



PROPOSED RESIDENTIAL BUILDING 99-105 HAMILTON STREET, REDLAND BAY

TRAFFIC IMPACT ASSESSMENT REPORT

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

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SALT³

PROPOSED RESIDENTIAL BUILDING 99-105 HAMILTON STREET, REDLAND BAY

Client: **Glenn Bliesner Design**

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1 INTRODUCTION

SALT has been engaged by Glenn Bliesner Design to undertake a traffic engineering assessment of a proposed residential development at 99-105 Hamilton Street, Redland Bay.

In the course of preparing this report, the following actions have been taken:

- Architectural plans have been examined;
- A desktop site review has been carried out using a combination of recent NearMap aerial imagery, Google Maps and Google Street View;
- Car parking and vehicle access design has been assessed; and
- The potential parking and traffic implications of the proposal have been assessed.

Our findings are provided as follows.

2 EXISTING CONDITIONS

2.1 LOCATION AND LAND USE

The subject site is located at 99-105 Hamilton Street, Redland Bay, just north of the intersection with Meissner Street. The subject site comprises two lots: 99-101 and 103-105 Hamilton Street, each of which is currently occupied by a freestanding dwelling.

The site is within a residential area and is in close proximity to several parks. In addition, the Redland Bay RSL is located to the south of Meissner Street, and the Redland Bay Pier and Marina are located approximately 500m to the east of the site.

Figure 1 depicts the location of the site with respect to the surrounding street network. An aerial view of the site is provided in **Figure 2**.



Figure 1 Subject site location



Figure 2 Aerial view of subject site

2.2 ROAD NETWORK

2.2.1 HAMILTON STREET

Hamilton Street is a two-way Local with an approximately 6.0m wide carriageway and is subject to the default speed limit of 50km/hr. In the vicinity of the site, the eastern side of Hamilton Street provides 4-hr on-street parallel parking at all times. Along the western side of the street, no-stopping is allowed as indicated by the continuous yellow line is painted along the kerb.

Figure 3 shows Hamilton Street looking towards the south.

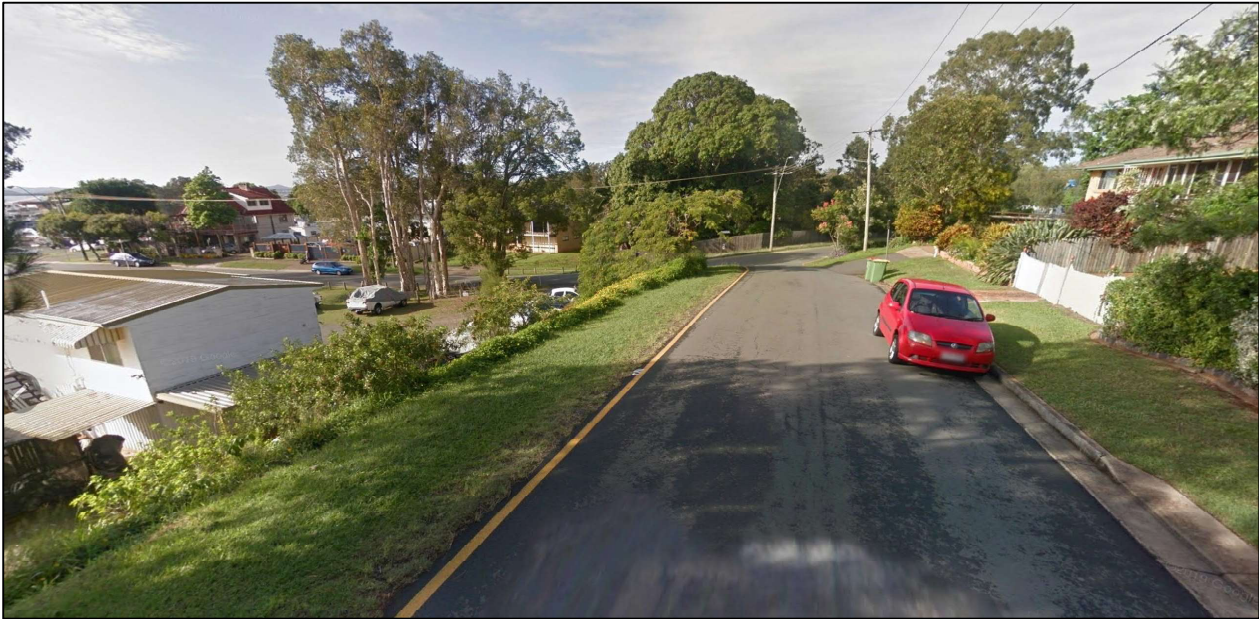


Figure 3 Hamilton Street looking towards the south

2.3 SUSTAINABLE TRANSPORT

2.3.1 WALKABILITY

Although pedestrian footpaths are not currently provided on either side of Hamilton Street, a pedestrian footpath is provided on the southern side of Meissner Street, providing a pedestrian connection to the RSL and the Redland Bay Marina.

2.3.2 BICYCLE ACCESS

An off-road shared path is provided along Meissner Street, which runs in a north-south orientation from Torquay Road to North Street. This is easily accessible from the site, located approximately 30m to the south.

2.3.3 PUBLIC TRANSPORT

The closest public transport connection is the Hamilton Street/Pitt Street bus stop located at approximately 300m (4-minute walk) to the north-west of the site and servicing the following bus routes. A total of 49 bus services pass through this bus stop on a typical day.

Table 1 Bus routes

Bus Number	Route	Bus Route Name	Operating Hours (typical)	No. Services Provided per day
250		Redland Bay – Brisbane City	7:44am – 12:04am 7 days	31
280		Redland Bay	7:58am – 8:00pm 7 days	13
281		Brisbane City	5:33pm – 7:00pm Weekdays	4
282		Victoria Pt – Logan Hyperdome	6:03pm Weekdays	1

3 PROPOSAL

The proposal involves the development of a 5-storey, 24-apartment residential building with a basement car park, providing the following:

- 5 x two-bedroom apartments;
- 9 x three-bedroom apartments;
- 10 x four-bedroom apartments (including two SDA apartments);
- 46 residential parking spaces (including three DDA spaces, and six tandem spaces) in a basement level;
- 3 visitor parking spaces (including one DDA space) on ground floor; and

Nine (9) of the parking spaces are to facilitate electric vehicle charging with infrastructure installed at the time of construction, with all spaces able to accommodate future electric vehicle charging points.

Vehicular access is proposed via a 6.43m wide crossover to the north of the site. The proposal also includes the construction of a kerb and channel and pedestrian footpath along the site frontage on Hamilton Street.

Waste collection is proposed to occur at ground level, with a bin collection area located near the vehicular access point.

4 CAR PARKING

4.1 STATUTORY REQUIREMENTS

The statutory parking requirements for various land uses within Redland City Council are specified in Table 9.3.5.3.2 of the Redland City Plan. It is noted that the site is located within a 400m walking distance of a bus stop that provides a minimum of 10 return services during normal business hours per day including Saturdays.

The applicable rates for parking for this development are outlined within **Table 2**.

Table 2 Statutory car parking requirements

Land Use		Number of Units	Parking Rate	Parking Requirement
Multiple Dwelling (within 400m walk of a bus stop)	1-bedroom units	0	1 space per unit	0
	2-bedroom units	5	1.5 spaces per unit	8*
	3 or more-bedroom units	19	2 spaces per unit	38
	Visitors	24	1 space per 10 units	3*
TOTAL				46 spaces for residents 3 spaces for visitors 49 total spaces

* Rounded up to the nearest whole number as per the Redland City Plan

In addition, as per Part A4 of the Access Code for Buildings Australia, there is no statutory requirement to provide DDA parking for a residential building of this nature. However, as two SDA apartments are proposed, the DDA parking spaces are intended to be reserved/assigned to residents of these apartments.

4.2 ADEQUACY OF CAR PARKING PROVISION

The architectural plans illustrate a provision of 3 visitor spaces located on the ground floor, and 46 residential spaces located in the basement car park. Therefore, the proposed parking provision meets the statutory parking requirements and is considered adequate and appropriate for the proposal.

5 BICYCLE PARKING

The Redland Bay City Plan specifies that on-site parking is to include dedicated spaces for bicycles, however it does not specifically set out statutory requirements for the number of bicycle parking spaces required.

As a guideline, the Brisbane City Council City Plan and the Sunshine Coast Planning Scheme both specify that for a Multiple Dwelling development: 1 resident bicycle parking space per unit is required, and 1 visitor bicycle parking space per 4 units should be provided.

Applied to the development of 24 units, this would result in a requirement for 24 resident bicycle parking spaces and 6 visitor bicycle parking spaces.

Whilst this bicycle parking requirement is relevant to different local government areas, in the absence of other statutory requirements, it provides a reasonable estimate of the bicycle parking demand generated by the development.

Therefore, SALT recommends the provision of 24 residential bicycle parking facilities in a secure location such as within the basement car park, and the provision of 6 visitor bicycle parking spaces which could be in the form of bike racks located on the ground floor.

This recommendation has been met by the provision of 24 wall mounted bike racks for residents located in the basement car park and 6 floor mounted bike racks located adjacent to the visitor entry on ground floor.

6 DESIGN CONSIDERATIONS

6.1 CAR PARKING

Table 9.3.4.3.1 of the Redland City Plan outlines a series of acceptable outcomes for the design of parking and access arrangements for a development. It specifies that on-site parking is to comply with Australian Standard 2890.1 Parking Facilities Part 1: Off-street car parking.

The development plans show the parking spaces as 2.4m wide, minimum 5.4m long and accessed from a minimum 6.2m wide aisle. This meets/exceeds the requirements of AS2890.1 for parking spaces which should be at least 2.4m wide, 5.4m long and accessed from a 5.8m wide aisle.

The DDA spaces and associated shared spaces are of the same dimensions (2.4m x 5.5m), complying with the requirements of AS2890.6 Parking Facilities Part 6; Off-street car parking for people with disabilities.

The majority of the spaces are provided with the necessary 300mm clearance for door opening as required by AS2890.1. Parking space 36 does not strictly meet this requirement, given the wall adjacent to the south. Given the residential nature of the car park, this is considered acceptable in this instance as door opening clearance is provided to the driver's side if the space is accessed in a forward motion. Thus, there is the option for the driver to let out any passengers prior to accessing the parking space, as considered acceptable in a residential car park with allocated parking.

Parking spaces at the end of aisles are to be provided with additional aisle length to facilitate access to the spaces and car door opening.

Although the levels of traffic and vehicle turnover within the car park is expected to be relatively low, it is recommended that convex mirrors should be provided at key 90-degree corners to allow drivers to view oncoming vehicles.

6.2 ACCESS ARRANGEMENTS

The access driveway from Hamilton Street is shown to be 6.43m wide, in excess of the requirements of Australian Standard AS2890.1, which specifies an access width of 3.0-5.5m for this type of residential development. The driveway will allow two-way vehicular movements, and adequate width for service and waste vehicle access.

The proposed crossover location is to the north of the site, where the existing crossover to lot 99-101 is currently located. This is at an adequate distance from the intersection with Meissner Street to the south.

The basement carpark level will have a headroom clearance of 2.3m, exceeding the requirements of Australian Standard AS2890.6 for access to/from DDA spaces.

Access to the basement car park will be restricted to resident only by a secure, fob operated roller shutter at the entry to the ramp.

6.3 RAMP GRADES AND TRANSITIONS

Access to the basement car park is proposed via a two-way ramp measuring at 6.2m wide. Ramp grade designs are in accordance with the Australian Standard 2890.1, which specifies a maximum ramp grade of 1:5 for a residential development of this nature.

The development plans show the ramp to be of a 1:5.5 gradient, with transitions of 1:8 gradient of approximately 2m length.

6.4 LOADING AND WASTE COLLECTION

Waste collection is proposed to occur within the ground floor car parking area on-site, with a bin pick up area located near the entry of Hamilton Street.

A typical council waste truck with a length of 9.9m and with rear lifting action will be expected to service the site. Given the limited manoeuvring area within the ground floor car park, the waste truck will be required to reverse into the site from Hamilton Street. This is considered acceptable in this case considering the local street nature of Hamilton Street and very low pedestrian activity that occurs. Access to the bin collection area by a rear lift waste vehicle is shown in **APPENDIX 1**.

7 TRAFFIC CONSIDERATIONS

7.1 TRAFFIC GENERATION

The Queensland Department of Transport and Main Road outlines a hierarchy of data sources for traffic generation rates. The most relevant, accessible data source for determining traffic generation of the development is the RTA Guide to Traffic Generating Developments. This outlines that for a medium density residential flat building, traffic will be generated as summarised in **Table 3**.

Table 3 Traffic generated by the development

Land Use	Daily Traffic Generation Rate	Peak Hour Traffic Generation Rate	No. Dwellings	Daily Traffic Generation	Peak Hour Traffic Generation
Smaller Units (up to two-bedrooms)	4-5 trips per dwelling	0.4-0.5 trips per dwelling	5	25	2
Larger units (three or more bedrooms)	5-6.5 trips per dwelling	0.5-0.65 trips per dwelling	19	123	12
TOTAL				148 trips	14 trips

A traffic generation of 14 trips in the peak hours corresponds to one vehicle movement approximately every 4 minutes (on average), which is considered to be low by traffic engineering standards.

The traffic generated is likely to be distributed somewhat evenly to the north and south along Hamilton Street, given the relatively central location of the site within the Redland Bay locality.

The anticipated traffic generation of the development is considered to be low and will be comfortably accommodated by the surrounding street network. Traffic volumes will not have any impact on the surrounding road network or intersections and will be indiscernible in areas away from the immediate vicinity of the site.

8 CONCLUSIONS

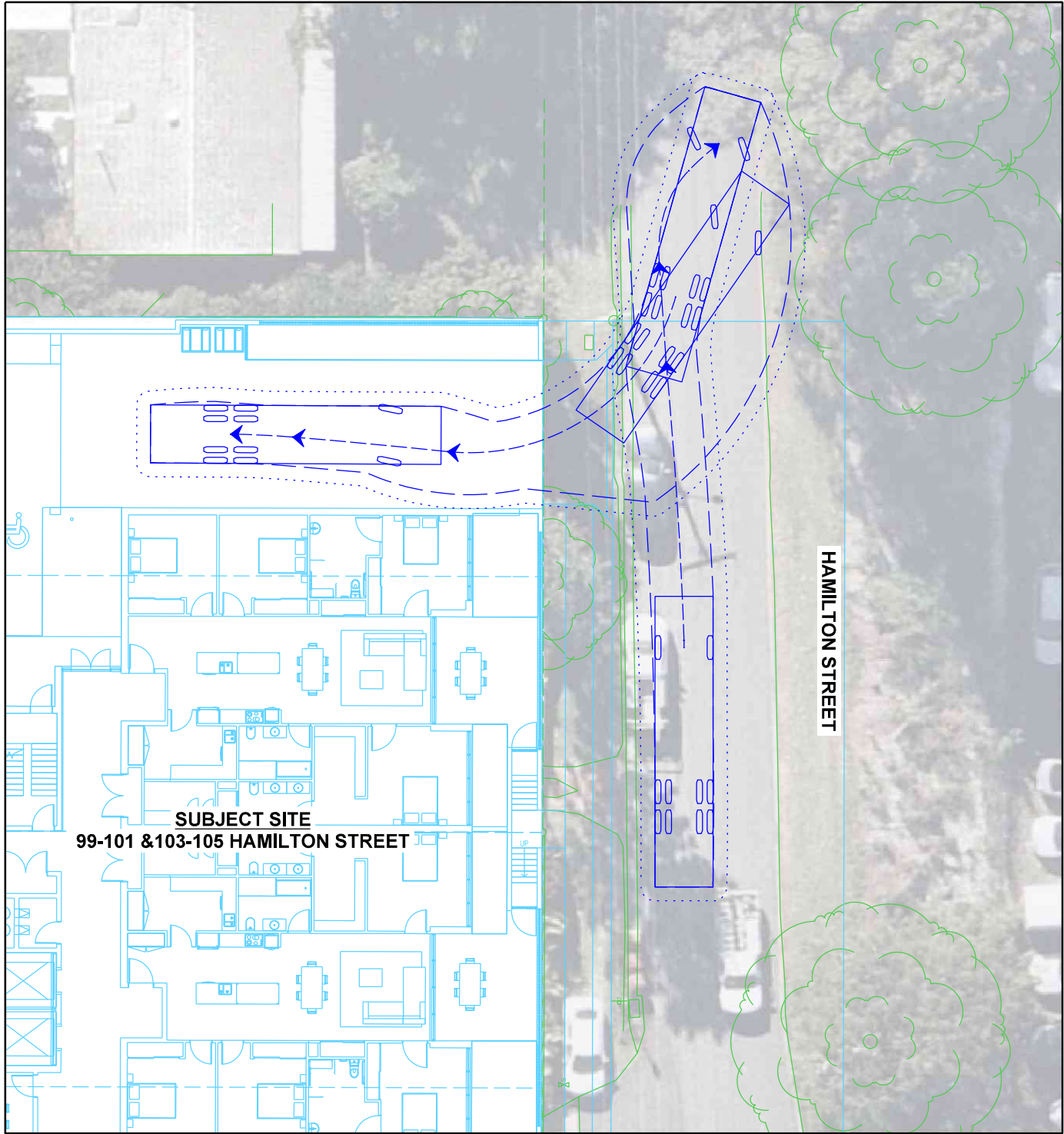
Based on the preceding analysis, it is concluded that:

- The development is proposed to provide 5 two-bedroom apartments, 9 three-bedroom apartments and 10 four-bedroom apartments, including two SDA apartments;
- The statutory car parking requirement associated with the development is for 46 spaces for residents and 3 spaces for visitors. This is met by the 46 spaces proposed in the basement for residents, and 3 spaces proposed for visitors on the ground level;
- One visitor DDA space and three resident DDA spaces are to be provided, exceeding the Redland City Plan requirements and deemed appropriate in this case considering the provision of 2 x four-bedroom SDA apartments;
- Car parking dimensions will be in accordance with the Redland City Plan and Australian Standards, which require a width of 2.4m, length of 5.4m and access aisle of 5.8m width minimum;
- Spaces at dead-end aisles are to be provided with additional aisle length, and the majority of parking spaces are to be provided with the necessary column clearances.
- Waste vehicles will be required to reverse in/out of the site given the limited turn-around space on the ground floor level. This is considered acceptable given the local nature of Hamilton Street and infrequency of waste collection truck movement;
- The anticipated traffic generation of the development is considered to be low and will comfortably accommodated by the surrounding street network. Traffic volumes will not have any impact on the surrounding road network or intersections and will be indiscernible in areas away from the immediate vicinity of the site.

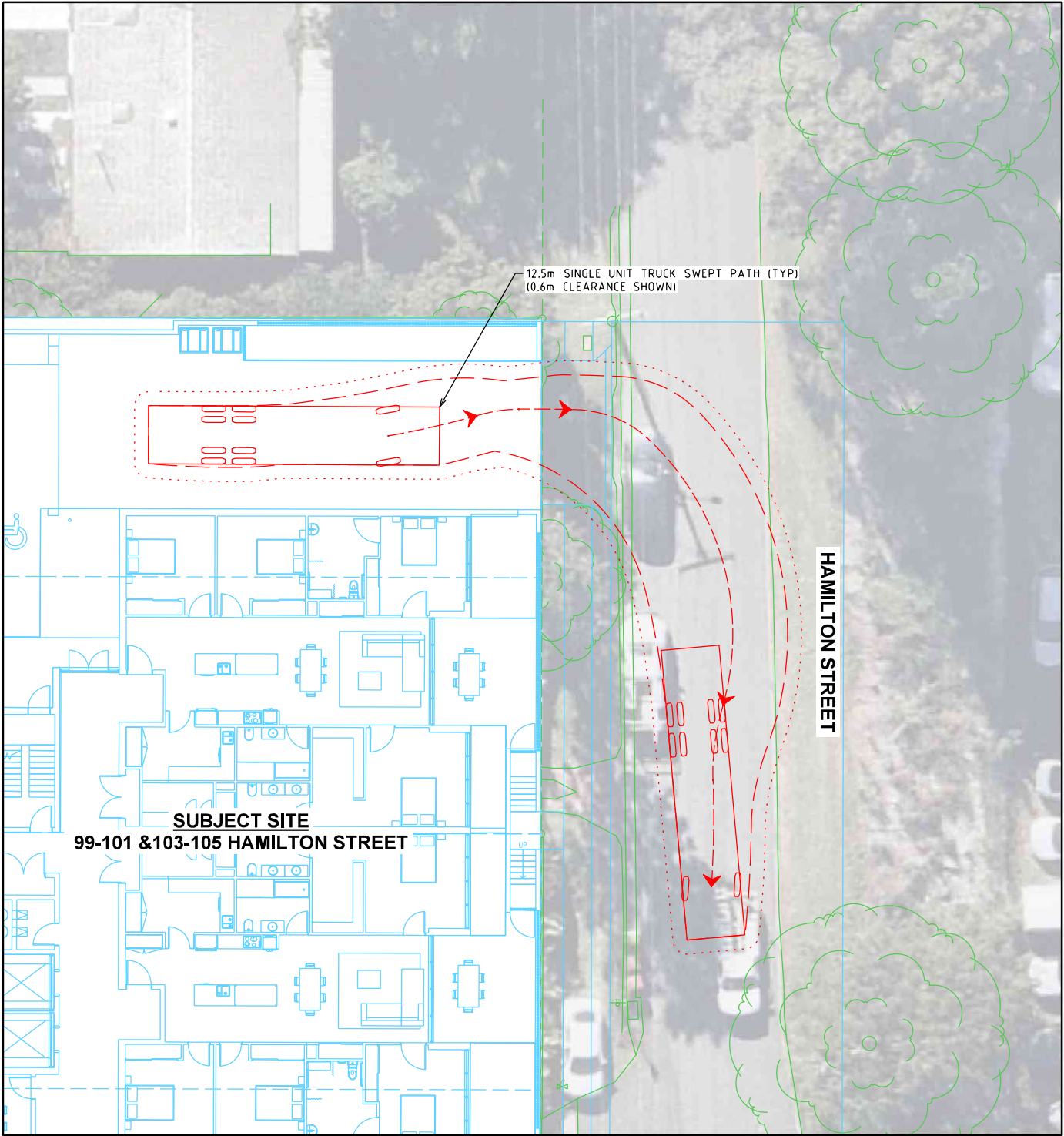
Therefore, the proposal is supported from a traffic engineering perspective.

APPENDIX 1 SWEPT PATH ANALYSIS

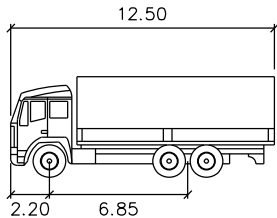
INGRESS MOVEMENTS



EGRESS MOVEMENTS



CHECKING VEHICLE



SU TRUCK

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

GLENN BLIESNER DESIGN
HAMILTON STREET RESIDENTIAL
99-101 & 103-105 HAMILTON STREET,
REDLAND BAY
GARBAGE COLLECTION SWEEP PATH



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