

Transport Technical note

Project name	Northampton Station Redevelopment		
Technical note title	Consultation Feedback Response		
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1. Introduction

1.1.1 This note provides a response to comments received in relation to application WNN/2023/0083 for the Car Park Railway Station, Black Lion Hill, Northampton. The following consultation responses are addressed within this note:

- » National Highways (NH) comments dated 09 February 2023
- » West Northamptonshire Council (WNC) comments dated 26 June 2023
- » Active Travel England (ATE) comments dated 26 July 2023

1.1.2 A key consideration for the development proposals is that they do not create the increased rail passenger demand that is forecast in the coming years, and so the scale of any mitigation/contribution needs to be proportional to the development of 280 dwellings and a 100-bedroom hotel

1.1.3 Furthermore, it is clear that given the highly sustainable location of the development site, the proposals are in line with Paragraph 105 of the NPPF:

The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes.

1.1.4 Therefore future residents and guests will have excellent opportunities for sustainable transport without any further mitigation or contributions.

1.1.5 As with all planning applications, the submission must, in transport terms, be considered against the test set out in Paragraph 111 of the National Planning Policy Framework (September 2023):

Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

1.1.6 Similarly, any requests for contributions must meet the tests set out in Regulation 122 (as amended by the 2011 and 2019 Regulations) of the Community Infrastructure Levy Regulations 2010, in that they must be:

- » *necessary to make the development acceptable in planning terms;*
- » *directly related to the development; and*
- » *fairly and reasonably related in scale and kind to the development.*

1.1.7 For ease of reference, a summary of each comment is provided in a tabular format, alongside Hydrock's response.

Stakeholder comment	Hydrock comment
National Highways (NH) comments dated 09 February 2023	
<p>MSCP: We have noted a discrepancy in the arrival/departure proportions reported in Table 6.2 of the TA. Hence we recommend that the applicant revisit the calculation and share the calculation spreadsheet.</p>	<p>The arrival/departure proportions are intentional, and based around the principal that we anticipate the increased car park users to be long stay and hence arrive in the morning and leave in the afternoon. This means that we have manually adjusted the AM departures and PM arrivals to account for those arrival/departure characteristics. This represents a robust approach, assuming that all of the additional trips would arrive during the busiest 5 hours of the morning and 4 hours of the afternoon rather than being distributed over the whole day. The evening peak is assumed to be marginally more concentrated (1 hour shorter). This would represent a robust assessment of the traffic's impact on the local and strategic highway network.</p>

Resi/Hotel: We request the applicant to provide us with a detailed mode shift strategy noting how the remaining car trips generated from these developments are being accommodated. We would also welcome clarification from the applicant if the residential element is intended to be comprised of private houses.

As set out in Section 4 of the TA, the station site is highly accessible by public transport and also well-placed for walking and cycling trips into Northampton itself. It is ideally located for car-free development, as proposed for both the hotel and residential elements. Whilst there will be a small number of vehicle movements associated with these uses (primarily servicing and deliveries), these would be far fewer than would normally be expected and would generally either take place outside of peak periods, or form part of an existing vehicle route (e.g. postal services).

The restraint on parking provision is the key element of the mode shift strategy. On purchasing or renting the properties, future residents will be aware that it is a car-free development and would not choose to live at the site if this were not practical for them. Similarly, those booking the hotel will be aware that there is no-on-site parking and would book elsewhere if necessary. Effectively the market will drive the mode shift strategy, with a wide-ranging choice of alternative modes available.

In addition, a separate framework Travel Plan has been submitted (ref, 16690-HYD-XX-XX-RP-TP-6001-PO4) setting out 13 measures to encourage mode shift that will be employed at the site, summarised as follows:

- » Measure 1 - Travel Plan Coordinator
- » Measure 2 - Maintain an Issues Log
- » Measure 3 - Travel Information Packs (TIP)
- » Measure 4 - Notice Boards
- » Measure 5 - Internet / High Speed Broadband
- » Measure 6 - Website
- » Measure 7 - Newsletter
- » Measure 8 - Electric Charging Points
- » Measure 9 - Provide Secure Cycle Parking
- » Measure 10 - Discounted Cycle Purchases
- » Measure 11 - Discounted Bus / Rail Travel
- » Measure 12 - Car Sharing
- » Measure 13 - Car Clubs

Stakeholder comment	Hydrock comment
	<p>As is normal practice, it is anticipated that the agreement of the final Travel Plan will be made the subject of a planning condition, ensuring that the local planning authority retains oversight of what measures are implemented at the site.</p> <p>Clarification on housing tenure would be provided at detailed application stage, however no houses are proposed as part of the proposal.</p>
<p>We note that the application has used a gravity model to distribute the MSCP trips and NH is generally content with this approach. We request that the application shares the distribution calculation spreadsheet.</p>	<p>The relevant calculation is provided as Appendix L of the TA and the spreadsheet has been issued in conjunction with this note.</p>
<p>West Northamptonshire Council (WNC) comments dated 26 June 2023</p>	
<p>Although this is a relatively sustainable area, it is not within the town centre and must provide a suitable level of parking provision for residents or visitors. Options for basing a car club on site, e.g. in an under-croft car park could be explored.</p>	

The transport statement wrongly states the development is within a permit parking zone. There is however a permit parking zone on the east side of St. Andrews Road, between Mare Fair & Spencer Bridge Road. Although this area will not be impacted by a lack of parking within the development the Semilong area to the North and the St. James are within reasonable walking distance and are not covered by permit zones. In our experience simply not providing parking spaces for residents, does not necessarily reduce car ownership entirely.

The responses to these two comments have been combined, as they essentially cover the same issue.

As set out above, this site is one of the most accessible locations in Northampton and should be regarded as highly sustainable. WNC acknowledges this in relation to the hotel, stating *"Due to the proximity to the train station and the abundance of other options within the town centre area, a hotel with zero parking will not be an issue."*

This sustainability is reflected in local car ownership, with the [Census 2021](#) recording that 65.8% of households in this output area (E00169259) already have no cars or vans.

The topic of parking availability is discussed in detail at Section 3 of the transport assessment. Due to the location directly adjacent to the rail station (and associated existing risk of long-term commuter parking), even if not technically a permit parking zone, almost all surrounding roads do currently benefit from parking controls of varying descriptions. The proposed station car park expansion will help to reduce any minor station-related overspill parking that does currently occur.

Typically, 200m is used to determine an acceptable walking distance to car parking spaces when undertaking parking beat surveys, but our assessment has reviewed parking availability within 400m walking distance. The areas of Semilong and St James that WNC mention are >700m and >750m walking distance respectively.

Furthermore, approximately 30% of households in the Semilong area have no cars or vans, with the equivalent figure for St James being between 15-40%. It is unrealistic to expect that a significant number of residents, of such a volume that it will present a highway issue, will park in these areas. If these distances from the site were considered to be a realistic distance for drivers to walk, then these areas would already be experiencing significant volumes of rail commuter parking, which would in part be relieved by the additional station parking in any event.

It should further be noted that future residents could potentially use the multi-storey car park directly outside their home. The current cost of a [long-term parking permit](#) at the station site is less than £100 / month.

Stakeholder comment	Hydrock comment
2029 future year has been assessed, but this needs to be 2031.	The junction assessments have been updated to a 2031 assessment year (attached as Appendix A of this note). As would be anticipated, the change is extremely minor and there is no impact on the conclusions of the Transport Assessment, i.e. <i>"that the development proposals do not represent a residual cumulative impact on the road network, which would be severe,"</i>
Confirmation of the 2022 survey dates is needed.	As per paragraph 2.5.3 of the TA, the junction turning count surveys (MCCs) were carried out within school term time on Tuesday 12th July and Wednesday 13th July 2022 between the hours of 07:00-10:00 and 16:00-19:00. In addition, the Site Access / St Andrews Road priority junction was surveyed on Saturday 9th July 2022 between the hours of 07:00-19:00.
Section 6.3.4 states "All traffic generated has been distributed onto the local highway network via the site access junction along with the Spencer Bridge Road junction to the north and Mair Fair junction to the south." Clarification is needed, does this mean that no traffic has been put through the Spencer Bridge Road junction to the North?	As stated, traffic <u>has</u> been distributed through Spencer Bridge Road junction. Traffic is also distributed south through the Mair Fair junction, according to origin/destination desire lines. This is demonstrated by the differing Base + Committed and Base + committed + Development results in Table 7.6 of the TA and the flow diagrams at Appendix M and Q.
The assessments carried out demonstrate that multiple arms in the 2029 assessment of the St. Andrews Road / Spencer Bridge Road / Wilmington Terrace junction. The development results in substantial increases at his junction, putting it of the acceptable practical reserve capacity. Therefore, updated assessments in the 2031 future year need to be carried out and nil-detriment highway mitigation schemes proposed.	<p>The transport assessment states:</p> <p><i>7.6.6 LinSig3 analysis of the existing A5095 St Andrews Road / Spencer Bridge Road / Wilmington Terrace signalised junction has been undertaken for all scenarios. No lanes reach 100% degree of saturation in any scenario.</i></p> <p><i>7.6.7 Typically, degree of saturation values increase by around 3% and queue lengths increase by between one to three vehicles. As a result, the development proposals do not represent a residual cumulative impact on the road network which could be considered severe, which is in line with the National Planning Policy Framework paragraph 111.</i></p> <p>This is not considered to represent a severe impact, which is the test required in NPPF. Nil detriment is not a policy requirement, either locally or nationally. Furthermore, the TA has demonstrated that the traffic flows in the 'future year + development' scenario are less than pre-covid levels.</p>

Stakeholder comment	Hydrock comment
Tracking plans are required to demonstrate the largest vehicle that would access the development	Tracking plans are provided at Appendices I, J and K of the Transport Assessment. If there are further specific movements that are needed, then please let us know and we will be pleased to supply them.
The crossing point from the set down spaces goes in to the taxi bay. The taxi bay will need to start after the crossing point. Tactile paving will be required on either side and straight edges, not curved kerbing.	This has been amended in an updated layout plan, which is included as Appendix B of this note.
We welcome the addition of a segregated cycle route through the site. This would appear to be a promising addition, although it does not continue to the site entrance at St Andrew's Road. We would ask that this should continue to St Andrews Road and a transition provided to enable cyclists to leave the road and access the facility and to also return safely to the road when leaving the station. This will probably require a crossing suitable for cyclists of St Andrews Road. This is important not only to encourage users of the station to walk and cycle and to be able to do so safely, but also as the wider proposals will potentially include a residential development and we would wish to see travel by sustainable means engendered from the start.	In response to this, we have widened the footways on the St Andrew's Road access, allowing them to act as shared footway / cycleways. This is shown in the updated layout plan, which is included as Appendix B of this note.
There is concern that the segregated cycle route may be secluded from view, so may not feel particularly attractive from a personal safety point of view. We would seek assurances that the route will be well lit and overlooked.	Amendments have been made to the layout in order to minimise non-overlooked areas. It is suggested that lighting and CCTV could be made the subject of a planning condition.

Stakeholder comment	Hydrock comment
<p>The eastern end of the cycle track also needs to lead directly to the cycle parking so that users do not have to dismount and push their bike through the site, and conversely are able to remount immediately from removing the bike from the cycle racks. This is especially important for those who rely on using a bicycle for mobility and who are otherwise limited in their movements. This will also help eliminate any potential conflict between users in the accessible car park area.</p>	<p>This has been amended in an updated layout plan, which is included as Appendix B of this note.</p> <p>Although the comments on potential for conflict between cyclists and users of the accessible car park area are noted, this car park is relatively small (12 spaces) and will be a lightly-used, very low speed area. Similarly, cyclists will be travelling at low speed, as this is a no through route. As a result, the risk of conflicts is considered to be very low.</p>
<p>Further to this, given that many users of the cycle parking facilities would be leaving their bikes for long periods of time, this would seem like a good opportunity to introduce a secure, undercover "bike-hub" type facility similar to the one recently introduced at Kettering Rail Station. This could include electric cycle charging points.</p>	<p>The cycle parking proposed accords with Network Rail requirements, and the operational needs of the London Northwestern Railway, the station operator.</p> <p>It maximises the space available in a well overlooked and convenient location of the site, providing covered cycle parking that is suitable for long stay users.</p> <p>London Northwestern Railway will monitor the use of the cycle parking to ensure that it remains fit for purpose, and meets the requirements of their customers.</p>

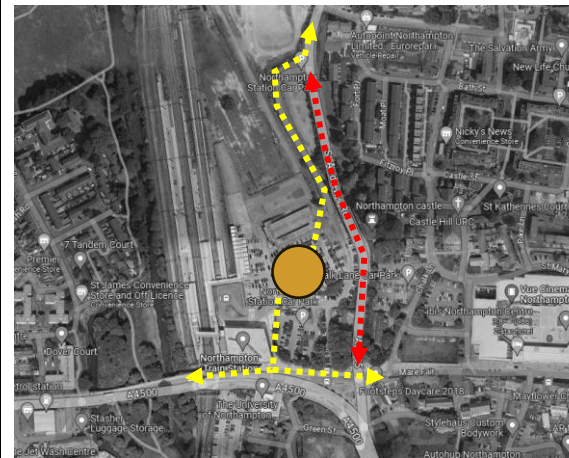
Stakeholder comment	Hydrock comment
<p>Whilst the St Andrew's Road entrance will likely cater for cyclist's approaching from the northeast of the town (i.e. approaching from the east side of the rail line), those from the south and west are likely to access the station via Black Lion Hill (the latter approaching along the A4500, which provides an easier cycle route than via Spencer Bridge Road). Improved provision is therefore arguably needed for cyclists entering the car park from this side, which is currently only possible via a relatively narrow shared surface alongside the station building. It is noted from the consultation display banners that there is to be a review of all aspects of accessibility in and around the station building. This should include investigating the scope for widening the access route from Black Lion Hill into the car park, possibly by adjusting the position of the adjacent wall bounding the proposed hotel site. This will allow easier access by cycles and minimise conflict with pedestrians, and ensuring this is also linked directly into the cycle parking area, potentially by installing a Parallel crossing to link with the east end of the segregated cycle route.</p>	<p>A new segregated route from Black Lion Hill has been added. This has been amended in an updated layout plan, which is included as Appendix B of this note. This links to existing cycle routes and toucan crossings on Black Lion Hill.</p>
<p>In terms of walking, whilst there is proposed a clear walking route from the car park to the station building, there does not appear to be an obvious, direct route from St Andrews Road. Such a route should include crossing points that follow the most likely desire line.</p>	<p>The layout already included a clear route, with a crossing point provided from directly outside the pedestrian access to the station building. This will be a low traffic area and the only road that pedestrians are required to cross in order to reach the car park. Additional signing is included in the updated layout plan, which is included as Appendix B of this note.</p>
<p>There is concern that the motorcycle parking is located some distance from the station building in an area that doesn't have natural surveillance at all times of the day and may invite attempts of theft.</p>	<p>It is acknowledged that, in the short term, there is limited natural surveillance of the motorcycle parking area. However, it is in the optimum area in the longer-term and natural surveillance will be significantly improved once the residential elements are fully built out. Again, CCTV provision can be made the subject of a planning condition.</p>
<p>Will there be benches installed to serve the rail replacement bus areas?</p>	<p>The intention is to add benches. This is being addressed separately through an updated landscaping plan. Notes to this effect have been added to the updated layout plan which is included as Appendix B of this note.</p>

Stakeholder comment	Hydrock comment
<p>Access to secure cycle parking for residents, separate from the public station cycle parking, should also be included.</p>	<p>This is fully agreed and will be dealt with in detail at reserved matters stage for the residential elements (noting this is in outline only at this stage).</p>
<p>The car park should be designed so that all the spaces can have EV charge points fitted in the future.</p>	<p>There does not appear to be any policy basis for this request. However, EV charging does represent a revenue opportunity for the scheme and it is in the operator's interest to provide charging points at a level that responds as fully as possible to market demand. As a result, a fully detailed site demand assessment has carried out using Hydrock's StratEV software to establish the necessary level. This has shown that the 5% of bays will require EV charging facilities on the day of opening, increasing to 10% of bays in future. As a future-proofing measure, 60 bays will be provided with passive ducting to facilitate future conversion. It should be remembered that EV charging bays have additional space requirements and would result in fewer overall spaces or a higher car park structure.</p>

1) St Andrew's Road - Whilst the ability to undertake meaningful improvements to this route appears limited due to constrained widths and retaining walls, it is suggested that some of the issues could be addressed by the removal of one of the footways, save for a 500mm buffer strip to enable a single improved and widened shared use footway/cycleway of around 3m to be constructed on one side (with appropriate and safe crossing facilities to be provided where necessary). This would fit with the expectations of the Local Plan to better connect the station site, the two allocations that sit alongside it, the town centre and the Spring Boroughs area to the east. Should the LPA consider this to be feasible, a financial contribution from the development would appear the most sensible option to allow the development to progress.

Any requested improvements must be related to the development proposals. It is therefore necessary to take account of whether the proposals are likely to lead to any increases in non-car trips along St Andrew's Road. There are two sections to consider - north of the site access and south of the site access. For people approaching from the north, there are already good quality footways available, with no improvements required.

Footways to the south are lower in quality and the opportunities for improvements are very limited. However, there are no pedestrian or cycle connections to St Andrew's Road between the site access and Black Lion Hill / Mare Fair. Anyone wishing to access the station site from either of these roads would be far more likely to use the A4500 pedestrian / cycle access to the station. As a result, the proposals would not lead to any increase in pedestrian or cycle movements on the southern section of St Andrew's Road and should not be required to contribute to any associated improvements.



A far more appropriate and worthwhile investment would be improvements to the Black Lion Hill ramp, this would provide a good connection for movements to/from the south. This is included within the proposed scheme. The scheme does also provide significant betterment, as people approaching from the west and wishing to travel north can pass

Stakeholder comment	Hydrock comment
	through the station site instead of having to use the less welcoming southern end of St Andrew's Road.
<p>2) A4500 Black Lion Hill/St Peter's Way/St James' Road - Whilst the issues that occur in these locations appear to be existing problems in relation to pedestrian / cyclist conflict, the increase in movements brought about by this development and further expansion of rail connectivity and surrounding growth will ultimately place additional pressure on facilities that - if ambitions for modal shift are realised - are likely to remain as substandard when assessed against LTN 1/20. Further consideration is required of this route in conjunction with the local authority to consider: future movement patterns and behaviours; the need for segregated cycling facilities; a safe and accessible access ramp, and how this development may reasonably and proportionately contribute towards these improvements.</p>	<p>Whilst an increase in rail patronage is forecast, it is not linked to or caused by the development proposals. The car park expansion is proposed simply to accommodate the growth that is coming.</p> <p>In terms of pedestrian/cycle demand generation, this is therefore limited to that generated by the 280 apartments and 100 room hotel. The ability of this development to contribute to significant offsite works of the scale being discussed is therefore very limited. It is also not clear on what basis these improvements could genuinely be held to be necessary to make the development acceptable in planning terms. As a result, it is considered that they would not pass the statutory tests set out in regulation 122 (as amended by the 2011 and 2019 Regulations) and as policy tests in the National Planning Policy Framework:</p> <ul style="list-style-type: none"> » <i>necessary to make the development acceptable in planning terms;</i> » <i>directly related to the development; and</i> » <i>fairly and reasonably related in scale and kind to the development.</i>
<p>3) Internal Access - Access for pedestrians and cyclists together with desire lines is likely to result in a pinchpoints at the vehicular access to St Andrew's Road and in front of the station building where facilities are shared. Within the site, the design considers footway users subservient to vehicular traffic in some locations, whilst direct pedestrian and cyclist access to the residential and hotel site appears to have been overlooked. These matters require to be addressed. A further concern is raised over the quality of the environment for future residents where the proposed access / egress to the car park is situated and a solution is proposed that will remove circulating traffic from this location whilst allowing a for a greater extent of public realm.</p>	<ul style="list-style-type: none"> » A key part of the revised layout is to ensure that the car park access is kept a good distance from the St Andrews Road junction. This provides the maximum queuing capacity for vehicles within the site and therefore prevents them impeding vehicle and pedestrian movements on St Andrew's Road. » Both pedestrian and cycle access to the station will be significantly improved. » There are limits to what can be achieved for pedestrians and cyclists at the St Andrew's Road access, due to the operational need to maintain access for larger vehicles on occasion. However, the facilities have been expanded as far as possible. » Shared facilities are provided at the station entrance via the Black Lion Hill ramp (discussed above). » Continuous footpaths/vehicle crossovers have now been provided at all junctions internally.

Stakeholder comment	Hydrock comment
<p>4) Cycle route - A number of issues present with regard to the cycle route. The proposed alignment and positioning risks an unwelcoming and unsafe environment in the event that these proposals (and surrounding developments) fail to deliver lighting, CCTV, and natural surveillance. In the vicinity of the station building entrance, the proposed layout appears to retain the existing bottleneck, which will add to conflicts, particularly in the case of increased use. Improved masterplanning of the proposed hotel site and its retaining boundary wall is required to address this at the outline application stage. At the northern end of the site, cyclists will be required to undertake a sharp turn to enter / exit the segregated cycling facility.</p>	<ul style="list-style-type: none"> » Amendments have been made to the site layout and cycle route alignment to help address these issues. These include improvements to both lack Lion Hill ramp/station frontage and the access to St Andrews Road » The developer is happy to make a commitment to provide lighting and CCTV as part of a planning condition » Natural surveillance will be improved in time as the housing and hotel developments come forward, creating a welcoming environment in the longer term.
<p>5) Internal pick-up and drop off conflict - ATE welcomes the provision of dedicated facilities for all users, including pedestrians and those arriving by taxi and private drop off. However, concerns are raised regarding: personal drop-offs occurring into 'live' carriageway; conflict between taxis arriving and discharging passengers as taxis are picking up passengers and attempting to depart; obstruction to the 3.9m pedestrian route by passengers and luggage awaiting taxis and the communication of capacity to taxis waiting in the holding area. Whilst a management plan will be necessary, the separation of taxi drop-offs and taxi pick-ups, together with relocating the personal pick-up / drop-offs area may address this.</p>	<p>Amendments to the layout have been made that will help to address these points. The drop off area will be a very low-speed and intrinsically safe area.</p> <p>As with all stations, the taxis will be licensed operators, affording Network Rail some control over how they operate. The conventional method is via a 'rank' system, where taxis dropping off effectively join the back of the queue to pull forward and pick up new passengers. This affords a suitable degree of separation between drop-off and pick-up operations.</p>

Stakeholder comment	Hydrock comment
<p>6) Cycle Parking - The location of cycle parking is supported, although the specification requires to be addressed alongside justification of the numbers proposed, together with an upgraded facility from what is proposed to meet modern expectations with regards to security, the size of bicycles able to use the facility and the overall attractiveness of the provision. A substantial investment is being made to upgrade the experience for passengers arriving at the station by car and this experience should be equalled (and arguably surpassed by) the experience of cyclists if the site is to actively encourage and promote access by bike.</p>	<p>The proposals will provide a significant increase in cycle parking, which will be prominently located by the station access. This will be accessed by a direct and clear cycle route of high quality. This represents a significant improvement in sustainable travel and will encourage multi-modal journeys. The cycle parking also benefits from both natural and CCTV surveillance. With prominent and highly legible signposting and wayfinding, this will strongly promote cycling as a means of accessing the station.</p>
<p>7) Access to outline elements (residential/hotel) - The constraints, safety issues and issues of public realm that surround these sites need to be properly considered in the context of the adjoining full application, which seeks permission for the access for the wider site and insodoing considers the masterplan as a whole. Where barriers to movement exist (as in the case of the pinchpoint near the station building) these require to be addressed holistically to avoid precluding better placemaking at a later date. Further information is required in relation to the positioning (or repositioning) of the existing boundary wall to the hotel site.</p>	<p>These issues have been covered above and also addressed in the revised layout proposals, as shown indicatively on the site layout plan at Appendix B.</p>

Appendix A Junction Capacity Assessment Updates

Junction Capacity Testing - 2031 update

TEMPro growth factors have been used on the 2022 survey data to account for background growth to 2031, as set out within the Transport Assessment. The factors are 1.095482 for the AM and 1.11295 for the PM.

All other modelling inputs remain as per the Transport Assessment models.

Site Access with St Andrews Road

The 2031 capacity test results for the site access and St Andrews Road are set out below at Table 1.

Table 1: PICADY Site Access and St Andrews Road Summary

Year:	Scenario(s):	Peak Period:	Max. RFC (all arms)	End Queue
2031	Base + Committed	0700-0800 (S)	0.33	< 1 vehicle
		0800-0900	0.27	< 1 vehicle
		1700-1800	0.60	< 2 vehicles
	Base + Committed + Development	0700-0800 (S)	0.44	< 1 vehicle
		0800-0900	0.33	< 1 vehicle
		1700-1800	0.78	3 vehicles

The development site access priority junction with the A5095 St Andrews Road has been modelled using PICADY software. The results indicate that during 2031 the junction performs within theoretical capacity.

As a result, the retained access with the A5095 St Andrews Road is suitable to serve the development site.

A5095 St Andrews Road (South) / Spencer Bridge Road / Wilmington Terrace / St. Andrews Road (North)

The 2031 capacity test results for the St Andrews Road / Spencer Bridge Road / Wilmington Terrace signalised junction is summarised at Table 2.

Table 2: LinSig3 St Andrews Road / Spencer Bridge Road / Wilmington Terrace Summary

Link No.	Link Name:	0700-0800 (S)			0800-0900			1700-1800		
		DoS (%)	Delay (s/pcu)	MMQ (pcu)	DoS (%)	Delay (s/pcu)	MMQ (pcu)	DoS (%)	Delay (s/pcu)	MMQ (pcu)

2031 Base + Committed										
1/1+1/2	A5095 North Left Right Ahead	65.5%	47.9	9.2	85.2%	63.2	15.7	89.0%	69.0	12.0
2/1	Spencer Bridge Road (East) Ahead Left	64.1%	56.9	8.9	84.0%	70.9	13.9	80.8%	57.1	16.3
2/2	Spencer Bridge Road (East) Ahead	66.5%	56.9	10.0	85.1%	70.6	15.2	82.2%	57.1	18.0
3/1	A5095 South Ahead Left	50.4%	43.3	8.2	62.2%	48.6	10.1	87.5%	63.4	19.1
3/2	A5095 South Right	16.8%	50.5	1.6	23.3%	54.0	2.1	38.2%	54.4	3.9
4/1	Spencer Bridge Road (West) Ahead Left	59.2%	38.7	12.4	83.6%	47.6	22.4	87.8%	57.2	22.6
4/2+4/3	Spencer Bridge Road (West) Ahead Right	66.4%	41.7	12.3	86.7%	50.3	22.7	88.7%	64.1	13.9
Cycle Time (sec):		120			120			120		
2031 Base + Committed + Development										
1/1+1/2	A5095 North Left Right Ahead	69.3%	49.1	10.9	89.8%	72.2	18.5	95.0%	87.7	15.7
2/1	Spencer Bridge Road (East) Ahead Left	65.8%	57.6	9.1	86.1%	74.2	14.5	86.2%	64.5	17.9
2/2	Spencer Bridge Road (East) Ahead	67.8%	57.5	10.3	87.3%	74.3	16.1	87.4%	64.7	19.7
3/1	A5095 South Ahead Left	49.0%	42.1	8.0	63.1%	49.0	10.3	94.2%	77.2	25.0
3/2	A5095 South Right	18.7%	53.2	1.7	25.2%	55.7	2.2	48.0%	58.2	4.8
4/1	Spencer Bridge Road (West) Ahead Left	58.2%	36.9	12.5	82.0%	44.5	22.3	94.0%	74.7	26.2

4/2+4/3	Spencer Bridge Road (West) Ahead Right	67.7%	40.9	11.4	88.1%	50.9	23.4	94.2%	81.3	17.7
Cycle Time (sec):		120			120			120		

LinSig3 analysis of the existing A5095 St Andrews Road / Spencer Bridge Road / Wilmington Terrace signalised junction has been undertaken for 2031. No lanes reach 100% degree of saturation in any scenario.

The development proposals do not represent a residual cumulative impact on the road network which could be considered severe, which is in line with the National Planning Policy Framework paragraph 111.

A5095 St Andrews Road / Mare Fair / Black Lion Hill

The 2031 capacity test results for the St Andrews Road / Mare Fair / Black Lion Hill are summarised at Table 3.

Table 3: LinSig3 St Andrews Road / Mare Fair / Black Lion Hill Summary

Link No.	Link Name:	0700-0800 (S)			0800-0900			1700-1800		
		DoS (%)	Delay (s/pcu)	MMQ (pcu)	DoS (%)	Delay (s/pcu)	MMQ (pcu)	DoS (%)	Delay (s/pcu)	MMQ (pcu)
2031 Base + Committed										
1/1	St Andrews Road North Left Ahead	44.5%	21.8	6.9	56.7%	21.4	9.9	54.4%	19.6	9.4
2/1	Mare Fair Ahead	4.1%	14.6	0.5	5.6%	17.1	0.7	6.9%	18.5	0.9
3/1+3/2	St Andrews Road South Ahead Right	43.9%	7.0	8.2	41.5%	6.2	8.2	45.0%	6.2	8.8
4/1	Bus Corridor EB Left Ahead	21.4%	23.1	2.5	38.5%	28.6	4.4	36.5%	30.2	4.0
8/1	A4500 (East) Ahead	47.8%	2.9	4.4	51.9%	3.2	5.1	66.8%	4.5	8.8
8/2	A4500 (East) Right	42.9%	21.4	6.7	40.7%	18.5	6.5	44.2%	17.7	7.3
9/1	A4500 (West) Ahead, Ahead 2, Ahead 3	33.3%	3.9	3.6	43.7%	4.5	5.4	36.2%	4.0	4.1
9/2	A4500 (West) Ahead	23.3%	3.4	2.4	28.6%	3.6	3.2	22.8%	3.3	2.3
10/1	Bus Corridor WB Ahead	22.0%	39.0	1.0	27.3%	37.7	1.3	31.9%	37.6	1.5

11/1	St Andrews Road SB Left	17.6%	1.1	0.1	24.6%	1.2	0.2	24.0%	1.2	0.2
12/1	A4500 internal EB Ahead	40.3%	18.8	6.9	55.3%	24.2	10.0	46.2%	24.1	7.7
12/2	A4500 internal EB Ahead	42.3%	19.4	7.3	57.4%	25.1	10.6	48.3%	24.8	8.1
14/1	Bus Corridor – Bus Ahead Only	10.3%	48.6	0.5	10.3%	48.4	0.5	10.3%	48.6	0.5
Cycle Time (sec):		90			90			90		

2031 Base + Committed + Development

1/1	St Andrews Road North Left Ahead	43.4%	20.9	6.7	56.7%	21.4	9.9	59.4%	20.6	10.7
2/1	Mare Fair Ahead	4.2%	15.1	0.5	5.6%	17.1	0.7	6.9%	18.5	0.9
3/1+3/2	St Andrews Road South Ahead Right	46.9%	7.1	8.8	43.9%	6.4	8.7	45.0%	6.2	8.8
4/1	Bus Corridor EB Left Ahead	24.3%	24.2	2.8	40.1%	28.9	4.6	36.5%	30.2	4.0
8/1	A4500 (East) Ahead	47.8%	2.9	4.4	51.9%	3.2	5.1	66.8%	4.5	8.8
8/2	A4500 (East) Right	45.8%	21.2	7.3	43.0%	18.8	7.0	44.2%	17.7	7.3
9/1	A4500 (West) Ahead, Ahead 2, Ahead 3	34.0%	3.9	3.7	44.1%	4.5	5.5	36.2%	4.0	4.1
9/2	A4500 (West) Ahead	23.3%	3.4	2.4	28.7%	3.6	3.2	22.8%	3.3	2.3
10/1	Bus Corridor WB Ahead	22.0%	38.5	1.0	27.3%	37.7	1.3	31.9%	37.6	1.5
11/1	St Andrews Road SB Left	17.6%	1.1	0.1	24.6%	1.2	0.2	26.4%	1.2	0.2
12/1	A4500 internal EB Ahead	41.2%	19.6	7.1	55.2%	24.2	10.0	46.2%	24.1	7.7
12/2	A4500 internal EB Ahead	43.3%	20.2	7.5	57.5%	25.2	10.6	48.3%	24.8	8.1
14/1	Bus Corridor – Bus Ahead Only	10.3%	48.6	0.5	10.3%	48.3	0.5	10.3%	48.6	0.5
Cycle Time (sec):		90			90			90		

LinSig3 analysis of the existing A5095 St Andrews Road / Mare Fair and Black Lion Hill signalised junction has been undertaken for 2031. It should be noted that during the 2031 assessment year the junction does not exceed capacity across all arms of the junction.

Appendix B Updated Site Layout Plan



<p>--- DROPPED KERB VEHICULAR CROSSOVER</p>		<p>NOTES</p>	<p>NOTES (CONTINUED)</p>	<p>NOTES (CONTINUED)</p>	<p>NOTES</p>	<p>STAKEHOLDER AMENDMENTS TO INTERNAL SITE ROADS GENERAL ARRANGEMENT</p>
<p>Hydrock</p> <p>CLIENT: BLOCWORK LLP AND NETWORK RAIL</p> <p>PROJECT: NEW MASTERPLAN, MULTI STOREY CAR PARK AND PUBLIC REALM WORKS AT NORTHAMPTON STATION</p>		<p>PROPOSED PROJECT NO: 16690</p> <p>SCALE: 1:500</p> <p>STATUS: S2</p> <p>DATE: 16690-HYD-XX-XX-TP-0013</p>	<p>DATE: 16690-HYD-XX-XX-TP-0013</p>	<p>DATE: 16690-HYD-XX-XX-TP-0013</p>	<p>DATE: 16690-HYD-XX-XX-TP-0013</p>	<p>DATE: 16690-HYD-XX-XX-TP-0013</p>