

11 April 2025

P2468 PP 4 Fleet St Salamander Bay TIA

Wanda Beach Estate Pty Ltd
C/- Perception Planning

Attn: Erin Daniel

Dear Erin

Re: Traffic Impact Statement for the development of a Multi-dwelling housing development, 4 Fleet Street, Salamander Bay, NSW.

We have now completed our study work for the above project, undertaken site work and collected traffic data. The traffic impact assessment in Table 1 has been completed in accordance with the Austroads Guidelines and the Guide to Traffic Generating Developments, which provides the structure for the reporting of key issues to be addressed when determining the impacts of traffic associated with a development. This guide indicates that the use of this format and checklist ensures that the most significant matters are considered by the relevant road authority. RTA and RMS are now Transport for New South Wales (TfNSW) however documents have not been relabelled.

The report also takes into consideration the planning requirements outlined in the Port Stephens Council Development Control Plan.

The subject site is located on Fleet Street, Salamander Bay as shown below in Figure 1.

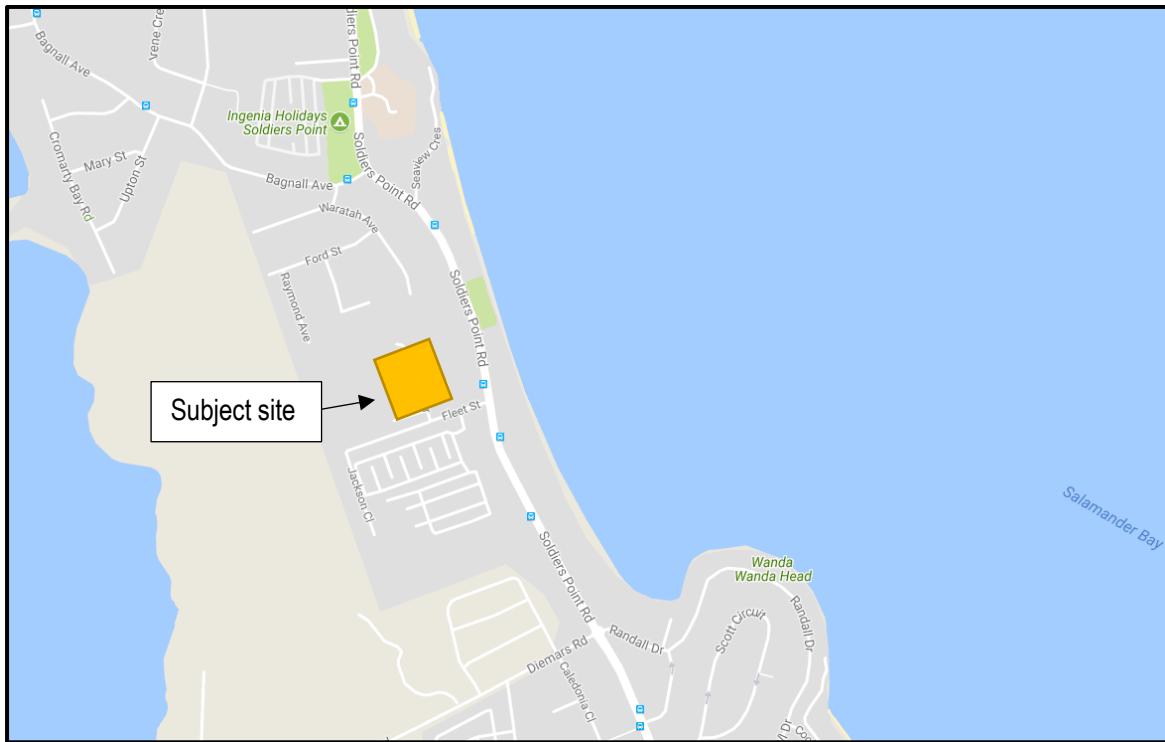
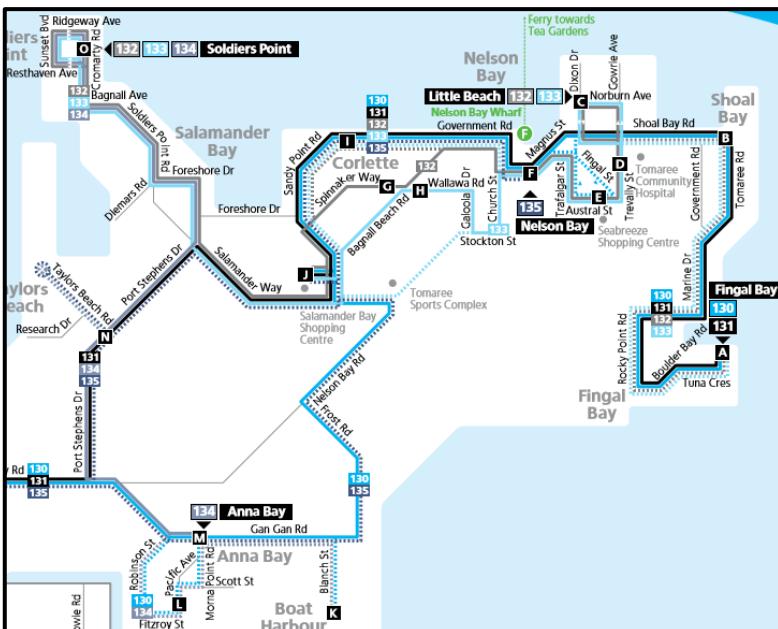


Figure 1 – Site location

Table 1 – Traffic Impact Assessment

Item	Comment
2.1.1 Site Location and Access	The subject site is located in Salamander Bay with Fleet Street providing the road frontage along the southern boundary of the site. The site has access off Fleet Street only, via a two-way driveway allowing all turning movements into and out of the site. The site is surrounded by a mix of residential and tourist (Port Stephens Tourist Park) uses with a nature reserve to the west and Salamander Bay to the east.
2.2.1 Road Hierarchy	<p>The main road through the locality is Soldiers Point Road which is a local road providing the main route of travel between Salamander Bay and Soldiers Point. It provides one lane of travel in each direction with wide shoulders allowing for vehicles to safely pull over on the side of the road to park. There is street lighting provided on the eastern side of the road along the majority of its length. The posted speed limit in the vicinity of the intersection with Fleet Street is 50km/hr.</p> <p>The subject site is located off Fleet Street which connects with Soldiers Point Road at a stop sign controlled T-intersection, with Soldiers Point Road the priority road. Fleet Street operates under the speed limit of 50km/hr, providing a single lane of travel in both directions with kerb side parking permitted along the majority of its length. It has an overall width of 7.0 metres between kerbs and there are no footpaths along its length. The subject site connects with Fleet Street via a simple driveway crossing, which allows for two-way traffic movements. Opposite the site, 60 metres to the east, is the driveway access to the Gateway lifestyle retirement community.</p>
2.2.2 Roadworks, Traffic Management and Bikeways	<p>None noted in the vicinity of site. It is understood that there are no road works in the general locality except for Council maintenance work as required.</p> <p>In 2016 upgrades were implemented to improve safety along Soldiers Point Road to the south of Diemars Road (near Salamander Village shops), under the Federal Governments Black Spot Program. This involved the upgrade of an existing pedestrian crossing, installation of traffic calming measures and intersection upgrades, as well as the lowering of the speed limit from 50km/hr to 40km/hr in this location.</p>
2.2.4 Pedestrian and Cycling Facilities	A pedestrian path is provided on the western side of Soldiers Point Road, with no footpaths provided along Fleet Street. Cyclists can cycle on road on the local streets.
2.3 Traffic Flows	<p>2.3.1 Daily Traffic Flows</p> <p>A traffic survey was conducted by Seca Solution, on the 7th September 2022 from 7.30AM-9.15AM. Traffic flows were collected at the intersection of Fleet Street and Soldiers Point Road, with the peak hour determined as 8.15AM-8.15AM. The survey data is Attachment D.</p> <p>Traffic flows on Soldiers Point Road south of Fleet Street were 570 vehicles per hour two way with 68 vehicle movements along Fleet Street (26 outbound/42 inbound).</p> <p>TfNSW provides guidance on peak hour flows typically representing 8-12% of the daily flows (average 10%). This would indicate that the daily two-way traffic movement on Soldiers Point Road, passing Fleet Street are in the order of 5,700 vehicles per day, whilst on Fleet Street traffic flows are much lower at 680 vehicles per day two-way.</p> <p>2.3.2 Daily Traffic Flow Distribution</p> <p>Traffic movements were reasonably balanced in both directions along Soldiers Point Road, with 48% northbound and 52% southbound.</p>

Item	Comment
2.3.3 Vehicle Speeds	No speed surveys were completed as part of the study work. However traffic appears to travel at the posted speed limit with no speeding noted.
2.3.4 Existing Site Flows	<p>During the site work there were construction works underway on the subject site, with construction fencing installed to prevent public access. As such, existing site flows currently relate to construction workers only.</p> <p>The site was previously occupied by Colonial Ridge Retreat which provided tourist accommodation with approximately 42 villas on site and a restaurant and conference centre. This approved use would have generated traffic in the order of 21 trips in the peak period and potentially 210 trips daily.</p>
2.3.5 Heavy Vehicle Flows	<p>Minimal heavy vehicle movements were recorded in the locality during the traffic survey, with 21 observed, equating 3.5% of the total traffic flows. Many of these movements related to buses and some construction vehicles travelling along Soldiers Point Road.</p> <p>There were two heavy vehicles recorded on Fleet Street during the survey with one a garbage contractor to the site opposite and the others related to construction on the subject site.</p>
2.3.6 Current Road Network Operation	In addition to recent site work, observations have also been undertaken during the afternoon peak in 2016. During both morning and afternoon peak periods the intersection of Fleet Street and Soldiers Point Road worked well, with minimal delays for vehicles holding at the stop sign on Fleet Street. There were regular gaps in the traffic flow along Soldiers Point Road allowing for vehicles to safely undertake all turning movements at this intersection.
2.4 Traffic Safety and Accident History	<p>A review of the TfNSW Centre for Road Safety Crash Data shows no accidents on Fleet Street or on Soldiers Point Road in the vicinity of Fleet Street in the 5 years 2017-2021.</p> <p>This reflects the suitable alignment of the intersection and of both roads which offer a reasonably straight alignment and good visibility on the approaches to this intersection. It is considered that road safety is acceptable in this location.</p>
2.5 Parking Supply and Demand	
2.5.1 On-street Parking Provision	Parking is permitted along both sides of Fleet Street and Soldiers Point Road in the general vicinity of the subject site, with the usual restrictions at driveways and intersections.
2.5.2 Off-street Parking Provision	There is an off-street parking area on Soldiers Point Road (George Park) to the north of Fleet Street. Carparking has historically been provided on site related to the previous site usage.
2.5.3 Parking Demand and Utilisation	During the site work it was noted that the kerb side parking along both sides of Soldiers Point Road was not heavily utilised, with residential parking generally contained on site for each lot. Along Fleet Street there was no demand for parking noted during the survey.
2.5.4 Set down or pick up areas	There are no designated set down areas in the immediate locality of the subject site.

2.6 Public Transport	
2.6.1 Rail Station Locations	There are no rail stations servicing the area, with nearest station located at Waratah, approximately 38 kilometres south of the subject site.
2.6.2 Bus Stops and Associated Facilities	There are bus stops located on both sides of Soldiers Point Road to the south of Fleet Street, with no seating or shelter provided.
2.6.3 Rail and Bus Service Frequencies	Bus services in the local area are provided by Port Stephens Coaches. There are three services that travel along Soldiers Point Road, being Routes 132, 133, 134 which are shown in Figure 2 below. School services also run in this location.
 <p>Figure 2 – Bus Services in the locality of the subject site (Source: Port Stephens Coaches)</p> <ul style="list-style-type: none"> • Bus service 132 operates between Soldiers Point and Little Beach, with extended operation to Fingal Bay on weekends. This route runs at minimal intervals throughout the day. • Bus service 133 operates between Soldiers Point and Little Beach at regular intervals from Monday-Friday, with limited services on weekends and public holidays • Bus service 134 operates between Soldiers Point and Anna Bay at regular intervals from Monday-Friday, with limited services on weekends and public holidays 	
2.7 Other Proposed Developments	A review of the Port Stephens Council DA Tracker shows that there are no significant developments within the vicinity of the site.
<h3>3.1 The Development</h3> <p>The proposed provides for the demolition of 6 existing dwellings, the refurbishment of others and the construction of new multi-dwelling housing and community title subdivision (including part change of use element), including:</p> <ul style="list-style-type: none"> - Construction of 30 new townhouses (mix of two and three storeys and three storey with basement) with 2 and 3 bedroom and single and double garages: <ul style="list-style-type: none"> 28 x 3 bed with double garages 2 x 2 bed with double garages 	

	<p>Conversion of all existing units (36) to dwellings. 25 do not require any development works.</p> <p>11 require minor alterations including interior renovations and addition of awning and deck to each.</p> <p>Construction of additional garage/storage buildings (for use by caravans etc).</p> <p>Construction of a new internal road (Angel Close) to connect to the existing internal road network.</p>
3.1.1 <i>Nature of Development</i>	The site has an approved use for tourist accommodation however will be redeveloped to provide a multi-dwelling housing and community title subdivision (including part change of use element),
3.1.2 <i>Access and Circulation Requirements</i>	To be designed in accordance with AS2890 or Councils requirements, including that all vehicles be able to enter and exit the site in a forward direction.
3.2 Access	Access to the site is via the existing driveway off Fleet Street. This driveway allows for two-way traffic movements and provides an overall width of 17 metres including flaring with a subsequent 8 metre internal roadway at the site entry.
3.2.1 <i>Driveway Location</i>	The driveway on Fleet Street is to remain as per the existing situation, which is located 115 metres to the west of the intersection with Soldiers Point Road.
3.2.2 <i>Sight Distances</i>	<p>For the posted speed limit of 50 km/h on Fleet Street, AS2890 states that the minimum sight distance requirement is 45 metres with 69 metres desirable. Fleet Street is a straight section of road, with good horizontal and vertical alignment, allowing for excellent visibility along its length. The sight distance for the existing site access has been checked on site, with 115 metres available to the east and 110 metres to the west, therefore satisfying requirements in both directions.</p> <p>A review of the accident data shows there have been no accidents recorded on this length of road over the last 5 years, indicating the current access works in a safe manner.</p>
3.2.3 <i>Service Vehicle Access</i>	<p>Servicing will be primarily associated with waste management. Waste collection will be completed internal to the site via a standard Council waste collection vehicle in a manner consistent with the past waste collection.</p> <p>Other deliveries to the site would typically be by van or similar. Such vehicles can use parking within the site or stand adjacent to individual dwellings using internal streets within the site.</p>
3.2.4 <i>Queuing at entrance to site</i>	Traffic demands associated with this residential development are not high and given the low flows on Fleet Street there is no queuing anticipated for vehicles entering the site.
3.2.5 <i>Comparison with existing site access</i>	There will be no change to the existing site access and its operation on Fleet Street, with this being a two-way driveway allowing for all turning movements in and out of the subject site.
3.2.6 <i>Access to Public Transport</i>	The site is well located with regard to access to public transport, being located within 200 metres of the bus stops to the east of the site on Soldiers Point Road. There are currently no pedestrian footpaths along Fleet Street that connect to Soldiers Point Road.

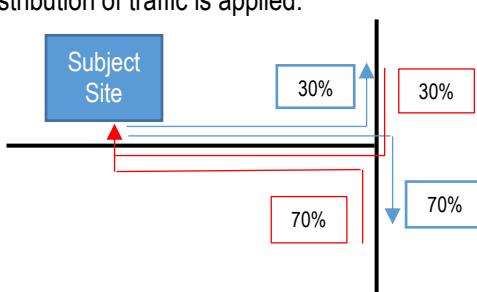
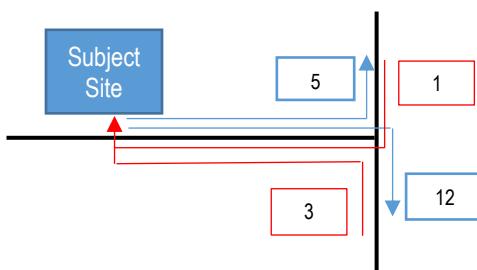
3.3 Circulation	
3.3.1 <i>Pattern of circulation</i>	All vehicles will be able to enter and exit the site in a forward direction. The internal roadways allow for two-way movements through the site, providing access to all buildings and facilities, as well as parking bays.
3.3.2 <i>Road width</i>	There is no change proposed to the existing internal roads within the site. A new internal road (Angel Close) shall provide access to the new townhouses.
3.3.3 <i>Internal Bus Movements</i>	No internal bus movements associated with the site.
3.3.4 <i>Service Area Layout</i>	No dedicated service area required. There is a bin storage area on Angel Close to allow waste collection within the site.
3.4 Parking	
3.4.1 <i>Proposed Supply</i>	<p>Parking is to be provided in a series of garages with the 30 new townhouses having a double garage each. The 11 renovated cabins will either have attached or be allocated a double garage each.</p> <p>Garages/ storage buildings for both vehicles and for caravan/boat storage is proposed to provide secure parking near the front of the site replacing the existing at grade parking in this location.</p> <p>Visitor parking shall be provided across the site with 36 spaces available. Of these 16 are proposed in conjunction with individual dwellings.</p> <p>The balance of 20 spaces shall be shared across the rest of the site (54 dwellings/3 spaces per dwelling).</p> <p>14 of these are in at grade spaces distributed through the site whilst six are in the garages/carports to the front of the site which shall be managed on site for visitor access.</p>
3.4.2 <i>Authority Parking</i>	<p>The Port Stephens Development Control Plan provides the following guidance on parking:</p> <p>Multi-dwelling housing:</p> <p>1 car space for one and two bedroom dwellings 2 car spaces for three > bedroom dwellings 1 visitor space for every three dwellings</p>
3.4.3 <i>Parking Layout</i>	<p>The parking layout on site is to be provided in accordance with AS2890.1.</p> <ul style="list-style-type: none"> • Minimum 2.4 x 5.4 metre parking spaces, • Minimum 5.8 metre aisle widths (for both one-way and two-way movements). Where parking is on one side of an aisle only and the other side is confined by a wall or high vertical obstruction, the aisle width shall be increased by 300mm • At blind aisles, the aisle shall be extended a minimum of 1 metre beyond the last parking space <p>Additional space is required to allow for the movement of vehicles into and out of garages.</p>
3.4.4 <i>Parking Demand</i>	All new townhouses and the renovated cabins are designed with double garages which meet the parking requirements for 3 bedroom dwellings and exceed the requirements for 2 bedroom dwellings.

	<p>Of these sixteen also provide stacked parking space on their driveway to provide for visitor parking.</p> <p>The balance of the 54 dwellings have visitor parking provided with 14 spaces at grade and six provided as garaged/carport parking to the front of the site.</p>
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Table 2 – Mix of dwellings and parking requirements per DCP

	Existing Dwellings	Renovated Cabins	Future Dwellings	Parking for Existing	Parking for Development
2 bedroom	25	9	2	25	11
3 bedroom	4	2	28	8	60
TOTAL	29	11	30	33	71
Visitor Parking				10	14

3.4.5 Service Vehicle Parking	<p>There would be minimal demand for servicing for the proposed housing with the main demand being for waste collection. Occasional deliveries typically use small vehicles such as a Toyota HiAce which would be able to park in parking spaces or stand within the internal roadway adjacent to dwellings if necessary.</p>
3.4.6 Pedestrian and Bicycle Facilities	<p>Roadways within the site have low traffic flows and allow for shared use with pedestrian able to walk on street. Similarly cycling within the site can be on street as required.</p>
4.1 Traffic Generation	<p>Standard traffic generation rates provided by TfNSW have been used as a basis for determining the future traffic flows associated with the development.</p> <p>For multi-dwelling housing trip rates a peak generation rate of 0.5-0.65 vehicles per dwelling and 5-6 trips per dwelling per day is specified. Allowing for a net increase of 30 additional dwellings the additional traffic over that approved could be 16-21 trips in the peak hour and up to 192 additional trips per day (96 inbound/96 outbound).</p>
4.1.1 Daily and Seasonal Factors	<p>Limited daily and seasonal variation expected for the residential development however if these units are purchased for holiday use then weekly trips may be less than determined. Holiday demands are seasonal with peak during summer and school holidays.</p>
4.1.2 Pedestrian Movements	<p>Given the nature of the development and its location the site is expected to see a demand for pedestrian movements external to the site. There is a pedestrian path along the western side of Soldiers Point Road in the vicinity, that provides access to Salamander Bay Shopping Village to the south (750 metres) and Soldiers Point to the north, including Soldiers Point Bowling Club (850 metres). There is also a network of off road pathways as part of Stony Ridge Reserve to the west of the site with access off Fleet Street or from Soldiers Point Road. Cyclists can ride on street given the low traffic demands.</p>
4.2 Traffic Distribution and Assignments	<p>All inbound and outbound movements shall use the T-intersection of Fleet Street and Soldiers Point Road to the east of the site given Fleet Street is a no through road.</p> <p>Soldiers Point is the primary destination to the north of the site. The majority of land use in this area is residential, with some take-away and restaurant venues, including Soldiers Point Bowling Club. There is also a Baptist Church, as well</p>

	<p>as Port Stephens Sailing and Aquatic Club. Travel to the south provides access to Salamander Bay, as well as access to surrounding regions including Nelson Bay and Newcastle.</p> <p>The majority of trips for the development are expected to have an origin/destination within the local Soldiers Point and Salamander Bay areas, with additional trips to the south and east to access areas including Newcastle airport and Nelson Bay. For the purposes of this assessment, it is considered that 30% of resident trips would be to/from the north, with the remaining 70% to/from the south. This is consistent with outbound trips in the AM.</p>
4.2.1 <i>Origin / destinations assignment</i>	<p>Given the expected split of traffic for the proposed development the following distribution of traffic is applied:</p> 
4.3 Impact on Road Safety	<p>The key impact of the development will be associated with the increased traffic utilising the intersection of Fleet Street and Soldiers Point Road.</p> <p>The accident data from TfNSW (2018-2022) shows there have been no accidents recorded at this intersection, or along Fleet Street, with good visibility and road alignment in this location. The access driveway for the subject site is located on straight section of road and offers good visibility for drivers entering and exiting the site. It is considered that drivers can safely enter and exit the site in this location, as per its current operation. It is therefore considered that there will be a minimal impact upon road safety associated with the upgrade and expansion of the subject site.</p>
4.4 Impact of Generated Traffic	
4.4.1 <i>Impact on Daily Traffic Flows</i>	<p>The majority of traffic associated with the site redevelopment is expected to be outbound in the morning and inbound in the afternoon typical of residential demands. A standard 20/80 split of residential traffic inbound/outbound in the AM peak period has been assumed for these additional units:</p>  <p>Whilst the Guide to Traffic Generating Developments does not provide advice on assessing the capacity of a road based on daily traffic volumes, it does provide advice regarding acceptable hourly traffic volumes along a local street in terms of environmental capacity. For Fleet Street, the maximum environmental capacity of this road would be 300 vehicles per hour (vph). The survey data shows there are currently 68 vehicle movements along Fleet Street, combining these movements with the additional vehicles to be</p>

	<p>generated by the development (21) plus allowing for traffic associated the approved use (21 trips in the peak period) the peak flow along Fleet Street will be 110 vehicles. This is conservative as it makes no allowance for the construction traffic noted accessing the site and included in the surveys. As such, Fleet Street provides sufficient capacity to cater for the increased demands associated with the proposed expansion of the site.</p> <p>The existing two-way traffic flows along Soldiers Point Road south of Fleet Street are 570 vehicles per hour during the peak period. Allowing for the approved use traffic this would be 591vph with the additional development traffic seeing the total flows becoming 606vph. The capacity for an urban road is 900 vehicles per hour in each direction showing that Soldiers Point Road will remain well below this.</p> <p>It can be seen the overall impact upon daily traffic flows in the locality will be within the capacity of the local roads.</p>
<p><i>4.4.2 Peak Hour Impacts on Intersections</i></p>	<p>The major impact of the redevelopment of the subject site would be at the T intersection of Fleet Street and Soldiers Point Road. Allowing for the low overall traffic demands with less than 650 vph two way on Soldiers Point Road and just over 100 on Fleet Street there is no requirement for modelling of this intersection. This is confirmed by observations on site which show that this intersection works very well with minimal delays and no congestion. Regular gaps in the traffic flow along Soldiers Point Road allow for vehicles to safely undertake all turning movements at this intersection.</p> <p>It is expected that this intersection shall continue to operate at its existing level of service allowing for the proposed development and there is limited background growth along Soldiers Point Road, due to this road not providing for general through traffic movements.</p>
<p><i>4.4.3 Impact of Construction Traffic</i></p>	<p>The majority of construction work will be contained within the site so there will be minimal impact upon the external road network. There will be a requirement for construction vehicles to access the site and traffic associated with workers. The construction will be staged with access proposed as shown in Attachment D.</p> <p>This staging has been considered to manage construction traffic demands and to reduce the impact on existing residents of the site as well as those adjoining the site. A temporary construction road through 8 Fleet Street has been identified as the best mechanism to control these construction traffic impacts. This temporary solution allows for the separation of heavy vehicles and light residential demands as well as allowing for suitable grades for delivery and construction vehicles given the steep nature of the internal road network. This improves safety and reduces brake noise, improving the amenity for both site residents and those in surrounding dwellings. The upgrade of the fire trails to Category 1 ensure these are designed to provide for the movement of heavy vehicles.</p> <p>Parking associated with construction vehicles should be managed to reduce impacts on the local area. The construction activities shall be managed with a Construction Traffic Management Plan developed as part of the construction phase of the project by the contractor on site. This CTMP shall be reviewed and approved by Council prior to commencement of works on the site.</p>
<p><i>4.4.4 Other Developments</i></p>	<p>Limited opportunities for significant development in the area given it is on a peninsula with the nature reserve and waterfront also limiting development options.</p>

4.5 Public Transport	
4.5.1 Options for improving services	Limited options. The site is not a major generator / attractor for public transport. The current bus services in the vicinity of the site are adequate and allow for access to suburbs in the locality and the major centres.
4.5.2 Pedestrian Access to Bus Stops	The bus stops are within walking distance with pedestrians able to walk along the grass verge or along Fleet Street given its low traffic flows. There is a footpath along the western side of Soldiers Point Road allowing for access to the bus stop with passengers then able to cross the road to access the southbound bus service.
4.6 Recommended Works	
4.6.1 Improvements to Access and Circulation	None required, the existing access driveway for the site is to be maintained and will be able to operate in a safe manner, as per its previous use. An additional internal road will provide access to the new dwellings.
4.6.2 Improvements to External Road Network	None required as the future traffic flows associated with the development will be very low and there is sufficient capacity within the local roads to carry these additional demands.
4.6.3 Improvements to Pedestrian Facilities	None required.
4.6.4 Effect of Recommended Works on Adjacent Developments	No impact as no external works recommended.
4.6.5 Effect of Recommended Works on Public Transport Services	Nil
4.6.6 Provision of LATM Measures	None required
4.6.7 Funding	No external road upgrades required. All internal works will be funded by the developer.

Conclusion

Overall, it is concluded that the proposed upgrade and expansion of the subject site should be approved on traffic and access grounds. The additional traffic demands associated with the expansion of the site will have an acceptable impact upon the local road network. The plans for the proposed development allow for a net increase of 30 dwellings but see the removal of a restaurant and conference centre. The intersection of Soldiers Point Road and Fleet Street will continue to operate in a manner consistent with its existing level of service.

The parking demands associated with the development can be accommodated on site in accordance with the Council DCP with the new dwellings providing double garages, exceeding the DCP requirement. Additional garages and van storage is also provided on site and as such all resident parking can be contained within the site with no impact upon the existing on-street parking in the locality. Ten of the new dwellings and six of the renovated cabins can also provide for visitor parking through stacked parking on their driveways, whilst the balance of the visitor parking (20 spaces) meets the DCP requirement of 1 space per 3 dwellings through a mix of at grade (14) and garaged parking (6).

Please feel free to contact our office on (02) 4032 7979 should you have any further queries.

Yours sincerely



Sean Morgan

Senior Traffic Engineer

Attachment A – Site plan

Attachment B – Traffic Count data

Attachment C – Site Photos

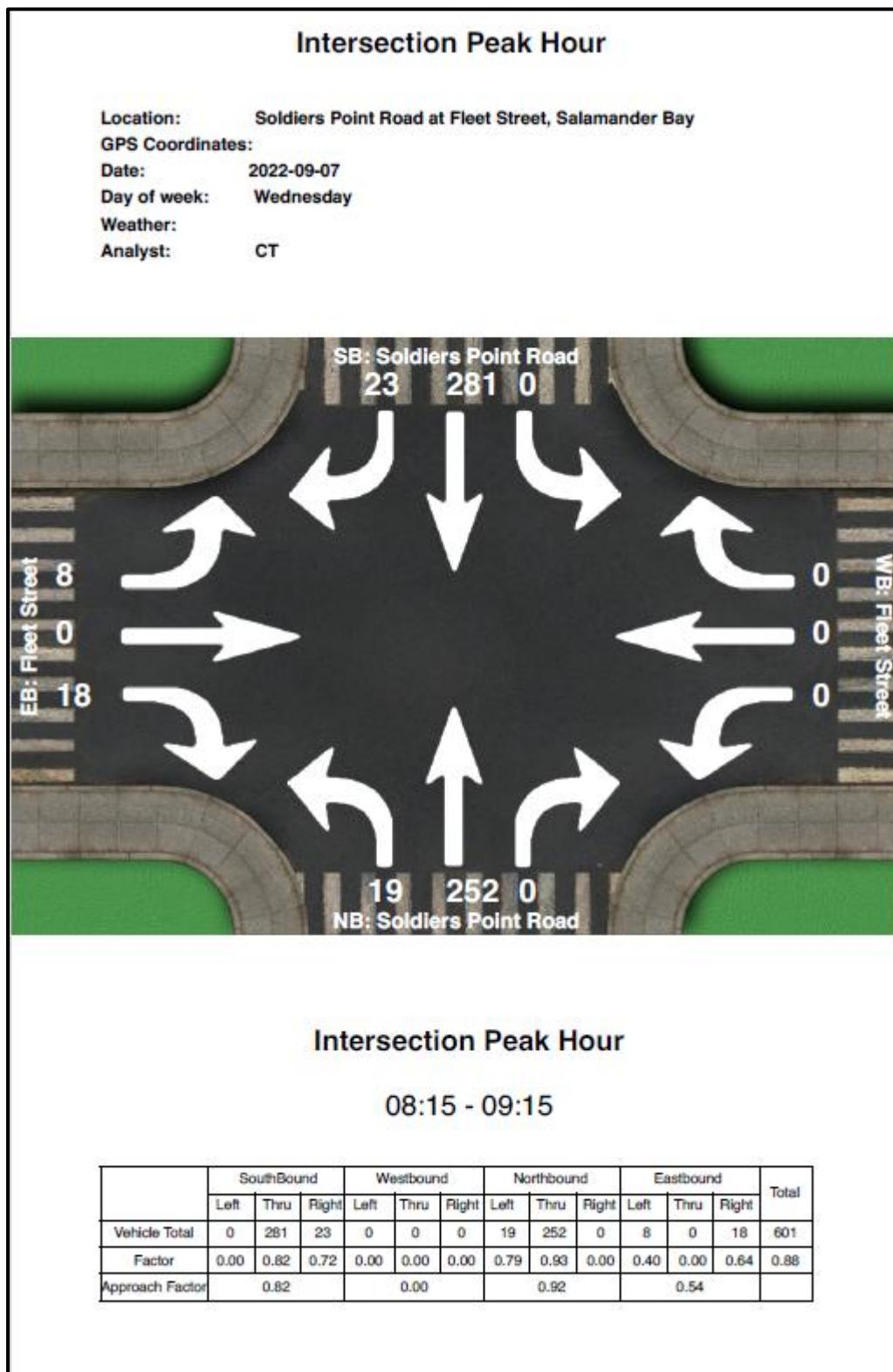
Attachment D – Proposed Construction Staging

Attachment A –Site Plan





Attachment B – Traffic Survey data



Attachment C – Site Photos



Photo 1 - Looking south along Soldiers Point Road at the Fleet Street intersection showing typical cross-section and footpaths



Photo 2 - Looking west along Fleet Street showing typical cross-section



Photo 3 - View to right for drivers exiting site access onto Fleet Street

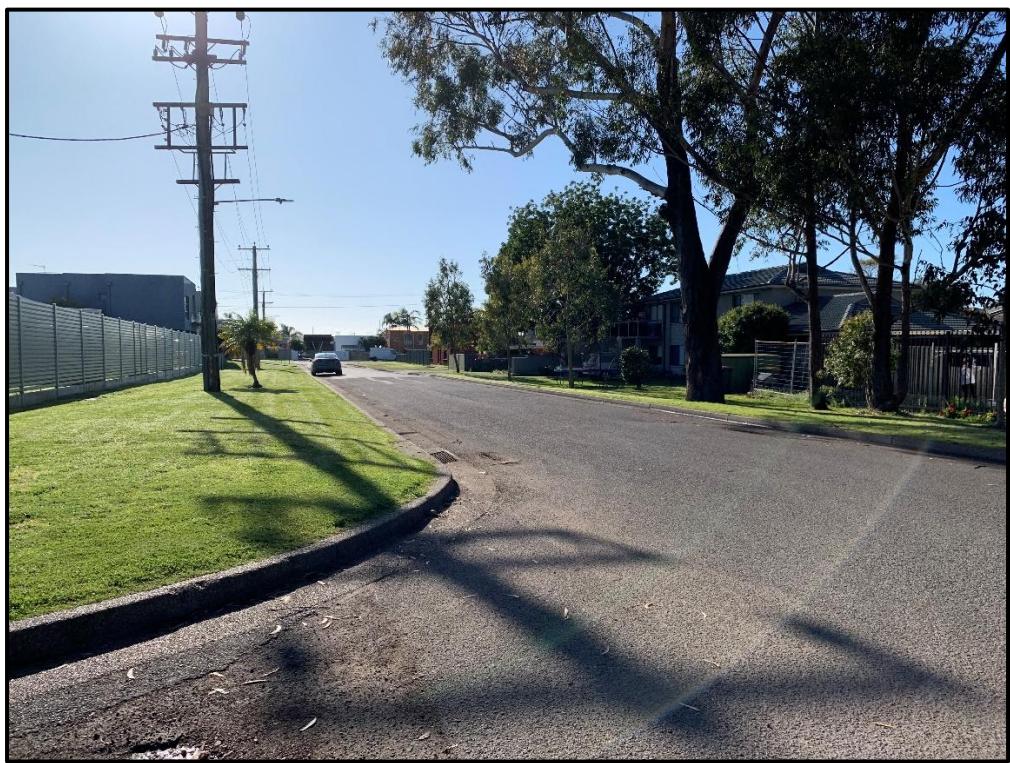


Photo 4 - View to left for drivers exiting site access onto Fleet Street

Attachment D Proposed Construction Staging

