

the development should not be prevented or refused on transport grounds. Furthermore, in accordance with LTP Main Priorities 1 and 3 including TfSH policies A, and C and HBC Core Strategy policy DM12.

This page has been
left intentionally
blank

8 HIGHWAY SAFETY

8.1 Accident Analysis

8.1.1 Personal injury accident data has been obtained from Hampshire Constabulary to cover the five-year period of 1st June 2011 to 31st May 2016 i.e. 60 months. The accident study area is shown in **Figure 1 (Appendix A)** with the collision reports available on request. The study area includes the A3023 from its junction with the A27 and Park Road South in Havant to the north, to its junction with Sea Front (Beachlands roundabout) to the south. Also included is Church Road from its junction with the A3023 and Sea Front to the north and south respectively, as well as St Mary's Road and Cherrywood Gardens.

8.1.2 In total there were 91 accidents within the study area, comprising of 16 serious and 75 slight injury accidents. No fatal accidents occurred. The annual breakdown of numbers and type of classification is shown in **Table 8.1** below. The accident data is available on request.

Table 8.1: Summary of Reported Personal Injury Accidents

Severity	Year						Total	Severity %
	2011 ¹	2012	2013	2014	2015	2016 ²		
Slight	11	20	12	13	13	6	75	82%
Serious	3	4	2	1	4	2	16	18%
Fatal	0	0	0	0	0	0	0	0%
Total	14	24	14	14	17	8	91	100%

¹ Last 7-months only

² First 5 months only

8.1.3 The results show a notable accident peak in 2012 with 24 of the accidents occurring within the study area, this followed 14 accidents which occurred in the study area in 2011. Since then the number of accidents per year within the study area has been lower than in 2012, with 14 accidents occurring in 2013 and 2014 and 17 accidents occurring in 2015. The remaining 8 accidents have occurred in 2016 to date.

8.1.4 The accidents have occurred at various locations across the study area, however the following paragraphs group the accidents into geographic locations to aid in the identification of any common causation factors across the highway network. The causation factors mentioned are those presented in the police reports.

8.1.5 Plans detailing the accident locations were not provided by Hampshire Constabulary, so the accident locations and severity have been manually coded into TRACC using the reported OS coordinates to provide images for illustrative purposes. Slight injury accidents are illustrated by the blue circles and serious injury accidents are illustrated by red diamonds.

South Island Area

Image 8.1 – South Island Accident Locations and Severity



Church Road/Elm Grove/Sea Grove Corridor

- 8.1.6 Over the abovementioned 5-year period there have been 16 injury accidents along the Church Road/Elm Grove/Sea Grove Avenue corridor, of which 4 and 12 accidents resulted in serious and slight injuries respectively. The corridor is circa 2km in length. Of the serious accidents, one involved a motorcycle being hit by a car which had pulled out of Cherrywood Avenue. The driver of the car reportedly had failed to look properly. The second serious accident involved an elderly person falling off a mobility scooter after it had left the pavement onto the carriageway, while the third serious accident involved an elderly person falling over. It was noted that the elderly person had left a taxi and leant up against the side of the vehicle. The taxi driver was unaware of this and drove off causing the elderly person to fall over. The final serious accident involved a car colliding with two pedestrians. The car was noted to have been exceeding the signed speed limit.
- 8.1.7 Four slight accidents occurred at study junction 7: Church Road/Tournerbury Lane/Elm Grove/St Mary's Road. Of the four accidents, two involved mobility scooters while one involved a pedestrian.

The accident with the pedestrian occurred when the pedestrian fell off the pavement thereby hitting the nearside of a southbound car travelling along Elm Grove. The causation factors were noted as the pedestrian possibly being intoxicated and failing to look properly, while also being careless/reckless and in a hurry.

8.1.8 One of the accidents which involved a mobility scooter occurred when a westbound car, travelling along Tournurbury Lane, pulled out into A3023 Church Road into the path of the southbound mobility scooter travelling along A3023 Church Road. As such, the mobility scooter swerved and overturned after mounting the southern kerb of Tournurbury Lane. The car driver was noted to have been careless/reckless and in a hurry, this accident also occurred in adverse weather conditions. The second accident involving a mobility scooter occurred when a northbound car, travelling along Elm Grove, collided with the mobility scooter which was crossing the road from the nearside. It was noted in the collision report that both driver and rider failed to look properly, while the rider also failed to judge the other persons path and speed. The rider was also noted to be inexperienced with the vehicle. The final slight accident involved three vehicles and was a rear end shunt collision. It occurred when a southbound car (vehicle 1), travelling along A3023 Church Road, failed to brake in time and as such collided with the rear of the stationary car (vehicle 2) in front, which was then pushed into the rear of the van (vehicle 3) in front. It was noted that the driver of vehicle 1 had failed to look properly.

8.1.9 The pedestrian improvements shown in Drawing P16031-002 in Appendix E will improve safety at the junction, particularly for pedestrians and mobility scooter users by providing safe uncontrolled crossings meaning that they will be present on all arms of the junction. The provision of the refuge islands will also encourage slower vehicular speeds given their associated narrowing effect.

8.1.10 Two accidents occurred at study junction 5: Elm Grove/Cherrywood Gardens, one of which was the abovementioned serious accident involving a car and a motorcycle, the other resulting in slight injury. There were no other clusters of slight accidents along the corridor.

Manor Road/Beach Road

8.1.11 A total of 5 accidents occurred along the Manor Road/Beach Road corridor, between the Manor Road/Fathoms Reach junction and Beachlands Roundabout, of which 2 accidents resulted in serious injuries, with the remaining 3 accidents resulting in slight injuries. The first serious accident involved a northbound vehicle colliding with a parked car, which subsequently collided with the car in front. The second serious accident occurred when a northbound vehicle collided with a cyclist. The driver of the vehicle reportedly thought that the cyclist was going to stop on the pavement and not cross.

8.1.12 Of the 3 slight accidents, one was a side-on collision while the others involved motorcycles. The main causation factors included drivers failing to judge other people's path or speed, failing to look properly, impaired by alcohol and dazzled by headlights. Other causation factors were sudden braking and inexperience/learner drivers.

- 8.1.13 No accidents occurred at study junction 5: A3023 Manor Road/St Mary's Road/Station Road.

Cherrywood Gardens/St Mary's Road

- 8.1.14 4 accidents occurred along the Cherrywood Gardens/St Mary's Road corridor which runs between Elm Grove and Manor Road to the east and west respectively. Of the 4 accidents, 1 resulted in serious injury. The serious accident occurred when a pedal cycle swerved into the path of an oncoming vehicle, thereby causing a head-on collision. It was noted that the rider of the pedal cycle was impaired by alcohol.

- 8.1.15 No accidents occurred on the north-east section of St Mary's Road including in the vicinity of the site frontage nor did any occur at study junction 6: St Mary's Road/Cherrywood Gardens.

A3023 East of Church Road

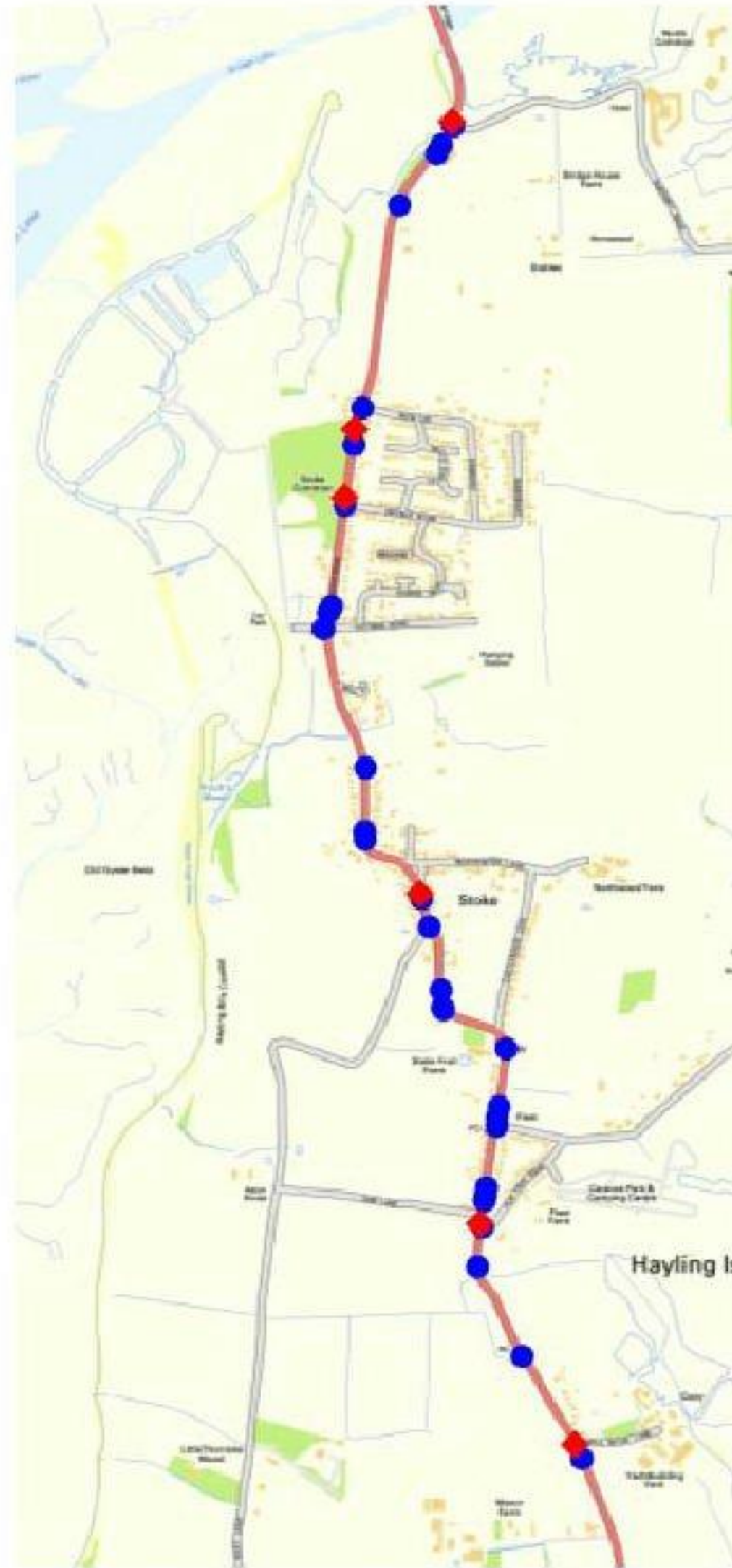
- 8.1.16 A total of 3 slight accidents occurred on the A3023 to the east of the junction with Church Road. at or in proximity to the A3023/Havant Road Spur junction. The first accident was a single vehicle collision which occurred in the night time, while the second accident involved a car and motorcycle. The driver of the vehicle decided to perform a U-turn manoeuvre and subsequently collided with the motorcycle which had been overtaking traffic, causing the rider to fall off. The third accident was a rear end shunt whereby a vehicle turned left out of the side road and collided with the rear of a vehicle which had stopped for the school crossing patrol. No accidents occurred at study junction 3: A3023/Church Road.

Remaining Accidents in the South Island Study Area

- 8.1.17 The remaining 4 accidents in this section of the study area were classed as slight in terms of severity, three of which were single vehicle collisions and involved a motorcycle, a pedal cycle and a motorcycle. The rider of the pedal cycle, who had been travelling along Kings Road, was impaired by alcohol and subsequently fell off the pedal cycle causing slight accident. The second accident occurred when a vehicle performed a left-hand turn manoeuvre while merging over to the opposite side of the carriageway, causing a motorcycle rider travelling in the opposite direction to falling off. The third accident occurred when the rider of a motorcycle lost control when performing a left turn manoeuvre from Sea Front on to Sea Grove Avenue. With the rider subsequently falling off the motorcycle. The final accident was an isolated incident and occurred when the driver of a vehicle left the car in gear when parked. As such, when the driver turned on the engine, the car lurched forward into the window of the building in front.

North Island Area (A3023 Havant Road Corridor)

Image 8.2 – North Island Accident Locations and Severity



- 8.1.18 There have been 35 injury accidents along the A3023 Havant Road corridor, of which 6 and 29 accidents resulted in serious and slight injuries respectively. The corridor is circa 4km in length. The accidents occurred at or in proximity to 10 junctions and various links in along the corridor. Of the serious accidents, 2 were nearside collisions with one involving a motorcycle. Both occurred due to the drivers of vehicles failing to look properly when turning right off the carriageway thereby colliding with oncoming vehicles. There have been 3 rear end shunt collisions resulting in serious injury with one involving a motorcycle. The causation factors include one incidence of a driver using a mobile telephone, one of an inexperienced rider losing control of their motorcycle, with other factors including aggressive driving, distractions inside and outside the vehicle and careless/reckless driving due to the driver being in a hurry. The final serious accident involved a pedestrian failing to look properly when stepping out onto the carriageway. As such, a southbound travelling vehicle collided with the pedestrian causing serious injury.

- 8.1.19 The slight accidents were a variety of side-on collisions, rear end shunts and single vehicle collisions. It should be noted that some of the accidents occurred in foggy weather conditions and in the hours of darkness. The causation factors of the slight injury accidents include a cyclist entering the road from the pavement without looking properly, distractions outside of vehicles, sudden braking, drivers failing to look properly, vehicles travelling too fast and too close to other vehicles, drivers failing to judge the speed and path of other vehicles, poor manoeuvring and inexperienced drivers/riders.

Mainland Study Area

Image 8.3 – Mainland Accident Locations and Severity



A3023 Langstone Road

- 8.1.20 There have been 15 injury accidents along or in proximity to Langstone Road from its junction with Woodbury Avenue to the Langstone Bridge, of which 2 and 12 accidents resulted in serious and slight injuries respectively. The first serious accident was caused when a pedestrian stepped out onto A3023 Langstone Road without looking properly. A southbound vehicle was unable to avoid the pedestrian therefore causing a collision. The second serious accident occurred when the driver

of a north-west bound vehicle failed to see the queue of traffic ahead and therefore collided into the rear of the vehicle in front.

- 8.1.21 A variety of causation factors were listed for the slight accidents, these include drivers failing to look properly, travelling too fast, failing to judge the path and speed of other vehicles and performing poor manoeuvres. Other causation factors were drivers being dazzled by the sun, drivers impaired by drugs, a cyclist entering the road from the adjacent pavement without looking properly and the carriageway being slippery due to wet/damp weather conditions, Only one slight accident occurred on the bridge itself.

A27 Mainline

- 8.1.22 There has been one serious accident on the section of A27 located within the study area. This accident occurred when a westbound vehicle was travelling too fast and collided into the rear of the vehicle in front.

Langstone Road/Park Road South/A27 Slips

- 8.1.23 There have been 7 injury accidents at or in the proximity to the Langstone Road/Park Road South/A27 roundabout, all of which resulted in slight injuries. Two accidents were isolated incidents caused by medical conditions or episodes whereby the driver of an eastbound vehicle on the A27 off-slip passed out causing the vehicle to collide with the rear of the vehicle in front, which had stopped at a red light. The second isolated incident was a single vehicle collision and involved the driver of a southbound vehicle having a coughing fit, thereby causing the vehicle to mount the nearside pavement and collide with the guardrail. Another single vehicle collision was recorded at the junction which involved a vehicle accelerating fiercely onto the circulatory carriageway from A3023 Langstone Road, causing the vehicle to lose control and collide with the nearside guardrail. The remaining 4 accidents at this junction were side-on collisions, with one occurring in foggy weather conditions while another involved a motorcycle.

8.2 Casualties

- 8.2.1 **Table 8.2** summarises the number of casualties and a breakdown of the different classifications of the casualties.

Table 8.2 Summary of Reported Casualties

Casualties	Fatal	Serious	Slight	Total	% of all Casualties
Vehicle Driver & Passenger	0	7	103	110	74%
Motorcycle Rider	0	3	13	16	11%
Cyclist	0	2	11	13	9%
Pedestrian	0	5	5	10	6%
Total	0	17	132	149	100%

- 8.2.2 The table shows that of the 149 reported casualties, 110 (74%) involved either vehicle drivers or passengers, 16 (11%) involved motorcyclists, 13 (9%) involved cyclists, while the remaining 10 (6%) casualties involved a pedestrian.
- 8.2.3 The proportions of motorcyclist and cyclists injured are somewhat high but this perhaps reflects the popularity of these modes of transportation on the island. The causation factors for the majority of these accidents were due to driver or rider error, some of which were at the fault of drivers or riders of such vehicles while others were caused by car drivers.

8.3 Summary

- 8.3.1 The above shows there have been 91 injury accidents over the period between the 1st June 2011 and 31st May 2016 resulting in 149 casualties. The majority of these accidents involved an injury to a driver or passenger of a car. No fatal accidents occurred.
- 8.3.2 It should be noted that the majority of accidents were a result of driver/rider and pedestrian error, with the layout of the local highway network not considered to be a causation factor. In addition, no accidents were recorded along the section of St Mary's Road where the proposed site access will be located.
- 8.3.3 The proposed pedestrian improvements at the Church Road/Tournerbury Lane/Elm Grove/St Mary's Road junction should improve safety at the junction, particularly for pedestrians by allowing all arms of the junction to be crossed in two movements. The narrowing effect of the refuge islands should also encourage slower speeds through the junction.
- 8.3.4 The above would suggest that there are no road safety issues associated with the highway layout that would preclude the delivery of this development nor be exacerbated by it.
- 8.3.5 Furthermore, the proposed safety improvements will conform with LTP Main Priority 2 including TfSH policy G.

9 SUMMARY AND CONCLUSION

9.1 Summary

- 9.1.1 This TA accompanies the proposal to develop land off St Mary's Road, Hayling Island, Hampshire for up to 210 dwellings and 0.6ha for apartments with care (C2).
- 9.1.2 A single vehicular access is to be provided at the St Mary's Road frontage. This access has been designed based on national design guidance and best practice both in terms of geometry and visibility with the latter based on a local speed survey. A swept path analysis has been undertaken to aid the design and demonstrate its suitability. Three pedestrian accesses onto Footpath 94 are also proposed.
- 9.1.3 The proposed access arrangement includes the provision of a new section of footway to the south-west of the site access along with uncontrolled crossings adjacent to the public car park access on St Mary's Road. Gladman is willing to fund a white lined footpath/safety zone through the car park to provide a convenient connection to the public footpath that leads to Elm Grove.
- 9.1.4 Gladman is also willing to fund the provision of uncontrolled crossings over the Elm Grove, Church Road and St Mary's Road arms of the associated junction which will include pedestrian refuge islands which will allow pedestrians to cross in two movements and should encourage slower vehicle speeds through the junction.
- 9.1.5 A Residential Travel Plan has been prepared alongside this TA and forms one of the documents which support this planning application.
- 9.1.6 The location of the site has been shown to be sustainable when considering access to and from the site by modes of travel other than the private car, particularly walking, cycling and public transport. It has been demonstrated that the local schools, places of employment and local amenities are within nationally acceptable walking and cycling distances. The bus stops in the vicinity of the site provide connections to the rest of the island, Langford Technology Park, Solent retail and trade parks and Havant, including Havant train station, making bus travel a viable option for some of the residents of the site. The access strategy maximises access via sustainable modes and the proposal includes measures to encourage travel by non-car modes, which is described in further detail in the Residential Travel Plan.
- 9.1.7 An assessment of the capacity of the proposed site access has been undertaken, this confirming that it will have ample capacity to accommodate the predicted traffic flows in 2021 with development in place.
- 9.1.8 An assessment of the off-site impact of the development has been undertaken which has demonstrated that the development will have a minimal impact on the capacity of key local

junctions on the adjoining local highway network and the A27/A3023/Park Road South junction, all of which will continue to operate with spare capacity.

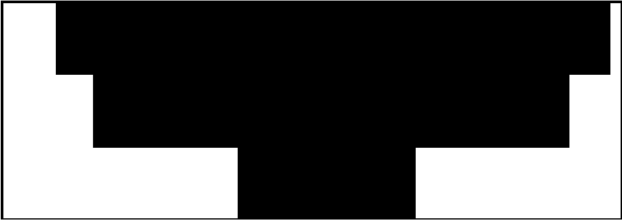
- 9.1.9 A link capacity assessment of the Langstone Bridge has also been undertaken. It is acknowledged that the capacity of the bridge is seen to be a local constraint however the assessment suggests that the bridge has sufficient capacity to accommodate the level of development traffic, which equate to little more than one additional trip per minute in the busiest directions in the weekday peak hours. This increase is likely to be unperceivable to local road users.
- 9.1.10 From local observations it is believed that the primary highway capacity issue relates to the two southbound lanes merging to one to the north of the bridge which causes some degree of queues and delays. As such, Gladman is willing to fund the extension of the two lanes further south using the existing but underutilised ghost islands. The extension will allow for a greater amount of stacking space and more opportunities for traffic to merge. PRIME will design such a scheme should the proposals be accepted in principal by HCC Highways.
- 9.1.11 A review of personal injury accidents that have occurred on the local highway network has been undertaken for the most recent 5-year period that the data was available for. 91 accidents have occurred during this period, 16 of which resulted in serious injury with the rest slight. No fatal accidents occurred. The accidents are not particularly concentrated with this and the causation factors listed suggesting that the vast majority of these accidents did not occur as a result of highway layout or design.

9.2 Conclusion

- 9.2.1 It is concluded that the proposed development would not have a severe impact on the operation of the highway network both in terms of safety and capacity. The impact could best be described as minimal and an improvement measure has been offered to increase the southbound merge length on the A3023 north of the bridge.
- 9.2.2 As the proposal complies with local and national planning policy and guidance with respect to sustainable accessibility, safety and impact on the highway network, there are no highways or transportation related reasons why planning permission should not be granted. Should the highway authority have any concerns, we are happy to consult further with them.

APPENDIX A

SCOPING CORRESPONDENCE



David Stoddart

From: Drury, Holly [REDACTED]
Sent: 03 November 2016 12:01
To: David Stoddart
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

David

Please see comments below. I hope these are clear.

Kind Regards

Holly

Holly Drury BSc (Hons) MSc MCIHT MSoRSA
Senior Engineer – Highways Development Planning
Strategic Transport
01962 826996 (HPSN 826996)

From: David Stoddart [REDACTED]
Sent: 02 November 2016 12:24
To: Drury, Holly
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Holly,

Thank you for providing me your comments on our proposed access arrangement. Taking each of your points in turn:

1. It will not be possible to provide a footway on the eastern side of the road due to the large tree adjacent to the access of the consented McCarthy & Stone development. I believe the applicant's transport consultant noted this. Any footway construction would impact on the root protection area of the tree resulting in unnecessary ecological harm, unless you would be willing to adopt a no-dig construction? You will note from the drawing that we are proposing an uncontrolled crossing to the west of the tree where we can provide a 2-1.8m footway width. People will then be able to cross at this point to the existing provision on the eastern side of the road. We do then continue the footway on the western side to a similar uncontrolled crossing facility. We felt it better to provide a footway here than nothing. As you will note from Inclusive Mobility, the width of a large wheelchair is 755mm with double buggies typically being 750mm. The 1.5m width you quote is for a wheelchair user and ambulant person travelling side-by-side so I'd suggest that the 1.36m width we that go down to will still be of use to some users and as such should be provided. Should you have concerns with this we will happily remove this section of footway from our proposals, terminating the footway provision at the proposed crossing point to the west of the tree.

The scale of the McCarthy and Stone development meant it was not dealt with by our office so I am unaware of the work carried out by them on this matter. A no dig construction is acceptable, we have a standard detail for this which is available on our website. The 1.5m minimum allows a person to pass a wheelchair user or pushchair and is our minimum requirement. I suggest that you take a further look and site measurements to determine what footway provision can be provided and how you will be linking the development site with the key services. You are assuming 100% walking trips to school and therefore the facilities need to be of a standard to encourage this and cater for the amount of footfall. I would suggest anything below 1.5m would not achieve this.

2. The proposed access has been located centrally to maximise the available visibility. Should you be more concerned over the junction spacing, we can move it further west. We will look at tightening the radius from Elm Grove and/or providing an uncontrolled crossing in the ghost island taper.

I am not sure how locating centrally maximises visibility as the road is straight and there is sufficient frontage to insure that the boundary wall of the neighbouring property doesn't fall within the visibility splay. Designing with maximum visibility is not an acceptable engineering approach. Providing excessive visibility splays can increase vehicle speeds. The design needs to be in accordance with MFS and based on recorded speeds. My concerns relating to the junction have been outlined below and these should be addressed within the TA submitted with this application.

3. I will pass your request for a speed survey on to the applicant. I would be very surprised if the speeds were in excess of the 37mph we are designing to and will be happy to defend this should the applicant not wish to undertake the survey. If the speed survey is undertaken and the 85th percentile speeds are less than 37mph, we will reduce our visibility splays accordingly.

Please see comments above. As I is a straight road the achievable visibility is not in question. What is a concern is the proximity to the junction and forward visibility of a vehicle turning right into the development. Only speed surveys can support this.

4. We are proposing a pedestrian and cycle access onto Rook Farm Way only as the road is unadopted. Ok if there is to be only one access then the design should ensure that a large fire truck could pass vehicles parked in the access road.

5. Construction and phasing will be addressed at the Reserved Matters stage but clearly the access will not need to be metalled and adoptable during the phases of construction prior to occupation.

How construction traffic is going to access the site must be considered at this stage. As there is only one vehicle access the design of this will need to be sufficient to accommodate construction vehicles and allow for them to pass each other. This requirement is obviously excessive for the final access arrangement in this location. I would suggest therefore that it is likely that an access which can accommodate construction traffic and residents whilst the site is being occupied and constructed will be required prior to commencement and post completion of the works this will need to be reduced to create an access more inline with what would be appropriate for a residential access.

6. We will track the access for a refuse collection vehicle. If it can accommodate such a vehicle there will be no need to track a car.

We will need to see a refuse vehicle passing a car/queue of cars at the junction.

Kind regards

Dave

David Stoddart

Principal Transport Planner | T: 0151 728 1864 | M: 07944446528



From: Drury, Holly [REDACTED]
Sent: 02 November 2016 11:41
To: David Stoddart [REDACTED]
Subject: RE: Request for Pre-app Consultation - Rest Development, St Mary's Rd, Hayling Island

Hi David

It is for you to determine how the proposed growth within the area is taken into consideration.

On another note I have taken a look at your access proposals and have a number of comments. These are detailed below.

1. The proposed footway extension on the western side of St Mary's Road is proposed to be as little as 1.36m wide. Our absolute minimum is 1.5m and this is over a restricted length the preferred minimum is 1.8m. A footway of less than 1.5m cannot accommodate a wheelchair or allow a double buggy. Given that the infant school is situated on this road there is a strong case for requiring this as a minimum width. All options should be looked at and explained why the proposal is put forward as it is. I think there is likely to be opportunities to maximise the footway width if it is kept on the eastern side and crossing just before the site access.
2. The proposed site access is located centrally within the land under the applicants control. There is some concern over the proximity to the Church Road junction and we would prefer to see the access located as far away from the junction as the applicants land ownership allows. This is because there are concerns over the forward visibility of the proposed junction and vehicles waiting to turn from drivers turning into St Mary's Road from Church Road. The left turn into St Mary's Road in particular has a large radius and therefore speeds could be fairly high. In order to support the access proposals I would require tracking of the turning movements at Church Road and suggest that narrowing of the bellmouth or inclusion of an pedestrian island may help with reduce speeds as well as aiding crossing movements at this otherwise very wide bellmouth.
3. Speed surveys will be required as outlined previously. I have discussed the omission of these with our engineer and due to the concerns over the proximity of the proposed access to Church Road we do need to understand what vehicle speeds are at the point in which you are proposing the access.
4. The inset to plan P16031-001B is not clear. Are you proposing an additional access from Rook Farm Way?
5. Could you confirm how construction access is proposed? In addition how is this going to be managed alongside the occupation of the site?
6. We will require tracking for the site access and if this is to be used for construction this will need to be for a car, articulated lorry and refuse vehicle.

I hope the above is clear. If you wish to discuss please do not hesitate to contact me.

Kind Regards

Holly

Holly Drury BSc (Hons) MSc MCIHT MSoRSA
Senior Engineer – Highways Development Planning
Strategic Transport
01962 826996 (HPSN 826996)

From: David Stoddart [[mailto:](#) [REDACTED]]
Sent: 31 October 2016 17:19
To: Drury, Holly
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Holly,

Sorry, I disagree. Having looked in detail into TEMPro in the past for strategic modelling purposes, TEMPro and local plan allocations do not fully correlate as TEMPro assumptions are produced by the central government with no or little influence from LPAs and do not include individual allocations or applications. It should be used more as a guide. However as Havant 015 (where the allocations sits) contains 105 additional households between 2016 and 2026, with 60 removed to avoid double counting the Barratt site, removal of the remaining 45 is unlikely to have a material influence on the associated growth rates, especially as we are taking an average between it and Havant 016 & 017. We will therefore not adjust the household numbers for the sensitivity test.

Kind regards

Dave

David Stoddart

Principal Transport Planner | T: 0151 728 1864 | M: 07944446528



From: Drury, Holly [[mailto:](#) [REDACTED]]
Sent: 31 October 2016 17:06
To: David Stoddart [REDACTED]
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Hi David

Just one comment please see in red below.

Kind Regards

Holly

Holly Drury BSc (Hons) MSc MCIHT MSoRSA
Senior Engineer – Highways Development Planning
Strategic Transport
01962 826996 (HPSN 826996)

From: David Stoddart [[mailto:](#) [REDACTED]]
Sent: 31 October 2016 17:03
To: Drury, Holly
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Holly,

Thank you for coming back to me. Just to summarise so that we are both on the same page moving forward:

- Trip rates will be based on those approved for use in the Goldring Close TA;
- Trip distributions will be based 100% on 2011 Census Method of Travel to Work Data;
- I will contact Helen Harris with regards to the school TPs as there may be some useful catchment and modal split information in them;
- Site access visibility splays – we are fully in agreement that visibility splays should be based on the requisite stopping sight distances for 85th observed speeds, however in this location I feel that unnecessary additional survey costs should be avoided as given the proximity of the proposed site access to the neighbouring junction, I feel that it is very unlikely that passing traffic, even at 85th percentile speeds, will be travelling at free flow speeds. I do feel that designing to MfS at 37mph will provide more than a sufficient buffer. Please note that there is a type-o on the drawing you have, “DMRB” in the key should read “MfS”;
- We will make a call on the need for additional capacity assessments once we have completed our traffic forecasting. I do feel at this stage that we are unlikely to send large enough proportions of traffic through other junctions to cause a perceptible impact. If we chose not to undertake additional assessments, we will provide qualitative justification;
- Assessment times – we will include the school PM peak for the island junctions with the trip rates adjusted accordingly based on the TRICS rates for this time period; and
- We will include a sensitivity test for the 161 dwelling local plan allocation with the associated number of dwells removed from TEMPro to avoid double counting. **As this is beyond 2026 which is the current local plan period I don't think they will be included in TEMPRO so no manual reduction should be required.**

Kind regards

Dave

David Stoddart

Principal Transport Planner | T: 0151 728 1864 | M: 07944446528



From: Drury, Holly [mailto: [REDACTED]]
Sent: 31 October 2016 16:24
To: David Stoddart [REDACTED]
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Hi David

Apologies for the delay in my response to you on these matters.

I shall try and address each point in turn:

Trip Rates

The trip rates you are proposing in your latest email were 0.734 in the AM peak and 0.774 in the PM peak. Those agreed for Goldring Close which is in close proximity to your site were 0.608 and 0.707 and based on a TRICS assessment.

The original TRICS analysis you sent through showed two way trip rates of 0.581 and 0.648. Given that you consider the 85th percentile are too high and that I believe your originally proposed rates are a little low and that you do not wish to undertake any further survey work I would be prepared to agree to use the same trip rates as the Goldring Close application (APP/12/00966).

Trip Distribution

The trip distribution utilising the journey to work data would represent a worst case scenario regarding the impact of the development. I believe a gravity model has been requested previously for other sites due to local issues meaning that journey to work data was not representative of the potential impact on sensitive junctions. In this case it is the roads going northbound which are more sensitive and therefore I would suggest that using Journey to work data would be a more robust approach.

My enquiry previously was regarding the level of traffic assumed to be maintained within the island. Having reviewed the journey to work data in more detail however I am content with that approach set out within your original note.

I would like to think as you say that due to the location of the infant, junior and secondary schools that journeys to these destinations if not part of a linked trip would be undertaken on foot or by pedal cycle. Your TA should review the infrastructure to these destinations and ensure they are sufficient to attract/encourage journeys by sustainable modes. A review of the school travel plans for these sites would give you more detail on the modes used to travel to school. These can be obtained from my colleague Helen Harris [REDACTED]

Site Access

I have a meeting to discuss the proposed site access with our engineers later this week and shall be in touch after this meeting. However regarding speed surveys or position on the use of manual for streets visibility splays is set out within our Manual for Street Companion Guide. Within this we detail that we require speed surveys to support the use of manual for street visibility splays. There is obviously a range that visibility can sit within. I am happy for you to table your proposals within the TA but during the planning process I may still require a speed survey to support the assumptions made.

Capacity Assessments

I assume that the capacity assessment proposals are unlikely to change significantly. I agree that junctions 1,2,3 and 7 need to be modelled. I would also require junction 6 to be modelled, we cannot guarantee that all traffic will travel north from the site and I need to understand if there is a constraint if vehicle choose to travel south. Depending on the outcome of the modelling (i.e. they are subject to congestion) results for junctions 3 and 7 I would also expect to see some sensitivity testing on the impact on West Lane and the St Mary's Road/Manor Road/Station Road junction and Station Road/West Lane junction and A3023 West Lane junction due to rat running along this routes. I would like to see this addressed within the TA anyway in some form. I am not sure whether surveys would be necessary at this stage so didn't include it within the original list however we need to be mindful to the fact that this does happen at present from the existing residential areas.

Assessment Times

I would suggest that locally due to the proximity to the schools and given the observed difference in peak hours I would require modelling of the island junctions at both the observed peak and the traditional peak hours.

Committed Development

I would suggest that you consider how you will assess the local plan development traffic. Whilst I do not think this should be included in the base modelling for this sites TA I do believe that you need to have considered the potential further allocation within the TA.

HCC's Transport Contribution Policy

The transport contribution policy is not in use. An appropriate contribution or highway works will be sought and the form of this will be based on the outcomes of the Transport Assessment and identified mitigation and infrastructure deficits.

I hope that answers all your questions but please do not hesitate to contact me should you require anything further.

Kind Regards

Holly

Holly Drury BSc (Hons) MSc MCIHT MSoRSA
Senior Engineer – Highways Development Planning
Strategic Transport
01962 826996 (HPSN 826996)

From: David Stoddart [<mailto:David.Stoddart@hants.gov.uk>]
Sent: 12 October 2016 17:01
To: Drury, Holly
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Hi Holly,

I have a few more queries which I would be grateful for your opinion on regarding our assessment.

Following consultation with your colleagues on a large residential application in the Chandler's Ford area, your colleagues have requested that we revise our distribution so that method of travel to work data is only used for such journeys; for other trips purposes, namely education and retail, other methods of distribution should be used. So that we are consistent, we now propose the following:

- Employment trips distributed based on 2011 census method of travel to work data for the local MSOA;
- Education trips distributed based on the assumption that 100% of trips to the local schools which are within 1 mile of the site will be made on foot or via bicycle, so all car based education trips will be distributed towards/from Portsmouth (University, Highbury College etc);
- Retail trips will be distributed based on the following assumptions:
 - 10% to/from Tournurbury Lane (Co-op);
 - 15% to/from Mengham Road (Sainsbury's Local & district centre);
 - 15% to/from Station Road (Tesco Express & district centre); and
 - 60% to/from Park Road South (Tesco Extra, Solent Retail Park & Havant town centre).

We have used TEMPro 7 to forecast trip purposes but in order to provide a concentrated and robust distribution for assessment purposes, we have removed all non-home based trip ends as they are not applicable to residential land uses as an origin and removed home based personal business, recreation/social, visiting friends and relatives and holiday/day trip as the associated trip ends are proportionately small and their associated distribution likely to be somewhat dispersed. A summary of the trip purposes extracted from TEMPro for the local MSOA are shown below:

Trip Purpose	Trip Ends		Trip Ends %	
	AM	PM	AM	PM
HB Work & Employers Business	1118	930	71.9%	64.6%
HB Education	157	75	10.1%	5.2%
HB Shopping	280	434	18.0%	30.2%
Total	1555	1439	100.0%	100.0%

I have attached our traffic flow diagrams for reference. As you will see, we are still sending the vast majority of development trips towards the mainland. I trust that you will find our more detailed distribution methodology agreeable. Please can you let me know if you disagree with this approach or any of our assumptions.

Included in the traffic flow diagrams are our observed traffic flows and queue lengths. As you are aware, we have surveyed 7 junctions in order to quantify the impact of our development traffic, three of which were suggested by ourselves and the other four following consultation with your department. Below is a summary of the proportionate impact of our development in absolute and percentage terms based on the 2016 flows, obviously the proportionate impact in the forecast year will be less.

Junction	AM Peak			PM Peak		
	2016 Obs	Abs Diff	% Diff	2016 Obs	Abs Diff	% Diff
1. A27/A3023 Langstone Road/Park Road South	4165	118	2.8%	4326	119	2.8%
2. A3023 Langstone Road/ Langstone Technology Park Access/ Southbrook Road	2623	127	4.8%	2717	129	4.7%
3. A3023 Havant Road/ Church Road	1742	129	7.4%	1795	131	7.3%
4. A3023 Manor Road/ St Mary's Road	786	17	2.2%	846	18	2.1%
	1155	21	1.8%	1204	23	1.9%

5. Elm Grove/ Cherrywood Gardens						
6. St Mary's Road/ Cherrywood Gardens	322	17	5.3%	281	19	6.8%
7. Church Road/ Tournurbury Lane/ Elm Grove/ St Mary's Road	1456	153	10.5%	1436	160	11.1%

Based on the above, we propose to undertake capacity assessments at junctions 1, 2, 3 and 7. We suggest that a percentage impact assessment at the other three junctions will be sufficient as the impact is less than the traditional 30 two-way trip threshold for capacity assessment and the percentage increase is likely to be less than the typical daily fluctuation in traffic flow. Please can you confirm if you concur with this?

The observed flows shown at each junction are the AM and PM network peak hours which for the two mainland junctions were 0745-0845 and 1630-1730 with the junctions on the island having peaks 15-minutes later. However strictly speaking, the network PM peak at the island junctions was 1530-1630, presumably due to school traffic. With this in mind, do you require us to assess our impact on the PM peak and school PM peak? If we were to assess the school PM peak our proportionate impact would be less as the residential peak applied to the site is 90 minutes later meaning that or trip rates for the school PM peak would be lower.

I had a chat with Peter Marshall earlier who provided me with more details regarding the Bellway site off Hawthorne Grove and the Barratt site off Station Road. We will include both as committed developments. Peter also mentioned the McCarthy & Stone retirement apartments off Elm Grove but as the quantum is so small at 33 apartments, and as such developments tend to generate little traffic in the typical network peaks, we'll exclude this. Peter is not aware of any other developments we will need to consider. He did however mention the 161 dwelling draft Local Plan allocation off North Shore Road, but as you have asked us not to include reference to the draft Local Plan in terms of policy, I assume we should not include this in our assessment. TEMPro will arguable account for this.

I've had a glance at the TA and TS for the committed developments and I see that average TRICS derived trip rates, much lower than the 85th percentile trip rates we propose to use as per my previous email, were accepted by your authority for both committed developments and the Planning Inspectorate with regards to the Bellway site. On that basis, please can you confirm if you would rather we use the average trip rates provided in our Scoping Checklist or 85th percentile trip rates as per my previous email.

I have also been made aware of HCC's Transport Contributions Policy (2007). Please can you confirm if you are likely to ask us to base our contributions on this document and if so, whether the trip rates stated in the document or our trips rates used in the assessment will form the basis for contributions? Also, hypothetically speaking at this time as we are yet to run our assessment, if we are to provide a direct improvement, say via S278, is there a mechanism for the associated cost to be discounted from the total contributions?

Also, we have updated our access drawing (attached) based on topo survey information. We have based the visibility splay on the MfS stopping sight distance for 37mph with a greater distance in each direction being achievable. We feel this demonstrates that the access will have more than sufficient visibility to ensure safe access and egress.

If you have any queries or would like to discuss any of this over the phone, please don't hesitate to give me a call.

Kind regards

Dave

David Stoddart

Principal Transport Planner | T: 0151 728 1864 | M: 07944446528

From: David Stoddart

Sent: 06 October 2016 15:50

To: 'Drury, Holly' [REDACTED]

Cc: David Schumacher [REDACTED] Neil Lewis [REDACTED]

Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Holly,

Thank you for providing me with your full response.

Just picking up on a couple of points. With regards to the trip rates, my client has already incurred substantial costs by agreeing to surveying the additional junctions requested by your colleague, David Earl, three of which I feel do not warrant assessment given that we will be sending far less than 30 two-way trips through them and I did not observe any delays at them during two peak hour site visits, as well as the costs associated with the original ones we suggested. My client is looking to submit the planning application in the next few weeks which leaves little time for further surveys. We therefore propose to use TRICS 85th percentile trip rates in order to provide a robust assessment. The rates and resultant generation we intend to use are below:

Time	85th %ile Trip Rates			85th %ile Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
08:00-09:00	0.243	0.491	0.734	56	113	169
17:00-18:00	0.405	0.369	0.774	93	85	178

I am not convinced that locally derived trip rates would be fully applicable to the application site given the lack of recent large scale residential development on the island. I trust that the use of 85th %ile TRICS trip rates will be agreeable. I attached the TRICS output for your information.

Apologies, but the information provided at point 17 in our Scoping Checklist was out-of-date. We intend to use 2011 census method of travel to work data for our distribution. I accept that this data is applicable to journeys to work only but it will effectively skew the traffic impact higher giving us a more concentrated distribution towards the mainland as large proportions of education, retail and leisure trips are likely to remain on the island. I did you provide you with an initial distribution based on this methodology but we have since revised it to add a greater level of detail, particularly by forecasting turning movements at the A27 junction. Please find attached our distribution along with the distributed development trips based on the above trip rates. Also attached are details of our distribution calculation. We have made some assumptions regarding the distribution of the local MSOAs with traffic to/from the Havant 014 MSOA split 50/50 between Havant town centre and Langstone Technology Park, Havant 015 split 70/30 along Manor Road and northern areas of the island and Havant 016 split 50/50 along Beach Road and Elm Grove.

Finally, we do not feel that speed surveys are required at the proposed site access given that the location is some 55m away from the Elm Grove junction, meaning that north-eastbound traffic will be decelerating and south-westbound traffic is unlikely to have reached speeds greater than 30mph as it passes the site. We will however present the greatest splays achievable and provide some narrative in terms of the equivalent SSDs.

I trust that the above is acceptable to you. Please do not hesitate to contact me should you wish to discuss.

Kind regards

Dave

David Stoddart

Principal Transport Planner | T: 0151 728 1864 | M: 07944446528



From: Drury, Holly [mailto: [REDACTED]]
Sent: 03 October 2016 15:36
To: David Stoddart [REDACTED]
Cc: David Schumacher [REDACTED] Neil Lewis [REDACTED]
Subject: RE: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

David

Apologies for the delay in my response to you. I see that my colleague David Earl has provided comments on the survey locations. I have populated the table sent through and attached for your information. My comments are based on very limited information and I may have more details comments and additional requirements once there is survey information and details regarding the distribution etc.

Happy to discuss further. If you have any further questions or additional information that you would like to discuss with me please do not hesitate to contact me.

Kind Regards

Holly

Holly Drury BSc (Hons) MSc MCIHT MSoRSA
Senior Engineer – Highways Development Planning
Strategic Transport
01962 826996 (HPSN 826996)

From: David Stoddart [REDACTED]
Sent: 31 August 2016 10:49
To: Drury, Holly
Cc: David Schumacher; Neil Lewis ([REDACTED])
Subject: Request for Pre-app Consultation - Resi Development, St Mary's Rd, Hayling Island

Holly,

Many thanks for returning my voicemail earlier, it's probably best if you can arrange for the Hants DC contacts map <http://www3.hants.gov.uk/highways-dc-map.pdf> to be taken down given that Rob and Dave have moved on!!

As I mentioned on the phone, my company has been instructed by Gladman Developments to undertake a TA and Travel Plan in support of a proposed residential development for up to 230 dwellings off St Mary's Road, Hayling Island. I understand that the site is allocated for residential development. Our proposed scope of assessment is attached in the form of a scoping checklist and appendices. I would appreciate it if you could add any comments to the various points of the checklist, where relevant, in the final column marked "LHA Comments", alternatively any response in your preferred format would be equally appreciated.

As per your Planning Advice Charging Guide, a cheque for £2,400 will be posted shortly.

If you require any further information at this stage, please do not hesitate to contact me.

Kind regards

Dave

David Stoddart Principal Transport Planner BA(Hons) MCIHT MILT | DD: 0151 728 1864 M: 07944 446528



*** This email, and any attachments, is strictly confidential and may be legally privileged. It is intended only for the addressee. If you are not the intended recipient, any disclosure, copying, distribution or other use of this communication is strictly prohibited. If you have received this message in error, please contact the sender. Any request for disclosure of this document under the Data Protection Act 1998 or Freedom of Information Act 2000 should be referred to the sender. [disclaimer id: HCCStdDisclaimerExt] ***

SCOPING CHECKLIST FOR: Up to 230 dwellings on land to the west of St. Mary's Road, Hayling Island, Hampshire

HIGHWAY AUTHORITY: Hampshire County Council (HCC)

DATE PREPARED: 30/08/16

Ref	Item	Intention	LHA Comments
1	Level of planning approval sought? e.g. outline, full.	Outline	With all matters reserved except Highways I assume?
2	Size and description of development proposals	Circa 230 dwellings – See Figure 1 in Appendix I	N/A
3	Description of existing land uses, existing trip distribution	Agricultural land – no existing trips assumed	N/A
4	Does the development involve the relocation of an existing use?	No	N/A
5	What transport based supporting documents will be produced?	Transport Assessment, Framework Travel Plan, Stage 1 Road Safety Audit with Designers response to Safety Audit.	Transport assessment should also include a walking and cycling audit including the routes to schools. Details of the proposed site access including justification for its form and modelling.
6	Are traffic surveys of the existing conditions available or required?	ATC data at approximate location of the site access already collected as part of the due diligence process.	Please see email conversation with David Earl dated 9 th September 2016.
7	Are further traffic surveys required?	Distribution exercise has been undertaken using 2011 Census Method of Travel to Work data (See attached Appendix II). Upon establishing the results, we propose to assess the following junctions. 1. St. Mary's Rd/Church Rd/ Main Road/Tournerbury La (Staggered priority control); 2. Church Rd/A3023 Havant Rd (Roundabout); and 3. A3023 Langstone Rd/ A27 (Grade Separated Roundabout). Any other please advise.	Please see email conversation with David Earl dated 9 th September 2016.
8	Details of any other developments to be	Please advise if there are any committed developments that need	Development from Beach

	taken into account.	to be taken account of.	Grove/Hawthorne Grove Hayling Island which is not yet complete. Station Road, West Town Hayling Island. I have cc'd my colleague at Havant Peter Marshal for comment on this matter as there may be other smaller applications which would have a cumulative impact.																												
9	Details of any adjacent highway improvement proposals by others	Please advise if there are any highway improvement schemes that need to be taken account of.	N/A																												
10	When are the critical periods for assessments?	Weekday AM and PM to be derived from surveys mentioned above.	Seems sensible																												
11	When would the site be fully operational?	2021 - 5 years post submission of the planning application																													
12	What are the assessment years?	2016 – Base flows only 2021 – 5 years post submission – with and w/out development	Agreed																												
13	Traffic growth factors?	TEMPRO growth for local MSOA manually adjusted with any committed development removed from planning assumptions to remove double counting. NTM adjustment applied	Agreed																												
14	How will vehicular trip generation be derived for the proposal?	Average trip rates have been derived from the TRICS database, which are as follows: <table><tr><th></th><th colspan="2">Arrivals</th><th colspan="2">Departures</th><th colspan="2">Total</th></tr><tr><th>Time</th><th>Rate</th><th>Flow</th><th>Rate</th><th>Flow</th><th>Rate</th><th>Flow</th></tr><tr><td>08:00-09:00</td><td>0.161</td><td>37</td><td>0.420</td><td>97</td><td>0.581</td><td>134</td></tr><tr><td>17:00-18:00</td><td>0.407</td><td>94</td><td>0.241</td><td>55</td><td>0.648</td><td>149</td></tr></table> The full TRICS output has been provided with this scoping checklist (Appendix III)		Arrivals		Departures		Total		Time	Rate	Flow	Rate	Flow	Rate	Flow	08:00-09:00	0.161	37	0.420	97	0.581	134	17:00-18:00	0.407	94	0.241	55	0.648	149	I would suggest that due to the nature of Hayling Island being an island the standard TRICS approach would not provide a robust trip rate in order to assess the application. There are existing roads in the vicinity of the proposed development which could be surveyed to determine trip generation and distribution. For example Garden Close. A methodology should be put together to determine a local trip rate for the proposed development.
	Arrivals		Departures		Total																										
Time	Rate	Flow	Rate	Flow	Rate	Flow																									
08:00-09:00	0.161	37	0.420	97	0.581	134																									
17:00-18:00	0.407	94	0.241	55	0.648	149																									
15	How will non-car mode trip generation be derived for the proposal?	Factors will be derived between forecast vehicular trips described in point 13 above and car driver trips from local 2011 Census MTW data. These factors will then be applied to other modes reflecting the census mode split.	Census journey to work data should provide a model split. This may need to be corrected depending on the result of the survey data and vehicle trips.																												

16	Would traffic from adjacent sites be attracted to the site? Pass-by traffic?	100% newly generated trips	N/A
17	What is the assumed trip distribution?	Trips from the site to be distributed in accordance with existing traffic flows measured via ATC mentioned in 7 above	I would need to see the ATC data in order to comment on this. A number of trips are shown to travel east across the island and it is not clear where these would be travelling to. I would be expecting to see most trips travelling north off the island in the AM peak and south onto the island in the PM peak. These trips would be split across West Lane and the A3023.
18	What is the extent of the accident study area to be considered?	See Figure I in Appendix I	Accident data on St Mary's Road, Manor Road and West Lane/Station Road route should also be collected and reviewed as part of the application.
19	Capacity tests required for the proposed and following existing junctions	Formal assessment proposed for site access and at the junctions mentioned in 7 above	I cannot comment on the requirements for this until we have the results of the survey data and assessments have been undertaken to determine the level of increase in traffic as a result of the development. This should be shown for individual arms of the junctions and the junction as a whole.
20	Are adjacent junctions or links likely to become overloaded?	To be confirmed through capacity assessment	Agree
21	Is a new or modified highway access likely?	Single priority controlled access to be proposed on Town Road (See attached Drawing P16031-001A (Appendix IV). Footway and carriageway dimensions in accordance with MfS. Comments welcome on suggested access arrangements	Speed surveys in the vicinity of the site access will be required to support the use of MfS design guidance. A GA of the site access should be provided and justification for its form outlined within the TA.
22	What are the visibility requirements?	Visibility splays shown on Drawing P16031-001A are MfS compliant for a 30mph speed limit	These will need to be supported by a speed survey.

23	What level of car parking is required?	To be agreed at Reserved Matters stage however please advise on most current local guidance such that reference can be made in the Transport Assessment	This is a matter for the district.
24	Are special provisions required for cyclists, pedestrians, those with a disability or public transport?	To be reviewed as part of Transport Assessment	No comment
25	What is the extent of the accident study area?	See attached Figure 1 suggesting the extent of the accident study area	See answer to 18
26	What planning policy should the development comply with?	• NPPF; • MfS/MfS2 • HCC LTP 2011 - 2031; • Havant BC Core Strategy 2011; • Emerging policies in Havant BC Draft Local Plan 2016 – 2036; and • HCC to advise on any others	The emerging local plan doesn't have any policy basis as it is yet to be adopted and in highway terms is not supported with a transport assessment as of yet.
27	Are there any other special circumstances relevant to this proposal?	Please advise	Due to the application coming forward prior to allocation within Havant Borough Councils Local Plan a full assessment of the impact of the development on Hayling Island.

ATTACHMENTS:-

APPENDIX I
APPENDIX II

FIGURE I - SITE LOCATION, TRAFFIC SURVEY AND ACCIDENT STUDY AREA PLAN
2011 CENUS METHOD OF TRAVEL TO WORK DISTIBUTION CALCULATION

APPENDIX III
APPENDIX IV
APPENDIX V

FIGURE IIA – DEVELOPMENT TRAFFIC DISTRIBUTION
FIGURE IIB – 2-WAY DEVELOPMENT TRIPS
TRICS OUTPUTS
DRAWING P16031-001A – PROPOSED ACCESS STRATEGY
HCC PRE-APPLICATION ADVICE FORM

