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State Significant Acceleration

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4 Parramatta Square
12 Darcy Street
Parramatta NSW 2150

Re: 39-43 Hassall Street, Parramatta (SSDA) – Final Transport Review

Pentelic Advisory Pty Ltd (Pentelic) has been commissioned by the Department of Planning and Environment (DPE) to undertake an initial transport review of a proposed project for a 34-storey built to rent development comprising 204 apartments at 39-43 Hassall Street, Parramatta. The purpose of this high-level review is to examine the transport impact assessment associated with the planning documentation that supports the SSDA for 39-43 Hassall Street, Parramatta (refer to Figure 1). This memorandum provides a summary of the review and the proponents responses in addressing the comments from the transport review.



Figure 1 – 39-43 Hassall Street, Parramatta Site Location (source: Stantec 2022)

Key review and close out of comments

Pentelic Advisory has reviewed Transport Impact Assessment (TIA) reports prepared by Stantec Australia Pty Ltd (Rev D - 19 December 2022, Rev F – 23 August 2023, Rev G – 25 August 2023, Rev H – 28 September 2023 and Rev I – 27 September 2023) undertaken on behalf of the Perpetual Corporate Trust Limited as custodian for Aliro Trusco 1 Pty Ltd as trustee for Harris Street Sub Trust (the proponent). The review outlined the additional supporting information required from the proponent to address some of the issues raised in these documents.

The review identified issues have been classified with a risk rating according to the potential impact that the issue may have on the findings of the transport impact assessment. Issues have been classified according to a colour-coded rating system describing the level of risk associated with each issue. The green colour shows a lower risk, amber as medium risk as opposed to red colouring, which shows a higher risk level threshold.



- **Low risk** – minor issue unlikely to fundamentally change the outcomes of the transport assessment.
- **Medium risk** – issue which may change the outcomes of the transport assessment and/or have an impact to the transport network.
- **High risk** – major issue requiring urgent further investigation and analysis from the proponent and should be addressed as this may impact transport and development outcomes.



Legend:





The overall review and findings are outlined below. The table also shows whether the proponent has addressed all the comments in the latest version of the Transport Impact Assessment Report (Rev I).


Section / Heading	Comments and discussion	Request for Information (RFI) – Updated
Section 2.3 Traffic Volumes and Intersection Operation	<ul style="list-style-type: none"> • The transport impact assessment (TIA) examined the existing operational intersection performance for Parkes Street at Wigram Street and Harris Street by referencing a separate traffic report (Traffix, 2022) for another site located 114-118 Harris Street, Parramatta. The results showed: <ul style="list-style-type: none"> ▪ Parkes Street / Wigram Street operates at LoS B during the AM and PM peak periods ▪ Parkes Street / Harris Street operates at LoS C and LoS D during the AM and PM peak periods respectively. • The recently released <i>Parramatta CBD Strategy Transport Study (2021)</i> prepared on behalf of Parramatta City Council showed the existing operational intersection performance 	<ol style="list-style-type: none"> 1. Provide SIDRA analysis of existing traffic volumes on Parkes Street / Harris Street and Harris Street / Hassall Street to determine the existing operational network performance in the vicinity of the proposed development site. 2. Provide further evidence of the existing operational intersection performance on the surrounding road network to verify the accuracy or completeness of any third-party information for the following intersections: <ul style="list-style-type: none"> ▪ Parkes Street / Harris Street, ▪ Harris Street / Hassall Street



	for Parkes Street at Wigram Street (LoS C) and Harris Street (LoS E) during both the AM and PM peak hours. The analysis showed a lower operational performance for the subject intersections when compared to the TIA.	
Review Rating	<ul style="list-style-type: none"> MEDIUM - the following recommendation(s) can take place following exhibition 	
Proponent Response	<ul style="list-style-type: none"> <u>The subject intersections have been included in the latest TIA report (Section 5.4.1)</u> 	<ul style="list-style-type: none"> <u>This response has been closed out by the proponent.</u>
Section 3.3 Pedestrian and Bicycle Facilities	<ul style="list-style-type: none"> The TIA specifies footpaths to be widened along Hassall Street and Harris Street frontages without providing any additional spatial information and description of proposed works. 	<ol style="list-style-type: none"> Provide more detail of the pedestrian footpath widening along Hassall Street and Harris Street including indicative cross sections, intersection treatments and how the widening will tie-in with the existing street and footpath / cycle network.
Review Rating	<ul style="list-style-type: none"> MEDIUM - the following recommendation(s) can take place following exhibition 	
Proponent Response	<ul style="list-style-type: none"> <u>The proposed footpath arrangements will tie into existing footpaths fronting Hassall Street and Harris Street.</u> 	<ul style="list-style-type: none"> <u>This response has been closed out by the proponent.</u>
Section 4.4 Site Layout	<ul style="list-style-type: none"> The TIA provides limited information regarding queuing outputs or calculations to determine whether there is adequate queuing and storage capacity at the entry and exit access control point for the subject site fronting Hassall Street. The TIA specifies that swept paths from "<i>Ground Floor to Basement 1 is somewhat constrained around the bends, however several passing opportunities exist along the length of the ramp</i>". It concludes that this is acceptable based on the lower traffic generation potential of the subject site. If higher trip generation rates are adopted (refer to Section 5.1 below) the likelihood of two vehicles passing each other within the basement carpark along circulation roadways, parking aisles basement ramps etc will substantially increase. The TIA swept turning path assessment at the proposed access driveway does not show the centre line of the road carriageway on Hassall Street, and existing on-street 	<ol style="list-style-type: none"> Provide additional information on queuing and storage capacity requirements at the Hassall Street entry and exit access driveway using appropriate routine or traffic modelling to cater for trip generation rates for peak 15-minute flows. Provide swept turning paths for circulation using the "B99 Percentile Design Vehicle" should be used for all turning manoeuvres at ramps (straight and curved ramps), circulation roadways and at the entry and exit access driveway. Provide swept turning paths on Hassall Street at the entry and exit access driveway showing the centre line of the road carriageway on Hassall Street including existing on-street parking for both B85 and B99 design vehicles and garbage truck. Provide sight distance calculations for the combined entry and exit access driveway on Hassall Street for both Approach Sight Distance (ASD) and Safe Intersection Sight Distance (SISD) as per AS2890.1 and Austroads.



	<p>parking located on the northern side directly opposite the new access point.</p> <ul style="list-style-type: none"> The TIA swept turning path assessment does not accurately reflect the current and future traffic conditions on the fronting roadway and is not a true and accurate reflection of the safety issues likely to be faced by road users on Hassall Street. The assessment outcomes of the approach sight distance (in Appendix A shown below) has not been included in the main body report (Section 4.4) and/or (Section 8.0). The proponent needs to provide the results of this assessment in Section 4.4, and provide the key conclusions of whether the proposed access driveway provides satisfactory level of safety based on the sight distance requirements / calculations (ASD). 	<p>8. Provide sight distance calculations for the intersection of Hassall Street and Harris Street to accommodate future splay and footpath widening along Hassall Street (as per Council's DCP) for both Approach Sight Distance (ASD) and Safe Intersection Sight Distance (SISD) as per AS2890.1 and Austroads.</p> <p>9. Provide the height clearance between the floor and any overhead obstruction for both loading areas and basement carparking areas (i.e. parking aisles, top and bottom of ramps etc).</p>
	<ul style="list-style-type: none"> MEDIUM - the following recommendation(s) can take place following exhibition 	
Proponent Response	<ul style="list-style-type: none"> <u>Additional swept turning paths have been included in Appendix A to meet AS2890.1.</u> <u>All sight distance checks have been included in Section 4.4 and Section 8 (Point 9) of the latest TIA report.</u> 	<ul style="list-style-type: none"> <u>This response has been closed out by the proponent however the geometric design of the proposed development car park regarding gradients for parking aisles, parking bays, circulation aisles, ramps and head clearances etc will need to comply with AS2890.1 and AS2890.2</u>
Section 4.4 Site Layout	<ul style="list-style-type: none"> The proponent to include the main findings of the site access driveway sight distance assessment in Appendix A in Section 4.4 of the report. The key outcomes of this assessment should also be included in Section 8.0 Conclusions. 	<p>10. Provide further detail in the TIA report</p>
	<ul style="list-style-type: none"> MEDIUM - the following recommendation(s) can take place following exhibition 	
Proponent Response	<ul style="list-style-type: none"> <u>All sight distance checks have been included in Section 4 and Section 8 (Point 9) of the latest TIA report.</u> 	<ul style="list-style-type: none"> <u>This response has been closed out by the proponent.</u>
Section 5.1 Traffic Generation	<ul style="list-style-type: none"> The TIA recommends traffic generation rates based on the number of car parking spaces as the independent variable rather than the number of apartments for high density development. 	<p>11. Review trip generation rates for the proposed site based on the relationship on the number of apartments as the independent variable as per TfNSW's Technical Direction: Updated Traffic Surveys (TDT 2013/ 04a) High Density Residential.</p>

	<ul style="list-style-type: none"> TfNSW report for <i>High Density Residential Trip Generation Surveys (2013)</i> recommends that the number of car parking spaces as an independent variable <u>should not</u> be used as a means of predicting high density residential vehicle trip generation. This is based on the lower correlation between these two variables as indicated the TfNSW high density survey data. Application of TfNSW's <i>Technical Direction: Updated Traffic Surveys (TDT 2013/ 04a) High Density Residential (for Site 5 located at 26-30 Hassall Street, Parramatta)</i> near the proposed site revealed the following trip rates: <ul style="list-style-type: none"> 0.27 and 0.12 vehicle trips per apartment during the AM and PM peak respectively Application of the above comparable trip rates to the proposed development site comprises a traffic generation potential of 55 and 25 vehicle trips in the weekday AM and PM peak hours respectively. This potentially increases the trip generation potential of the proposed site from 13 to 55 vehicles trips per hour and 10 to 25 vehicles trips per hour in the weekday AM and PM peak hours. Amend commercial trip distributions only to be 80% IN and 20% OUT in the AM Peak and the 20% IN and 80% OUT in the PM Peak 	<p>12. Provide further benchmarking of trip generation rates for the proposed development site based on comparable sites from TfNSW's Technical Direction: Updated Traffic Surveys (TDT 2013/ 04a) High Density Residential (eg: Site No. 5 Parramatta) or equivalent data sources.</p>
Review Rating	<ul style="list-style-type: none"> HIGH - the following recommendation(s) may impact road network performance and development yield 	
Proponent Response	<ul style="list-style-type: none"> <u>The trip generation rate for the assessment has been based on the independent variable based on the number of apartments and included in the latest TIA report (Section 5.1)</u> 	<ul style="list-style-type: none"> <u>This response has been closed out by the proponent.</u>
Section 5.2 Traffic Distribution and Impact	<ul style="list-style-type: none"> The cumulative impact assessment relies on traffic modelling undertaken by another consultant (Traffic, 2022) for a separate site located at 114-118 Harris Street, Parramatta. The TIA relies on third party sources and has not attempted to verify the accuracy or completeness of any such information. The TIA does not undertake a review of either an opening year scenario 	<p>13. Provide and assess the impact of the proposed development site based on an opening year scenario (say 2026) and a future 10 year time horizon based on updated trip generation rates and expected traffic growth forecasts on Parkes Street and Harris Street etc.</p> <p>14. Expand the study area assessment to include key intersections within 200m from the proposed Hassall Street access driveway to include the</p>

	<p>(say 2026) for the proposed development site nor a 10 year horizon year (say 2036), which would be typically used to demonstrate that existing and/or future infrastructure is appropriate and can operate at satisfactory under future traffic conditions.</p> <ul style="list-style-type: none"> The TIA arbitrarily defines a small area of influence (i.e. two intersections) for the proposed development impacts as part of the study area. This approach may be neglecting other intersections on the wider network where the development may cause an impact. It is not clear from the TIA how the traffic has been distributed on the road network, and the specific routing in the close vicinity of the development site. It is difficult to check the impact of the trip distribution has on both the surrounding road network and proposed entry and exit access driveway on Hassall Street. SIDRA outputs have not been supplied for the intersections of Parkes Street / Harris Street, Harris Street / Hassall Street. Section 5.2 Figure 11 and Figure 12 – should show the development turning movement flows (all movements) at the development access driveway fronting Hassall Street during the AM and PM Peak The TIA report (Rev G) Figure 13 (page 21) has a caption heading 'Peak PM traffic volumes with development' and Figure 14 (page 22) has the same caption heading. To avoid any doubt in the assessment please amend with the correct peak period for Figure 13. 	<p>intersections of Parkes Street / Harris Street, Harris Street / Hassall Street.</p> <ol style="list-style-type: none"> Undertake SIDRA modelling to determine 2026 (opening year) and 2036 (10-year horizon) intersection performance for the intersections of Parkes Street / Harris Street, Harris Street / Hassall Street, Hassall Street. Provide further explanation of the trip distribution regarding development traffic travelling to and from the site (and proposed access driveway) shown graphically on a road network map. Provide SIDRA outputs in appendix (showing intersection layout, lane summary, 95th percentile queue lengths and signal phasing etc) for the intersections of Parkes Street / Harris Street, Harris Street / Hassall Street.
<p>Review Rating</p>	<ul style="list-style-type: none"> MEDIUM - the following recommendation(s) can take place following exhibition 	
<p>Proponent Response</p>	<ul style="list-style-type: none"> <u>The assessment covers the trip distribution and additional SIDRA outputs in Section 5.2 and Appendix C.</u> <u>The assessment includes latest traffic survey information collected in 2023 to validate the key operational performance of the key intersections.</u> 	<ul style="list-style-type: none"> <u>This response has been closed out by the proponent.</u>

	<ul style="list-style-type: none"> • <u>All figures have been updated to address comments in the latest TIA report.</u> 	
Section 5.3 Impacts of Other Modes of Travel	<ul style="list-style-type: none"> • The TIA assumes very high levels of public and active transport mode shares of 86% during the AM and PM peak hour when compared to other locations within TfNSW's <i>Technical Direction: Updated Traffic Surveys (TDT 2013/ 04a) High Density Residential</i>. The documentation asserts that the development is near Parramatta Station and future light rail stop. • Application of TfNSW's <i>Technical Direction: Updated Traffic Surveys (TDT 2013/ 04a) High Density Residential (for Site 5 located at 26-30 Hassall Street, Parramatta)</i> which is closer to Parramatta Station showed a public transport and active mode share of 57% during the weekday significantly lower than 86% proposed for the subject site. • The <i>Parramatta CBD Strategy Transport Study (2021)</i> released by Parramatta City Council has set a JTW non-car mode share target of 60% within the Parramatta CBD which is substantially lower than the 86% proposed within the TIA. 	18. Provide further demonstration on how the proposed development site will achieve the non-car mode share target of 86% anticipated in Section 5.3 (Table 8) of the transport impact assessment when compared to other high density residential developments shown in TfNSW's <i>Technical Direction: Updated Traffic Surveys (TDT 2013/ 04a) High Density Residential</i> .
	<ul style="list-style-type: none"> • MEDIUM - the following recommendation(s) can take place following exhibition 	
Proponent Response	<ul style="list-style-type: none"> • <u>The trip generation rate has been benchmarked to another Parramatta site located as per TDT2013/04a and included in the latest TIA report (Section 5.1).</u> • <u>The Green Travel Plan and the sites convenient access to Parramatta Station and PLR Stage 1 light rail stop provides good public transport accessibility to promote sustainable travel behaviours.</u> 	<ul style="list-style-type: none"> • <u>This response has been closed out by the proponent.</u>
Section 5.4.1 (Table 9)	<ul style="list-style-type: none"> • The Level of Service (LOS) and Average Vehicle Delay (AVD) for the 'with' development traffic demand operation appear to be lower than the existing intersection operation in Section 2.3 (Table 3) 	<ul style="list-style-type: none"> • Provide further detail and re-check SIDRA analysis in Appendix C.

Review Rating	<ul style="list-style-type: none"> HIGH - the following recommendation(s) may impact road network performance and development yield 	
Proponent Response	<ul style="list-style-type: none"> <u>Table 9 has been updated to correct the LOS discrepancy between existing and future operations at the key intersections</u> 	<ul style="list-style-type: none"> <u>This reponse has been closed out by the proponent.</u>
Section 6 Green Travel Plan	<ul style="list-style-type: none"> The TIA includes a Green Travel Plan (GTP) for the proposed development site with the view of encouraging modal shift away from cars. The TIA does commit to a high non-car mode share target of 86% for the proposed development which is significantly higher than current JTW data (50%) and 57% recorded at 26-30 Hassall Street, Parramatta based on TfNSW's <i>Technical Direction: Updated Traffic Surveys (TDT 2013/04a) High Density Residential</i>. The proposed non-car mode share target for the proposed site exceeds high density developments located at Pymont (60%), Chatswood (64%) and St Leonards (73%) based on TfNSW's <i>Technical Direction: Updated Traffic Surveys (TDT 2013/04a) High Density Residential</i>. 	19. Provide any further commitments within the Green Travel Plan that can achieve the high non-car mode share target of 86% for the proposed development to be in line with other high-density developments in strategic centres such as Chatswood and St Leonards etc.
	<ul style="list-style-type: none"> MEDIUM - the following recommendation(s) can take place following exhibition 	
Proponent Response	<ul style="list-style-type: none"> <u>The trip generation rate has been benchmarked to another Parramatta site (26-30 Hassall Street) located as per TDT2013/04a and included in the latest TIA report (Section 5.1).</u> <u>The Green Travel Plan and the sites convenient access to Parramatta Station and PLR Stage 1 light rail stop provides good public transport accessibility to promote sustainable travel behaviours.</u> 	<ul style="list-style-type: none"> <u>This reponse has been closed out by the proponent.</u>
Section 7 Construction Pedestrian and Traffic Management Plan	<ul style="list-style-type: none"> Construction traffic impact assessment does not provide an understanding of the scope, duration, or traffic impact of construction activities on the surrounding road network. 	20. Provide a more detailed assessment of construction impacts including summary of construction works, road and lane closures, impacts on footpaths, on-street parking, duration of works and impacts on surrounding intersections based on light and heavy vehicle construction trip generation.

	<ul style="list-style-type: none"> MEDIUM - the following recommendation(s) can take place following exhibition 	
Proponent Response	<ul style="list-style-type: none"> <u>A high-level Construction Pedestrian and Traffic Management Plan has been provided in Section 7.</u> 	<ul style="list-style-type: none"> <u>This reponse has been closed out by the proponent however a more detailed Construction Pedestrian and Traffic Management (CPTMP) will be required prior to construction certificate being issued.</u>
Section 8 Conclusions	<ul style="list-style-type: none"> The proponent to include the following key recommendations made in Section 4.4 Site Layout Review cited inter alia (from the TIA report) to be included in Section 8.0 Conclusions: <ul style="list-style-type: none"> a. <i>“A flashing warning light is also recommended on the ramp which would be triggered by a detector loop when a vehicle enters the site at ground level to warn exiting vehicles of entering vehicles. A convex mirror would also be placed on ground level to improve sight lines between outbound vehicles on the ramp and any inbound vehicles that are entering the site” – in addition show the location of warning lights on ramps etc and the location of convex mirror at access driveway layout plans</i> b. <i>“Convex mirrors would improve sightlines around bends and allow entering and exiting vehicles to pass on the ramp” – in addition show the location(s) of convex safety mirrors within the basement car park layout plans</i> 	21. Provide further detail in the TIA report
	<ul style="list-style-type: none"> MEDIUM - the following recommendation(s) can take place following exhibition 	
Proponent Response	<ul style="list-style-type: none"> <u>The recommendations have been included in Section 8 (Point 8).</u> 	<ul style="list-style-type: none"> <u>This reponse has been closed out by the proponent however the provision for “flashing warning lights” and “convex mirrors” within the car park will be required prior to construction certificate being issued.</u>

Key conclusions:

The key conclusions of the Transport Review are as follows:

- The majority of the transport review comments have been closed out by the proponent in the Transport Impact Assessment Report (dated 27 September 2023 – Revision I). In this context, it is recommended that the following conditions be included prior to construction certificate being issued for the proposed development site:
 - Detailed future construction traffic management plan required to adhere to the proposed principles in the current CPTMP.
 - Geometric design of the proposed development car park regarding gradients for parking aisles, parking bays, circulation aisles, manoeuvring areas, ramps and head clearances etc to comply with *AS2890.1 Off-street car parking*, *AS2890.2 Commercial vehicle facilities*, *AS2890.3 Bicycle parking facilities* and *AS1428 Design for access and mobility*.
 - The installation of “flashing warning lights” and “convex mirrors” within the car park to provide residents, visitors, pedestrians and cyclists with safe, reliable and easy to use car parking facility.
 - The main vehicle car park access point fronting Hassall Street should be pedestrian friendly with clear lines of sight to be provided at the property boundary to ensure adequate visibility between vehicles leaving the car park and pedestrians / cyclists on the road frontage.
 - Provisions is to be provided for electric vehicles and associated recharge facilities within the car park. Provision for three (3) electric vehicle (EV) charging parking spaces to be located within the 71 regular parking spaces.
- The increase in traffic generated by the proposed development will be modest when distributed on the surrounding road network and will not result in adverse effects on the operational performance of the Hassall Street and Harris Street and Harris and Parkes Street intersections.
- The proposed development has no unacceptable traffic implications in terms of road network capacity, with projected peak hour traffic volumes within acceptable limits.
- The proposed development incorporates 71 parking spaces and 113 bicycle spaces, which should be adequate to accommodate the demand for parking generated the proposed development.
- Strategies to promote access by public transport and active transport have been considered by the proponent as part of a Green Travel Plan to reduce the overall traffic generation potential and parking needs of the proposed development site given its location to Parramatta Station and Parramatta Light Rail stop at Macquarie Street.

Assumptions and limitations:

Pentelic Advisory provides this high-level desktop transport review with the following key assumptions and limitations cited below:

- Pentelic Advisory has not had any discussions with TfNSW to determine the existing and future transport infrastructure and services that may impact the proposed site. Pentelic Advisory has not had any discussions with Parramatta City Council in relation to their plans for local road and transport infrastructure upgrades in the surrounding areas.
- The desktop review has been undertaken with a cursory review of a Transport Impact Assessment Reports prepared by Stantec Australia Pty Ltd (Rev D - 19 December 2022, Rev F – 23 August 2023, Rev G – 25 August 2023, Rev H – 28 September 2023 and Rev I – 27 September 2023) for the

subject site. No review has been undertaken of base and future traffic models which is outside this scope of work.

- In preparing this report, Pentelic Advisory has relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by DPE and/or from other sources. Except as otherwise stated in the report, Pentelic Advisory has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may change.
- This report has been prepared on behalf of, and for the exclusive use of, DPE, and is subject to, and issued in accordance with, the provisions of the contract between Pentelic Advisory and DPE. Pentelic Advisory accepts no liability or responsibility whatsoever for, or in respect of, any use of, or reliance upon, this report by any third party.

Yours faithfully



Steven Konstas
Director – Pentelic Advisory Pty Ltd