUSES		SOUTH YORKSHIRE
	A19 BENTLEY ROAD			
	BENTLEY RISE			
	DONCASTER			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:		54	
	Survey date: WEDNESDAY		18/09/13	Survey Type: MANUAL
16	WS-03-A-04	MIXED HOUSES		WEST SUSSEX
	HILLS FARM LANE			
	BROADBRIDGE HEATH			
	HORSHAM			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:		151	
	Survey date: THURSDAY		11/12/14	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/A - HOUSES PRIVATELY OWNED
VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	16	109	0.059	16	109	0.253	16	109	0.312
08:00 - 09:00	16	109	0.112	16	109	0.344	16	109	0.456
09:00 - 10:00	16	109	0.137	16	109	0.149	16	109	0.286
10:00 - 11:00	16	109	0.128	16	109	0.167	16	109	0.295
11:00 - 12:00	16	109	0.127	16	109	0.141	16	109	0.268
12:00 - 13:00	16	109	0.160	16	109	0.143	16	109	0.303
13:00 - 14:00	16	109	0.151	16	109	0.151	16	109	0.302
14:00 - 15:00	16	109	0.148	16	109	0.172	16	109	0.320
15:00 - 16:00	16	109	0.238	16	109	0.168	16	109	0.406
16:00 - 17:00	16	109	0.258	16	109	0.164	16	109	0.422
17:00 - 18:00	16	109	0.310	16	109	0.163	16	109	0.473
18:00 - 19:00	16	109	0.227	16	109	0.161	16	109	0.388
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.055			2.176			4.231

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.*

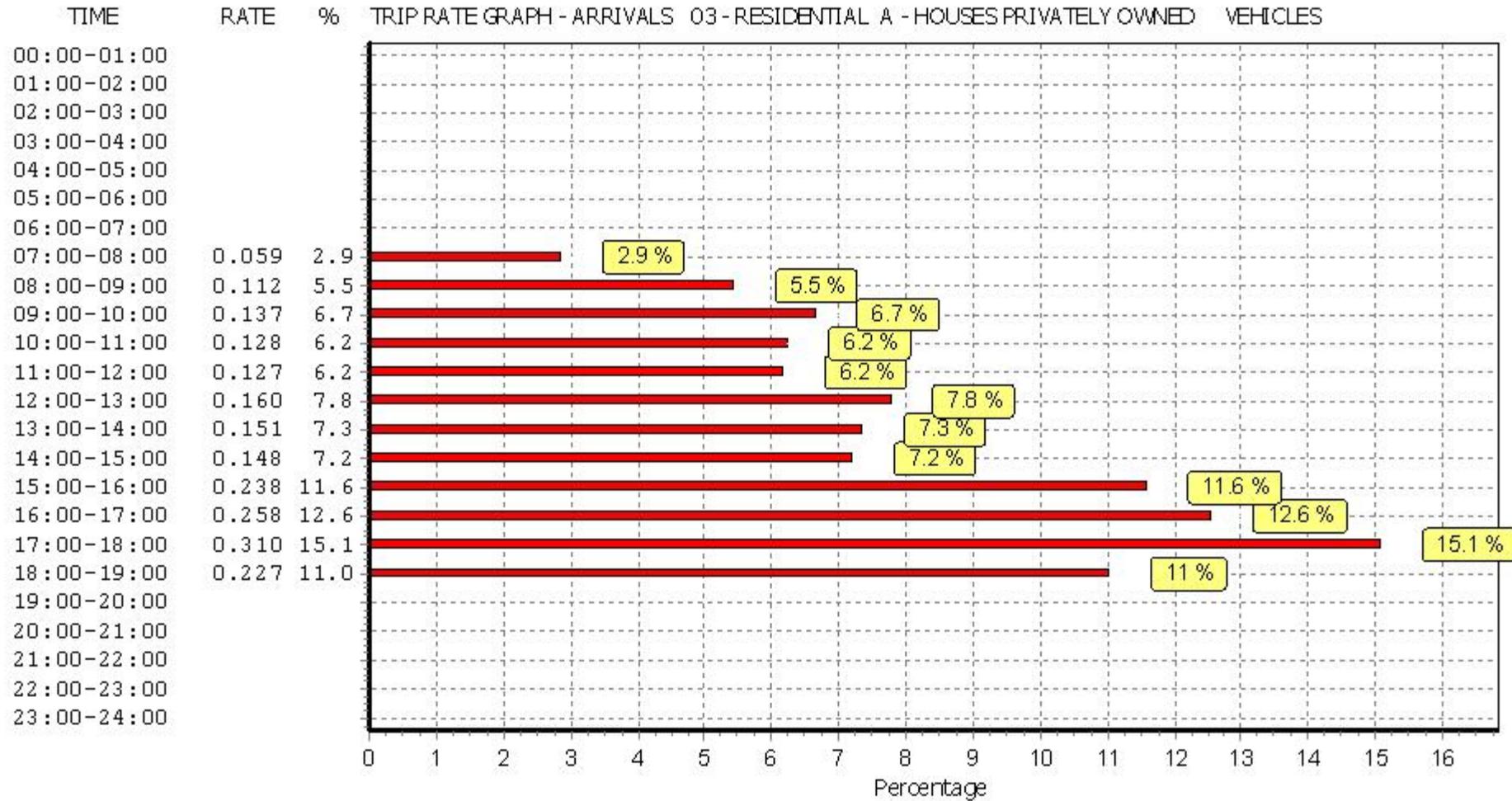
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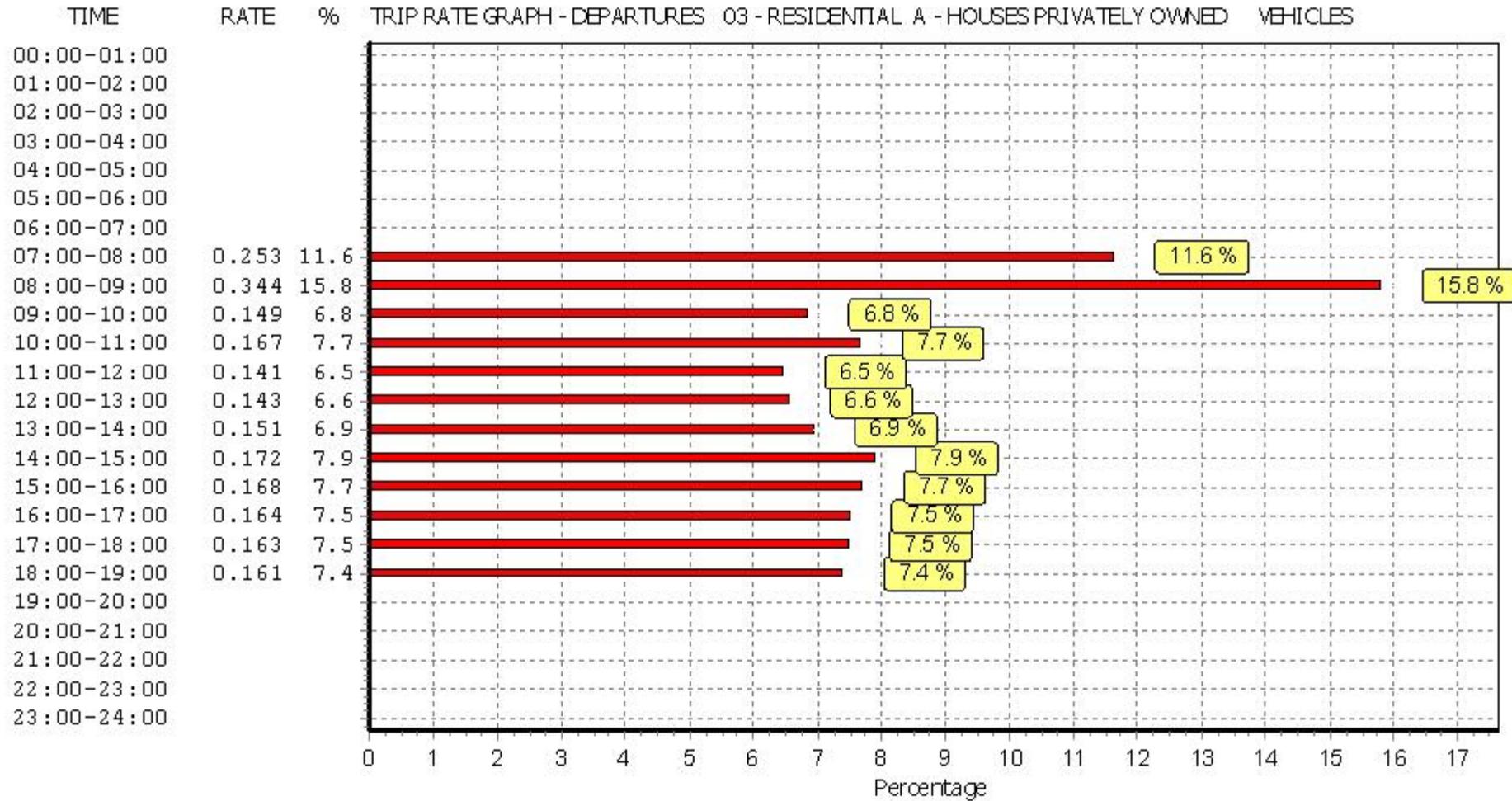
Parameter summary

Trip rate parameter range selected:	50 - 432 (units:)
Survey date date range:	01/01/09 - 28/03/17
Number of weekdays (Monday-Friday):	16
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

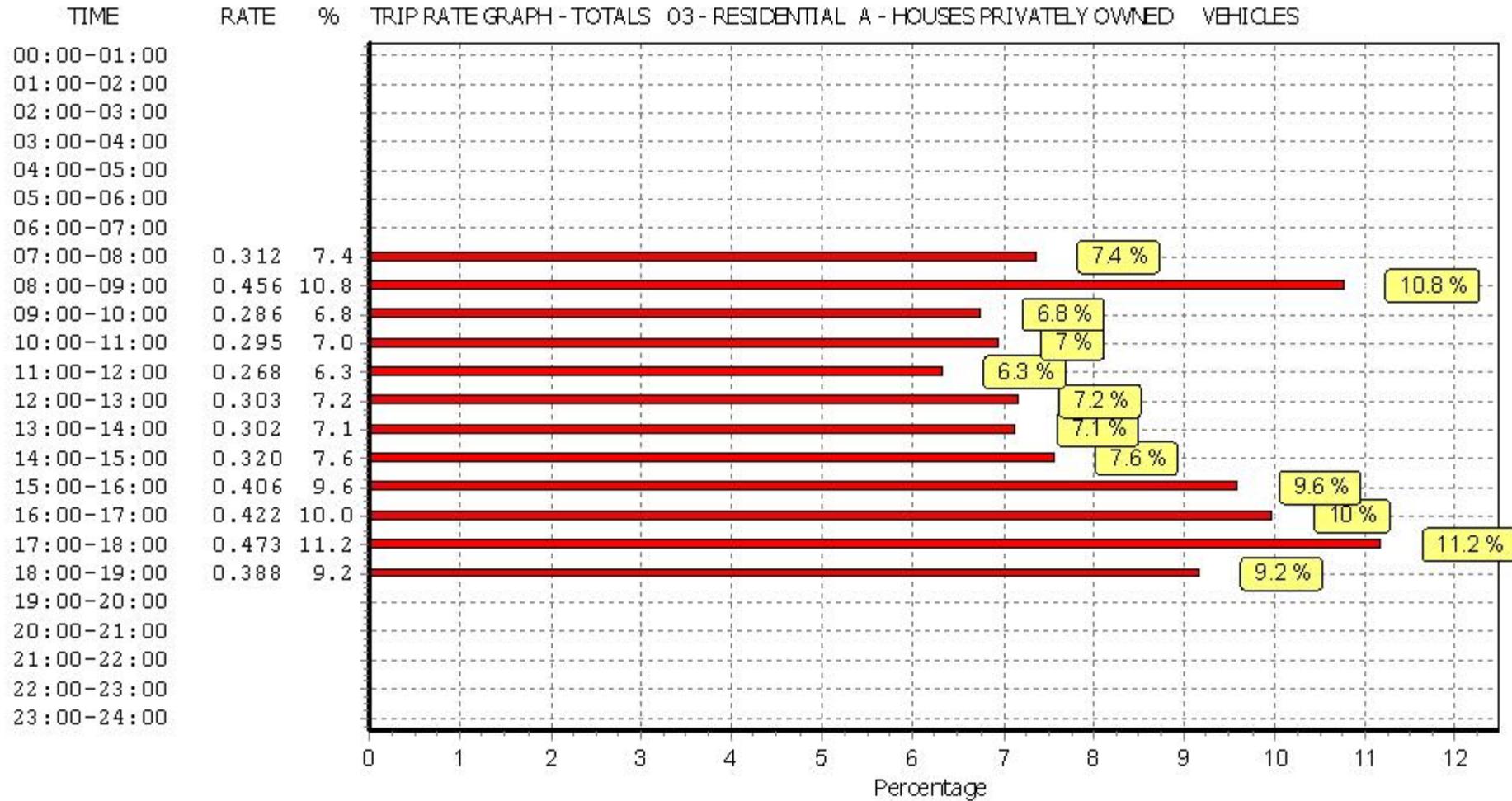
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

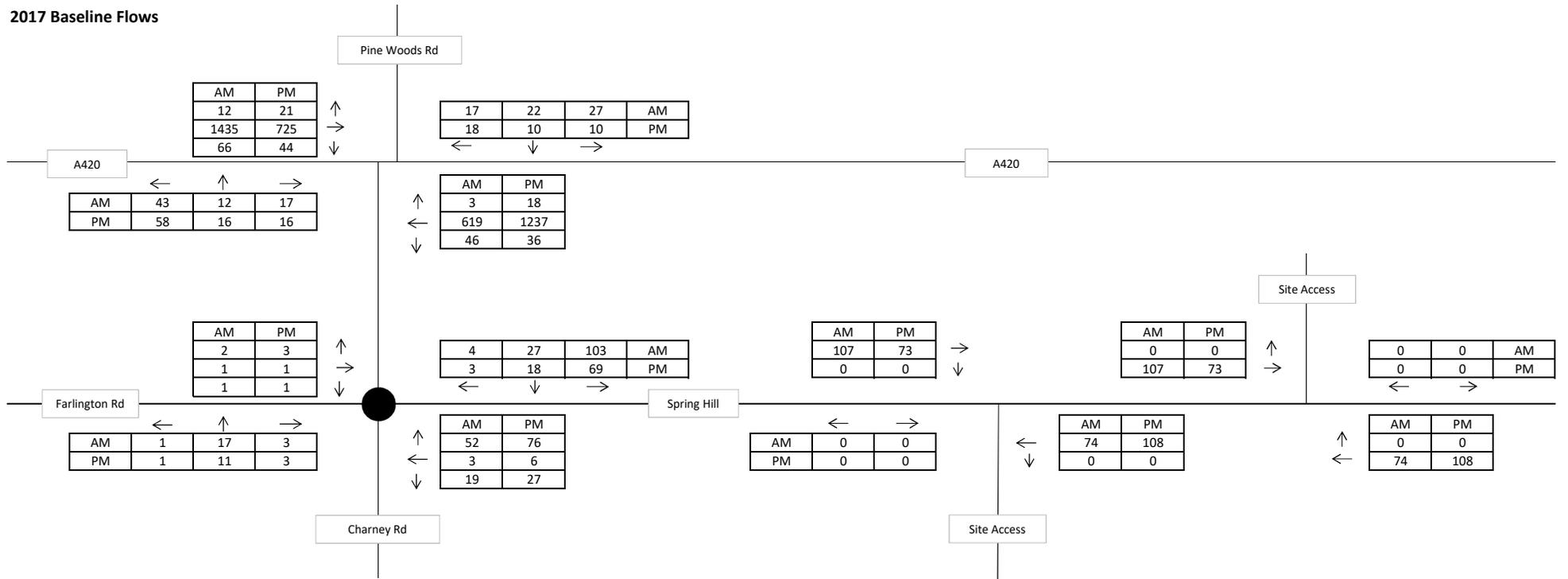


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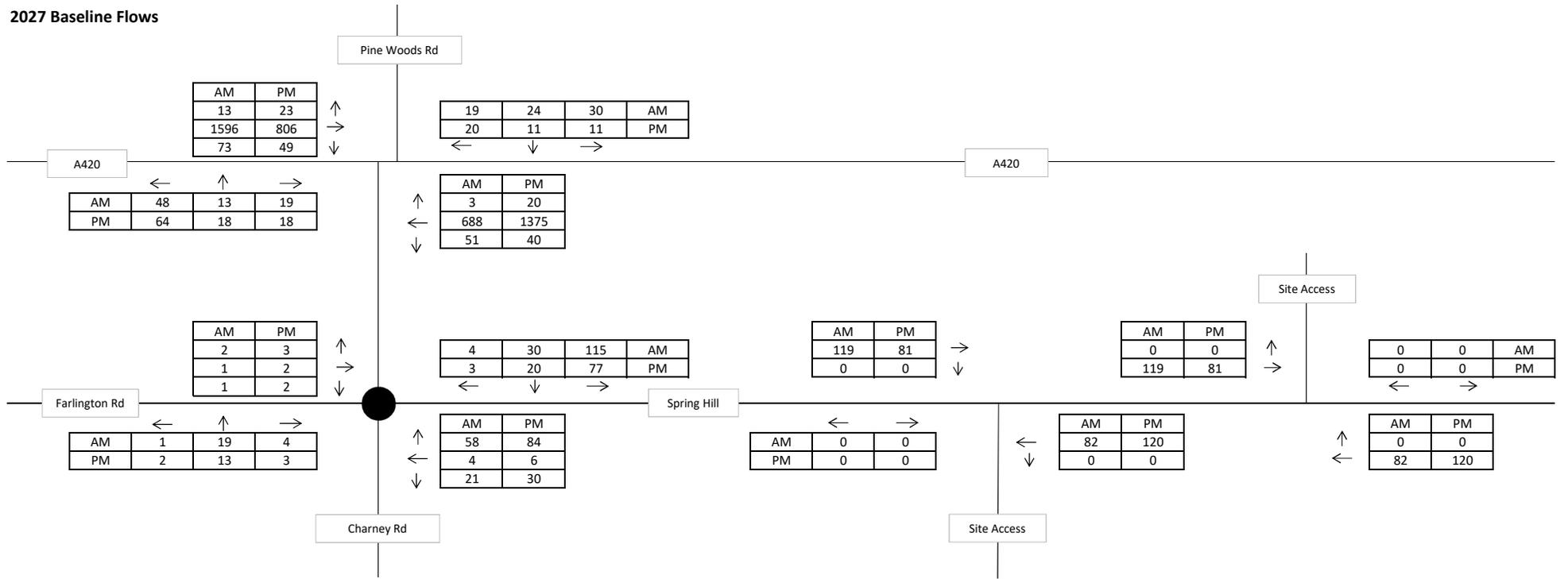


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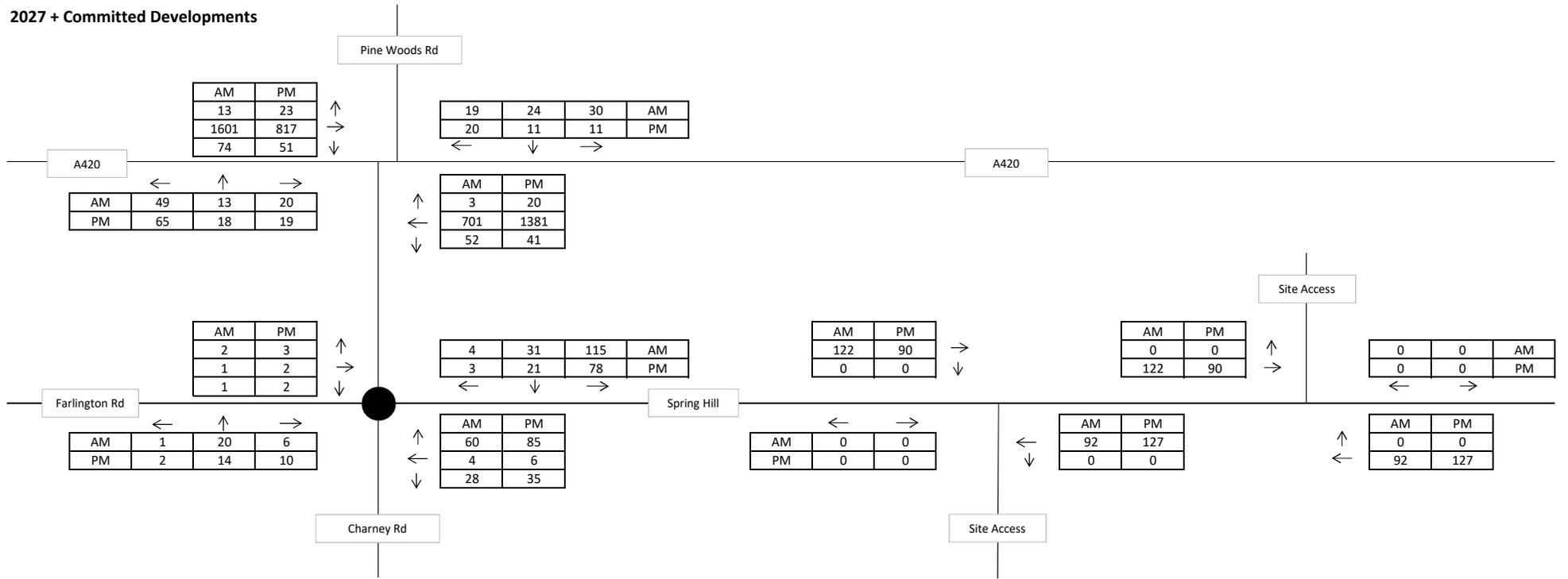
2017 Baseline Flows



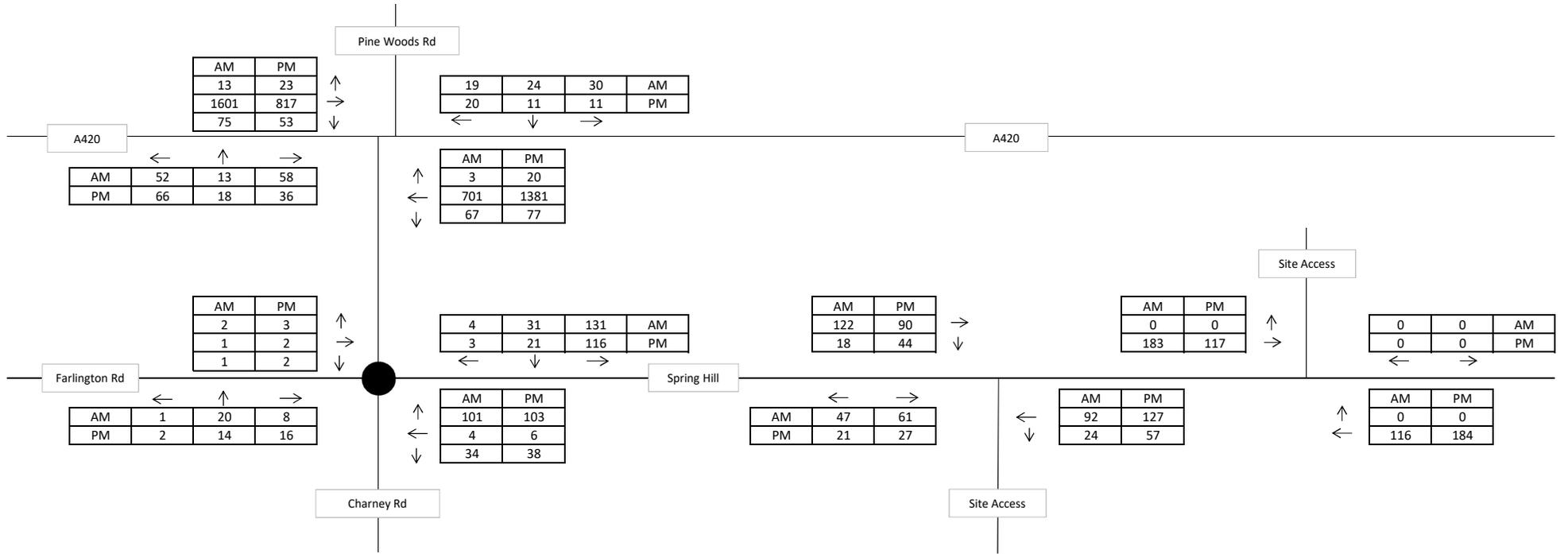
2027 Baseline Flows



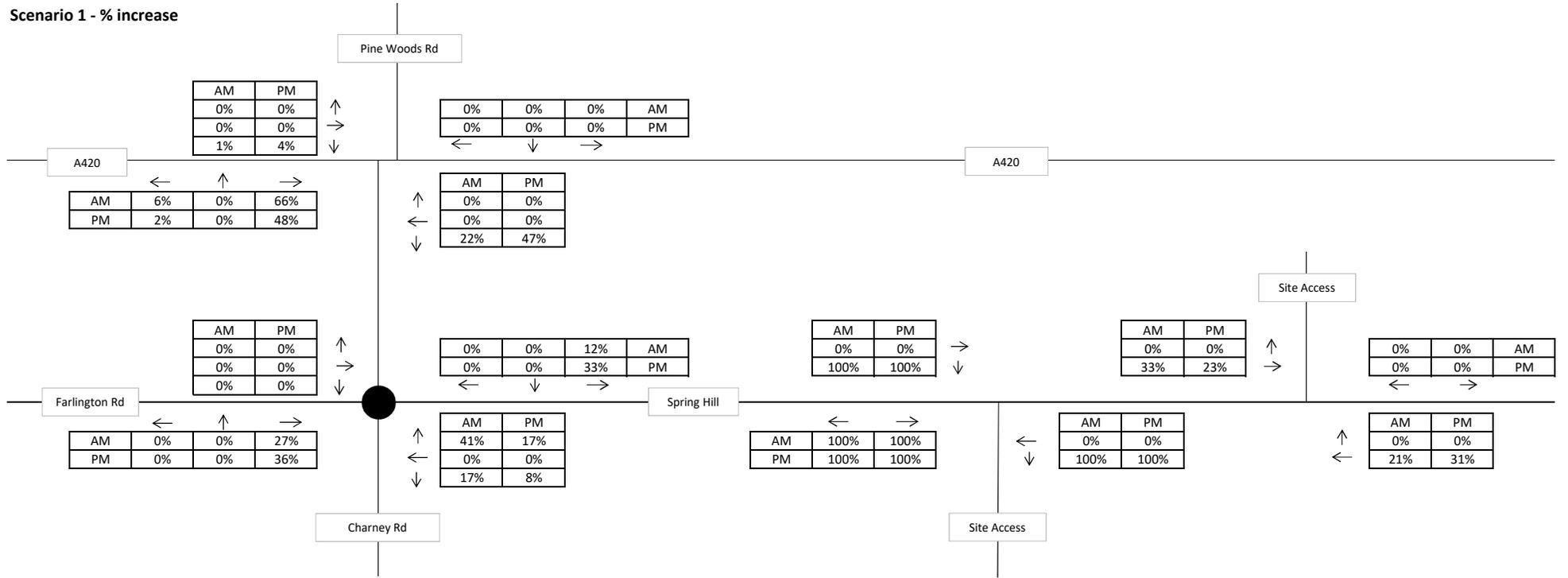
2027 + Committed Developments



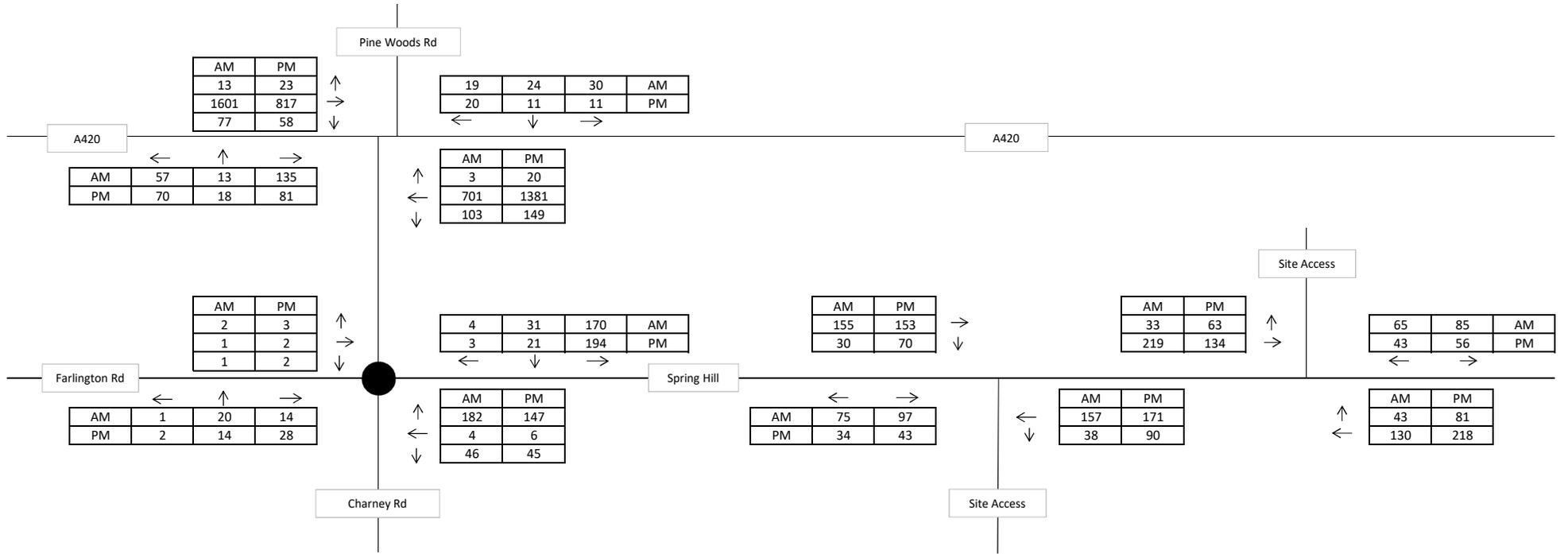
Scenario 1 = 2027 Baseline + Committed Developments + Proposed Site South of Spring Hill (300 units)



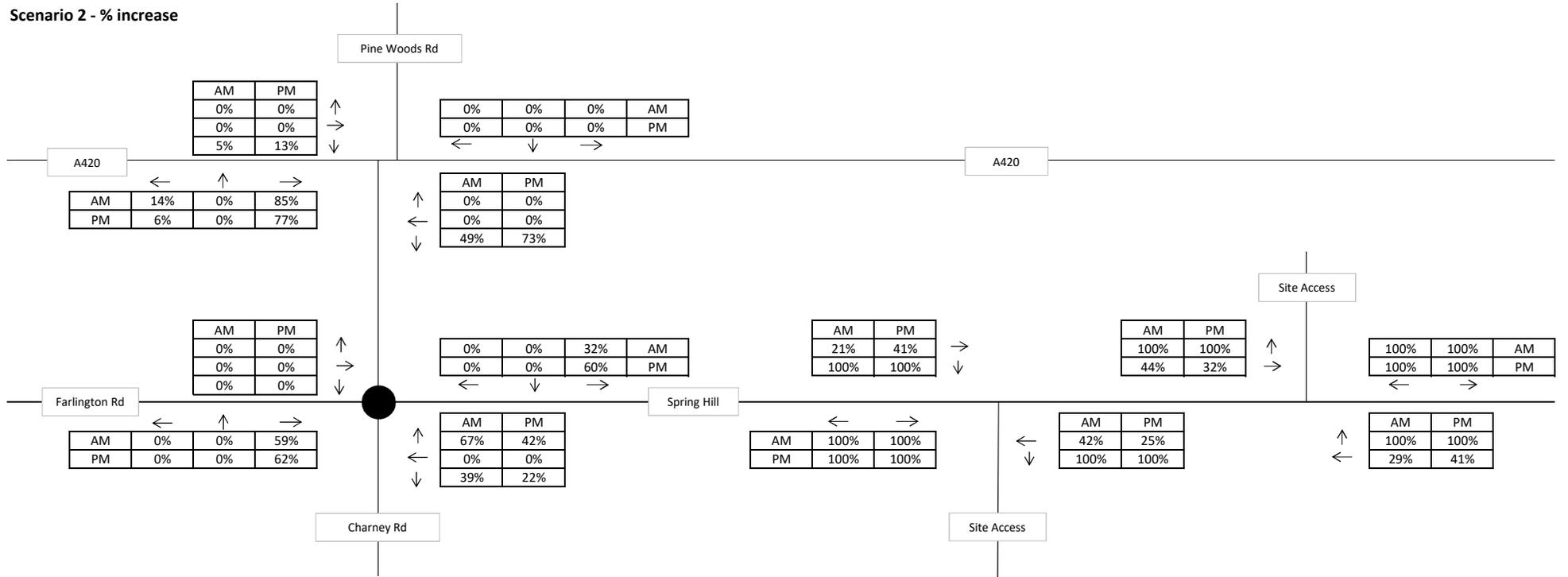
Scenario 1 - % increase

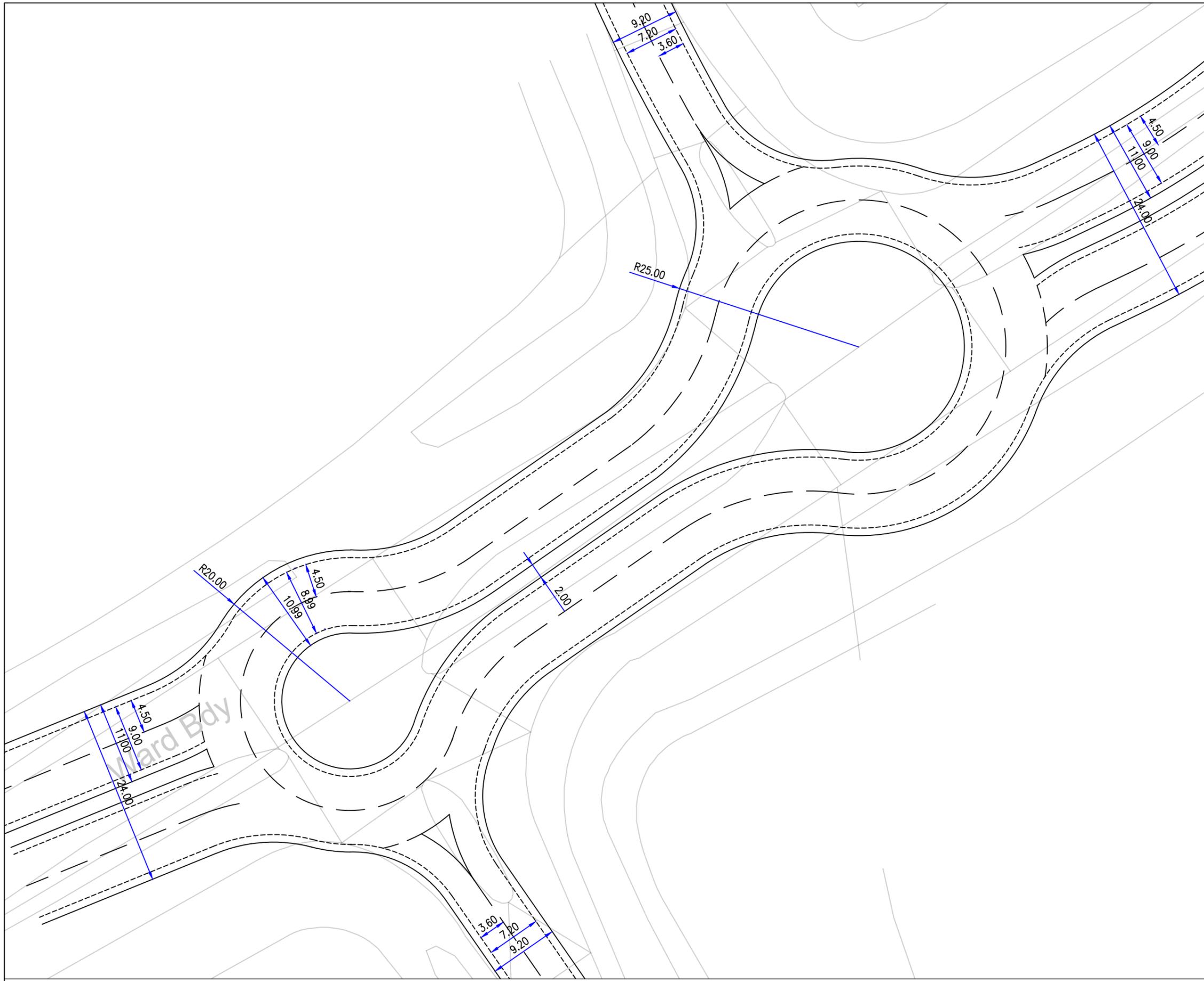


Scenario 2 = 2027 Baseline + Committed Developments + Proposed Site South of Spring Hill (480 units) + Proposed Site North of Spring Hill (240 units)



Scenario 2 - % increase





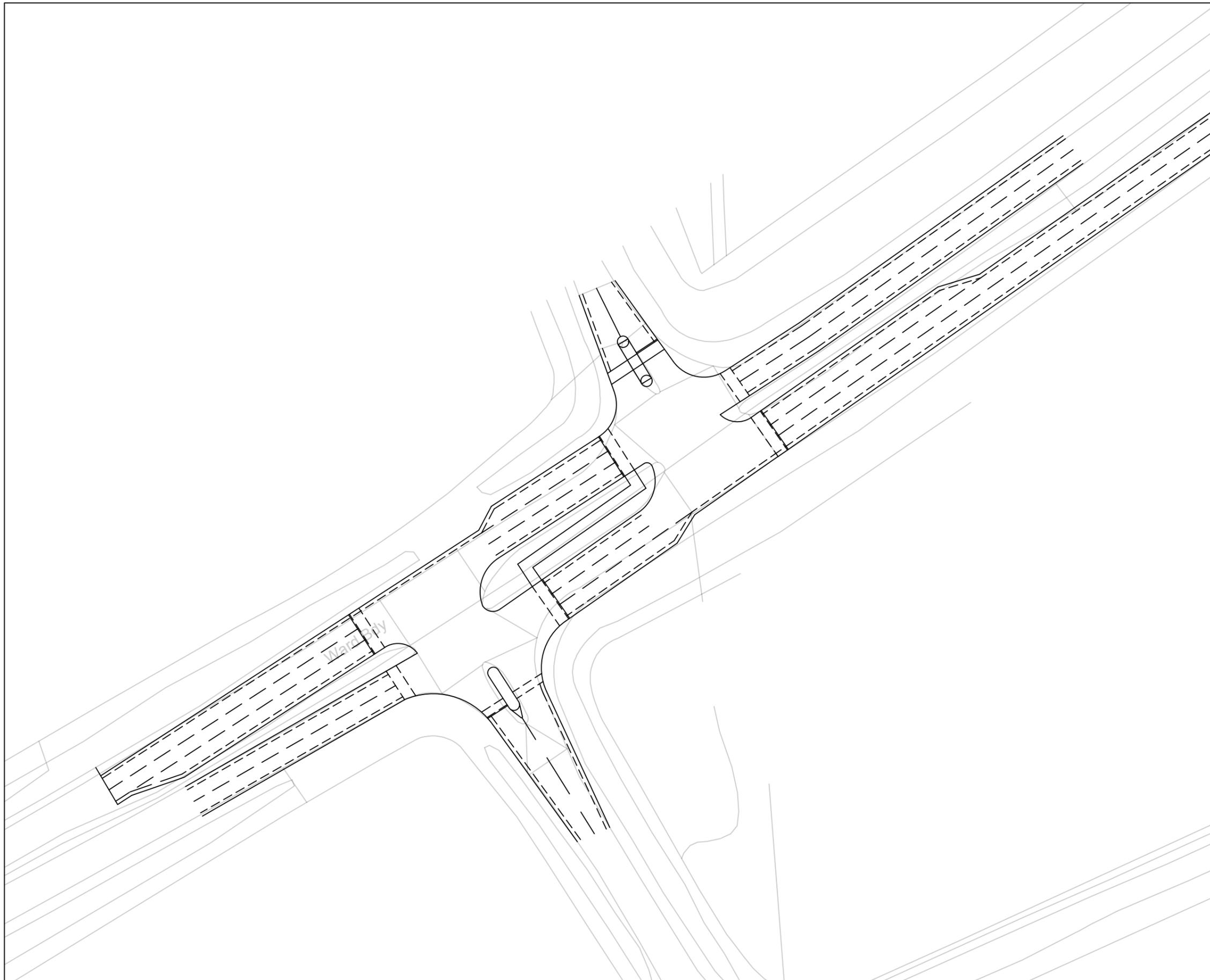
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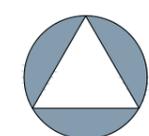
Rev	Description	Date	By	Chkd
-	-	---	-	-

Project Name LAND SOUTH OF SPRING HILL SOUTHMOOR	Title A420 IMPROVEMENT OPTIONS ROUNDAABOUT FEASIBILITY DESIGN	<p>paulbasham associates</p> <p><small>Paul Basham Associates Ltd Lancaster Court, 8 Barnes Wallis Road, Fareham, PO15 5TU 01489 668134 info@paulbashamassociates.com www.paulbashamassociates.com</small></p>	Client PRIVATE CLIENT	Checked By JR	Checked Date 21.11.17	Scale 1:500	(AT A3 SIZE)		
Project Phase PRELIMINARY				Drawn By SR	Drawn Date 21.11.17	Client Drawing No. -	PBA Drawing No. 512.0004.003	Revision -	



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NORTH

Rev	Description	Date	By	Chkd
-	-	---	--	--

Project Name LAND SOUTH OF SPRING HILL SOUTHMOOR		Title A420 IMPROVEMENT OPTIONS SIGNAL JUNCTION FEASIBILITY DESIGN		 paulbasham associates <small>Paul Basham Associates Ltd Lancaster Court, 8 Barnes Wallis Road, Fareham, PO15 5TU 01489 668134 info@paulbashamassociates.com www.paulbashamassociates.com</small>		Client PRIVATE CLIENT		Checked By JR		Checked Date 21.11.17		Scale 1:1000		(AT A3 SIZE)			
Project Phase PRELIMINARY								Drawn By SR		Drawn Date 21.11.17		Client Drawing No. -		PBA Drawing No. 512.0004.004		Revision -	