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# WELLESLEY, ALDERSHOT URBAN EXTENSION - TRANSPORT ADDITIONAL DOCUMENTS

30/05/2013

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# Quality Management

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# Wellesley, Aldershot Urban Extension - Transport Additional documents

30/05/2013

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## Appendices

Appendix A - Aldershot AUE TA review with actions 30 April 2013

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# 1 Introduction

- 1.1.1 This report provides a summary of transport and highway information submitted to Hampshire County Council and Surrey County Council following the planning application submission for the Wellesley Development in December 2012.
- 1.1.2 During the consultation period a number of comments and requests for additional information or clarification points have been raised by both authorities.
- 1.1.3 Through discussions with Rushmoor Borough Council it has been agreed that all documents issued during the post application consultation period can be submitted to Rushmoor Borough Council in electronic format, where drawings have been revised and formed part of the application package then hard copies of these drawings have been provided separately.
- 1.1.4 Section 2 of this report considers comments and information regarding Hampshire County Council and Section 3 provides information for Surrey County Council.

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## 2 Hampshire County Council Consultation

- 2.1.1 Through the consultation period a single document was provided by HCC to coordinate their requests for clarification and additional information regarding the transport and highways matters. The consultation document produced by HCC is attached to this report in [Appendix A](#) [Aldershot AUE TA Review with Actions 03rd April 2013] and provides the areas of technical reference, HCC's comments together with WSP's comments and report/drawing references.
- 2.1.2 During the consultation period WSP produced a number of documents and drawings. These are included separately in electronic format and are summarised as follows:

### DRAWINGS

**0364-GA-001-D** Proposed A331 On-Slip. The revised drawing provides details of the signs and visibility Splays

**0364-GA-005-C** Proposed A323 wellington Avenue/Hospital Hill Corridor and signal junction improvement. The revised drawings replaces the straight across pedestrian crossings with staggered pedestrian crossings at the request of HCC.

**0364-GA-006-B** Proposed A325 Farnborough Road/Pennefather's Road Junction. The revised drawing provides a left turn lane into Pennefather's Road from A325 Farnborough Road.

**0364-GA-009-A** Proposed Thornhill Road/Government Road Improvement Scheme. The drawing provides greater detail of the earthworks, crossing points, lighting and connection to the existing roads of Ordnance Road, Government Road, Thornhill Road and Gallwey Road.

**0364-GA-010-B** Proposed A331 on-slip Long Section. This was a request for additional information regarding the design.

**0364-GA-011-A** Proposed Thornhill Road/Government Road Improvement Scheme – Government Road Existing Alignment Details

**0364-RP-001-A** Proposed Thornhill Road/Government Road Long Sections Sheet 1 of 2

**0364-RP-002-A** Proposed Thornhill Road/Government Road Long Sections Sheet 1 of 2

**0364-SK-045-A** SANG Proposed Pedestrian Crossing Points

**0364-SK-049-A** Visibility on Government Road Approaching Proposed A331 on-Slip Road. Following safety concerns from HCC the vertical visibility sightlines were produced.

### TECHNICAL NOTES

#### Tech Note 4 Trip Distribution

Following discussions with HCC the development distribution methodology was reviewed and revised for education trips. Technical Note 4 Rev 2 provides an update on the trip Distribution.

#### Tech Note 6 Responses to HCC

HCC raised a number of technical modelling queries which were reviewed and addressed in this report. The report provides a summary of the issues and how these were addressed.

#### Tech Note - Item 6.5 Walking and Cycling Strategy - Ordnance Road

This technical note looks at future pedestrian demand on Ordnance Road. It reviews the existing conditions, the development areas and the likely routes pedestrians are likely to take in the future.

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## Tech Note 7 Ordnance Road

HCC requested further information regarding the High Street Junction with Ordnance Road. Technical Note 7 provides much of the background work considered when the planning application was prepared. It considers traffic flow profiles, alternative junction arrangements, capacity constraints and physical constraints which limit or prevent improvement to the junction. The note also provides the technical analysis showing how the alternative junction options have been assessed.

The report concludes that the steps WSP have undertaken in reaching the conclusion to use the existing Ordnance Road roundabout are consistent with the those in the Transport Assessment. The existing junction provides a key control point on the network for to traffic wanting to use the A331 on-slip. The note has also identified that junction improvements cannot be accommodated within the highway boundary and would require 3<sup>rd</sup> party land, and any such improvement would impact upon the capacity of the existing High Street and the Government Road roundabout.

## Tech Note 7b Ordnance Road

Following the submission of additional information in March 2013 HCC provided comments and further requests for information. This technical note provides the following:

- Junction Turning movements;
- Scale A3 plan of the existing junction arrangement;
- Unequal Lane usage;
- Clarification on the use of Direct Entry flow data; and
- And alternative options considered for the junction arrangement.

The note concludes that Technical Note 7 highlighted that no improvement could be provided to the existing junction arrangement in its current location given the land available. To provide further evidence, WSP have highlighted in Drawing 0364/SK/052-A the issues with moving the junction and the potential location for an improved new roundabout and the third party land required.

The junction is constrained on both northern and southern sides with land outside the county's or developer's control. Any movement to the roundabout in an east / west direction will have implications on the approaches, with the A323 and Windsor way being too close together to provide meaningful entry widths and flares if moved any further west to provide the additional capacity and the A323 and Ordnance Road to close if moved east.

Furthermore, as outlined in the Transport Assessment and the Technical notes the wider impact of increasing the capacity of this junction would have a detrimental impact on the High Street and surrounding junctions. The increased capacity would attract a greater demand on Ordnance Road and the A323 as the A331 on-slips would draw in ever increasing amounts of traffic along this route.

## Ordnance Road Pedestrian Surveys

Grainger are in discussions with Annington Homes regarding widening the footway on the northern side of Ordnance Road. It is the intention to reach agreement to replace the existing fence and relocate it c.200-300mm further away from the road to allow a consistent footway width of 2m along the northern side of Ordnance Road. The survey report attached provides the evidence of pedestrian movements on this footway and also those on the southern side. **[4222 Aldershot Site 2**

## Pedestrian Count Thursday 16th May 2013].

In summary the survey was conducted on Thursday 16 May 2013 between the hours of 0700-0900; 1500-1600; and 1700-1800. The table below provides a summary of the counts.

	<b>Northern Footway Movements</b>	<b>Southern Footway Movements</b>
<b>0700-0800</b>	<b>19</b>	<b>5</b>
<b>0800-0900</b>	<b>12</b>	<b>15</b>
<b>1500-1600</b>	<b>6</b>	<b>12</b>
<b>1700-1800</b>	<b>9</b>	<b>15</b>

### **Tech Note 8 Lynchford Road**

This technical note was prepared to provide further information for HCC on the operation of the existing Lynchford Road Corridor. The report considers the junction capacity of St. Alban's Roundabout and the link capacity of Lynchford Road.

The report concludes that the additional evidence provided in the technical note supports the conclusions set out within the 2012 TA that the development would have minimal impact upon the Lynchford Road corridor and in some cases provides betterment to the existing situation. As such, and as set out in the TA, no additional mitigation is proposed along Lynchford Road.

### **Tech Note 8.1 - Lynchford Road**

Following the submission of Technical Note 8 HCC requested that additional evidence is provided surrounding St. Alban's Roundabout. This note provides a drawing of the existing junction arrangement and the traffic turning movements from the SATURN model. Although Hampshire County Council remain concerned that the A3011 Lynchford Road and in particular the St. Alban's Roundabout will operate at or above capacity in 2026 they have accepted that this is not solely caused by the development.

The TA, Technical Note 8 and this addendum demonstrated that the already proposed mitigation measures, among others the A331 on-slip, will provide additional capacity to the Lynchford Road corridor. Where it is anticipated that the development will increase the demand it has been proven that this would not be significant. As such it was concluded that the development will not have a severe impact on Lynchford Road and therefore no further mitigation is needed to be provided.

### **Tech Note 9 HCC ITS Comments**

A number of technical comments were raised over signal controlled crossings. This technical note provides a response to comments on the following:

- Alison's Road/Queen's Avenue Junction Improvement
- A323 Wellington Road Avenue/Hospital Hill Signalised Junction
- Proposed TOUCAN Crossing A323 Wellington Avenue/Court Road
- Proposed TOUCAN Crossing A323 Wellington Avenue by Gun Hill; and
- A323 High Street Pedestrian Crossing near Windmill Road

### **Tech Note 9.1 - Pedestrian Crossings Validation**

Following the submission of Technical Note 9 HCC requested pedestrian surveys are undertaken to demonstrate the need to provide the TOUCAN crossing on A323 near Windmill Road. This note considers the requirement of the crossing based on HCC's  $PV^2$  formula. The survey data is included in attachment **4222 Aldershot Site 1 Pedestrian Count Thursday 16th May 2013**.



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### **Tech Note 12 PIA Review**

Additional clarification for areas identified by HCC in their technical consultation respond have been addressed within this note. The additional areas covered the following areas:

- A325/B3014 Victoria Road Roundabout;
- A325/B3403 Boundary Road;
- St. Alban's Roundabout/Lynchford Road;
- A323 Wellington Avenue/Hospital Hill;
- Government Road/Camp Farm Road Junction; and
- A323 Ordnance Road to Lower Farnham Road Link.

### **Tech Note 14 HCC Public Transport Strategy**

HCC requested clarification on the revenue forecasting. This note provides HCC an update and on these issues.

### **Tech Note - Item 11.2 - A331 on-slip Stage 1 RSA letter issue 1**

HCC requested a copy of the RSA1 for the A331 on-slip, this note provides it.

### **Tech Note - Item 11.3 A331 On-Slip Flows**

Figures 11.1 and 11.2 of the Transport Assessment have been reissued so the numbers can be seen clearly.

### **Tech Note - Item 11.5 Government Road - Ordnance Road - Thornhill Road Roundabout**

Small amendment to the geometry of the proposed roundabout of Thornhill Road/Gallwey Road/Government Road to reduce the RFC from 0.898 to 0.826. The note shows the geometry changes and the junction assessment including ARCADY output files.

### **Tech Note - Item 11.16 Pennefather's Road Pedestrian Crossing**

This technical note provides further justification for the provision of the crossing on A325 and also provides a drawing 0364/SK/046 Rev A which demonstrates the stopping sight distance for both northbound and southbound approaches.

### **Tech Note - Item 15.2 - Construction Traffic Addendum TA Text**

This note provides an addendum to the Transport Assessment and replaces para 11.14.7 to 11.14.18 together with Figure 17.

### **Tech Note - Item 15.4 North Lane**

This technical note provides clarification of traffic flows on North Lane and the capacity of this link. It concludes that the Saturn model indicates that the Wellesley development traffic will use North Lane for access in the peak hours. However, the introduction of the strategic A331 on-slip allows some traffic to redistribute and use new routes to access the A331 resulting in an overall reduction in traffic on North Lane by 13 and 29 vehicles in the morning and evening peak hours respectively.

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### **Tech Note - Item 15.8 - A331 Slip Road - Lynchford Road**

HCC raised concern that the A331 Slip Road on the Lynchford Road interchange may operate beyond capacity in the future. This note addresses this concern and provides junction analysis and the ARCADY outputs.

### **Tech Note - Item 15.9 Wellington Roundabout**

HCC requested further information on the operation of the existing Wellington Road roundabout and the constraints in providing any significant improvements. The note sets out the impacts from the proposed Westgate Development and the Wellesley Development in this location.

The note concludes that any improvements to the capacity of the junction would require significant alternations to the whole junction to provide adequate deflection and minimise the impact upon the monument which is considered over and above the requirement of the Wellesley development. The results within this note indicate that the junction of Wellington Roundabout will reach design capacity in the future without the proposed development of Wellesley and the alternations of the highway infrastructure including the A331 on-slip. As previously reported within the TA and through progress meetings with HCC the proposed development at Wellesley has not made any allowance for the existing land uses on the development site, these have been calculated to be 278 and 213 in the morning and evenings peak respectively.

With the double counting of existing trips on the network, WSP believe that the impact at this junction is lower than that shown within the modelling scenario. Whilst it is clear that the development will have an impact on the junction, as set out in the TA, the benefits that the infrastructure associated with the development has on other locations across the network should in some cases out-weigh the requirement to find solutions for all junctions that may be impacted upon.

### **Tech Note - Item 15.10 Hollybush Lane - Lakeside Road**

This note has been prepared following concerns raised by HCC regarding the existing Lakeside Road / Hollybush Lane roundabout capacity. Junction capacity analysis was undertaken which showed this junction will operate well below its design capacity in the future.

### **Residential and Work Place Travel Plans**

Following comments from HCC the Travel Plans have been revised and resubmitted. The main changes include targets within the Residential TP and clarification on mandatory measures within the Workplace TP.

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## 3 Surrey County Council Consultation

- 3.1.1 This Technical Note was prepared to provide SCC with additional information on the development impacts on key links and junctions located within their county. A meeting between SCC and WSP was held on the 7 May 2013 to discuss SCC's comments on the AUE Transport Assessment (TA) and potential solutions as set out within the meeting notes contained within the Technical note.
- 3.1.2 SCC requested that the note identifying the impacts of the Wellesley development of a number of locations and whether any solutions were available. These include;
- Shepard and Flock Roundabout;
  - A31 Hinkley's Corner; and
  - Lakeside Road Access / B3411 Ash Hill Road Junction
- 3.1.3 No further information is required from SCC with regard any other transport issues.

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# Appendices

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Appendix A

Aldershot AUE TA review with actions 30 April 2013

## Aldershot Urban Extension – Wellesley Transport Assessment

	Chapter	Main Concerns in HCC response <b>06.09.12</b>	Further comment	Actions	WSP	HCC Response (30/04/13)
1.1	<b>1 Introduction</b>	No issues	No remaining issues	No Action		
2.1	<b>2 National and Local Policy</b>	Specific references to certain policies	No remaining issues	No Action		
3.1	<b>3 Existing conditions</b>	Descriptions of existing conditions on the local highway network	No remaining issues	No Action		
3.2		Provision of more recent PIA data	More recent PIA data is notes and welcomed.	No Action		
3.3		Detail on the casual factors of PIA data	Further comments to follow.	<b>HCC</b> to provide comments on <u>Causal</u> Factors of PIA data	<b>Tech Note 12</b>	HCC is satisfied that the technical note satisfactorily addresses the concerns raised, and that the delivery of the highway works proposed, and the payment of a wider contribution, would be sufficient to resolve any remaining safety concerns.
4.1	<b>4 Accessibility</b>	No substantive comment	No remaining issues	No Action		
5.1	<b>5 Development proposals</b>	Further information on employment descriptions + generation of jobs	This is not provided in the TA, but is available from other documents.	No Action		
5.2		Inclusion of a map to show the phasing of development	This is not included within the TA, but is available from other documents. The Phasing of the development will need to inform the phasing of the mitigation strategy.	No Action		
6.1	<b>6 Transportation Strategy</b>	Highway Strategy - see Chapter 11	As below.	No Action		
6.2		Walking and cycling strategy - further detail required	Comments to follow.	General review of the walking and cycling strategy is agreed, <b>HCC</b> to provide confirmation of this		HCC is satisfied with the principles of the walking and cycling strategy. Design issues need to be resolved through the S278 process following the grant of planning consent.

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
						It would be beneficial to know the existing number of pedestrian crossing movements within 50 metres of the proposed Toucan crossing at A323 High Street (Near Windmill Road) shown on Drawing 0364/SK/051 to determine if the PV2 criteria will be met before the 2026 forecasted traffic/pedestrian flows. This will help determine the phasing of these works.
6.3		Walking and cycling strategy - Queens Avenue/Hospital feasibility plan	Comments to follow.	HCC to provide comments		Comments provided below on this junction.
6.4		Walking and cycling strategy - Alison's Road/Thornhill Road - requirement of a PV2 assessment	This has not been provided. Any controlled crossing will need to be supported by a PV2 assessment, in line with HCC policy.	HCC to review this comment as it was not clear where this crossing is. There is an existing crossing on Alison's Road but the development doesn't propose to change this.  <b>HCC Update TW 070313</b> The proposals no longer include the provision of a controlled crossing to the east of the A325 junction on Alison's road, as		

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
				such no PV <sup>2</sup> is required.  No further action		
6.5		Walking and cycling strategy - Ordnance Road - feasibility level drawings required	Drawing noted – comments to follow	WSP to review the width of the road and footway provision with the potential to widen the existing northern side footway to minimum of 2m if possible or reduce the southern footway and provide the additional width on the northern side of the road	Tech Note 6.5	<p>Tech Note 6.5 advises on the likely pedestrian distribution of the nearby REME and Clayton land parcels.</p> <p>These are likely to generate a noticeable number of pedestrian trips which should be encouraged due to the proximity of Aldershot town centre and it is considered that a proportion will use Ordnance Road as opposed to through the development as indicated.</p> <p>It is acknowledged that land constraints prevent any obvious widening options on Ordnance Road. Continuous footway provision is provided on the northern side, albeit limited to 1.7m width in places.</p> <p>Notwithstanding this, concern still remains over the use of Ordnance Road as a strategic vehicular route whilst retaining a pedestrian provision which is less than the desirable minimum width, which is particularly the case on the western side. The routing of significantly greater levels of traffic along Ordnance Road as part of the mitigation strategy will create a detrimental impact on the pedestrian and street environment on Ordnance Road.</p> <p>It would therefore be beneficial to</p>



	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
						understand the anticipated future pedestrian flows along this route based on existing and anticipated development pedestrian traffic. Pedestrian surveys should be carried out and submitted.
6.6		Walking and cycling strategy - A325 Farnborough Road - crossing location	Principle of a crossing in this location is accepted – detailed comments on drawing to follow	HCC to provide comments on the design	No Action	<p>The principle of a controlled crossing of the A325 is accepted.</p> <p>There is however some concern about the Pennefathers Road ped crossing, and getting pedestrians across to the triangular island.</p> <p>In particular, pedestrians may experience problems crossing over the left turn road into Pennefathers Road as they may be uncertain if a vehicles is turning left or not.</p> <p>Consideration should be given to providing a deceleration left turn lane from the A325 to Pennyfathers Road, and a controlled crossing across this road.</p> <p>Also, the island needs to be made bigger to provide some separation between the various crossing points.</p>
6.7		Walking and cycling strategy - North Lane feasibility level plan required/cycling lane improvements requested	Comments to follow	Principles of the design and walking/cycling strategy are accepted by HCC but further comments to follow to reflect		

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
				this		
6.8		Walking and cycling strategy - SANGS Access - feasibility level drawings required	Comments to follow	WSP to provide a drawing showing the locations of the SANGS accesses	0364/SK/045	<p>The informal SANG pedestrian crossings of Clubhouse Road and A323 Fleet Road are indicated on drawing 0364/SK/045 Rev A, however additional detail is required.</p> <p>This drawing appeared to indicate a footway on the northern side of Fleet Road, however there is no provision on site.</p> <p>Also the context of the SANGS is not shown with regards to paths/routing within these areas and only woodland currently exists with no footpath or landing area.</p> <p>The crossing of Fleet Road appears to be located at the top of a crest, however the level of visibility should be checked both horizontally and vertically to ensure the provision is sufficient, particularly from the northern crossing point where vegetation and the change in levels has its greatest impact on visibility.</p> <p>The crossings points across Clubhouse Road appear suitable, however the level of visibility should be indicated as part of the exercise for the Fleet Road crossing.</p>
6.9		Public transport strategy - clarification of new bus service to	Comments to follow	HCC to update	Tech Note 14	HCC have some further comments on this. A separate note will be issued.

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
		North Camp				
6.10		Public transport strategy - Connaught School bus service	Comments to follow	HCC to update	Tech Note 14	As above
6.11		Public transport strategy - bus stop clarification	Comments to follow	HCC to update	No further Action	
6.12		Smarter Choices strategy (including appendix F) - Some further queries residential travel plan	Comments on Travel Plan provided separately	Comments on Travel Plan provided separately	Tech Note 10	<p>The points in Technical Note 10 are noted and the position with regards to the targets (points 2 and 3) is now agreed.</p> <p>A revised Residential Travel Plan should now be submitted which includes all agreed changes.</p> <p>In terms of the costs (point 1) these are required before the Travel Plans (Residential and Workplace) can be formally approved.</p>
6.13		Smarter Choices strategy (including appendix F) - Some further queries workplace travel plan	Comments on Travel Plan provided separately	Comments on Travel Plan provided separately	Tech Note 10	<p>With regards to points 4 and 5 the Workplace Travel Plan is somewhat unclear as to the measures that will be mandatory and those which are voluntary, for example in Table 5.1 of the travel plan 'Incentives for Walking and Cycling' is coloured as mandatory whereas in the text this measure is described as "a range of incentives that could be offered" and that the TPC would discuss with individual occupiers "the potential for some of these incentives to be offered to their employees" suggesting that this is in fact a voluntary measure. Table 5.1 should therefore be clarified and outline precisely which measures will</p>

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
						<p>be mandatory and which will be voluntary.</p> <p>In line with previous comments there should be a commitment for some of the financial measures to be compulsory.</p> <p>A revised Travel Plan should be submitted.</p>
7.1	7 Development trip generation (also appendix E)	Determination of trip generation and mode share - Application of NTS data, concerns relating to the high PT mode and application of smarter choices to the base mode	The overall basis of the methodology to derive person trip rates remains unchanged since August 2012. This latest submission takes on board the previous comments on Education trips and thus, there have been some changes of detail in response to the HCC letter of 09/10/12. Whilst the total person trip calculation is unchanged, the final disaggregated mode share trip generation gives a more (but not totally) realistic result. This has occurred because the revised mode share predicts more car trips, and a trip rate more akin to one derived from TRICS. But, fundamental issues such as assumptions on public transport patronage (8%), the treatment of Smarter Choices benefits as a given, as opposed to a sensitivity			
7.2		Education trip assessment - exclusion of education from TRICS				
7.3		Trip Internalisation - new comments required		<p><b>HCC/WSP</b> action to pick up on following HCC's issue of PTS response and revenue forecasting.</p> <p><b>HCC</b> to issue PTS and Revenue forecasting comments in the first instance</p>		This is considered in the separate note.

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
			test, remain. <b>Action: ensure that trip generation assumptions are tied into a binding Travel Plan. Consider the impact of PT mode share on revenue recovery / subsidy requirement.</b>			
8.1	<b>8 Trip distribution and assignment</b>	Shopping trip distribution - rationale required for new assumptions	The methodology has not changed since August 2012. The August submission took onboard many comments raised on the first issue, as acknowledged in HCC letter dated 6/9/12. The more detailed comments and questions raised in the 6/9/12 letter have not been specifically addressed. <b>Action: applicant to respond to previous queries.</b>			
8.2		Education trip distribution - rationale required particularly for secondary schools		<b>WSP</b> to provide an update specifically responding to HCC's letter of 6 Sept 2012 although HCC accepted that the overall approach to the modeling work is agreed	<b>Tech Note 4: Trip Distribution</b>	It is noted that commentary on numbers in para 4.7.2 is not always consistent with Table 4.9. This may be a typographical error which has occurred as a consequence of changes to numbers in Table 4.9.  The distribution assumes a 100% internalisation of Primary School Traffic. Whilst this may well be true for pupils, it is unlikely for staff and deliveries and so the effect of this should be addressed.  Notwithstanding the primary school aspect, the distribution can be considered appropriate.
9.1	<b>9 Committed Development and Infrastructure</b>	Farnborough business park site details required	Previous comments have not been addressed. <b>Action: applicant to provide details as requested.</b>	<b>WSP</b> to provide an update specifically responding to HCC's letter of 6 Sept 2012 although HCC accepted that the overall approach	<b>Tech Note 6: Modeling Responses</b>	Technical Note 6 provides responses to queries about aspects of the transport modelling that supports the application. Appropriate commentary is provided here and in sections 11.18 and 13 of this table.  <i>Section 2</i> sets out assumed trip rates

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
				to the modeling work is agreed		<p>for committed development in the Farnborough Business Park. These are based either on the approved Transport Assessments, where available, or on TRICS. They are considered to be appropriate for use as proposed.</p> <p>Signal Optimisation - The Do minimum scenario should also be tested with the signal optimisation setting applied. This is to establish the extent of re-routing and redistributed traffic as a result of changes in signal timings alone as opposed to network alterations or development impact. Alterations/improvements to existing signal timings are feasible for the purposes for optimisation ,however it would have to be ensured that any such changes do not give rise to any safety implications or exceed reasonable limits.</p>
10.1	10 Impact Assessment Methodology	No comments	HCC is generally content with the assessment methodology.	No Actions		
11.1	11 Traffic Impact	Appendix H requires full package of mitigation works+phasing of mitigation	Pg 85, 11.2.3. Appendix H simply includes the junction capacity assessments (ARCADY, PICADY & LINSIG). There is an overall plan (0364/SK/025) that summarises the mitigation/junction improvements for all junctions considered. This higher level plan does not give the detail, but a series	Phasing of highway works were not assessed pre-application as we have been awaiting confirmation that HCC/SCC and RBC were in agreement to the overall package	On-going issue	Phasing and proposed HOT is still awaited.

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
			of individual plans for each location are also provided. No detail on phasing of works is provided. <b>Action: applicant to provide works phasing details as requested.</b>	of measures to be delivered by the development of Wellesley. <b>WSP</b> will provide Phasing information now that HCC have confirmed their agreement in principle to the modeling work and the proposed transport strategy		
11.2		A331 On slip - Confirmation of the vertical alignment /adequate SSD	Pg 94, 11.5.5. The drawing referenced in the TA (0364/GA/001) has been included but does not provide details of the vertical profile, or confirm the available SSD. It should be noted that this drawing does not appear to be available on line. <b>Action: applicant to provide details requested.</b>	<b>WSP</b> to provide a long section of the A331 On-Slip including the Stopping sight distance.  <b>WSP</b> to provide RSA and consideration of the right turn facility from the east (capacity assessment).	<b>0364/GA/010-B &amp; 0364-GA-001-D</b>  <b>Road Safety Audit</b>  <b>0364/SK/49</b>	The drawings and also the Road Safety Audit are considered acceptable.  There are no departures from standard unless the speed survey that will be required for the Manual for Street visibility over the bridge is higher than 60kph, in which case a departure will be required.
11.3		A331 On slip - further select link analysis	Pg 94, 95 & 96, 11.5.6. This has been provided but the diagrams included within the TA are not legible. The text is too small to read and so the total flows on each link cannot be identified. The text explains that the majority of traffic using the on-slip comes from existing trips from the Aldershot	<b>WSP</b> to reissue Figures 11.1 and 11.2 to provide clearer text	<b>Tech Note 11.3 with Figures</b>	Technical Note 11.3 provides legible Select Link Analysis results diagrams for the A331 northbound on-slip which confirm that the majority of traffic using the proposed slip originates from Aldershot to the south west.

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
			<p>area, but it is not possible to verify this using the link analysis diagram.</p> <p>It should be noted that the flows on the A331 Northbound on-slip are not the same as those given in the HCC comments letter.</p> <p><b>Action: applicant to provide details requested in a legible format.</b></p>			
11.4		Re-word the TA to ensure that the directional flows are not averaged, as this is not considered appropriate.	<p>Pg 96, 11.5.10 and Pg 96 Table 11.11. The flows for both westbound and eastbound on the Lynchford Road in the AM and PM have not been provided. The journey times are given and the journey time savings identified. The savings for each direction are given, however the text of the report (11.5.11) states that the combined AM and PM peak savings are 40 seconds. It is not understood what that statement is meant to demonstrate, as it is not usual to combine different peak periods to identify savings.</p> <p>It would be helpful for this section to consider an assessment of the capacity of Lynchford Road to accommodate the additional traffic generated by the development. The impact on</p>	WSP to provide a specific technical note regarding Lynchford Road and St Albans Rbt. Paper will provide Saturn model output, vehicle routing, journey times and vehicle flows/link capacity. An assessment of St Albans Rbt will also be included within this technical note.	Tech Note 8	Comments to follow in a separate note.



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			Lynchford Road is an important consideration. <b>Action: Applicant to provide appropriate clarification.</b>			
11.5		Government Road/Thornhill Road - Improve design to increase capacity	Pg 97 & 98, Table 11.12. The proposed alterations to the Government Rd/Thornhill Rd junction see an RFC over 0.89 in the AM peak on Ordnance Rd. The report states that the improvements will see additional capacity on Government Road to accommodate the increase in traffic. However Table 11.6 shows that Thornhill Rd and Ordnance Road will suffer a decrease in capacity during both the AM and PM peaks. The alterations at this location appear to improve capacity on one arm, while reducing capacity on the other two. It is proposed that this junction be altered, with a new roundabout at the location. Being in a position to build a new roundabout should mean that the junction can be designed to accommodate all anticipated traffic while remaining within capacity. This should be revised to deliver further capacity. <b>Action: Applicant to consider further</b>	<b>WSP</b> to revise the design at this junction to provide RFCs no greater than 0.85 where possible. The junction is to be tested using ARCADY.	<b>Tech Note: Item 11.5</b>	The radius of the roundabout has been increased from 18m to 20m which increases the effective flare and decreases the entry angle. As a result of the proposed alterations the roundabout has been demonstrated to operate within capacity.  The alterations are also considered acceptable in terms of their design, subject to formal design checking.

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
			<b>alterations to increase capacity.</b>			
11.6		Government Road/Thornhill Road - Drawing extended and assessment of Government Rd leading to A331 on-slip	<p>Pg 98, 11.6.8. Drawing 0364/GA/002 shows that a new Canal Bridge is to be provided. A drawing showing the likely bridge detail would be useful.</p> <p>The drawing does not extend past the point of the bridge as requested and no assessment of suitability of Government Road beyond the bridge is provided. This should be supplied. <b>Action: applicant to provide details requested.</b></p>	<p><b>WSP</b> to provide a standard bridge specification which is likely to be used for the proposed bridge replacement on Government Road</p> <p><b>WSP</b> to provide a revised drawing showing the section of Government Road between the canal bridge and the A331 on-slip along with an assessment of its suitability to carry the projected additional flows.</p>	<p><b>Due to be completed by 12 April 2013</b></p> <p><b>0364/RP/001 &amp; 002 and 0364/GA/011-A</b></p>	<p>Details received. No further action.</p> <p>HCC is satisfied that sufficient detail has been provided at this time.</p>
11.7		Government Road/Thornhill Road - Further information required	<p>Drawing 0364/GA/002. Further comments will be provided shortly. It is noted however that no defined crossing points from south to north over Government Rd appear to be indicated. This road will carry significantly greater traffic, and the use by all modes needs to be considered. <b>Action: HCC to provide further comments.</b></p>	<p><b>HCC</b> to provide comments on Drawing 0364/GA/002</p> <p><b>WSP</b> Tactile paving will be added to our drawing to emphasise the crossing points.</p> <p><i>Please note that Government</i></p>	<p><b>0364/GA/009-A and 0364/RP/001-A &amp; 0364/RP/002-A</b></p>	<p>The principle of the works is accepted. These will be considered further during formal design checking processes.</p>

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
				<i>Road proposes a shared cycle/footway along the northern side of the carriageway. There is limited pedestrian access to the southern side however a crossing point has been indicated on the drawings and tactile paving will be added to highlight this point</i>		
11.8		Ordnance Road/A323 High Street - Arcady assessment is required + identification of mitigation if required	Pg 98, 11.6.10. No ARCADY has been provided for this junction but Table 11.6 identifies that there will be a significant worsening of traffic conditions at this junction, including on the High Street arms of the junction, breaching capacity. The TA states that "the existing situation has been assessed within the model" and that due to the junction acting as a "throttle", allowing enough traffic onto Ordnance Rd providing a well balanced flow across all routes to the A331 on-slip, the most appropriate action is to retain the existing	<b>WSP</b> to provide a technical Note on Ordnance Road/A323 junction including design considerations	<b>Tech Note 7</b>	<p><b>Technical Note 7</b> assesses the Ordnance Road/A323 High Street junction.</p> <p>It has not been possible undertake a full audit of the ARCADY and LinSig models. The following should be noted:</p> <ul style="list-style-type: none"> <li>• Neither the TA or the Technical Note provide traffic flows for the scenarios tested;</li> <li>• Input geometry appears to be correct but a scale drawing of the junction should be provided;</li> <li>• Unequal lane usage on Arm B, where it appears the over 3/4 of the traffic turns right, has not been considered and should be addressed;</li> </ul>

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
			<p>junction arrangement. It would seem that the TA is using this 'constrained' junction to control traffic that might otherwise impact on other network junctions. The assessment does not indicate what improvements have been considered at this location for improving capacity to accommodate the flows projected by the development. This should be detailed.</p> <p>Further work is required to consider the appropriate strategy for this key network location.</p> <p><b>Action: applicant to consider further.</b></p>			<ul style="list-style-type: none"> <li>• The correct time period may not have been modeled. A 90 min time period would be expected where ODTab data entry has been used but in this case a 60 period is referenced here;</li> <li>• The exclusion of the left turn movement and traffic from the roundabout is incorrect. This should only be done when there is sufficient capacity for the filtering traffic. Here queuing left turners will interfere with other approach traffic.</li> </ul> <p>Similarly it has not been possible to fully assess the proposed signalised junction arrangement as no layout diagram has been included.</p> <p>The LinSig model has some areas of concern.</p> <ul style="list-style-type: none"> <li>• The pedestrian stage has been given a phase minimum of 4 seconds but it should be at least 5 or 6;</li> <li>• The inter-green for the pedestrian phase is also too short at 4 seconds.</li> <li>• It has been assumed that no formal pedestrian crossings are included and Phase E is simply to allow waiting pedestrians to cross at all locations. This is not ideal.</li> <li>• Without detail of a proposed it is not possible to identify whether</li> </ul>

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
						<p>other inter-green times are correct.</p> <p>Technical Note 7 concludes that the existing junction provides a key control point on the network and that the existing layout will remain in place with the proposed development. The validity of this Statement cannot be supported until the concerns have been addressed appropriately.</p> <p>Notwithstanding this, the County Council remain concerned that this is a key junction in the heart of the town, providing access towards the A331 slip and that it is shown to operate at capacity as a result of the development. The development will generate significant levels of additional traffic through this junction.</p> <p>Further investigation into potential improvements should be undertaken and presented.</p>
11.9		Alison's Road & Queens Avenue - Feasibility/deliverability of works	Pg 100 & 101, 11.7. There has been no further mention of the feasibility or deliverability of the proposed works. The TA states that the reduction in width of Alison's Road and the revision to a number of junctions will be a matter for consideration at the detailed stage. This is inappropriate	<b>HCC</b> to review the Design Code for the development and report back if this provides the detail they are missing		<p>The level of detail provided by the design codes to set out what will be delivered on Queen's Avenue and Alison's Road is limited, with architectural illustrations and cross-sections being the limit of information available.</p> <p>The County Council would wish to see much greater levels of information as to how the street environment will be</p>

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
			<p>and the nature and extent of works should be explored now to understand what changes are needed and to identify if they can be delivered. Alison's Road is a key link within the site, and will form part of the primary network in the future.</p> <p>Further details are required for the proposed treatment of Queen's Avenue, to show the detail of the proposed highway network and footway / cycleway provision. The provisions for movement in this area will be critical to the success of the site, and the adjoining land uses in this area are likely to mean that this is a focus for movement.</p> <p><b>Action: applicant to provide details requested.</b></p>			<p>created on these key corridors, to include general arrangement plans.</p> <p>However, it is accepted that this information is unlikely to be forthcoming during the application, and as such it is important that the phasing of the road adoptions and improvement works to these corridors is tightly secured in the Section 106 Agreement to ensure that there is adequate opportunity and time to fully consider these matters post-application.</p> <p>The agreement will also need to consider the potential for interim works to the street environment to ensure that key travel generators, such as the Primary School, are provided with quality transport connections, even if they come forward in advance of the wider works.</p>
11.10		Alison's Road/Queens Avenue - An assessment of forecast pedestrian demand is required	Pg 100 &101, 11.7.4. No assessment to forecast pedestrian demand has been prepared, with no reference been made to existing demand or future flows generated by the Masterplan. <b>Action: applicant to provide details requested.</b>	HCC's comments are out of date.  No Action Required		
11.11		Alison's Road/Queen's Avenue - Linsig model required	Pg 100 &101, 11.7.4. A limited amount of information can be obtained	WSP copy of the all LINSIG files were issued	Issued on 5 <sup>th</sup> March 2013	The following comments are made on the submission;

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
			<p>from the LINSIG print outs provided in Appendix H, but ideally the model should be provided to ensure the correct information has been modelled. A comparison of the current LINSIG junction assessment with that previously prepared (July 2012) has identified that the flows input for the 2013 assessment are greater by up to 140 pcus. There are also more pedestrian phases included in the current assessment.</p> <p><b>Action: copy of Linsig model to be provided for audit.</b></p>	during the meeting on 5 <sup>th</sup> March.		<ul style="list-style-type: none"> <li>Confirmation is required on the traffic flows as there are a number of turning movements that do not have any flow associated with them. A sensitivity test should be carried out to consider reasonable estimates of turning flows.</li> <li>Use of nearside indicators mean that pedestrians will not have a visual signal whilst crossing, this together with no audible signal after the green man is extinguished will result in pedestrians, especially vulnerable road users, being uncertain about the remaining available time to cross. Long crossing lengths also introduce lengthy delays to vehicles. For these reasons, the pedestrian crossing lengths are considered to be too long and should be staggered.</li> <li>Given that the junction currently operates separately staged right turns for both Alison's Road westbound and eastbound, there are safety concerns with the removal of this facility. Separately staged right turns to be retained.</li> <li>Revised Linsig model to be provided.</li> </ul>
11.12		Queens Avenue - Assessment against PV2 criteria	Pg 100 &101, 11.7.4. No assessment of the justification for the pedestrian crossings ( $PV^2$ ) on Queen's Avenue have been provided. This are required to consider if a	Crossing points are proposed to be conditioned to allow flexibility in the future regarding type of crossing	No Action	

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			signal crossing can be provided, in accordance with HCC policy. <b>Action: applicant to provide details requested.</b>	required.  PV <sup>2</sup> will be used at the appropriate time.  No further Action		
11.13		Alison's Road/Queens Avenue - Following comments should be made	Pg 100 & 101, 11.7.4. The request for further detail relating to intervisibility, visibility, cycle movements, left turns from Alison's Road into Queens Ave etc as set out in the Hampshire County Council response dated 6/09/2012 have not been taken on board. The TA advises that the arrangements will be subject to detailed consideration and design in due course. These matters are considered fundamental to the acceptability of the design, and require addressing at this time. <b>Action: applicant to provide details requested.</b>	WSP consider all the relevant information has been submitted and HCC are to review the information again and confirm their position. Now that the LINSIG file has also been provided there is no further information available to provide  <b>HCC</b> to review and confirm if they still require additional information	No Action	
11.14		A325 Farnborough Road - Further detail on a number of issues required - Relocation of proposed pedestrian crossing	Pg 102, 11.8.3. Drawing WSP 0364/GA/006 shows a redesigned junction which includes a new signalised crossing across the new central island providing a connection to the SANGs area. The PICADY assessment suggests that there will be sufficient	No Action		



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			capacity with a RFC 0.432 reported for the AM peak and RFC of 0.363 for the PM peak.			
11.15		A325 Farnborough Road - Proposed reduction to 40mph in the vicinity of the Pennefathers Road is required but the drawing showing the visibility is required	Pg 102, 11.8.6. It is proposed to extend the existing 40mph speed limit approximately 700m further north on Farnborough Road to a point south of Alison's Road over bridge at the junction with Fleet Road. Whilst drawing WSP 0364/GA/007 shows the extent of the new lower speed restrictions no analysis of the visibility has been undertaken. However, appendix J contains the results of a speed survey. This suggests that the average speed at present is 42mph (48mph 85 percentile speeds) and the reduction in the speed limit could have a beneficial effect of reducing the speed further. <b>Action: applicant to provide details requested.</b>	No Action		
11.16		A325 Farnborough Road - In the northbound direction, a crest occurs near Knollys Road. The stopping distance to the back of a northbound queue should be checked.	Pg 102 & 103. There is no indication in this section or the appendix that the stopping distance and the effect of the crest has been checked.  <b>Action: applicant to provide details requested.</b>	<b>WSP</b> to provide vertical alignment showing the crest of the road in relation to the Pennefather's crossing and to demonstrate adequate SSD	<b>Tech Note: Item 11.16</b>	This note outlines the SSD that is achievable in this location and to the rear of a projected queue. The assessment is reasonable and adequate SSD is shown.

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11.17		A325 Farnborough Road - Additional comment	Pg 103. It is noted the PIA analysis identified the southbound A325 Farnborough Road merge from two lanes to one lane as an accident cluster. It also notes the increase in the volume of traffic arising from the development could increase the potential for conflict. It is therefore proposed to remove the existing merge and replace with a lane drop located further north to tie in with the southbound off slip. As one lane of traffic will therefore continue over Alison's Road (over bridge) with which the on-slip will merge. In addition, the existing on-slip will be widened and increased in length to the required standards. This is welcomed.	No Action		
11.18		Wellington Avenue/Hospital Hill Junction - Variance between observed and modelled flows	Pg 103. 11.9.4. Further detail was requested on the variance between observed and modelled flows. In particular, concern was expressed the modelling was showing flow on Hospital Hill into the junction would reduce by 37% in the AM peak by 2026. It is noted that the TA does not directly answer this concern. Although a summary table of the LINSIG model is	WSP to provide information regarding re-routing of traffic.  <i>Note: we assume that this is for information as the modeling work has now been agreed.</i>	Included within Tech Note 6 Modelling responses	<b>Technical Note 6</b> Contrary to its title we believe that <b>Section 5</b> relates to the signalised junction of Hospital Hill and Wellington Road traffic signal junction and this should be clarified.  It would also be helpful if the applicant could supply copies of signal timing optimisation appendices and a plan showing SATURN node numbers, as an aid to interpretation and audit of these and other issues. They may

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
			provided by 2026, no commentary is provided in relation to the 2011 observed flows. <b>Action: applicant to provide details requested.</b>			also help remove some of the confusion.  <b>ITS Comments</b> <ul style="list-style-type: none"> <li>Confirmation is required on the traffic flows as there are a number of turning movements that do not have any flow associated with them.</li> <li>Use of nearside indicators mean that pedestrians will not have a visual signal whilst crossing, this together with no audible signal after the green man is extinguished will result in pedestrians, especially vulnerable road users, being uncertain about the remaining available time to cross. Long crossing lengths also introduce lengthy delays to vehicles. For these reasons, the pedestrian crossing lengths are considered to be too long and must be staggered.</li> <li>Revised Linsig model to be provided.</li> </ul>
11.19		Wellington Avenue/Hospital Hill Junction - No 2012 year modelling has been undertaken	Pg 103. 11.9.4. No information has been provided in relation to the 2012 base year in Appendix H even though it is noted that the junction is currently operating close to capacity. <b>Action: applicant to provide details requested.</b>	<b>WSP</b> to provide the 2011 model runs run with the DS junction layout	The 2011 modelled traffic flows have been used to assess the proposed Wellington Avenue /	ITS comments provided separately and need to be addressed before this can be confirmed.

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
					Hospital Hill junction arrangement. The results indicate the junction can accommodate the existing traffic flows with practical reserve capacities of 8.8% and 5% in the morning and evening peak hours respectively. The LINSIG3 model is attached	
11.20		Wellington Avenue/Hospital Hill Junction - Assessment of future pedestrian demands	Pg 103. 11.9.4/5. Further information was requested on the projected pedestrian demands at the junction in order to determine the nature of pedestrian crossing that would be required. This information has not been provided. <b>Action: applicant to</b>	No Action, it was agreed with the change in junction layout, and with the assessment of the model calling the ped phase in each cycle, that this level of	No Action	

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
			<b>provide details requested.</b>	information is not necessary.		
11.21		Wellington Avenue/Hospital Hill Junction - provision of the Linsig model	Pg 103. 11.9.4, drawing 0364/GA/005 and Appendix H. It is noted that the information provided in relation to the LINSIG model is insufficient to undertake a full assessment. Drawing 0364/GA/005 does not provide any geometric parameters. It is also difficult to determine the pedestrian crossing arrangement proposed. <b>Action: applicant to provide details requested.</b>	<b>WSP</b> has provided the LINSIG files for HCC to review  <b>HCC</b> to review and report back	<b>Issued 5<sup>th</sup> March 2013</b>	Addressed above
11.22		Wellington Avenue/Hospital Hill Junction - Inclusion of the Westgate traffic signal junction	Pg 103. 11.9.4. The assessment now includes the Westgate signals, but the assessment should further consider what impact the operation of each junction has on the other. Will blocking back occur between these? How has this been considered. <b>Action: applicant to provide details requested.</b>	<b>WSP</b> has provided the LINSIG files for HCC to review. It was discussed that blocking back doesn't occur and the Westgate development has been fully considered in the design and assessment of this junction  <b>HCC</b> to review and report back	<b>Issued 5<sup>th</sup> March 2013</b>	ITS comments provided above
12.1	<b>12 Maida Zone - Phase 1 Impact Assessment</b>	Little space shown for the siting of street furniture and public utility services. Swept	Pg 117. 12.2.2/12.2.5. Within Appendix K, the TA provides an illustrative layout drawing 5510/SHPA	<b>WSP</b> to provide tracking for refuse vehicle and areas where	To be discussed At the Phase 1 & Adoption Meeting	A meeting with HCC s38 and Street lighting engineers has been proposed for the 14th May, however this is yet to be confirmed by WSP.

	Chapter	Main Concerns in HCC response <b>06.09.12</b>	Further comment	Actions	WSP	HCC Response (30/04/13)
		path analysis required for the detailed layout with track speed.	of phase 1. This does not include the siting of street furniture and space for public utility services. Whilst a detailed planning application will be submitted for phase 1, the illustrative layout does not indicate space for street furniture or public utility services. It states within paragraph 12.2.5 that autotrack review of all streets has been undertaken as part of the Masterplan development. There is no supporting drawing or appendix to indicate that this has been undertaken. <b>Action: applicant to provide details requested.</b>	parking may appear tight.		
<b>12.2</b>		Designs for turning facilities at the end of the highway will also need to be incorporated and will need to be provided until links to the adjoining parcels have been provided.	Pg 118. 12.2.5 It states within paragraph 12.2.5 that autotrack review of all streets has been undertaken as part of the Masterplan development. There is no supporting drawing or appendix to indicate that there will be sufficient turning facilities during the phasing of the development. <b>Action: applicant to provide details requested.</b>	<b>WSP</b> to provide tracking for refuse vehicle and areas where parking may appear tight.	To be discussed At the Phase 1 & Adoption Meeting	As above
<b>12.3</b>		The submission of suitable design for the off road footway/cycleway proposed alongside	Pg 117. 12.2.2 Layout drawing 5510/SHPA within appendix K provides indication of a proposed 3.5 metre shared footway and	Following the meeting HCC to review master plan and design code and phase		

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		Queens Avenue and Phase 1 is also awaited. This should show how the proposal will be designed around the retained trees and that an appropriate street lighting can be achieved.	<p>cycleway which retains existing trees along Queens Avenue.</p> <p>A drawing showing the full corridor treatment along Queen's Avenue (between the Hospital and Alison's Road) should be provided so this can be considered in context.</p> <p><b>Action: applicant to provide additional details.</b></p>	<p>1 application drawings and consider their position and update.</p> <p>Team to understand the impact of the Maida Gymnasium red line boundary with regard to visibility splays from Scarlett's Road and to consider how this can be secured.</p> <p><b>HCC to update</b></p>		
12.4		Not clear what supporting infrastructure will be delivered alongside the phase 1 application	<p>Pg 118. 12.3. Whilst there is a specific reference to cycle improvements on the southern end of Middle Hill before completion of phase 1, it is not clear when it be delivered during that phase. There are limited references to other walking and cycling improvements although the implementation date is not known. This is linked to the wider delivery of the transport mitigation package, which should be clarified.</p> <p><b>Action: applicant to provide details requested.</b></p>	<p><b>WSP to provide Phase 1 phasing.</b></p>	<p>Phase 1 will provide access from Hope Grant's Road and Scarlett's Road onto Queen's Ave; provide improvements to Middle Hill Pedestrian/cycle connection to A323 and upgrade the existing pedestrian crossing at Court Road on the A323.</p>	<p>Noted. The phasing of the full mitigation package should be outlined.</p>

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
12.5		Lower trip rates have been applied to phase 1 in contrast to committed residential developments set out in Chapter 9	Pg 119. 12.6.1. The TA employs revised trip rates. These are the same rates used for the wider Wellesley dev't. This indicates that are 115 movements in the AM peak and 80 in the PM peak. This represents a change from 86 and 81 and AM and PM respectively in the pre TA document.	This is a positive comment No further action is required		
12.6		Access to the proposed development to Queens Avenue from Hope Grant's Road. A drawing, swept path analysis and junction PICADY modelling should be submitted for consideration.	Pg 120. 12.7. Although the TA does not make specific reference to a drawing, an indicative has been provided. The layout does not illustrate the swept path analysis and so it is difficult to assess accurately particularly for large service vehicles. To create a worst case scenario, the PICADY model assumes all development traffic will utilise this junction. The PICADY analysis has been included in Appendix H. Given that the indicative drawing at 0364/GA/008, it not possible to check the geometric parameters. In addition, it is also difficult to reconcile the flows with those outlined in table 12.2 of the TA. Further clarity is therefore required. In addition, suitable visibility splays from the phase 1 land	Refer to the Drawing 0364/GA/008 is made in 12.2.2  <b>HCC</b> to review their response again as many of the comments made have been addressed in the TA and the drawings submitted with it.  The drawing referenced above was agreed to be suitable to make the necessary measurements required to check the junction performance.  Please note that the RFCs are		



	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
			should be demonstrated. <b>Action: Further clarification needed.</b>	extremely low and as noted we have include all development traffic through this junction and the result demonstrate that there is significant spare capacity to accommodate the Phase 1 traffic  <b>WSP</b> will provide swept path analysis for this junction layout	To be discussed At the Phase 1 & Adoption Meeting	As above
13.1	Forecasting report	Chapter 3 Inclusion of Farnborough Business Park	As a result of changes to the model following comments on trip generation and distribution, the comments made in letter dated 6/9/12 are largely superseded by new information. Ben Howard and Andrew Ball did visit WSP for a substantive meeting' where model analysis and output was demonstrated 'live' on screen. This highlighted some issues which were recorded in the email exchange resulting in the email from Ben Howard on 17/12/12. Overall, no major issues were identified with the operation of the model,	<b>WSP</b> will provide the signal times from the SATURN run along with an assessment of whether the optimised times represent realistic cycle times.	Forecasting Report Attached	Technical Note 6 provides responses to queries about aspects of the transport modelling. Appropriate commentary is provided here and in sections 9.1 and 11.18 of this table.  <i>Section 3</i> considers the routeing of development trips. It formally reports on analysis that has been demonstrated to officers in a modelling workshop and appears sensible with logical routeing and no major blockages.  Some concerns have been expressed about the impact on streets which are currently relatively lightly trafficked, for example North Lane, and that is
13.2		Chapter 3 Querying of different trip rates from TRICS compared to this different development			Tech Note 6	
13.3		Chapter 3 clarification about AUE in the NTEM and TEMPRO				
13.4		Chapter 4 Inclusion of proposals associated with the Aldershot Town Access Plan				
13.5		Chapter 5AM peak higher than the PM peak whereas TRICS shows a higher PM trip rate				

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
13.6		Chapter 5 Rigid application of committed development flows which has the effect of reducing the impact of AUE	and hence the concerns, if any, will be related to the interpretation of the data outputs, not the functioning of the model.  The exception to this is the model assumption that traffic signals are optimised in the future year model. In order for this to be acceptable, it will need to be demonstrated that the model optimization is realistic. An assessment is required to demonstrate this.			covered by Technical Note 15.4.  <i>Section 4</i> covers traffic signal optimisation within the SATURN model and the significant changes that this makes to some signal timings. Signal optimisation is addressed above.
13.7		Appendix A specific concerns about excessive congestion				
13.8		Appendix B Clarification of variances between horizon years and plots				
13.9		Appendix C Original data required to check accuracy				
14.1	<b>Comments on model outputs</b>	Link flows - Reconsideration of junctions not considered for improvement	<b>Action: Demonstration that optimization of signal timings is reasonable is needed.</b>			
14.2		Comparison plots - Clarity required over the banding and use of multi dots at junctions				
14.3		Other modelling comments - other information is required to fully understand the model operation and outputs more fully				
15.1	<b>Other matters</b>	Adoption of internal military roads	Testing requirements have been agreed. It is not clear when this testing will be carried out. The phasing of road adoption has not been clarified.  <b>Action: applicant to</b>	<b>WSP</b> to arrange a meeting with HCC Adoptions team	<b>WSP/HCC to arrange Adoptions meeting</b>	As above

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
			<b>provide details on timing of road adoptions.</b>			
15.2	Construction Traffic		Comments to follow.	WSP to provide revised text to replace 11.14.15 in the TA to reflect the use of Lynchford Road.	<p><b>Tech Note: Item 15.2</b></p> <p><b>Tech Note 10</b></p> <p><i>HCC requested background data for construction traffic flows – WSP to provide</i></p>	<p>Tech Note 15.2 estimates the level and nature of traffic generation during construction. Limited information is provided to substantiate the construction traffic generation figures.</p> <p>Tech Note 15.2 does identify the routes that will be permitted to be used by construction traffic, and specifically it identifies that use of North Lane will be restricted. Whilst this is supported, the Tech Note does not identify what measures will be put in place to monitor traffic routing, nor how compliance with the CTR can be enforced. Further information should be supplied to give confidence to the agreement.</p> <p>Tech Note 10 provides further information on the method used to calculate construction traffic generation. Whilst a 550 unit comparison site is referenced as a benchmark for construction activities, reliance upon a single un-named site is unlikely to be representative. No information is provided to demonstrate that for this sample site the build rate was comparable to the AUE site. Additionally, comparison with the WSP Construction Traffic Statement for another nearby residential site shows a significant difference in the level of HGV generation – 40HGV trips per dwelling compared with 13). Further information is requested to</p>

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						provide confidence that the figures outlined in the TA are reasonable.
15.3	St Albans roundabout			As per 11.4 above  <b>WSP</b> to provide a specific technical note regarding Lynchford Road and St Albans Rbt. Paper will provide Saturn model output, vehicle routeing, journey times and vehicle flows/link capacity. An ARCADY assessment of St Albans Rbt will also be included within this technical note.	<b>Tech Note 8: Lynchford Road</b>	Addressed in a separate note
15.4	Impact on North Lane			<b>WSP</b> to provide link analysis on North Lane and capacity assessment of	<b>Tech Note: Item 15.4</b>	<b>Technical Note 15.4</b> demonstrates that "the introduction of the strategic A331 on-slip allows some traffic to redistribute and use new routes to

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
				the jct between North Lane and A323		access the A331 resulting in an overall reduction in traffic on North Lane by 13 and 29 vehicles in the morning and evening peak hours respectively". Even allowing for optimism in the predictions it is clear that the impact will not be significant once the slip is provided. Should the slip not be provided at an early stage, there is likely to be a short-term detrimental impact on North Lane.
15.5	Lynchford Road			As 11.4		
15.6	Table 11.6	A323 High Street / Windsor Way South		WSP This point will be addressed in the Ordnance Road review – see comments in 11.8	Tech Note 7	Addressed above
15.7		Ordnance Road / A323 High Street		As 15.6	Tech Note 7	Addressed above
15.8		A331 / Lynchford Road slips		As discussed in the meeting WSP have review the impact of this additional demand through the SATURN model and there will be no impact on the A331 through route.  WSP to provide results demonstrating	Tech Note 15.8	The ARCADY assessment has been audited and the following should be noted: <ul style="list-style-type: none"> <li>No scale drawing was been provided so Google Earth has been used to check the measurements;</li> <li>No flow turning diagram was provided so it was not possible to verify the input flows;</li> <li>The flare length on Arm A appears to be too long whilst the flare on Arm C seems too short. Both</li> </ul>

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				this		<p>would affect the estimate of junction capacity;</p> <ul style="list-style-type: none"> <li>• Traffic flows have been entered in veh/hr but there are no HGV percentages given for the AM or PM peak. This omission could affect the estimate of junction capacity.</li> <li>• The PM peaks for each scenario have been labelled with the wrong time periods (07:45 to 09:15 instead of 16:45 to 18:15). This should not impact on the capacity assessment.</li> <li>• No evidence of validation of the model by on site observation of queue lengths or lane usage etc has been provided.</li> </ul> <p>As presented the results appear to show that the junction will operate with a reduced RFC and less queuing in the Do Something scenario and that development generated traffic will not impact negatively on the A331 slip road.</p> <p>However, this cannot be confirmed with confidence until the concerns with the model are addressed.</p>
15.9		Wellington Roundabout		WSP to provide a Paper cover the issues surrounding Wellington	The Note: Item 15.9	The note considers the impact of the proposed development upon the operation of the Wellington Roundabout. It is identified that

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				Roundabout		<p>the roundabout operates within capacity for the do minimum scenario (no AUE development), however, it will operate over capacity with the development traffic. No ARCADY assessment has been provided, only Volume/Capacity has been considered, the worst effected arm is the A325 Farnborough Road North which will operate at 3% over capacity.</p> <p>The note then considers improvements to the arms over capacity (A325 Farnborough North and Wellesley Road) and it is identified that improvements are not achievable due to the monument on the A325 Farnborough Road arm and the Wellesley Road arm currently being substandard in terms of EPD and therefore any widening at this arm would exacerbate this substandard EPD.</p> <p>It is proposed that a contribution will be provided for the delivery of a more extensive scheme.</p>

	Chapter	Main Concerns in HCC response 06.09.12	Further comment	Actions	WSP	HCC Response (30/04/13)
15.10		Lakeside Road / Hollybush Lane		This junction has been addressed within the TA (Table 11.5). The results show that the junction can accommodate the traffic associated with the development.	<b>Tech Note 15.10</b>	<p>Technical Note 15.10 was produced in response to concerns raised about the capacity of the Lakeside Road /Hollybush Lane roundabout.</p> <p>It demonstrates a substantial reserve and as such no further action is required on this point.</p>
15.11		Lynchford Road / Queen's Roundabout		<b>HCC</b> to provide junction assessments for their before and after scenarios so WSP can update with the latest Saturn model flows	<b>Flows issued to HCC, no further action required</b>	<p>HCC progressing major scheme and are considering WSP Saturn Flows. No further assessment work needed.</p> <p>It is considered that a contribution towards improvements here is appropriate.</p>



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