GTAconsultants

now

Stantec

REF: N212340

DATE: 17 May 2021

The Owners Strata Plan 31979
C/- Result Property Group
281 Kingsgrove Road
KINGSGROVE NSW 2208

Attention: Justin Micallef

Dear Justin

RE: 50-52 PHILLIP STREET, SYDNEY – TRANSPORT IMPACT ASSESSMENT PEER REVIEW

Introduction

GTA, now Stantec has been engaged to complete a peer review of the Traffic Impact Assessment (TIA) prepared by Arup dated 21 December 2020 to accompany the Stage 1 State Significant Development Application (SSD-10464) for 50-52 Phillip Street, Sydney.

The proposal involves the retention and refurbishment of the heritage building on the site, demolition of other existing buildings and construction of a new mixed use building. Specifically, this includes:

- A new 47 storey mixed use building envelope containing:
  - lower level café/bar uses and associated servicing and back-of-house facilities
  - a new basement containing waste rooms, loading space, and car parking spaces
  - hotel uses on levels 1 to 35
  - residential uses on levels 36 to 47.
- Retention of the existing heritage-listed building on the site, and refurbishment of this building for hotel purposes.
- A new driveway crossing over Phillip Street at the southern end of the site.
- Maintenance and retention of the existing vehicular access over Phillip Lane.

The location of the subject site and its surrounds are shown in Figure 1.

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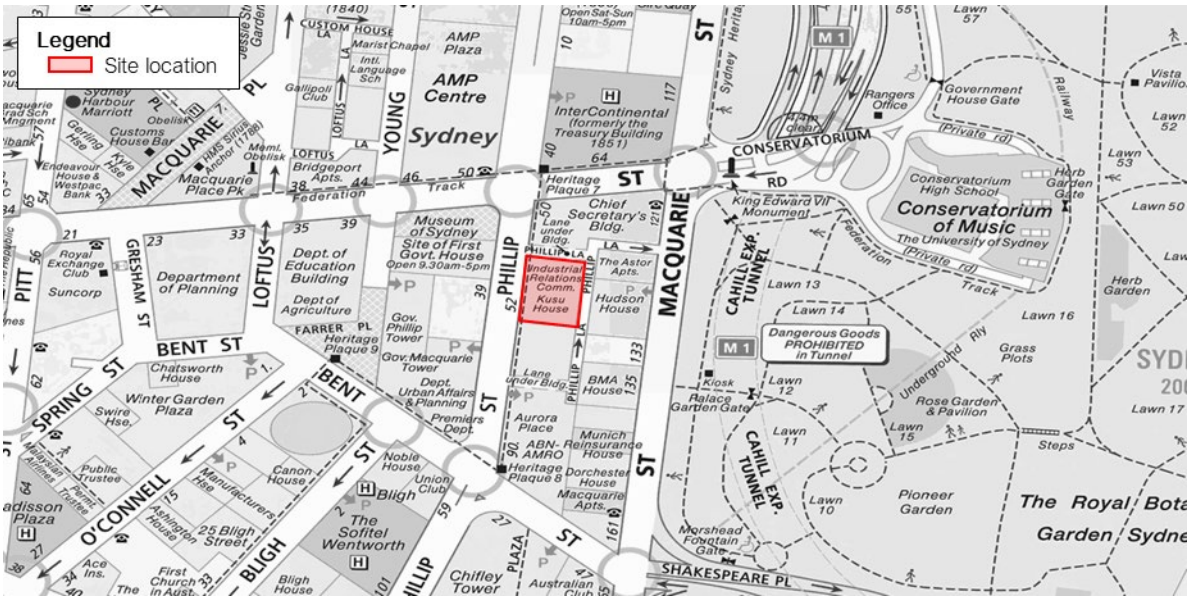
Figure 1: Subject site and its surrounds



Base image source: https://www.street-directory.com.au/

Review Findings

The following sections set out GTA, now Stantec's review of the TIA (Arup, 2020) and assess the validity of the assumptions used and the key findings of the assessment.

Parking Assessment

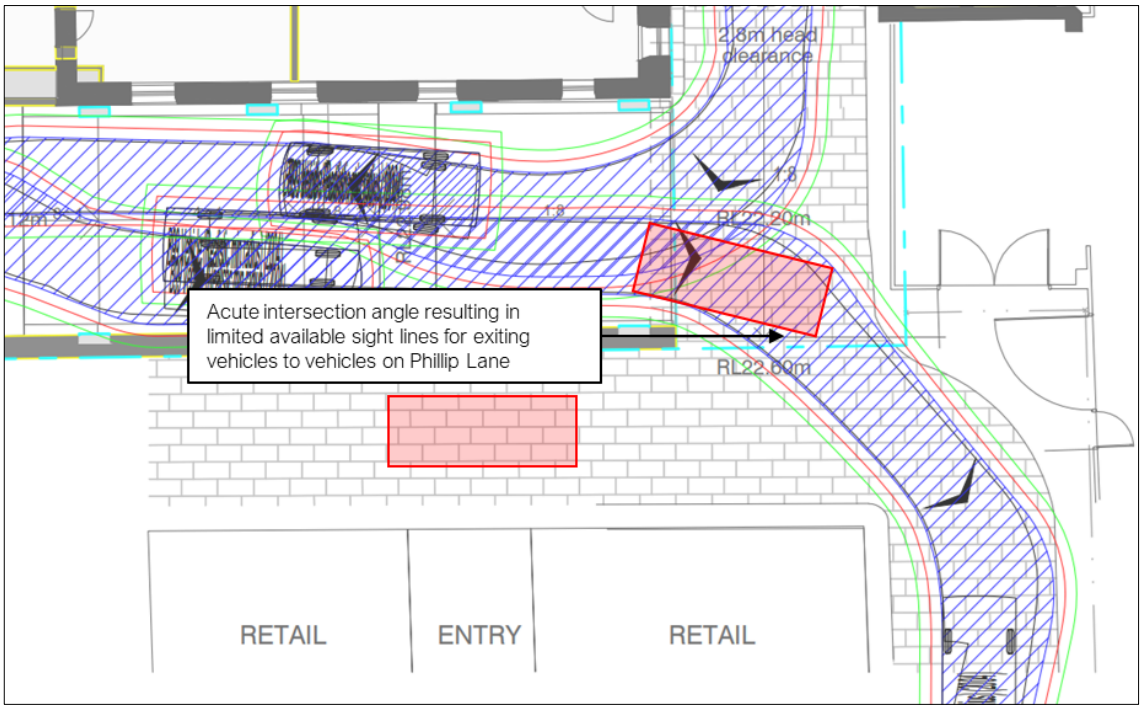
- The car parking requirements as per the maximum rates in the Sydney LEP 2012 are outlined in Table 6 of the TIA (Arup, 2020).
- Development proposes a total of 23 car parking spaces which will all be allocated to the residential apartments and meets the Sydney LEP 2012 requirements.
- Development also proposes to meet the bicycle parking requirements as per the Sydney DCP 2012 rates. No details are provided on how the bicycle parking will be set out and spatially whether the area highlighted can appropriately cater to this and the Australian Standards requirements.
- Development proposes a total of three service vehicle spaces for vehicles up to 6.4m small rigid vehicles.
- The TIA states that there is expected to be on average 15 trucks per day using the dock and up to three trucks at any one time related to both the residential and hotel uses, however no details have been provided on how this demand was calculated. It would typically be expected that loading demand would be properly assessed with demand by land use and time of day to ensure dock management practices and dock capacity to practically accommodate the demand. The demand estimate is considered low and it is recommended that a detailed analysis of loading operations for the hotel and residential uses be completed to better understand whether the proposed provision is suitable, and to specify how the dock will be managed to ensure equitable use across the day and week.

Vehicle Access and Car Parking Layout Review

- The swept path assessment provided in Appendix D of the TIA (Arup, 2020) has not demonstrated that vehicles on the northern laneway would be able to pass vehicles in the porte cochere. This would likely result in congestion and interruption (at best) to through traffic in this area. Impacts to southbound traffic on Phillip Street is also a risk in this regard.

- The swept paths indicate structure would be within the minimum service vehicle clearances when manoeuvring in and out of the loading bays and on the turntable. Improved swept paths, separated by movements (not all on the one plan) should be provided to ensure access and manoeuvring is appropriate and able to meet relevant Australian Standards, including nece3ssary clearances on the turntable.
- The swept paths for 99th percentile vehicles entering the car stacker lift indicates structure within the minimum clearances. The ability for two cars to pass on the access driveway has also not been demonstrated with swept paths overlapping, vehicles having to drive on the incorrect side of the driveway, and non-compliant sightlines all matters that should be better addressed (see Figure 2 below). A 99th percentile car passing an 85th percentile car should be demonstrated, with appropriate clearances. If not achievable, then management measures to ensure appropriate and safe use is necessary.
- Queuing of vehicles should not occur on a ramp steeper than 1:20 as per the requirements of AS/NZS2890.1:2004. The current ramp design does not meet these requirements nor does the assessment consider measures to manage such access requirements. It is recommended that management measures be detailed to ensure passing of vehicles and queuing arrangements to confirm practical use when two cars do need to pass in this area (without the need for reversing and/ or conflict).
- The car stacker access ramp has no setbacks from the adjacent Phillip Lane. Cars exiting the car stacker will have very constrained (almost no) sightlines to vehicles travelling north along Phillip Lane, as shown in Figure 2. No discussion has been made as to such details and/ or management measures to deal with such safety issues. As a guide, Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections recommends vehicles approach an intersection at an angle no less than 70 degrees to ensure a safe and convenient observation angle is maintained. It is recommended that this detail be assessed accordingly.

Figure 2: Sight line issue for vehicles exiting from car stacker onto Phillip Lane



Base image source: Arup

- The vehicle swept paths are generally poor and should be re-run to ensure the design and access requirements for all vehicles are practical and manageable. The minibus swept path in particular shows that passing of this vehicle in the northern laneway would not be possible. That said, it is not demonstrated that this can or cannot occur.

Traffic Impact

- Section 2.9 of the TIA (Arup, 2020) estimates the existing traffic generation of the site using standard traffic generation rates based on commercial floor area. This results in an estimate of 20-27 vehicle trips during any peak hour, noting that the existing site only accommodates 10-15 car parking spaces. This suggests that each existing commercial car parking space turns over two to three times per hour which is not considered realistic given the existing uses.
- Considering the traffic generation rates for commercial buildings in the *Guide to Traffic Generating Developments Updated Surveys Technical Direction* (TDT 2013/04a), a rate of 0.47 and 0.27 vehicle trips per car parking space in the AM and PM peak hours is considered more appropriate for estimating the traffic generation of the existing commercial uses. This would result in a lesser estimate of between four and seven vehicle trips in any peak hour and therefore the proposed development would result in a greater net change in traffic generation that what has been reported. It is recommended that this detail be addressed.
- Section 5.1.1 of the TIA (Arup, 2020) includes an empirical assessment of the trip generation rates for pick-up and drop-off activities based on that for other hotels. The reference hotels include Meriton Hotels in North Sydney and Wolli Creek. The TIA states that the 204-room hotel in North Sydney generated 18 vehicle trips in the AM peak hour while the 271-room hotel in Wolli Creek generated 21 vehicle trips in the PM peak hour. This results in a rate of 0.088 and 0.077 vehicle trips per hour in the AM and PM peak hours respectively. Overall though, the TIA adopts lower rates of 0.064 and 0.059 vehicle trips in the respective peak hours.
- Notwithstanding the inconsistency between the adopted traffic generation rates with the surveyed hotel data, these rates are considered low and are obviously sites outside the Sydney CBD and unlikely to be accurate for comparative purposes (North Sydney maybe, Wolli Creek certainly not). GTA has previously completed surveys of similar CBD hotels which found an average trip generation rate of 0.17 movements and 0.15 vehicle trips per room in the AM and PM peak hours respectively, with taxis/ Uber representing around 65 per cent of all vehicle trips. The transport assessments completed for the approved developments at 115 Bathurst Street, Sydney and 136 Hay Street, Haymarket adopted a traffic generation rate of 0.1 vehicle trips per room.
- In this regard, adopting the more realistic rate of 0.1 vehicle trips per room during the peak hours would result in traffic generation of around 30 vehicle trips per hour (15 vehicles in, 15 vehicles out) for the hotel. A detailed assessment of the porte cochere area is recommended to address the limited capacity (two cars) and demand for through vehicles on the northern laneway. The likelihood of more than two queued vehicles should be assessed to understand the chance for any such blocking of through traffic and hence impacts to Phillip Street.
- The architectural plans show function rooms on Level 3. No assessment has been made of the traffic impact of a function being held on site. Functions typically result in a more intense period of traffic generation before and after the event. As such, there may be potential for demand to exceed the capacity of the porte cochere capacity for these events. This in turn would impact traffic flow on the northern laneway and may also impact traffic flow on Phillip Street.
- No queuing assessment has been completed for the car stacker system to determine the number of waiting bays required for entering vehicles. While traffic generation related to the residential apartments is expected to be low, it is noted that there are five levels of stacked parking and therefore there the

potential wait time for the stacker to process a car travelling to/ from the bottom car parking level would likely be significant (total vertical travel distance of around 11.75 metres). An assessment should be completed to confirm no impact to traffic flow along the northern laneway.

Conclusions and Recommendations

Based on the above, it is recommended that the TIA (Arup, 2020) be updated to consider the following:

- Further analysis should be provided to confirm if the proposed provision of three loading bays is suitable for meeting the servicing demand of both the hotel and residential apartments.
- The swept paths should be updated to confirm the following:
  - Vehicles on the northern laneway can pass any vehicles parked within the porte cochere.
  - Access to each loading bay can be achieved without structure compromising the necessary vehicle clearances.
  - Exiting vehicles from the car stacker can pass any queued inbound vehicles waiting to enter the car stacker.
  - General access and circulation given poor details and presentation of the swept paths.
- The current design of the ramp does not provide an adequate length for a vehicle to queue at an appropriate grade in the event that the car stacker is in use when a vehicle arrives to enter.
- The current location of the ramp with respect to its setback from Phillip Lane results in restricted sight lines for vehicles exiting the car stacker and vehicles on Phillip Lane. No management measures, or practical solutions have been presented.
- The traffic generation estimates for the existing uses on the site are considered high and therefore the net change in traffic generation associated with the proposed development have likely been underestimated.
- The traffic generation rates for the hotel component of the development are based on rates from hotels outside of Sydney CBD and are considered low. These should be reassessed to ensure comparable site assessment is able to be made.
- While it is anticipated that the proposed porte cochere capacity may be suitable for day-to-day activity, no assessment has been made for special events that will be held in the function rooms. Any potential queuing from the porte cochere before and after these events may impact traffic flow along the northern laneway and Phillip Street. No recognition of this has been made, nor management measures to alleviate any such constraints during such peak arrival and departure periods.
- Although residential traffic generation is likely to be minor, a queuing assessment should still be provided for the car stacker noting that wait times will likely be significant for inbound vehicles in the event that the stacker is already processing a car travelling between the entry level and the bottom level of the car park or vice versa. The total vertical travel distance is around 11.75 metres and this should be defined to confirm delay generally.

I trust the above provides the necessary information. Should you have any questions or require any further information, please do not hesitate to contact me on (02) 8448 1800.

Yours sincerely

GTA, NOW STANTEC

Rhys Hazell
Director