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"Salamander Shores" Proposed Redevelopment Scheme Salamander Bay, Port Stephens

Traffic and Parking Assessment for Part 3A Application MOD 2

Ref: 21322 (Report 1)

Date: March 2022

Issue: A

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1.0 Introduction

This report has been prepared for Bannisters Hotels to accompany a Part 3A Modification Application (MP06 – 0183 MOD 2) to the Department of Planning and Environment for the proposed redevelopment on the existing Salamander Shores Resort at Salamander Bay, Port Stephens (Figure 1).

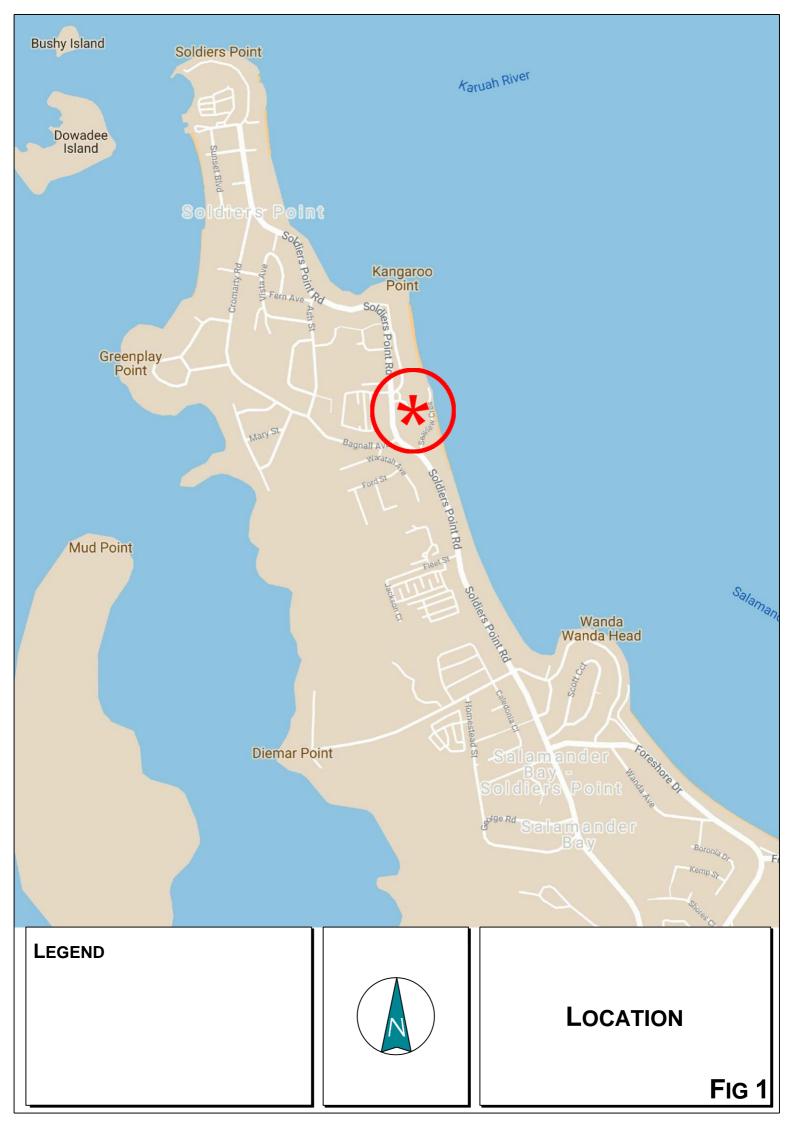
Port Stephens and its environs is a popular coastal area which has a growing population base and attracts a wide range of tourists and visitors. The 'Salamander Shores' site is located on the western foreshore of Salamander Bay, which is contained within Port Stephens inlet and the existing resort complex has operated on the site for more than 40 years.

The resort complex is aged, however its unique picturesque location has again promoted the desire to redevelop the site to provide a contemporary mixed use complex with hotel, restaurant and residential elements.

A Part 3A Concept Plan application was approved by the Department in 2011 for demolition and redevelopment of the site and although this proposal is yet to proceed other substantial works including refurbishment of the hotel and restaurant were undertaken via a separate application. The subject application seeks to amend the earlier approved Part 3A Concept Plan to encompass a revised Concept Plan for the redevelopment scheme.

The purpose of this report is to:

- describe the site, its context and the proposed redevelopment scheme
- describe the road network serving the site and the prevailing traffic conditions
- assess the vehicle access arrangements and potential traffic implications
- assess the adequacy of the proposed parking provision
- assess the proposed internal circulation and servicing arrangements



2.0 Proposed Development Scheme

2.1 Site, Context and Existing Circumstances

The site (Figure 2) is Lot 31 of DP 529002 which occupies an irregular shaped area of some 1.2 ha. The surrounding uses comprise:

- the open space areas along the shore line
- the residential dwellings to the north
- Caravan Park and Bowling Club along the western side of Soldiers Point Road
- the residential dwellings, accommodation facilities and retirement villages to the south

The existing Salamander Shores development comprises:

91 hotel rooms

Bottle Shop $49m^2$ Restaurant $330m^2$ Bistro $264m^2$ Bar/Pub (Cheeky Dog) $135m^2$ Function/Conference $311m^2$

Parking 135 spaces

2.2 Approved Concept Plan

The approved redevelopment scheme comprises:

Permanent apartments - 44

Serviced apartments - 34 (dual key)

❖ Hotel - 84 rooms

- Bar and lounge 570m² (Cheeky Dog deleted)

Conference and pre-function 665m²

- Restaurant 400m²

Café/Retail boutique 260m²

- Gym/games/recreation 430m²

A total of 275 parking spaces will be provided in basement areas with vehicle access

comprising separate ingress and egress driveways on Soldiers Point Road and a

porte-cochere ingress on the road reserve to the north of the site.

Details of the Approved Concept Plan are provided on the plans prepared by djrd

architects which are reproduced in part in Appendix A.

2.3 Proposed Modified Development

It is proposed to demolish the existing building structures and excavate part of the site

to provide basement carparking and a level building platform.

The revised proposal scheme comprises:

Hotel 90 rooms

Restaurant 500m²

Bar/Lounge (Cheeky Dog deleted)

Conference

Gym/Spa

Back of House/Store

Residential apartments 19 x one-bedroom

55 x two-bedroom

24 x three-bedroom

Total: 98 apartments

A total of 310 parking spaces will be provided in basement areas with vehicle access

comprising separate ingress and egress driveways on Soldiers Point Road and a porte-

cochere ingress on the road reserve to the north of the site.

Details of the proposed modified scheme are provided on the plans prepared by djrd

architects which accompany the Modification Application and are reproduced in part in

Appendix B.

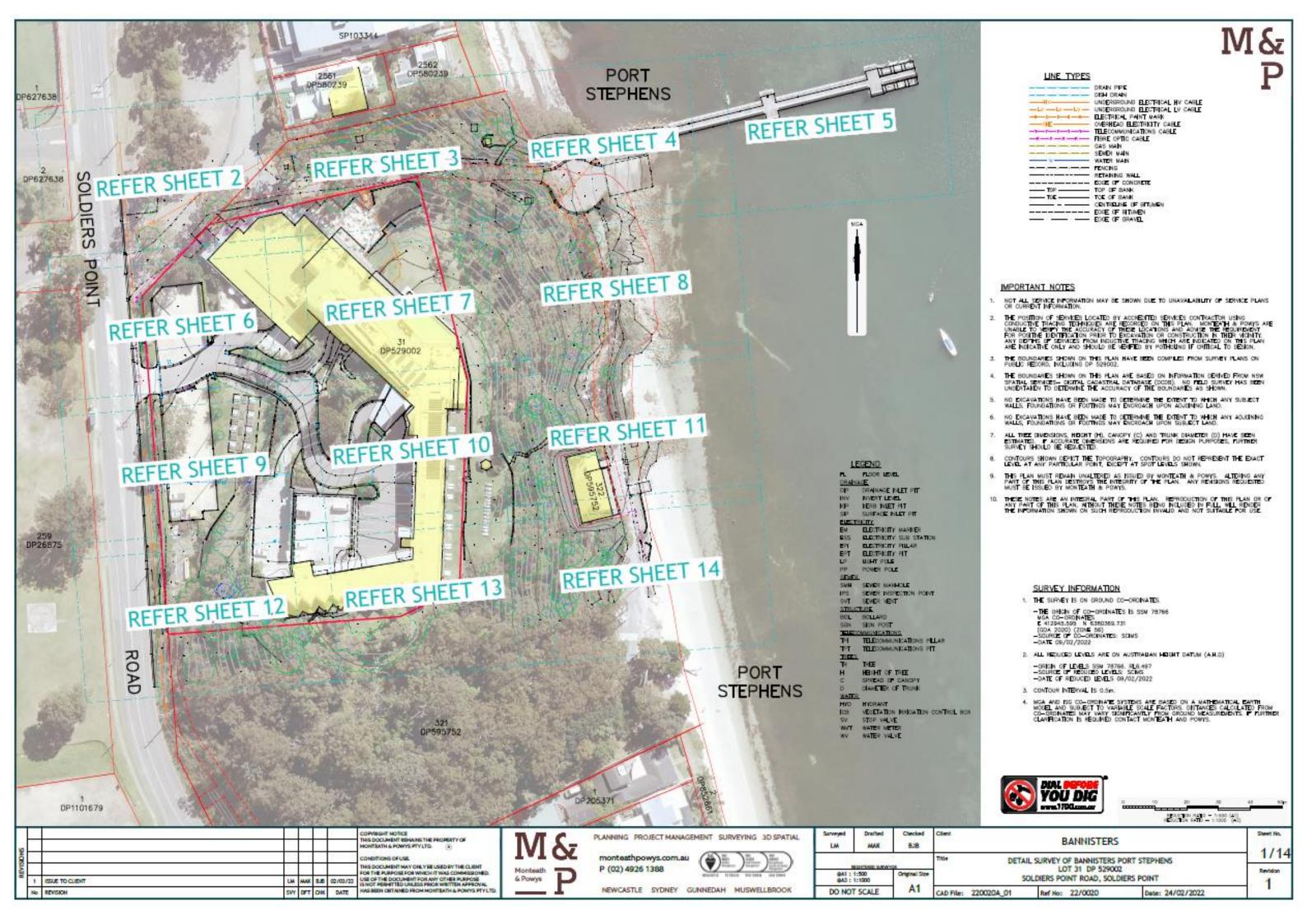


LEGEND



SITE

Fig 2



3.0 Road Network and Traffic Conditions

3.1 Road Network

The road network serving the site (Figure 3) comprises:

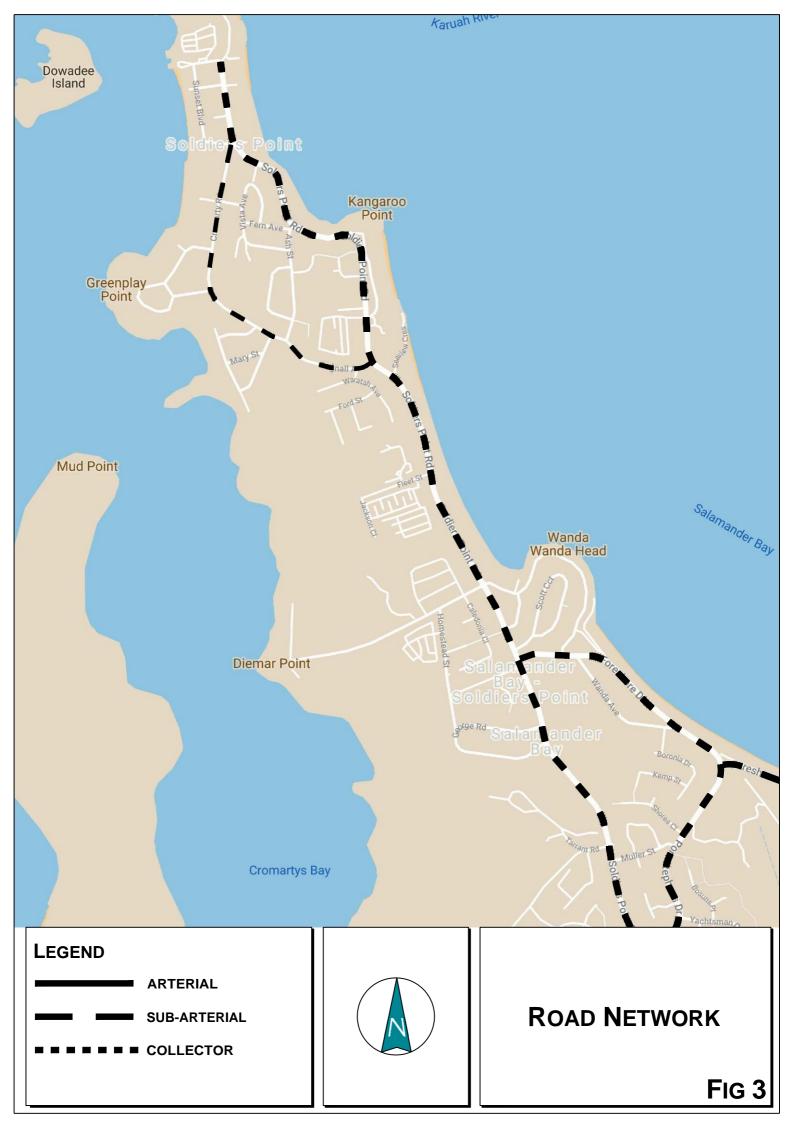
- Nelson Bay Road a State Road and sub-arterial route providing the principal connection between the southern headland of Port Stephens and the Pacific Highway
- Port Stephens Drive a collector route connecting between Salamander Bay and Nelson Bay Road
- Salamander Road a collector road route connecting between Nelson Bay Road and Soldiers Point
- ❖ Foreshore Drive-Sandy Point Road-Government Road a collector route running along the southern shore
- Bagnall Avenue-Cromarty Road a minor collector route along the western side of Soldiers Point.

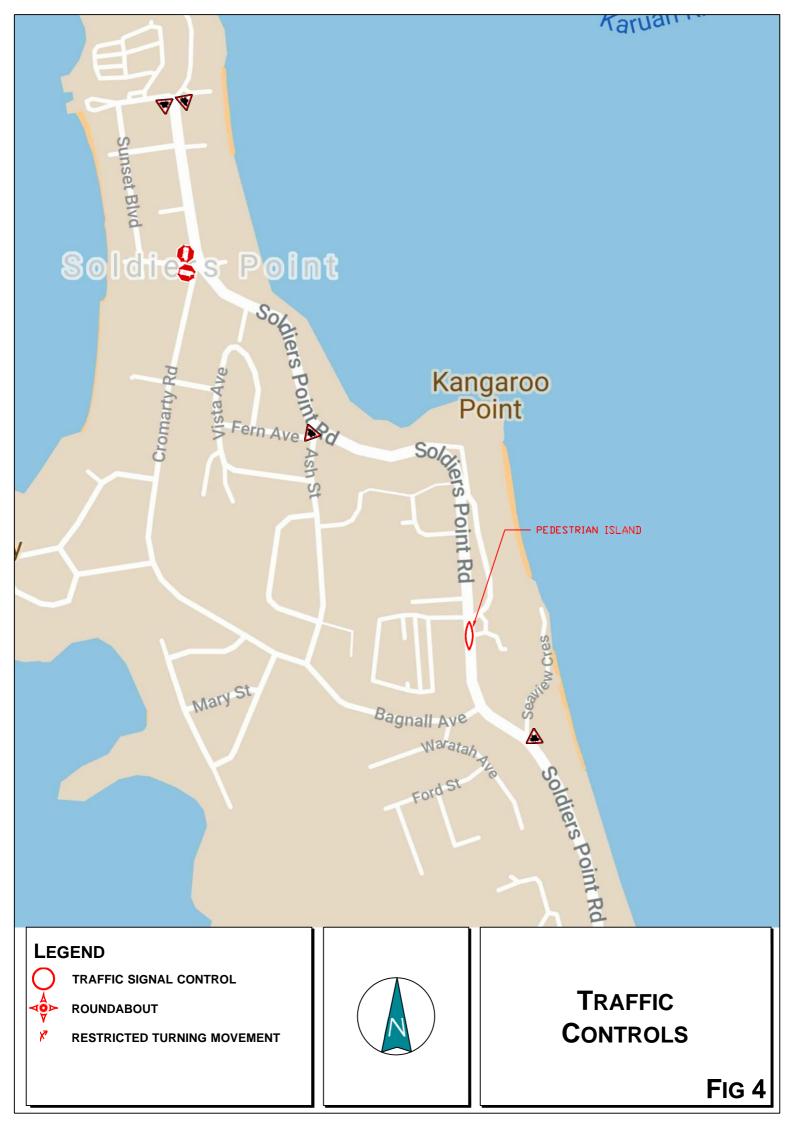
Soldiers Road in the vicinity of the site has a relatively straight and level alignment being some 12 metres wide.

3.2 Traffic Controls

The traffic controls provided on the road system serving the site (Figure 4) comprise:

- the roundabouts at the Port Stephens Road/Nelson Bay Drive and Port Stephen Road/Soldiers Point Road/Salamander Way intersections
- the roundabout at the Soldiers Point Road/Mars Road/Randall Drive intersection.
- the 50 kmph speed restriction on Soldiers Point Road
- the GIVE WAY control on the side streets intersecting with Soldiers Point Road





- the centre line-marking along Soldiers Point Road including the barrier line in the section near the Bagnall Avenue intersection
- the shared (pedestrian/bicycle) pathway running along the western side of Soldiers Point Road

3.3 Traffic Conditions

An indication of traffic conditions in the area is provided by data published by the TfNSW and surveys undertaken as part of this study. The TfNSW data is published in terms of Annual Average Daily Traffic (AADT) and the latest volumes recorded at the nearby stations are as follows:

	AADT
Nelson Bay Road east of Gan Gan Road	12,511

Traffic surveys have been undertaken in the vicinity of the site in November 2021 during the Friday morning and afternoon peak periods. Details of the recorded movement volumes are provided in Appendix C and summarised in the following:

		AM	PM
Soldiers Point Road	Northbound	164	312
	Left-turn	129	126
	Southbound	184	176
	Right-turn	6	2
Bagnall Avenue	Right-turn	185	87
	Left-turn	11	13

Soldiers Point Road	Northbound	287	424
	Right-turn	8	8
	U-turn	37	34
	Left-turn	21	28
	Southbound	396	275
	Right-turn	6	5
	U-turn	-	3
	Left-turn	13	5
Randall Drive	Westbound	2	4
	Right-turn	32	40
	Left-turn	30	38
Diemars Road	Eastbound	1	-
	Right-turn	36	25
	Left-turn	6	16
Soldiers Point Road	Northbound	172	303
	Right-turn	2	21
	Southbound	178	175
	Left-turn	-	1
Access	Right-turn	1	4
	Left-turn	11	2

	AM		PM	
	IN	OUT	IN	OUT
Bowling Club Access	26	10	78	47
Caravan Park Access	8	13	13	5

The operational performance of the intersections and site accesses in the area are quite satisfactory and there is no unsatisfactory delay or congestion circumstances.

3.4 Transport Services

Public transport services in the vicinity of the site are essentially limited to the bus service operated by Port Stephens Coaches Routes 132, 133 and 134 which connect between Soldiers Point and Newcastle. This combined service offers 8 morning and 11 afternoon services in each direction on weekdays and Public Holidays.

Routes 130, 131, 132, 133, 134, 135





4.0 Traffic

The proposed modified development scheme remains of a similar make up and nature to that of the existing development. The redevelopment of the site will still remove the Cheeky Dog pub component. Further to this, the modified scheme will delete the serviced apartment component from the design concept.

The RTA Guidelines do not contain any criteria in relation to the traffic generation characteristics of tourist hotels, however a study undertaken by the former Traffic Authority of NSW for motels reveals a generation rate per room during the weekday morning and afternoon periods of some 0.36 vtph.

Reference to the comprehensive Institute of Transportation Engineers "Trip Generation" publication reveals criteria for the "Resort Hotel" category which comprises:

- accommodation rooms
- restaurants
- bars
- retail shops
- convention/meeting rooms
- recreational facilities.

The average occupancy rate of the hotels surveyed was 82% and details of the traffic generation rates are provided in Appendix D and are summarised in the following:

Av vtph per room in morning and afternoon on-street peak periods

AM 0.31 (72% IN / 28% OUT) PM 0.42 (43% IN / 57% OUT)

The proposed hotel will have 90 rooms and on this basis (ie the criteria provided for

82% occupancy) the weekday morning and afternoon peak traffic generation will be:

AM 28 vtph (20 IN / 8 OUT)

PM 38 vtph (16 IN / 22 OUT)

In regard to the residential apartment element, it is apparent that there will be

characteristics of:

retiree occupants

'holiday home' occupants

- lease occupants

As such, the traffic generation circumstances of these elements will not reflect the criteria

contained in the RTA's Development Guidelines. That criteria is sourced from surveys

undertaken in the Sydney Metropolitan Area and accordingly does not reflect the lifestyle,

demographics or residential/accommodation nature of dwellings in the Port Stephens

area and more specifically that of the proposed development.

The traffic generation of residential apartments is somewhat less than that of single

dwelling houses particularly for two-bedroom apartments as demonstrated in the

RTA's criteria for medium density housing (0.4 - 0.5 vtph). However, in order to

provide some 'sensitivity provision' in the generation rates the following criteria has

been adopted in relation to the proposed development scheme albeit that the

apartments will also be managed by the hotel as rented serviced apartments:

Peak Traffic Generation

Residential apartments

0.25 vtph

Application of this criteria to the proposed residential apartment element would indicate the following peak traffic generation:

98 apartments @ 0.25 vtph – 24 vtph

AM		F	PM
IN	OUT	IN	OUT
4	20	20	4

The other proposed elements of the development will not contribute to additional generated movements in these periods because:

- they will not generate movements during the on-street peak periods (i.e. bar, restaurant)
- they are very largely ancillary to the accommodation elements (i.e. function, café, retail)

Thus, the total projected generation of the concept scheme development will be:

	AM		PM		Sat	
	IN	OUT	IN	OUT	IN	OUT
Hotel	20	8	16	22	39*	39*
Residential	4	20	20	4	10	10
Other (service, coaches etc)	4	4	4	4	2	2
Total:	28	32	40	30	51	51

^{*} Factored from existing generation

The operational performance of the main access driveway has been assessed using SIDRA and the results are provided in Appendix E and summarised in the following:

	AM	PM	Sat
LOS	Α	Α	Α
AVD	1.8	1.9	2.2

The results indicate a quite satisfactory operational performance with significant spare capacity.

Criteria for Interpreting Results of SIDRA Analysis

1. Level of Service (LOS)

LOS	Traffic Signals and Roundabouts	Give Way and Stop Signs	
'A'	Good	Good	
'B'	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity	
'C'	Satisfactory	Satisfactory but accident study required	
ʻD'	Operating near capacity	Near capacity and Accident Study required	
'E'	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode	
'F'	Unsatisfactory and requires additional capacity	Unsatisfactory and requires other control mode	

2. Average Vehicle Delay (AVD)

The AVD provides a measure of the operational performance of an intersection as indicated on the table below, which relates AVD to LOS. The AVD's listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (ie inner city conditions) and on some roads (ie minor side street intersecting with a major arterial route).

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabouts	Give Way and Stop Signs
А	Less than 14	Good operation	Good operation
В	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
С	29 to 42	Satisfactory	Satisfactory but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode

3. Degree of Saturation (DS)

The DS is another measure of the operational performance of individual intersections.

For intersections controlled by **traffic signals** both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

For intersections controlled by a **roundabout or GIVE WAY or STOP signs**, satisfactory intersection operation is indicated by a DS of 0.8 or less.

5.0 Parking

Assessment in relation to the appropriate parking provision for the various elements of development scheme has had regard to Council's DCP criteria as follows:

Hotel

1 space per room

1 space per 2 staff

Restaurant (Commercial Premises)

1 space per 25m²

Apartments

One Bed 1 space
Two Bed 1 space
Three Bed 2 spaces

Visitors 1 space per 3 apartments

Ancillary considerations include:

- the likely 'retiree' nature of residents
- the likely shared use of the hotel, restaurant/function parking
- the likely general occupation levels of the hotel rooms and rented apartments
- the unusually high "visitor" provision of the DCP

Application of this criteria to the proposed development would indicate the following:

19 x one-bedroom apartments
55 x two-bedroom apartments
24 x three-bedroom apartments
Total:
19 spaces
55 spaces
48 spaces
122 spaces

Visitors (98) 33 spaces

Hotel – 90 rooms 90 spaces 67 staff (max.) 34 spaces

Restaurant 500m² 20 spaces

Total: 299 spaces

It is apparent that the provision of this level of parking (i.e. compound maximums) would be more than adequate for peak demand circumstances given the multi use (restaurant/hotel room/apartment), the travel mode of hotel guest, the unlikely event that all 3 bedroom apartments would require 2 spaces.

However, it is in fact proposed to provide a total of 310 parking spaces and this is considered to be an appropriate quantum which would have a 'flexible' component of public access spaces. If there is any concern for potential occasional usual demands needs for high occupancy/conference use could be dealt with by the provision of valet parking services with some stacking in the hotel guest section of the carpark (as per TfNSW Guidelines). An appropriate component of spaces for disabled drivers would also be incorporated into this proposed provision in accordance with the DCP and BCA requirements.

6.0 Access, Internal Circulation and Servicing

Access

The proposed vehicle access provisions will maintain the arrangement of the previously approved Concept Plan with:

- a combined ingress/egress driveway on Soldiers Point Road for the carpark and service vehicles (in the location of the existing access)
- an ingress driveway on the road reserve bounding the north of the site for portecochere and coach access
- an egress driveway on Soldiers Point Road for porte-cochere and coach egress.

These accesses will be located on relatively straight and level sections of road where good sight distances are available. The proposed accesses will comply with the design requirements of AS2890.1 and 2 and will provide for all vehicles requiring to access the site.

Internal Circulation

The internal circulation arrangements will comprise:

- the porte-cochere area for the hotel
- the basement carpark area for the hotel, restaurant and function elements
- the basement carpark area for the residential apartments.

The design of these areas will accord with the requirements of AS2890.1 and Council's Code and there is no apparent reason why these design standards could not be achieved. The internal circulation arrangements will accommodate all vehicles requiring to access the development elements and will include provisions for disabled drivers.

Ref. 21322 A - 3 A Application 13

Servicing

Service vehicle movements for modified proposal will be accommodated in a dedicated separate dock area off the main access driveway. This dock will be suitable for all deliveries and garbage removals etc to enter and depart in a forward direction.

Small service vehicles/service personnel etc) will also be able to park in the visitor parking spaces while separate parking areas will be provided for tour coaches (2 spaces) and mini coaches (2 spaces) adjacent to the porte-cochere.

7.0 Pedestrians, Cyclists and Public Transport

The site and the nature of the modified development present ideal circumstances for the encouragement and facilitation of walking and cycling for residents, guests, visitors and staff.

There is an existing shared footway along the western side of Soldiers Point Road as well as extensive walking opportunities along the foreshore on both sides of Soldiers Point. The development will have ready access to these facilities as well as circulation within and through the site.

Bicycles will be available for hotel guests while bicycle parking will be available for all elements comprising:

- a storage area in the basement
- an external rack
- individual storage for residential apartments

The adjacent bus stops on Soldiers Point Road will also be within easy walking distance while the provisions for tour coaches and mini-buses will also present an important element of alternative travel mode.

Ref. 21322 A - 3A Application 15

8.0 Conclusion

The proposed redevelopment scheme for Salamander Shores with its new residential element presents amended impact, however these uses will not engender a high level of traffic generation and the access movements will be spread throughout the day and night.

Assessment of the Modified Concept Plan for development has concluded that:

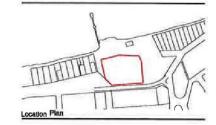
- there will not be any unsatisfactory traffic implications
- * the vehicle access and circulation arrangements will be suitable and appropriate
- the proposed parking provisions will be adequate
- the proposed arrangements for pedestrians, cyclists and service vehicles will be suitable and appropriate

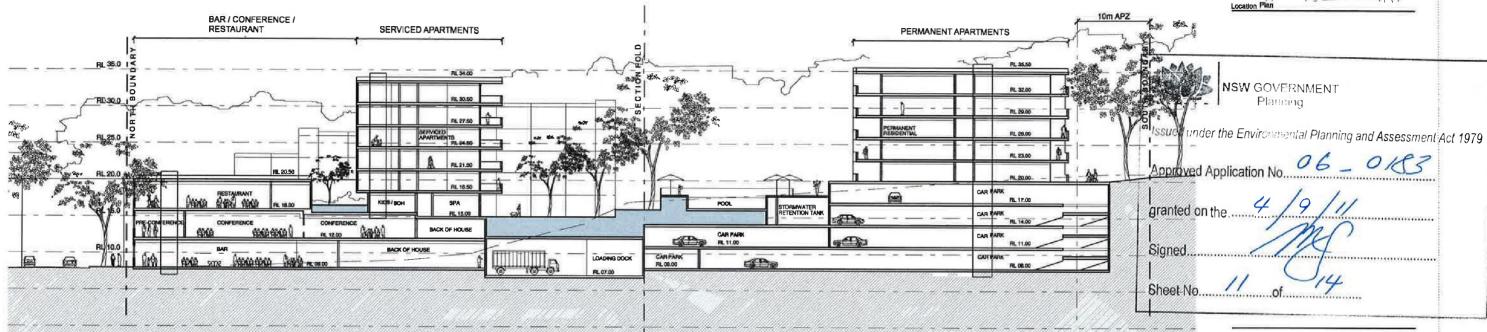
Ref. 21322 A - 3 A Application 16

Appendix A

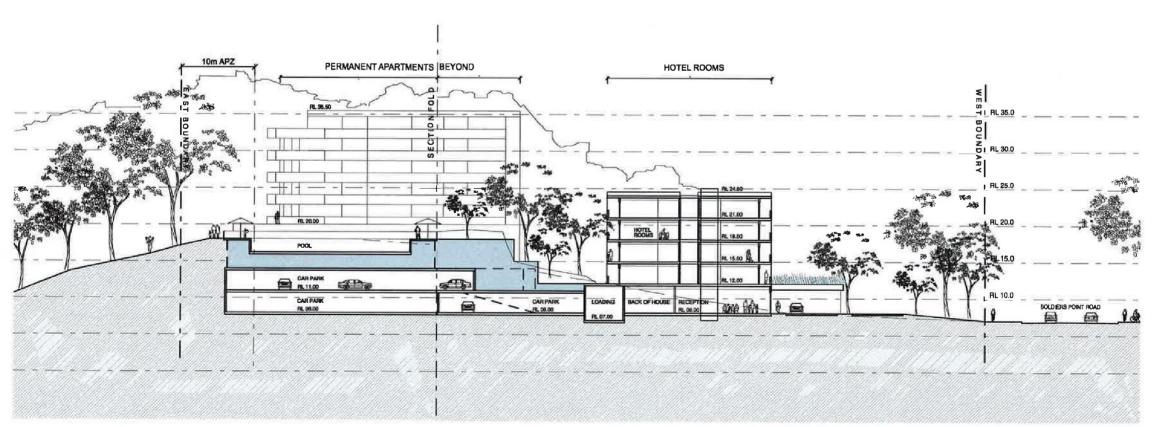
Approved Consent Plans







SECTION 01 - NORTH SOUTH



SECTION 02 - WEST EAST

a _ L 16			
Rev.	Date	Amendment	Draw
A	JULY '10	ISSUED TO DOP	JF/\$E
В	DEC '10	RE-ISSUED TO DOP	SE
C	JUNE '11	RE-ISSUED TO DOP	\$E

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Email: sarah_keliy@optusnet

Clie

SALAMANDER SHORES HOTEL

Project

SALAMANDER SHORES

147 SOLDIERS POINT ROAD SOLDIERS POINT

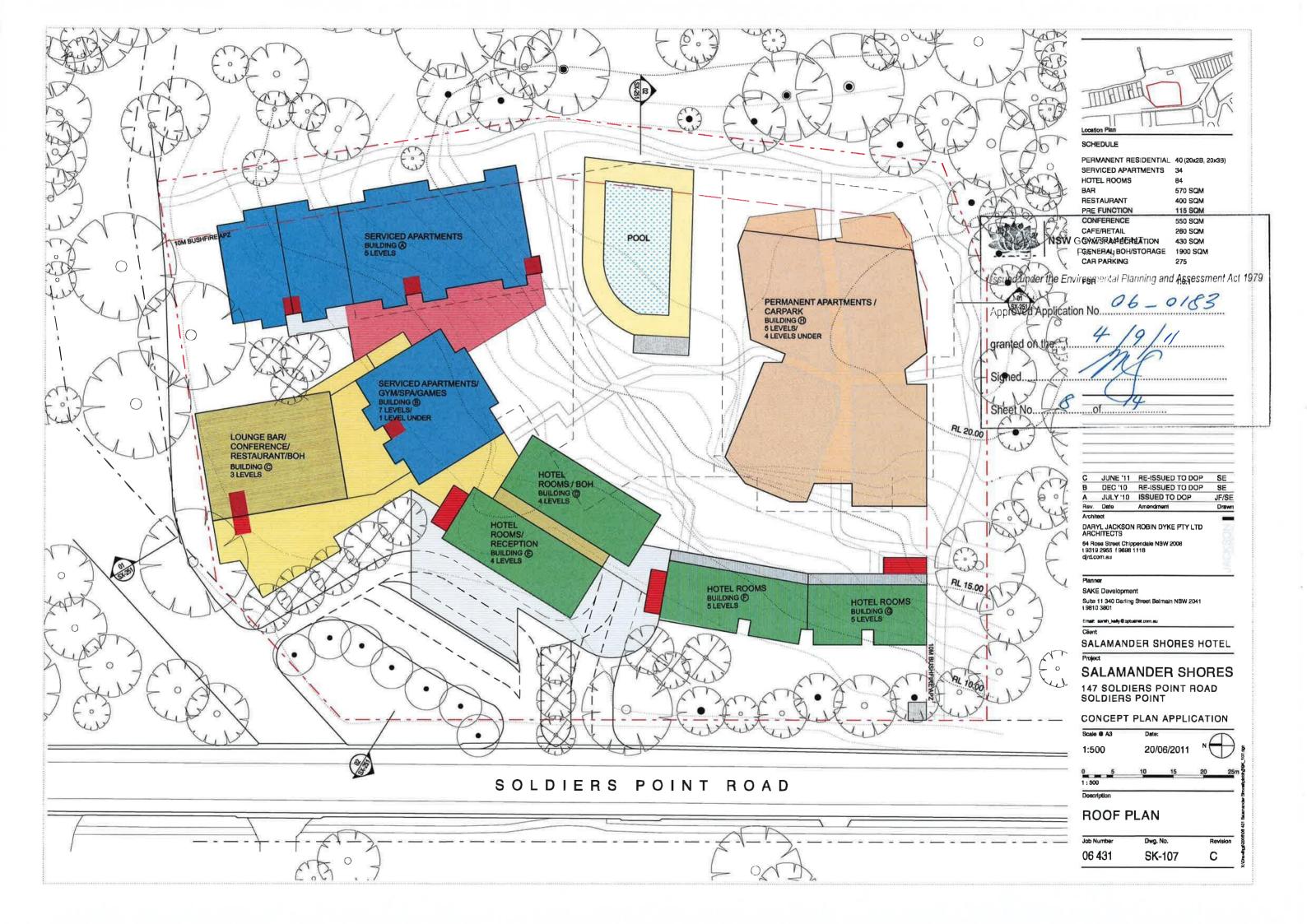
CONCEPT PLAN APPLICATION

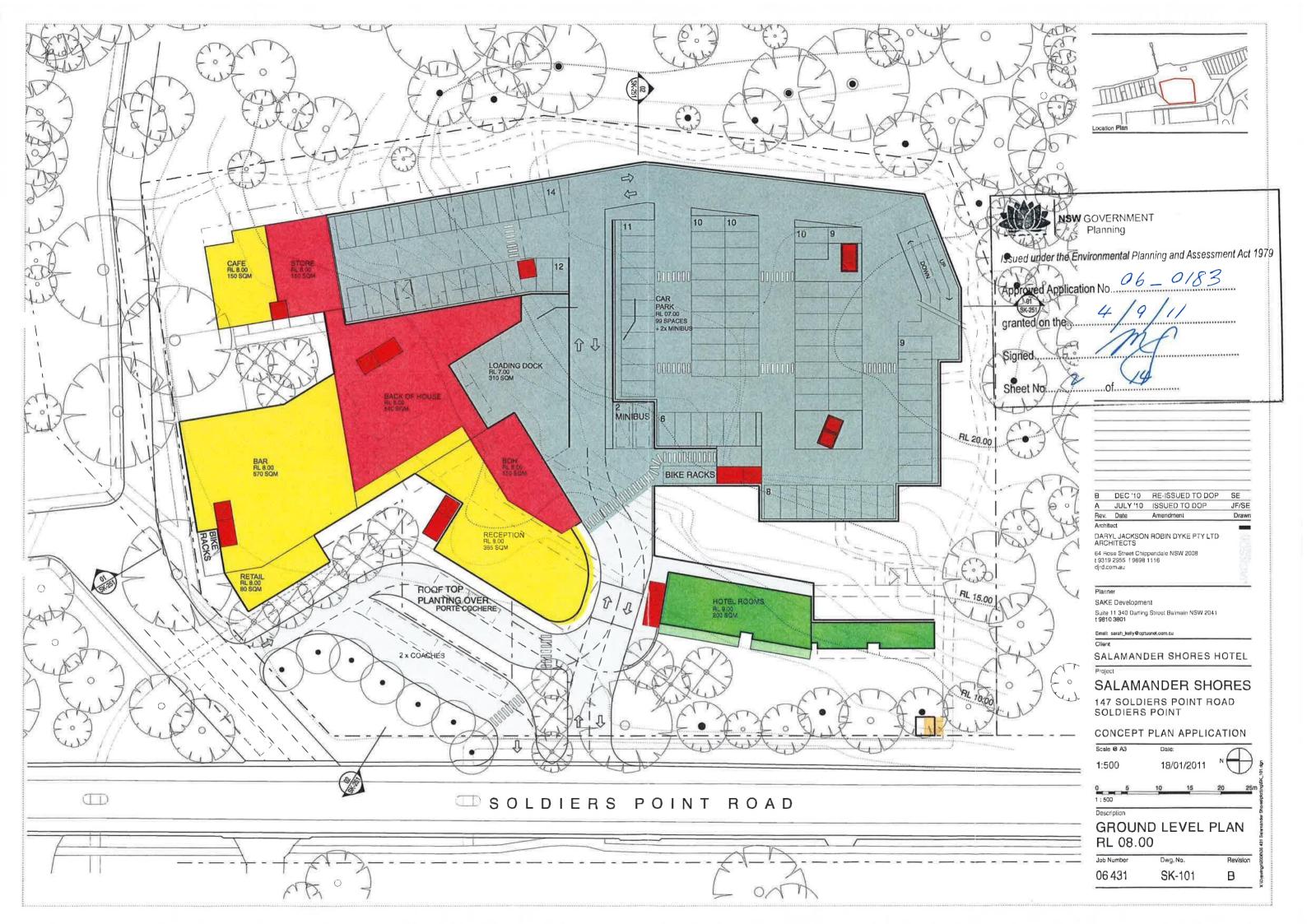
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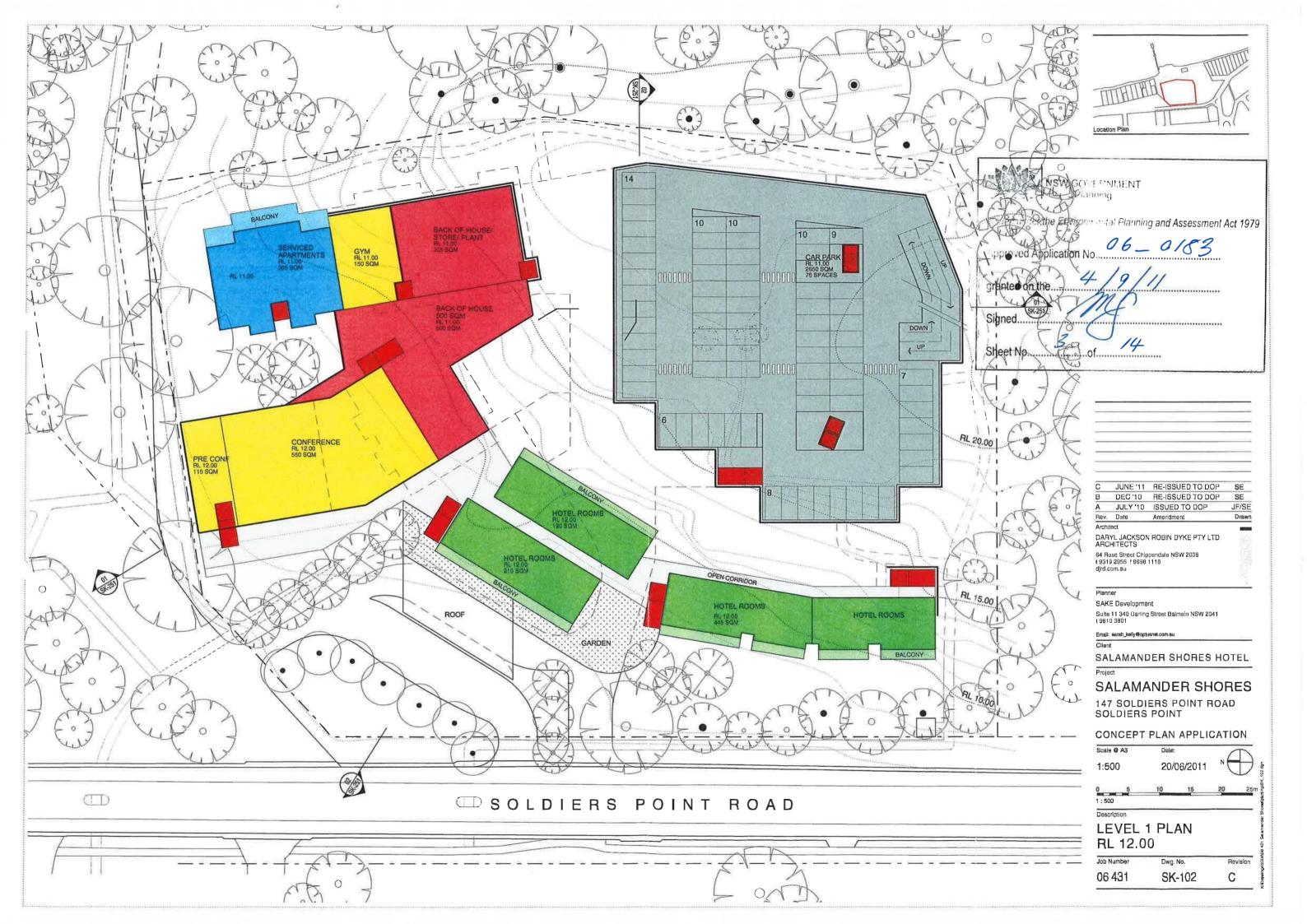
SHEET 01

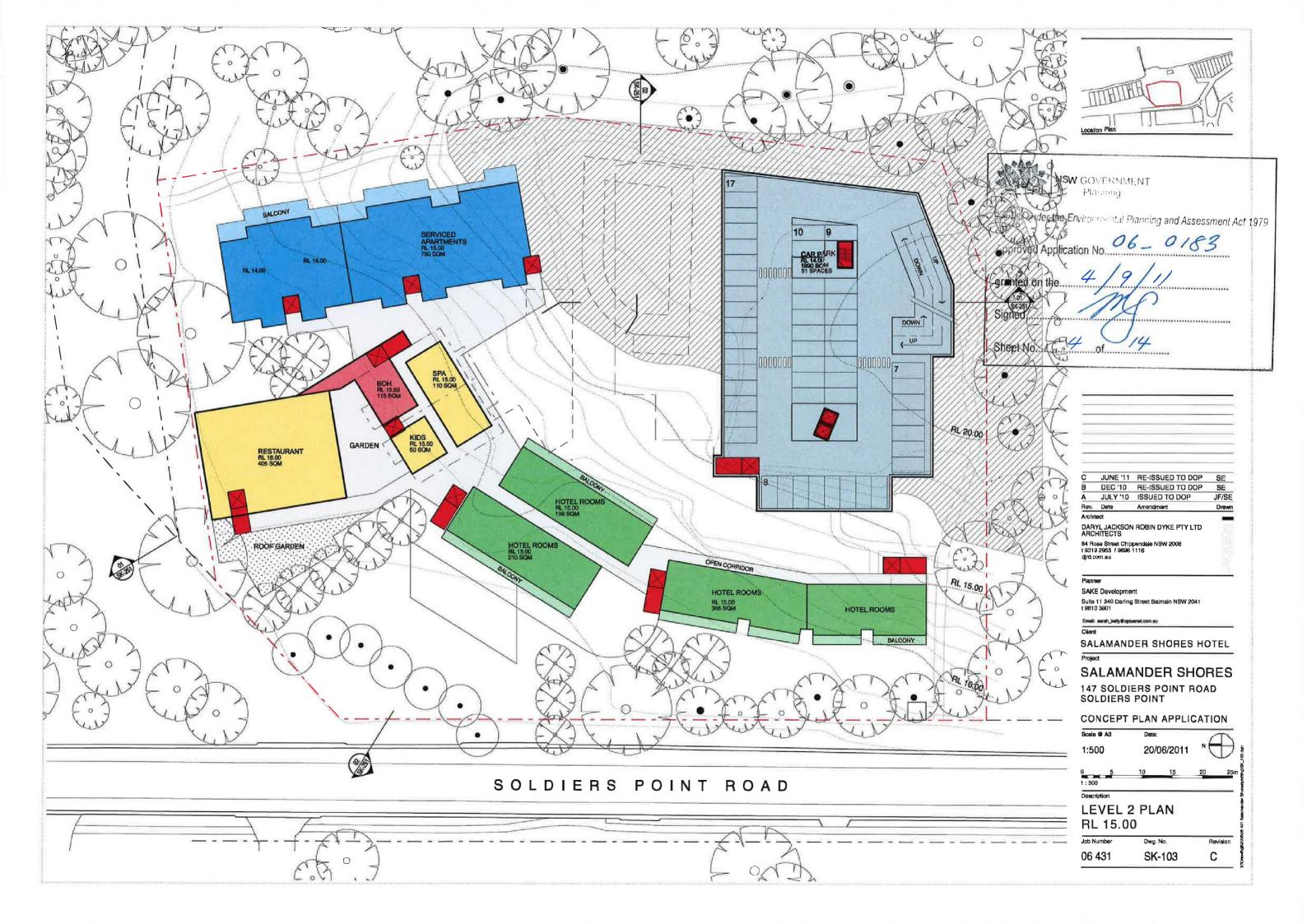
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 Dwg. No.
 Revision

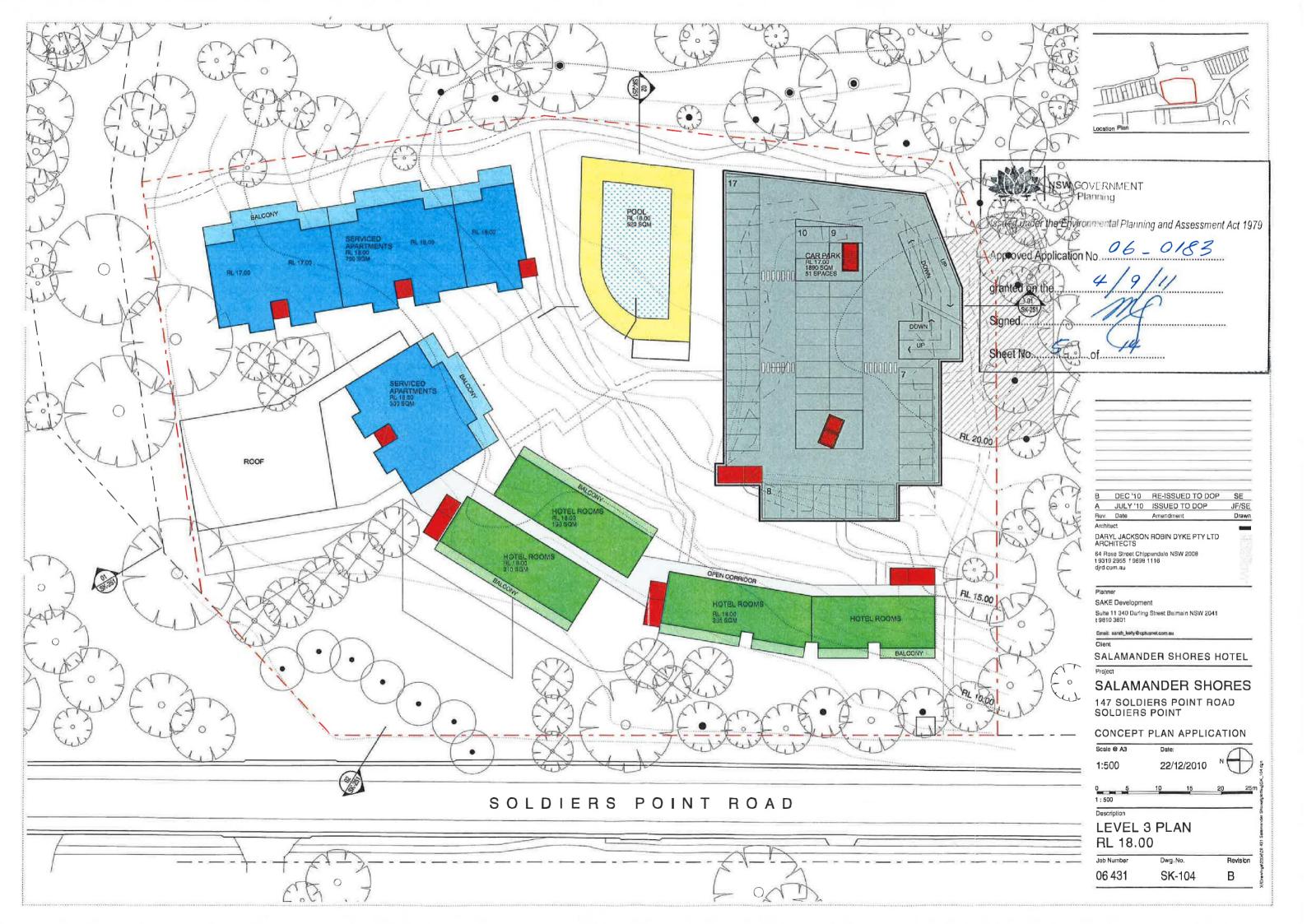
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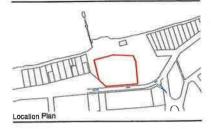












A DEC '10 ISSUED TO DOP

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SALAMANDER SHORES HOTEL

SALAMANDER SHORES

147 SOLDIERS POINT ROAD

CONCEPT PLAN APPLICATION

MOVEMENT DIAGRAM

22/12/2010

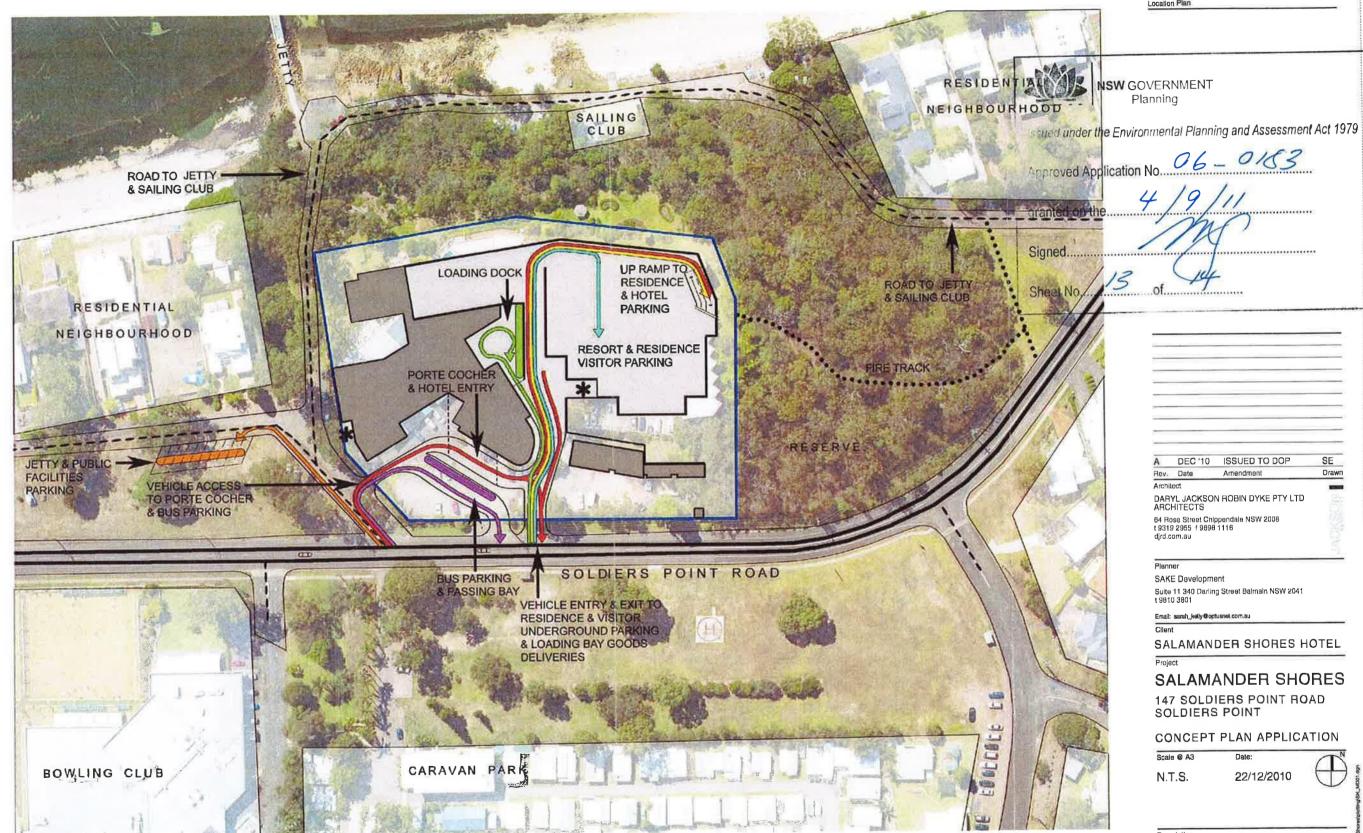
SK-MD01

Α

SOLDIERS POINT

VEHICLES

Job Number 06 431



KEY

JETTY VISITORS

HOTEL GUESTS

RESIDENTS

MAJOR ROAD

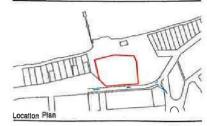
MINOR ROAD FIRE TRACK

*
BIKE RACK

BUSES

RESORT/APARTMENT VISITORS

GOODS & SERVICES



PEDESTRIAN & CYCLE

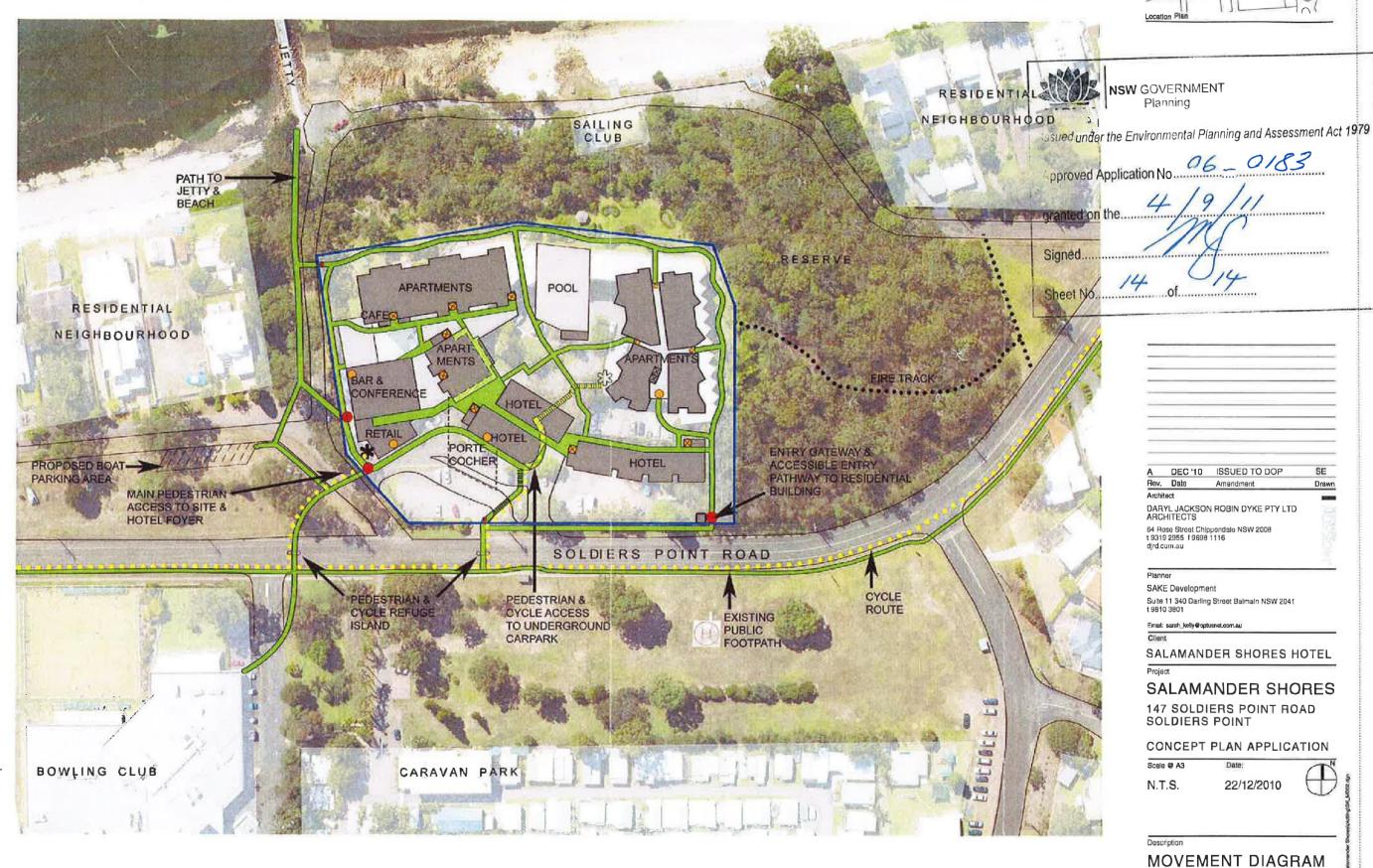
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SK-MD02

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Job Number

06 431



KEY

PEDESTRIAN PATHWAY

CYCLE ROUTE

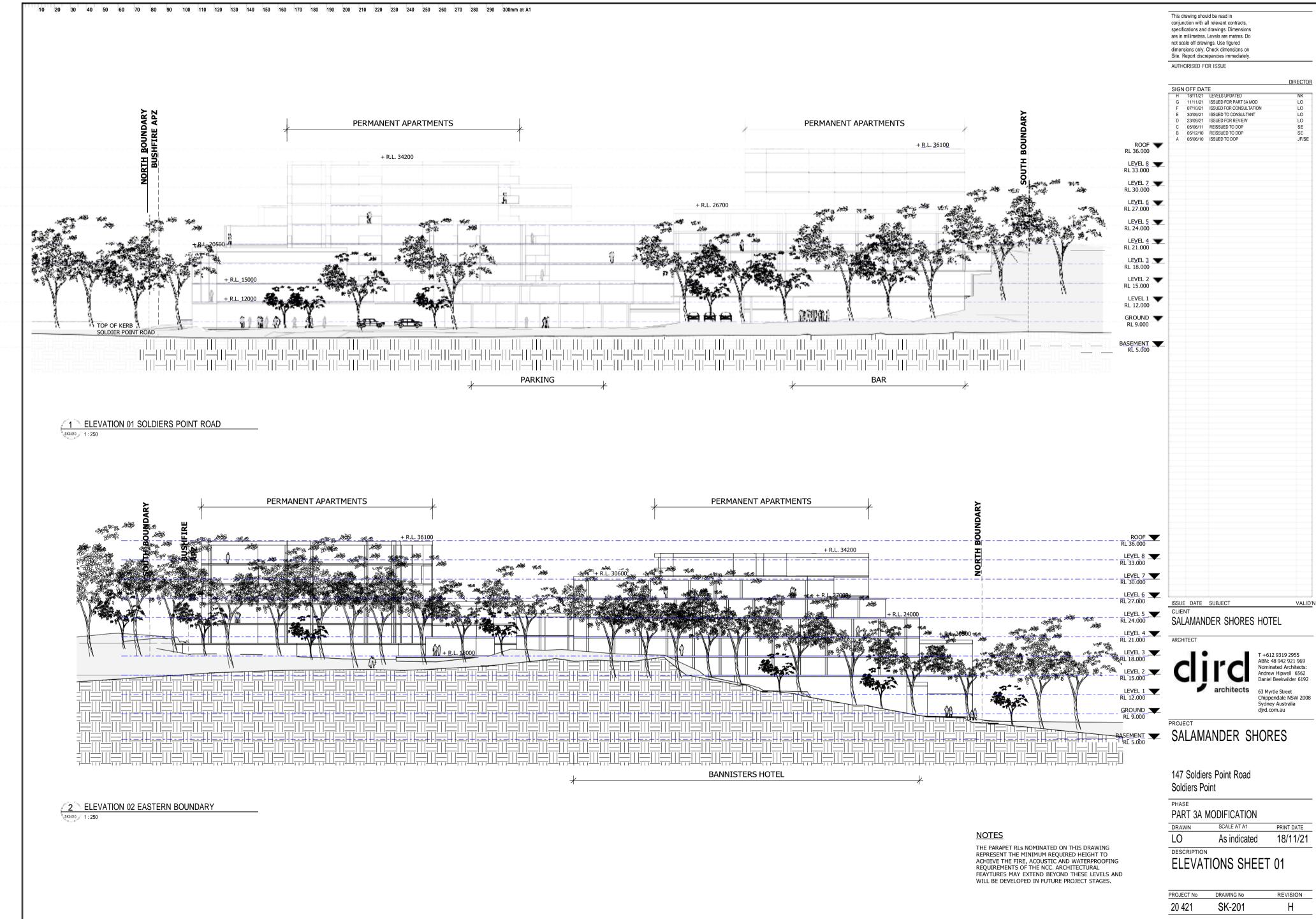
FIRE TRACK

SITE ENTRY POINT

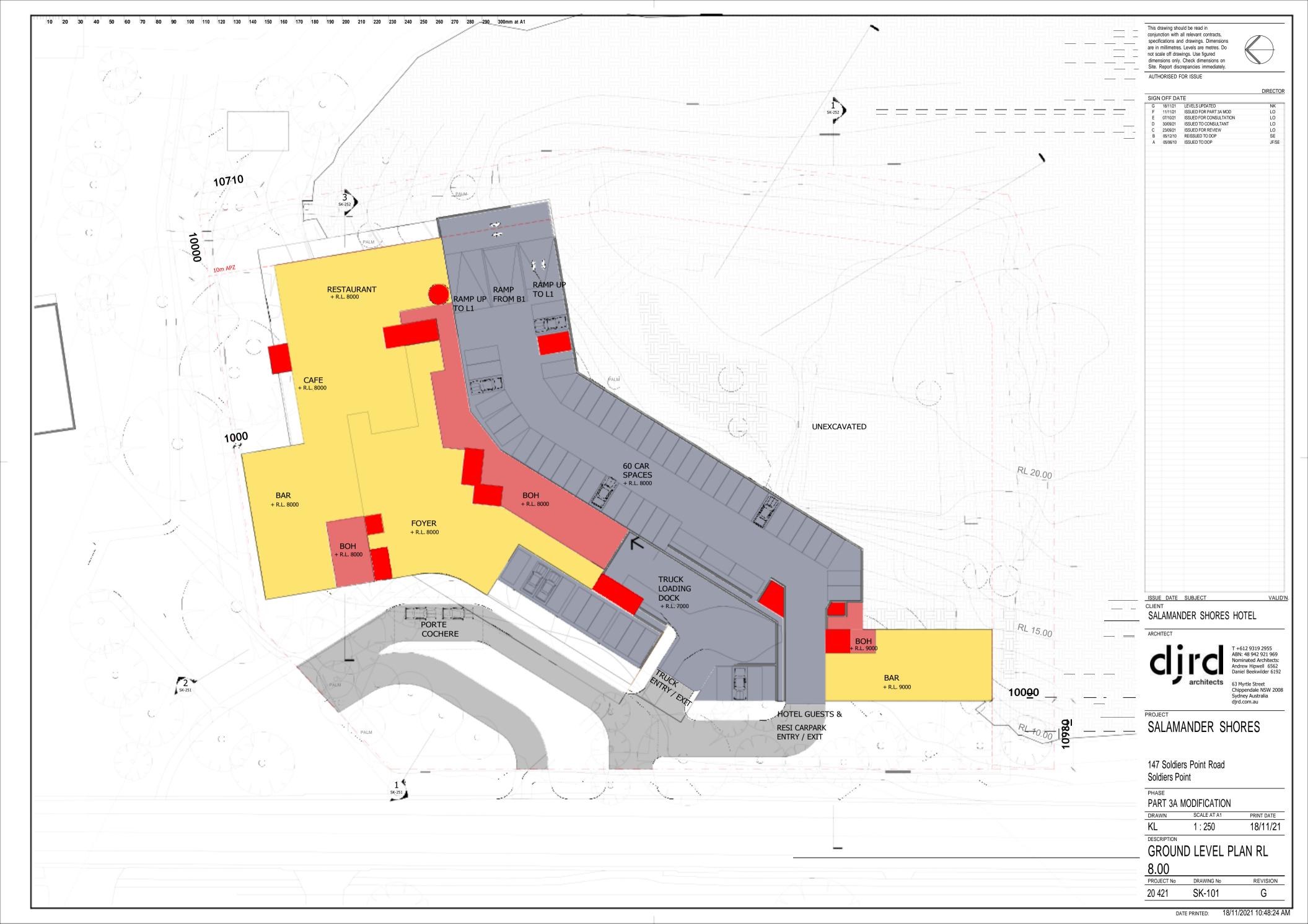
BUILDING ENTRY POINT

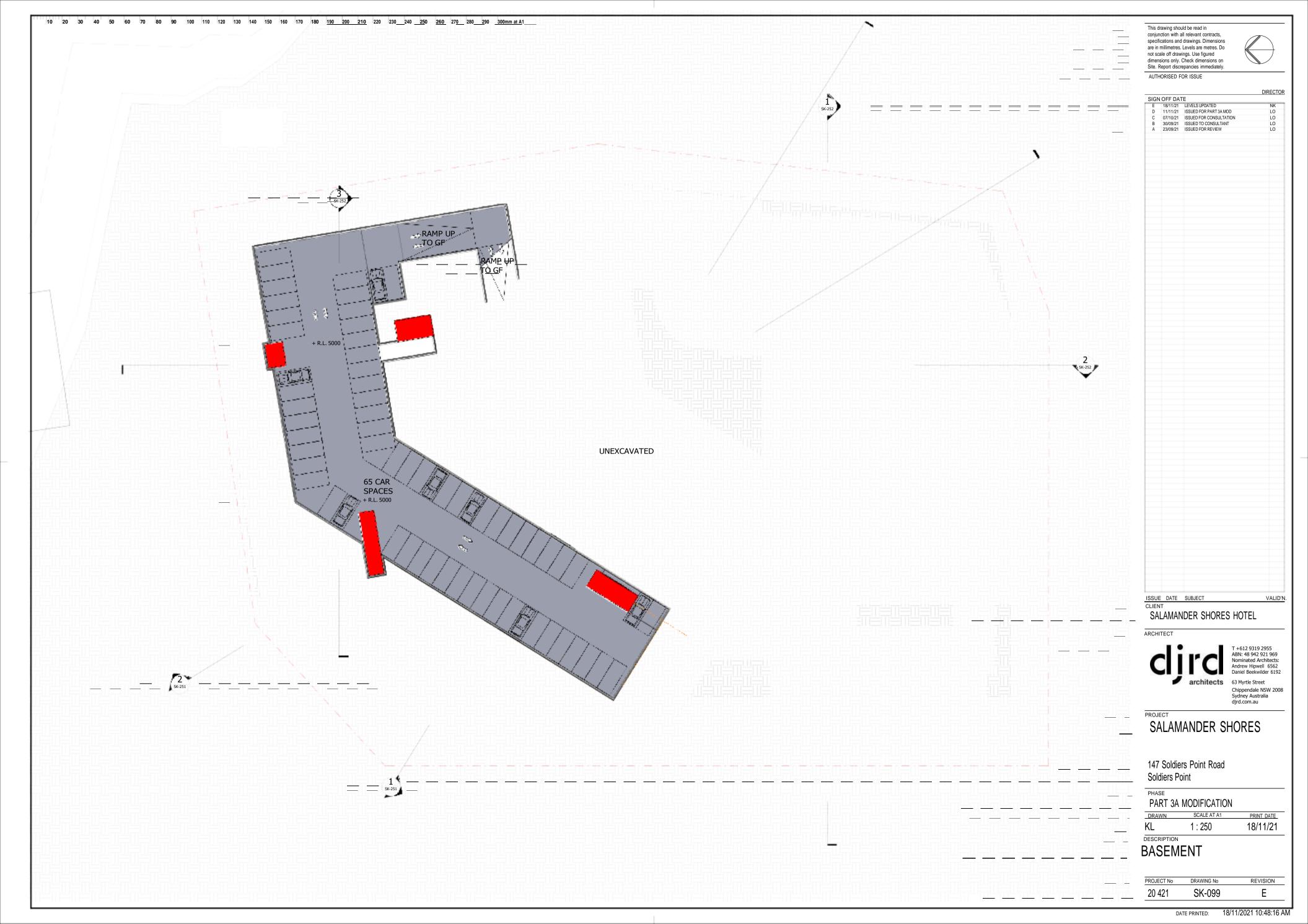
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Transport and Traffic Planning Associates Appendix B **Modified Plans** ttpa



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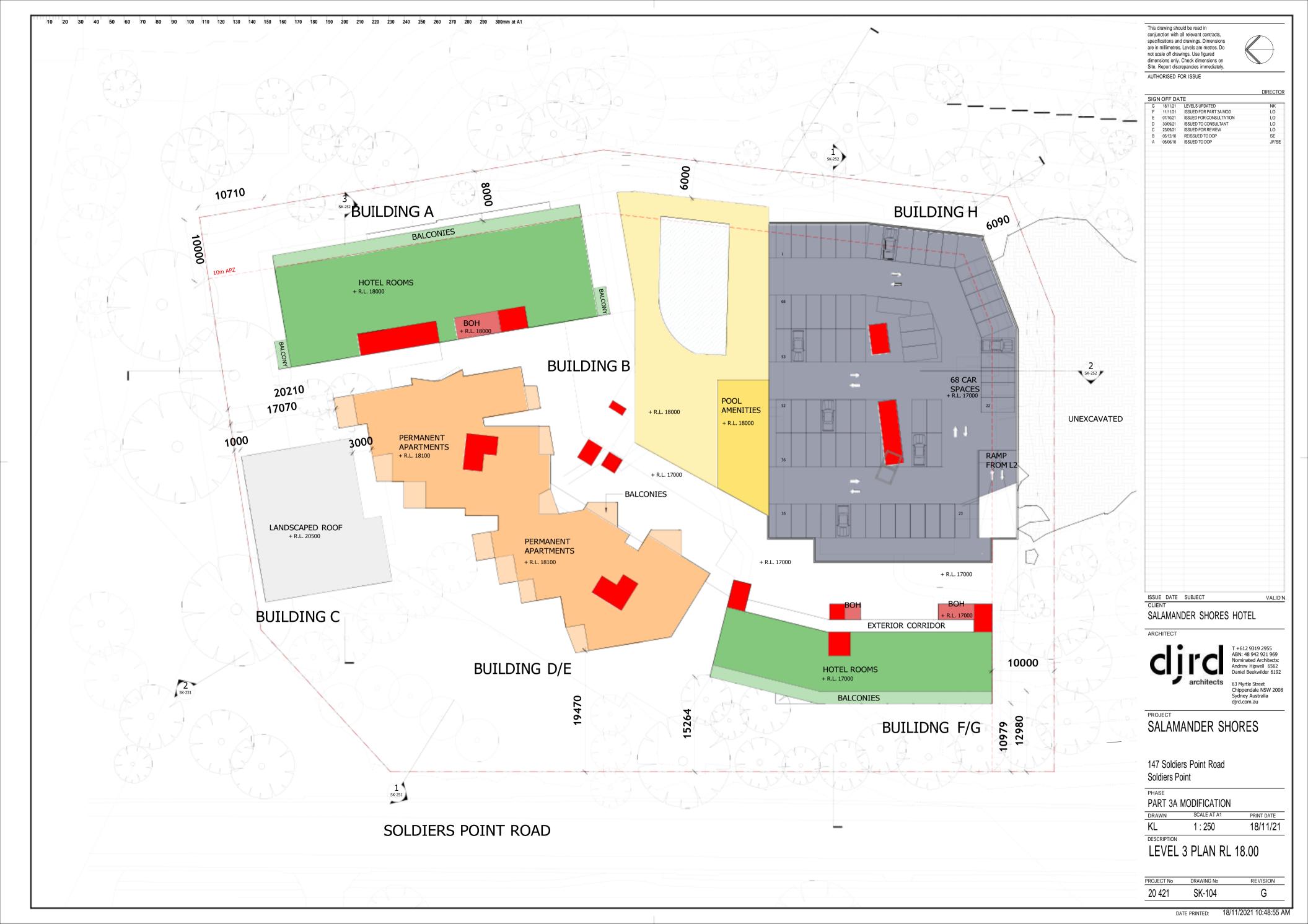














AUTHORISED FOR ISSUE SIGN OFF DATE F 18/11/21 LEVELS UPDATED
E 11/11/21 ISSUED FOR PART 3A MOD
D 07/10/21 ISSUED FOR CONSULTATION C 30/09/21 ISSUED TO CONSULTANT
B 23/09/21 ISSUED FOR REVIEW
A 05/12/10 REISSUED TO DOP

SALAMANDER SHORES HOTEL

ARCHITECT

ISSUE DATE SUBJECT



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VALID'N

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SALAMANDER SHORES

147 Soldiers Point Road Soldiers Point

PHASE

20 421

PART 3A MODIFICATION

PRINT DATE LO 1:500 18/11/21

DESCRIPTION MOVEMENT DIGRAM

VEHICLES PROJECT No DRAWING No REVISION



KEY

JETTY VISITORS

HOTEL GUESTS

RESIDENTS

BUSES

GOODS & SERVICES

MAJOR ROAD

MINOR ROAD

FIRE TRACK

*
BIKE RACK

SK-MD01

KEY

..... CYCLE ROUTE

FIRE TRACK

BIKE RACK

SITE ENTRY POINT

BUILDING ENTRY POINT

PEDESTRIAN PATHWAY

AUTHORISED FOR ISSUE SIGN OFF DATE F 18/11/21 LEVELS UPDATED
E 11/11/21 ISSUED FOR PART 3A MOD
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ISSUE DATE SUBJECT

SALAMANDER SHORES HOTEL

ARCHITECT



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ABN: 48 942 921 969 Nominated Architects:

SALAMANDER SHORES

147 Soldiers Point Road Soldiers Point

PART 3A MODIFICATION

SCALE AT A1 PRINT DATE LO 1:500 18/11/21

DESCRIPTION

MOVEMENT DIAGRAM PEDESTRIAN AND CYCLE

PROJECT No REVISION DRAWING No SK-MD02 20 421



DATE PRINTED: 18/11/2021 10:51:03 AM

Transport and Traffic Planning Associates Appendix C Traffic Survey Results ttpa



Intersection of Soldiers Point Rd and Access Rd, Soldiers

GPS -32.711453, 152.071256

Date:	Р
Weather:	Fine
Suburban:	Soldiers Point
Customer:	TTPA

North:	Soldiers Point Rd
East:	Access Rd
South:	Soldiers Point Rd
West:	N/A

Survey		7:00 AM-9:00 AM
Period	PM:	4:00 PM-7:00 PM
Traffic	AM:	8:00 AM-9:00 AM
Peak	PM:	4:30 PM-5:30 PM

All Vehicles

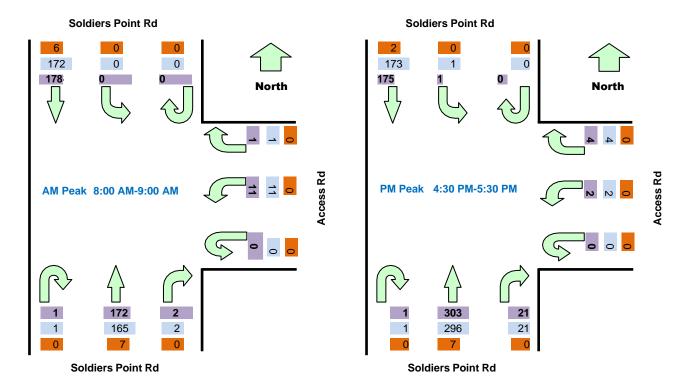
Tir	ne	rth Appro	ach Soldi	ers Point	East Ap	proach Ad	cess Rd	uth Appro	ach Soldi	iers Point	Hourly	/ Total
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	Hour	Peak
7:00	7:15	0	26	1	0	0	2	0	0	17	222	
7:15	7:30	0	23	0	0	0	0	0	0	22	246	
7:30	7:45	0	39	0	0	0	2	1	2	23	286	
7:45	8:00	0	29	0	0	1	1	0	0	33	319	
8:00	8:15	0	39	0	0	0	2	0	1	28	365	Peak
8:15	8:30	0	36	0	0	0	2	0	0	47		
8:30	8:45	0	46	0	0	1	5	1	1	46		
8:45	9:00	0	57	0	0	0	2	0	0	51		
16:00	16:15	0	40	0	0	0	2	0	3	44	420	
16:15	16:30	0	24	0	0	0	2	0	6	65	459	
16:30	16:45	0	37	0	0	0	0	0	6	65	507	Peak
16:45	17:00	0	53	0	0	1	0	0	5	67	502	
17:00	17:15	0	34	0	0	1	2	1	5	85	487	
17:15	17:30	0	51	1	0	2	0	0	5	86	442	
17:30	17:45	0	33	1	0	0	3	0	3	63	366	

17:45	18:00	0	32	1	0	2	3	0	6	67	321	
18:00	18:15	0	31	2	0	4	1	0	3	42	287	
18:15	18:30	0	21	1	0	4	1	0	3	39		
18:30	18:45	0	29	0	0	1	1	0	4	23		
18:45	19:00	0	45	2	0	0	2	0	2	26		

Peak	Time	rth Appro	ach Soldi	ers Point	East App	proach Ad	cess Rd	uth Appro	ach Soldi	iers Point	Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
8:00	9:00	0	178	0	0	1	11	1	2	172	365
16:30	17:30	0	175	1	0	4	2	1	21	303	507

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.





Light Vehicles

				ers Point	East App		ccess Rd	uth Appro	ach Sold	iers Point
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:00	7:15	0	25	1	0	0	2	0	0	17
7:15	7:30	0	23	0	0	0	0	0	0	17
7:30	7:45	0	37	0	0	0	2	1	1	23
7:45	8:00	0	28	0	0	0	1	0	0	31
8:00	8:15	0	36	0	0	0	2	0	1	28
8:15	8:30	0	36	0	0	0	2	0	0	41
8:30	8:45	0	44	0	0	1	5	1	1	46
8:45	9:00	0	56	0	0	0	2	0	0	50
16:00	16:15	0	39	0	0	0	2	0	3	42
16:15	16:30	0	23	0	0	0	2	0	6	64
16:30	16:45	0	36	0	0	0	0	0	6	63
16:45	17:00	0	53	0	0	1	0	0	5	64
17:00	17:15	0	33	0	0	1	2	1	5	85
17:15	17:30	0	51	1	0	2	0	0	5	84
17:30	17:45	0	32	1	0	0	3	0	3	63
17:45	18:00	0	32	1	0	2	3	0	6	67
18:00	18:15	0	31	2	0	4	1	0	3	41
18:15	18:30	0	21	1	0	4	1	0	3	38
18:30	18:45	0	29	0	0	1	1	0	4	23
18:45	19:00	0	44	2	0	0	2	0	2	26

Peak	Time	rth Appro	ach Soldi	ers Point	East App	proach Ac	cess Rd	uth Appro	ach Sold	iers Point	Peak
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total
8:00	9:00	0	172	0	0	1	11	1	2	165	352
16:30	17:30	0	173	1	0	4	2	1	21	296	498

Heavy Vehicles

	me			ers Point			cess Rd			iers Point
Period Start	Period End	U	SB	L	U	R	L	U	R	NB
7:00	7:15	0	1	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	5
7:30	7:45	0	2	0	0	0	0	0	1	0
7:45	8:00	0	1	0	0	1	0	0	0	2
8:00	8:15	0	3	0	0	0	0	0	0	0
8:15	8:30	0	0	0	0	0	0	0	0	6
8:30	8:45	0	2	0	0	0	0	0	0	0
8:45	9:00	0	1	0	0	0	0	0	0	1
16:00	16:15	0	1	0	0	0	0	0	0	2
16:15	16:30	0	1	0	0	0	0	0	0	1
16:30	16:45	0	1	0	0	0	0	0	0	2
16:45	17:00	0	0	0	0	0	0	0	0	3
17:00	17:15	0	1	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	2
17:30	17:45	0	1	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0	0	0
18:00	18:15	0	0	0	0	0	0	0	0	1
18:15	18:30	0	0	0	0	0	0	0	0	1
18:30	18:45	0	0	0	0	0	0	0	0	0
18:45	19:00	0	1	0	0	0	0	0	0	0

Peak	Time	th Approach Soldiers Point			East App	East Approach Access Rd			uth Approach Soldiers Point			
Period Start	Period End	U	SB	L	U	R	L	U	R	NB	total	
8:00	9:00	0	6	0	0	0	0	0	0	7	13	
16:30	17:30	0	2	0	0	0	0	0	0	7	9	



Intersection of Bagnall Ave and Soldiers Point Rd, Soldier

GPS -32.712545, 152.071402

Date:	Fri 19/11/21
Weather:	Fine
Suburban:	Soldiers Point
Customer:	TTPA

North:	Soldiers Point Rd
East:	N/A
South:	Soldiers Point Rd
West:	Bagnall Ave

Survey	AM:	7:00 AM-9:00 AM
Period	PM:	4:00 PM-7:00 PM
Traffic	AM:	8:00 AM-9:00 AM
Peak	PM:	4:30 PM-5:30 PM

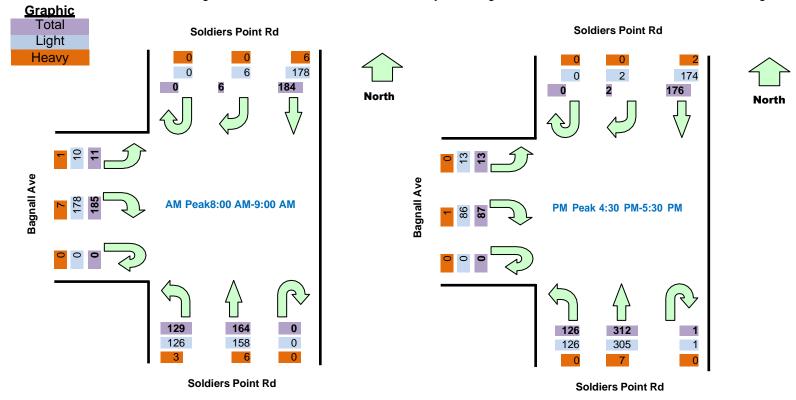
All Vehicles

			ach Soldi	ers Point	uth Appro	ach Sold	iers Point	West App	roach Ba	gnall Ave	Hourly	/ Total
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	Hour	Peak
7:00	7:15	0	0	28	0	17	7	0	18	0	364	
7:15	7:30	0	0	23	0	21	8	0	21	1	423	
7:30	7:45	0	1	41	0	25	12	0	34	1	509	
7:45	8:00	0	1	29	0	29	16	0	27	4	579	
8:00	8:15	0	1	40	0	27	22	0	37	2	679	Peak
8:15	8:30	0	0	38	0	47	33	0	42	0		
8:30	8:45	0	3	49	0	45	35	0	49	3		
8:45	9:00	0	2	57	0	45	39	0	57	6		
16:00	16:15	0	4	38	0	45	24	0	16	2	619	
16:15	16:30	0	3	23	0	66	35	0	29	5	675	
16:30	16:45	0	0	37	0	70	21	0	17	1	717	Peak
16:45	17:00	0	0	53	0	69	31	0	27	3	717	Peak
17:00	17:15	0	1	36	0	88	33	0	24	3	677	
17:15	17:30	0	1	50	1	85	41	0	19	6	616	
17:30	17:45	0	3	33	0	63	28	0	16	3	510	

17:45	18:00	0	1	34	0	70	19	0	16	3	435	
18:00	18:15	0	2	30	0	44	37	0	10	1	387	
18:15	18:30	0	1	21	0	40	18	0	15	2		
18:30	18:45	0	1	29	0	26	1	0	13	1		
18:45	19:00	0	2	45	0	26	11	0	9	2		

Peak	Time	rth Appro	ach Soldi	ers Point	uth Appro	ach Sold	iers Point	West App	roach Ba	gnall Ave	Peak
Period Start	Period End	U	R	SB	Ū	NB	Ĺ	Ū	R	Ĺ	total
8:00	9:00	0	6	184	0	164	129	0	185	11	679
16:30	17:30	0	2	176	1	312	126	0	87	13	717

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.



Light Vehicles

		rth Appro	ach Soldi	ers Point	uth Appro	ach Sold	iers Point	West App	oroach Ba	gnall Ave
Period Start	Period End	U	R	SB	U	NB	L	U	R	L
7:00	7:15	0	0	27	0	17	7	0	16	0
7:15	7:30	0	0	23	0	16	8	0	20	1
7:30	7:45	0	1	39	0	24	12	0	32	1
7:45	8:00	0	1	28	0	27	16	0	27	4
8:00	8:15	0	1	37	0	27	20	0	36	2
8:15	8:30	0	0	38	0	41	33	0	39	0
8:30	8:45	0	3	47	0	45	34	0	47	3
8:45	9:00	0	2	56	0	45	39	0	56	5
16:00	16:15	0	4	37	0	43	24	0	15	2
16:15	16:30	0	3	22	0	65	35	0	26	5
16:30	16:45	0	0	36	0	68	21	0	17	1
16:45	17:00	0	0	53	0	66	31	0	26	3
17:00	17:15	0	1	35	0	88	33	0	24	3
17:15	17:30	0	1	50	1	83	41	0	19	6
17:30	17:45	0	3	32	0	63	28	0	15	3
17:45	18:00	0	1	34	0	70	19	0	16	3
18:00	18:15	0	2	30	0	43	37	0	9	1
18:15	18:30	0	1	21	0	39	17	0	15	2
18:30	18:45	0	1	29	0	26	1	0	13	1
18:45	19:00	0	2	44	0	26	10	0	8	2

Peak	Time	rth Appro	ach Soldi	ers Point	uth Appro	oach Sold	iers Point	West App	roach Ba	gnall Ave	Peak
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	total
8:00	9:00	0	6	178	0	158	126	0	178	10	656
16:30	17:30	0	2	174	1	305	126	0	86	13	707

Heavy Vehicles

Tii		rth Appro	ach Soldi	ers Point	uth Appro	ach Sold	iers Point	West App	roach Ba	gnall Ave
Period Start	Period End	U	R	SB	U	NB	L	U	R	L
7:00	7:15	0	0	1	0	0	0	0	2	0
7:15	7:30	0	0	0	0	5	0	0	1	0
7:30	7:45	0	0	2	0	1	0	0	2	0
7:45	8:00	0	0	1	0	2	0	0	0	0
8:00	8:15	0	0	3	0	0	2	0	1	0
8:15	8:30	0	0	0	0	6	0	0	3	0
8:30	8:45	0	0	2	0	0	1	0	2	0
8:45	9:00	0	0	1	0	0	0	0	1	1
16:00	16:15	0	0	1	0	2	0	0	1	0
16:15	16:30	0	0	1	0	1	0	0	3	0
16:30	16:45	0	0	1	0	2	0	0	0	0
16:45	17:00	0	0	0	0	3	0	0	1	0
17:00	17:15	0	0	1	0	0	0	0	0	0
17:15	17:30	0	0	0	0	2	0	0	0	0
17:30	17:45	0	0	1	0	0	0	0	1	0
17:45	18:00	0	0	0	0	0	0	0	0	0
18:00	18:15	0	0	0	0	1	0	0	1	0
18:15	18:30	0	0	0	0	1	1	0	0	0
18:30	18:45	0	0	0	0	0	0	0	0	0
18:45	19:00	0	0	1	0	0	1	0	1	0

Peak	Time	rth Appro	ach Soldi	ers Point	uth Appro	ach Sold	iers Point	West App	roach Ba	gnall Ave	Peak
Period Start	Period End	U	R	SB	U	NB	L	U	R	L	total
8:00	9:00	0	0	6	0	6	3	0	7	1	23
16:30	17:30	0	0	2	0	7	0	0	1	0	10



Intersection of Randall Dr and Soldiers Point Rd, Soldiers Point

-32.720853, 152.076606 GPS Date: Fri 19/11/21 Weather: Fine Suburban: Soldiers Point Customer: TTPA

North:	Soldiers Point Rd
East:	Randall Dr
South:	Soldiers Point Rd
West:	Diemars Rd

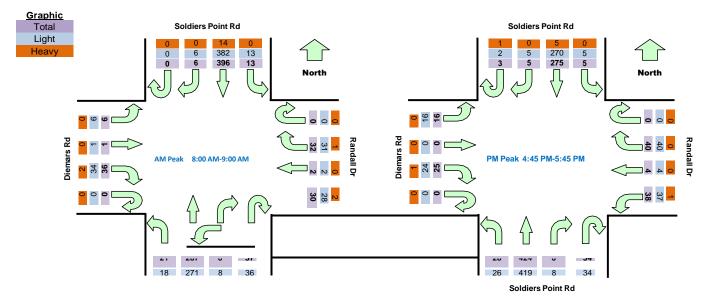
Survey	AM:	7:00 AM-9:00 AM
Period	PM:	4:00 PM-7:00 PM
Traffic	AM:	8:00 AM-9:00 AM
Peak	PM:	4:45 PM-5:45 PM

All Vehicles

Ti	me	North A	pproach	Soldiers F	oint Rd	Eas	st Approa	ch Randa	II Dr	South	Approach	Soldiers P	oint Rd	Wes	t Approac	h Diemar	s Rd	Hourly Total		
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	Hour	Peak	
7:00	7:15	0	2	55	0	0	7	3	3	7	3	35	6	0	4	0	0	521		
7:15	7:30	0	0	48	0	0	5	0	3	10	1	26	6	0	3	0	0	567		
7:30	7:45	1	0	84	0	0	3	1	4	9	3	39	1	0	7	0	0	699		
7:45	8:00	0	1	62	2	0	2	0	10	6	1	42	5	0	10	0	1	775		
8:00	8:15	0	0	75	1	0	5	1	9	10	4	54	5	0	6	0	1	875	Peak	
8:15	8:30	0	1	98	2	0	15	0	5	6	3	85	7	0	11	0	1			
8:30	8:45	0	1	107	3	0	7	1	7	11	1	74	6	0	7	1	2			
8:45	9:00	0	4	116	7	0	5	0	9	10	0	74	3	0	12	0	2			
16:00	16:15	0	3	56	4	0	15	0	6	17	1	73	13	0	6	0	1	814		
16:15	16:30	0	2	59	0	0	8	0	10	11	1	100	10	0	4	0	2	848		
16:30	16:45	0	6	49	0	0	5	0	9	17	0	85	10	0	10	1	5	890		
16:45	17:00	0	4	69	2	0	4	2	4	8	3	99	10	0	6	0	4	905	Peak	
17:00	17:15	3	1	72	0	0	12	0	7	7	1	111	6	0	4	0	5	884		
17:15	17:30	0	0	75	3	0	12	1	11	11	2	116	6	0	6	0	6	818		
17:30	17:45	0	0	59	0	0	12	1	16	8	2	98	6	0	9	0	1	706		
17:45	18:00	0	4	44	0	0	11	3	12	15	3	90	10	0	1	0	1	614		
18:00	18:15	0	0	37	1	0	13	1	10	12	4	78	1	0	6	0	0	549		
18:15	18:30	1	0	48	1	0	4	1	9	6	1	56	5	0	3	0	2			
18:30	18:45	0	0	39	0	0	10	2	9	7	2	43	7	0	1	0	0			
18:45	19:00	1	2	50	0	0	2	0	3	9	0	54	3	0	3	0	2			

Peak	Peak Time North Approach Soldiers Point Rd			Point Rd	Eas	t Approac	ch Randal	l Dr	South	Approach	Soldiers Po	oint Rd	Wes	Peak				
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
8:00	9:00	0	6	396	13	0	32	2	30	37	8	287	21	0	36	1	6	875
16:45	17:45	3	5	275	5	0	40	4	38	34	8	424	28	0	25	0	16	905

Note: Site sketch is for illustrating traffic flows. Direction is indicative only, drawing is not to scale and not an exact streets configuration.



Light Vehicles

Soldiers	Po	int F	₹d
Approa	ch	So	Idi

Ti	me		pproach	Soldiers F	Point Rd	Eas	t Approa	ch Randal	ll Dr	South	Approach	Soldiers Po	oint Rd	Wes	t Approac	h Diemar	's Rd
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:00	7:15	0	2	50	0	0	7	3	3	7	2	34	6	0	4	0	0
7:15	7:30	0	0	47	0	0	5	0	2	7	1	21	6	0	3	0	0
7:30	7:45	0	0	80	0	0	3	1	3	8	3	38	1	0	7	0	0
7:45	8:00	0	1	61	2	0	2	0	9	5	1	40	5	0	9	0	1
8:00	8:15	0	0	72	1	0	5	1	9	10	4	50	4	0	6	0	1
8:15	8:30	0	1	95	2	0	14	0	4	5	3	78	6	0	9	0	1
8:30	8:45	0	1	102	3	0	7	1	6	11	1	72	5	0	7	1	2
8:45	9:00	0	4	113	7	0	5	0	9	10	0	71	3	0	12	0	2
16:00	16:15	0	2	54	4	0	15	0	6	17	1	71	13	0	6	0	1
16:15	16:30	0	2	55	0	0	8	0	10	11	1	99	10	0	4	0	1
16:30	16:45	0	6	47	0	0	5	0	9	17	0	83	10	0	10	1	5
16:45	17:00	0	4	68	2	0	4	2	4	8	3	96	10	0	6	0	4
17:00	17:15	2	1	70	0	0	12	0	7	7	1	111	6	0	4	0	5
17:15	17:30	0	0	75	3	0	12	1	11	11	2	114	4	0	6	0	6
17:30	17:45	0	0	57	0	0	12	1	15	8	2	98	6	0	8	0	1
17:45	18:00	0	4	44	0	0	11	3	12	15	3	90	10	0	1	0	1
18:00	18:15	0	0	37	1	0	13	1	10	12	4	77	1	0	6	0	0

18:15	18:30	1	0	47	1	0	4	1	9	6	1	55	5	0	3	0	2
18:30	18:45	0	0	39	0	0	10	2	9	7	2	43	6	0	1	0	0
18:45	19:00	1	2	50	0	0	1	0	3	9	0	54	3	0	2	0	2

Peak	Time	North A	pproach	Soldiers F	Point Rd	Eas	t Approa	ch Randa	II Dr	South	Approach	Soldiers P	oint Rd	Wes	t Approac	h Diemar	s Rd	Peak
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L	total
8:00	9:00	0	6	382	13	0	31	2	28	36	8	271	18	0	34	1	6	836
16:45	17:45	2	5	270	5	0	40	4	37	34	8	419	26	0	24	0	16	890

Heavy Vehicles

Tieavy verili	me	North A	pproach	Soldiers F	Point Rd		t Approa	ch Randal	ll Dr	South	Approach	Soldiers P	oint Rd	Wes	t Approac	ch Diemar	's Rd
Period Start	Period End	U	R	SB	L	U	R	WB	L	U	R	NB	L	U	R	EB	L
7:00	7:15	0	0	5	0	0	0	0	0	0	1	1	0	0	0	0	0
7:15	7:30	0	0	1	0	0	0	0	1	3	0	5	0	0	0	0	0
7:30	7:45	1	0	4	0	0	0	0	1	1	0	1	0	0	0	0	0
7:45	8:00	0	0	1	0	0	0	0	1	1	0	2	0	0	1	0	0
8:00	8:15	0	0	3	0	0	0	0	0	0	0	4	1	0	0	0	0
8:15	8:30	0	0	3	0	0	1	0	1	1	0	7	1	0	2	0	0
8:30	8:45	0	0	5	0	0	0	0	1	0	0	2	1	0	0	0	0
8:45	9:00	0	0	3	0	0	0	0	0	0	0	3	0	0	0	0	0
16:00	16:15	0	1	2	0	0	0	0	0	0	0	2	0	0	0	0	0
16:15	16:30	0	0	4	0	0	0	0	0	0	0	1	0	0	0	0	1
16:30	16:45	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	0
16:45	17:00	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0
17:00	17:15	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
17:30	17:45	0	0	2	0	0	0	0	1	0	0	0	0	0	1	0	0
17:45	18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	18:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
18:15	18:30	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0
18:30	18:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
18:45	19:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0

Peak	Peak Time North Approach Soldiers Point Ro			Point Rd	East Approach Randall Dr				South	Approach	Soldiers Po	oint Rd	Wes	t Approac	h Diemar	s Rd	Peak	
Period Start	eriod Start Period End U R SB L				L	U	R	WB	L	U R NB L U R EB					L	total		
8:00	9:00	0	0	14	0	0	1	0	2	1	0	16	3	0	2	0	0	39
16:45	17:45	1	0	5	0	0	0	0	1	0	0	5	2	0	1	0	0	15

Transport and Traffic Planning Associates

Appendix D

Hotel Traffic Generation



Resort Hotel

(330)

Average Vehicle Trip Ends vs: Rooms

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

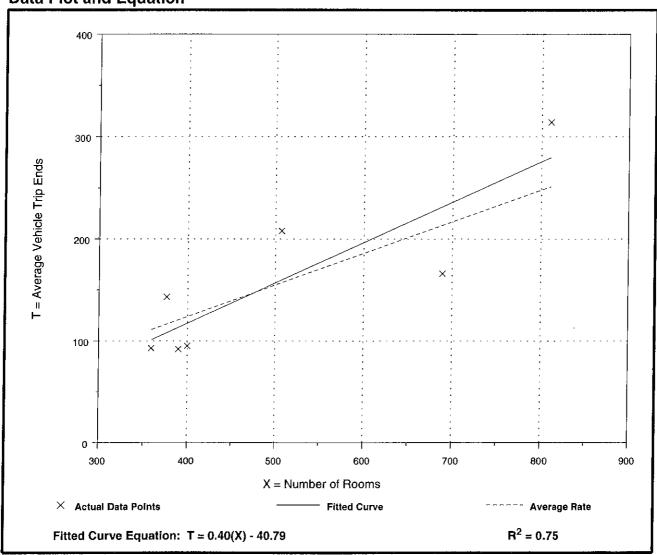
Number of Studies: 7
Average Number of Rooms: 504

Directional Distribution: 72% entering, 28% exiting

Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.31	0.24 - 0.41	0.57

Data Plot and Equation



Resort Hotel

(330)

Average Vehicle Trip Ends vs: Rooms

On a: Weekday,

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.

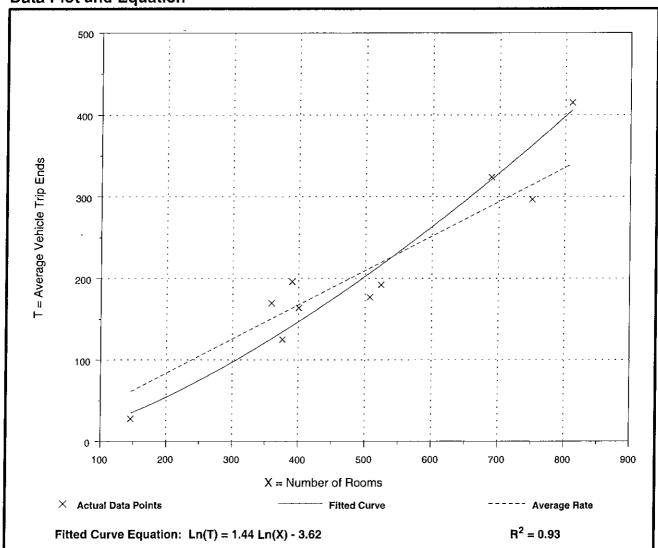
Number of Studies: 10 Average Number of Rooms: 495

Directional Distribution: 43% entering, 57% exiting

Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.42	0.19 - 0.51	0.65

Data Plot and Equation



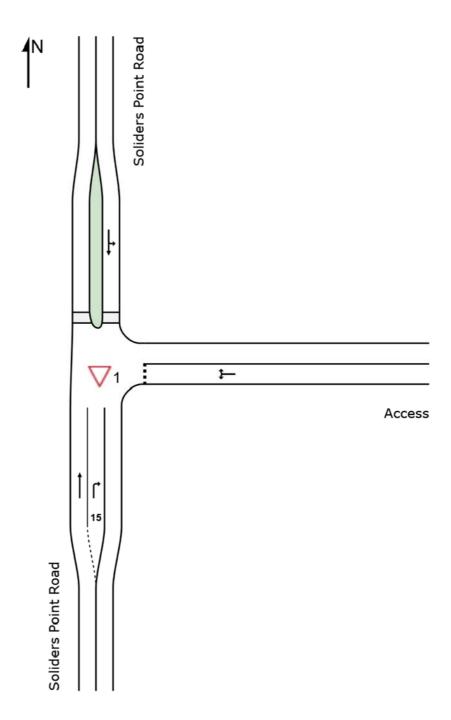
Transport and Traffic Planning Associates Appendix E **SIDRA Results** ttpa

SITE LAYOUT

V Site: 1 [Soliders Point Rd & Access]

Salamander Bay, Port Stephens

Site Category: Salamander Shores Giveway / Yield (Two-Way)



MOVEMENT SUMMARY

V Site: 1 [Soliders Point Rd & Access AM]

Salamander Bay, Port Stephens

Site Category: Salamander Shores Giveway / Yield (Two-Way)

Move	ement P	erformanc	e - Vel	nicles								
Mov ID	Turn	Demand F Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South	: Solider	s Point Road	d									
2	T1	181	0.0	0.093	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
3	R2	15	0.0	0.012	5.3	LOS A	0.0	0.3	0.30	0.53	0.30	42.0
Appro	ach	196	0.0	0.093	0.4	NA	0.0	0.3	0.02	0.04	0.02	49.6
East:	Access											
4	L2	17	0.0	0.051	4.8	LOS A	0.2	1.3	0.40	0.60	0.40	42.4
6	R2	17	0.0	0.051	8.4	LOS A	0.2	1.3	0.40	0.60	0.40	41.9
Appro	ach	34	0.0	0.051	6.6	LOS A	0.2	1.3	0.40	0.60	0.40	42.1
North:	: Soliders	s Point Road	t									
7	L2	15	0.0	0.104	4.6	LOS A	0.0	0.0	0.00	0.04	0.00	25.7
8	T1	187	0.0	0.104	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	49.8
Appro	ach	202	0.0	0.104	0.3	NA	0.0	0.0	0.00	0.04	0.00	47.9
All Ve	hicles	432	0.0	0.104	0.9	NA	0.2	1.3	0.04	0.08	0.04	48.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

V Site: 1 [Soliders Point Rd & Access PM]

Salamander Bay, Port Stephens

Site Category: Salamander Shores Giveway / Yield (Two-Way)

Move	ement P	erformanc	e - Vel	hicles								
Mov ID	Turn	Demand f Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South	: Solider	s Point Road	t									
2	T1	319	0.0	0.165	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
3	R2	21	0.0	0.018	5.3	LOS A	0.1	0.5	0.30	0.54	0.30	42.0
Appro	ach	340	0.0	0.165	0.3	NA	0.1	0.5	0.02	0.03	0.02	49.6
East:	Access											
4	L2	16	0.0	0.058	4.8	LOS A	0.2	1.4	0.44	0.63	0.44	41.2
6	R2	16	0.0	0.058	11.1	LOS A	0.2	1.4	0.44	0.63	0.44	40.7
Appro	ach	32	0.0	0.058	8.0	LOS A	0.2	1.4	0.44	0.63	0.44	41.0
North:	: Soliders	s Point Road	i									
7	L2	21	0.0	0.106	4.6	LOS A	0.0	0.0	0.00	0.06	0.00	25.7
8	T1	184	0.0	0.106	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	49.7
Appro	ach	205	0.0	0.106	0.5	NA	0.0	0.0	0.00	0.06	0.00	47.0
All Ve	hicles	577	0.0	0.165	0.8	NA	0.2	1.4	0.03	0.07	0.03	48.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

V Site: 1 [Soliders Point Rd & Access SAT]

Salamander Bay, Port Stephens

Site Category: Salamander Shores Giveway / Yield (Two-Way)

Move	ment P	erformanc	e - Vel	nicles								
Mov ID	Turn	Demand F Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	
South	: Solider	s Point Road	d									
2	T1	167	0.0	0.087	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	50.0
3	R2	26	0.0	0.023	5.4	LOS A	0.1	0.6	0.31	0.54	0.31	41.9
Appro	ach	194	0.0	0.087	0.7	NA	0.1	0.6	0.04	0.07	0.04	49.2
East:	Access											
4	L2	27	0.0	0.082	4.8	LOS A	0.3	2.1	0.41	0.62	0.41	42.3
6	R2	26	0.0	0.082	8.5	LOS A	0.3	2.1	0.41	0.62	0.41	41.8
Appro	ach	54	0.0	0.082	6.7	LOS A	0.3	2.1	0.41	0.62	0.41	42.1
North:	Soliders	s Point Road	t									
7	L2	27	0.0	0.110	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	25.6
8	T1	185	0.0	0.110	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	49.6
Appro	ach	213	0.0	0.110	0.6	NA	0.0	0.0	0.00	0.07	0.00	46.3
All Ve	hicles	460	0.0	0.110	1.4	NA	0.3	2.1	0.07	0.14	0.07	47.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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