

**“SALAMANDER SHORES’
PROPOSED REDEVELOPMENT SCHEME
SALAMANDER BAY, PORT STEPHENS**

***Assessment of Traffic, Transport and
Parking Implications***

June 2010

Reference 08186

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1. INTRODUCTION

This report has been prepared for Salamander Shores Hotels Pty Ltd to accompany an Environmental Assessment to the Department of Planning for a proposed mixed use tourist hotel and residential apartment development on the existing All Seasons Hotel site 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, and the existing hotel complex has operated on the site for more than 30 years.

The picturesque location of this large site presents an ideal opportunity to provide a complementary mixed development comprising a tourist facility together with residential apartments within the natural landscaped environment.

The Minister for Planning has responded to a PEA Report for the development and has advised the Director General's Requirements which include the following:

3. **Traffic and Access**

3.1 *Prepare a traffic impacts study in accordance with Table 2.1 of the RTA's Guide to Traffic Generating Developments which addresses, but is not limited to the following matters*

- *The capacity of the road network to safely and efficiently cater for the additional traffic generated*
- *Access to and within the site*
- *Servicing and parking arrangements*
- *Intersection site distances*
- *Connectivity to existing developments*
- *Impact on public transport (including school bus routes)*
- *Provision of access for pedestrians and cyclists to, though and within the site*

- *Identify suitable mitigation measures, if required to ensure the efficient functioning of the road network.*

3.2 *Protect existing public access to and along the beach and coastal foreshore and provide, where appropriate, new opportunities for controlled public access. Consider access for the disabled, where appropriate.*

Consultation Requirements:

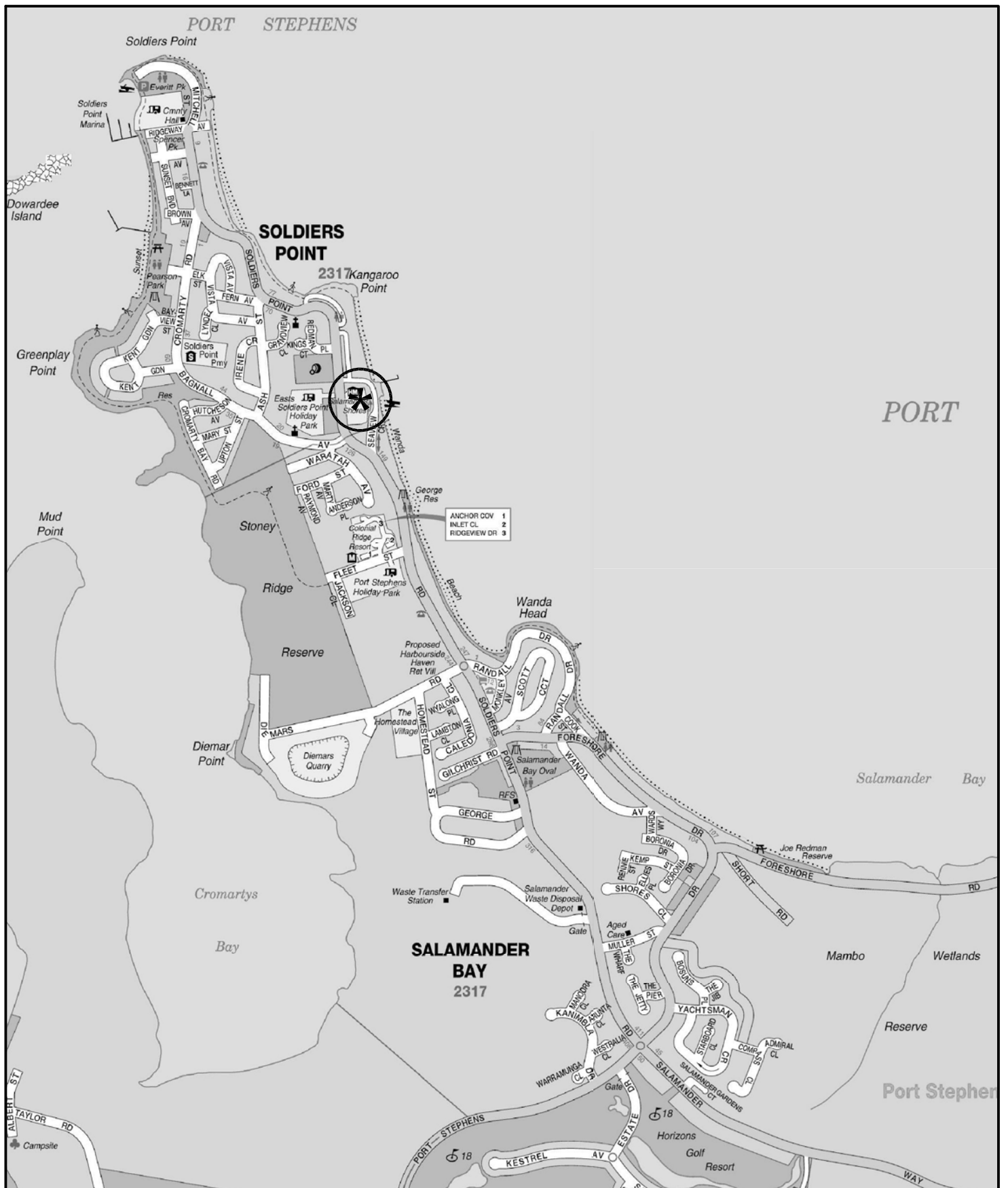
- * *Port Stephens Council*
- * *NSW Roads and Traffic Authority.*

The proposed redevelopment scheme comprises:

* Permanent apartments	-	44
* Serviced apartments	-	34
* Hotel	-	84 rooms
	-	Bar and lounge
	-	Conference and pre-function
	-	Bistro
	-	Café/Retail boutique
	-	Gym/games/recreation

The purpose of this report is to:

- * describe the site and the envisaged 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. PROPOSED DEVELOPMENT SCHEME

2.1 SITE, CONTEXT AND CURRENT USE

The site (Figure 2) is Lot 31 of DP 529002 occupying an irregular shaped area of 1.2 ha and the 'existing conditions' are identified on the Google image which is reproduced overleaf. The site is bounded by:

- * Soldiers Point Road to the west
- * open space to the north, east and south
- * residential dwellings further to the north
- * Caravan Park and Bowling Club along the western side of Soldiers Point Road
- * Residential dwellings further to the south.

The existing Salamander Shores development comprises:

- | | |
|-----------------------|-------------------|
| * 91 hotel rooms | |
| * Bottle Shop | 49m ² |
| * Restaurant | 330m ² |
| * Bistro | 264m ² |
| * Bar/pub | 135m ² |
| * Function/conference | 311m ² |
| * Parking | 135 spaces |

2.2 PROPOSED 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.



LEGEND

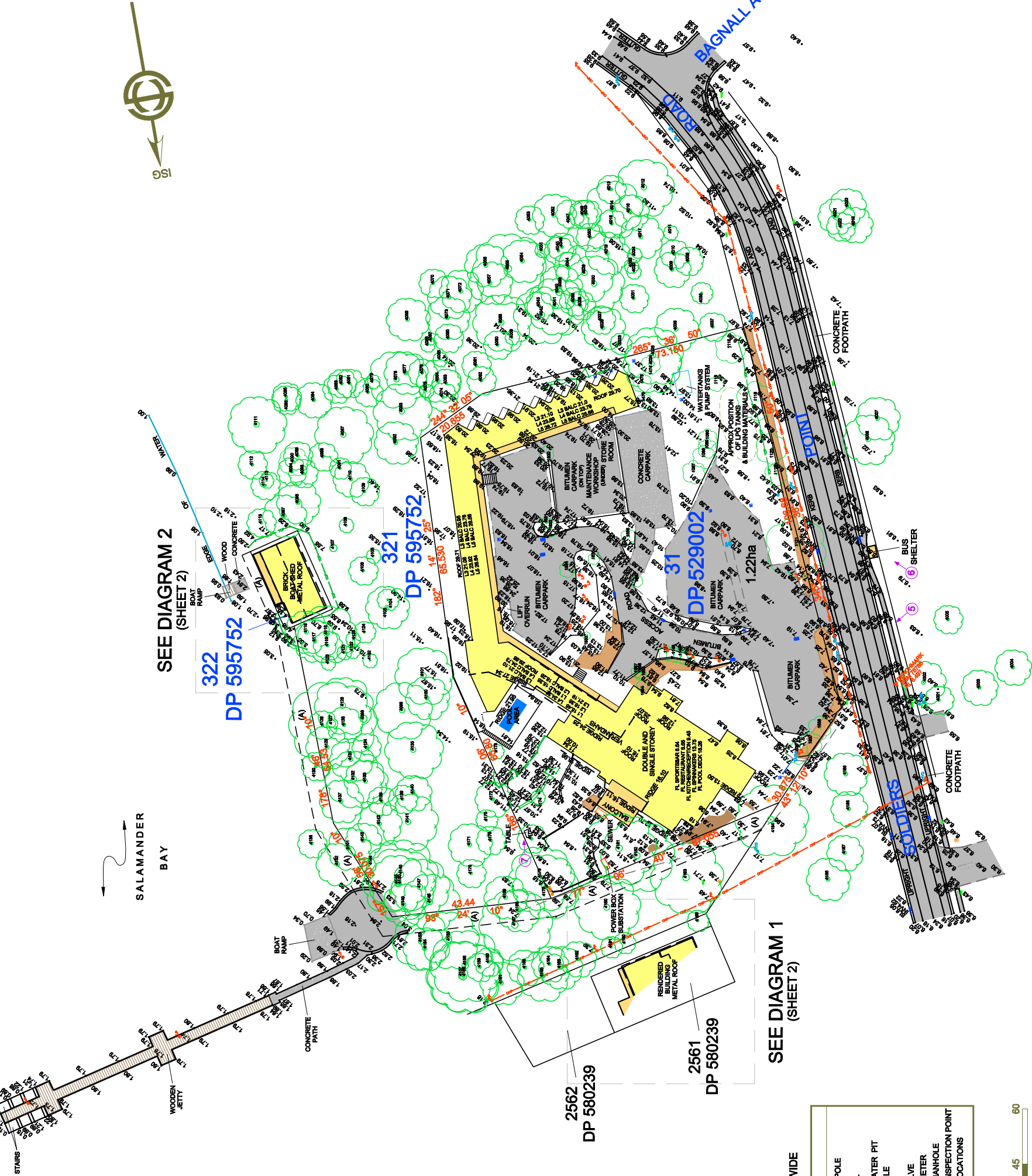


SITE

FIG 2

TABLE OF TREE PROPERTIES

Point Number	Ground RL	Trunk Radius	Height	Top RL
4201	6.7	0.5	12	18.7
4202	6.8	0.375	16	22.8
4203	6.9	0.5	14	20.6
4204	6.6	0.5	10	16.8
4205	6.8	0.15	10	16.8
4206	6.9	0.15	16	23.1
4207	7.1	0.5	16	23.1
4208	11.8	0.15	8	19.8
4209	11.8	0.15	8	19.8
4210	12.0	0.4	6	18.0
4211	12.2	0.4	6	18.2
4212	11.5	0.3	15	26.5
4213	13.8	0.3	15	26.8
4214	13.8	0.15	6	19.8
4215	13.8	0.15	6	19.8
4216	13.8	0.15	6	19.8
4217	13.8	0.2	12	25.8
4218	15.6	0.2	12	27.6
4219	15.6	0.2	12	27.6
4220	8.3	0.5	12	20.3
4221	8.2	0.2	12	20.2
4222	16.1	0.2	6	26.1
4223	16.1	0.2	6	26.1
4224	16.6	0.3	16	32.6
4225	16.2	0.3	16	32.2
4226	16.2	0.3	14	32.2
4227	18.3	0.1	16	34.3
4228	18.2	0.3	14	32.2
4229	17.2	0.4	12	29.2
4230	17.2	0.4	12	29.2
4231	15.5	0.15	10	25.5
4232	15.5	0.15	10	25.5
4233	15.2	0.1	12	27.2
4234	14.8	0.1	10	24.8
4235	11.8	0.25	14	25.8
4236	11.3	0.2	12	23.3
4237	11.3	0.2	12	23.3
4238	18.2	0.1	10	28.2
4239	18.2	0.1	10	28.2
4240	18.1	0.1	8	26.1
4241	18.7	0.2	12	30.7
4242	18.7	0.2	12	30.7
4243	19.0	0.25	12	31.0
4244	16.7	0.1	12	28.7
4245	16.3	0.1	12	28.3
4246	16.3	0.1	12	28.3
4247	14.9	0.3	10	24.9
4248	14.6	0.2	6	22.6
4249	14.6	0.2	6	22.6
4250	15.1	0.2	12	27.1
4251	16.3	0.15	6	22.3
4252	16.3	0.15	6	22.3
4253	16.0	0.15	12	27.0
4254	17.1	0.2	10	27.1
4255	16.6	0.5	10	26.6
4256	17.8	0.1	6	23.8
4257	17.8	0.1	6	23.8
4258	19.7	0.25	6	27.7
4259	19.7	0.25	6	27.7
4260	20.6	0.2	6	28.6
4261	20.8	0.1	6	28.8
4262	20.8	0.1	6	28.8
4263	20.3	0.1	6	28.3
4264	20.2	0.2	12	32.2
4265	19.6	0.3	14	31.6
4266	19.6	0.3	14	31.6
4267	19.2	0.1	12	31.2
4268	18.9	0.1	12	30.9
4269	17.9	0.2	12	29.0
4270	17.9	0.2	12	29.0
4271	17.6	0.1	12	29.6
4272	17.6	0.1	12	29.6
4273	18.6	0.15	12	30.6
4274	20.0	0.1	6	28.0
4275	18.6	0.1	14	32.6
4276	18.6	0.1	14	32.6
4277	18.9	0.1	10	28.9
4278	18.7	0.2	10	28.7
4279	18.7	0.2	10	28.7
4280	16.3	0.2	6	24.3
4281	15.2	0.2	10	25.2
4282	15.2	0.2	10	25.2
4283	14.5	0.1	10	24.5
4284	13.0	0.3	14	27.0
4285	10.5	0.1	6	18.5
4286	10.5	0.1	6	18.5
4287	14.3	0.4	14	28.3
4288	13.3	0.3	14	22.3
4289	8.3	0.2	14	22.3
4290	8.3	0.2	14	22.3
4291	13.4	0.2	11	24.4
4292	13.4	0.2	11	24.4
4293	16.4	1	10	26.4
4294	8.5	0.2	6	16.5



LEGEND

- BOUNDARY
- TOP OF BANK
- TOE OF EXISTING KERB & GUTTER
- OVERHEAD POWER LINES
- HIGH WATER MARK
- EDGE OF BITUMEN
- GRATE
- TREE
- PHOTO LOCATIONS
- POWER POLE
- TELSTRA
- HYDRANT
- STORMWATER PIT
- LIGHT POLE
- TAP
- STOP VALVE
- WATER METER
- SEWER MANHOLE
- SEWER INSPECTION POINT



- NOTE -**
1. A COMPLETE INVESTIGATION OF SERVICES HAS NOT BEEN UNDERTAKEN FOR THIS SURVEY.
 2. SERVICES SHOWN HEREON HAVE BEEN LOCATED BY FIELD SURVEY OF VISIBLE SURFACE FEATURES.
 3. DEPTHS AND INVERTS ARE ONLY SHOWN WHERE ACCESS IS REASONABLE.
 4. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, ALL AUTHORITIES SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.
 5. THIS PLAN SHOULD NOT BE USED FOR CRITICAL DESIGN DIMENSIONS IN RELATION TO EXISTING STRUCTURES AND SERVICES. CONFIRMATION OF CRITICAL POSITIONS SHOULD BE OBTAINED FROM RPS HARPER SOMERS O'SULLIVAN PTY LTD.
 6. TREE AND RIDGE HEIGHTS HAVE BEEN LOCATED BY REMOTE MEANS AND ARE APPROXIMATE ONLY.
 7. TREE SPREADS ARE SHOWN TO SCALE ON THE DRAWING.

TABLE OF TREE PROPERTIES (Cont)

Point Number	Ground RL	Trunk Radius	Height	Top RL
4295	9.6	0.3	14	23.6
4296	6.4	0.3	16	24.4
4297	6.4	0.3	16	24.4
4298	6.5	0.3	10	22.9
4299	12.9	0.3	10	22.9
4300	15.7	0.2	6	23.7
4301	15.7	0.2	6	23.7
4302	10.6	0.1	14	24.6
4303	13.8	0.2	12	25.8
4304	14.1	0.4	6	20.5
4305	14.1	0.4	6	20.5
4306	13.0	0.4	6	19.0
4307	11.2	0.15	6	19.2
4308	11.2	0.15	6	19.2
4309	14.7	0.2	6	20.7
4310	14.1	0.15	12	26.1
4311	11.1	0.2	12	23.1
4312	3.2	0.2	8	11.2
4313	4.7	0.1	8	12.7
4314	6.4	0.3	6	13.4
4315	6.4	0.3	6	13.4
4316	5.4	0.3	12	17.4
4317	5.7	0.2	12	17.7
4318	7.0	0.2	12	19.0
4319	7.0	0.2	12	19.0
4320	5.5	0.1	10	15.5
4321	5.5	0.1	10	15.5
4322	8.5	0.1	10	19.5
4323	10.1	0.1	10	20.1
4324	11.2	0.1	6	19.2
4325	7.5	0.3	12	19.5
4326	5.6	0.4	14	19.6
4327	5.6	0.4	14	19.6
4328	4.5	0.2	8	12.5
4329	4.5	0.2	8	12.5
4330	1.0	0.25	6	7.0
4331	1.0	0.25	6	7.0
4332	5.1	0.25	10	15.1
4333	7.5	0.3	12	19.5
4334	8.4	0.2	10	18.4
4335	8.4	0.2	10	18.4
4336	2.5	0.1	10	12.5
4337	3.9	0.1	12	15.9
4338	9.3	0.1	10	19.3
4339	9.3	0.1	10	19.3
4340	10.1	0.25	14	24.1
4341	5.7	0.25	12	15.7
4342	5.7	0.25	12	15.7
4343	3.5	0.2	6	11.5
4344	4.1	0.2	10	14.1
4345	4.1	0.2	10	14.1
4346	4.9	0.4	10	14.9
4347	5.8	0.3	12	17.8
4348	5.8	0.3	12	17.8
4349	4.4	0.2	14	18.4
4350	4.1	0.3	6	12.1
4351	4.1	0.3	6	12.1
4352	2.5	0.3	14	16.5
4353	3.4	0.4	14	17.4
4354	3.4	0.4	14	17.4
4355	4.4	0.15	6	11.4
4356	2.8	0.6	14	16.8
4357	2.5	0.3	10	12.5
4358	2.5	0.3	10	12.5
4359	3.1	0.2	12	15.1
4360	3.1	0.2	12	15.1
4361	2.5	0.3	14	16.5
4362	7.2	0.5	14	21.2
4363	6.2	0.3	12	18.2
4364	5.9	0.2	12	17.9
4365	5.9	0.2	12	17.9
4366	4.8	0.3	17	21.8
4367	6.9	0.45	15	21.9
4368	6.9	0.45	15	21.9
4369	7.6	0.2	8	15.6
4370	7.9	0.2	10	17.9
4371	12.2	0.3	12	22.2
4372	12.2	0.3	12	22.2
4373	15.0	0.2	6	23.0
4374	11.4	0.2	6	19.4
4375	11.4	0.2	6	19.4
4376	10.2	0.2	8	18.2
4377	10.1	0.35	12	22.1
4378	8.2	0.3	14	22.2
4379	8.2	0.3	14	22.2
4380	7.7	0.35	14	21.7
4381	8.2	0.45	15	23.2
4382	8.2	0.45	15	23.2
4383	7.7	0.5	16	23.7
4384	7.0	0.35	9	23.0
4385	6.4	0.3	12	18.4
4386	6.4	0.3	12	18.4
4387	6.4	0.35	12	18.4
4388	7.4	0.5	12	14.4
4389	7.4	0.5	12	14.4
4390	7.5	0.3	17	24.5
4391	7.5	0.3	17	24.5
4392	7.5	0.2	14	21.6

TITLE: DETAIL SURVEY

LOT 31 DP 529002, LOTS 321-322 DP 595752

SALAMANDER SHORES

SCALE: 1 : 600 (A1)

1 : 1200 (A3)

DATE: 2ND SEPTEMBER 2008

DRAWN: E.CHESTERSON

APPROVED: J.GOOD

DATUM: AHD

SURVEYOR: M.TERRY

SHEET 1 OF 3

CONTOUR INTERVAL: 0.1M

ORIGIN: SSM 78766 RL6.407

AUTOCAD REF: 25400-1A

LAYOUT REF:

JOB REF:

25400



HARPER
SOMERS
O'SULLIVAN

CLIENT: DARYL JACKSON ROBIN DYKE PTY LTD

PLANNING SURVEYING ECOLOGY

PO BOX 428

HAMILTON NSW 2303

W: www.rpshso.com.au

ABN 11 093 343 858

T: 02 4961 6500

F: 02 4961 6794

E: survey@rpshso.com.au

The proposed redevelopment scheme comprises:

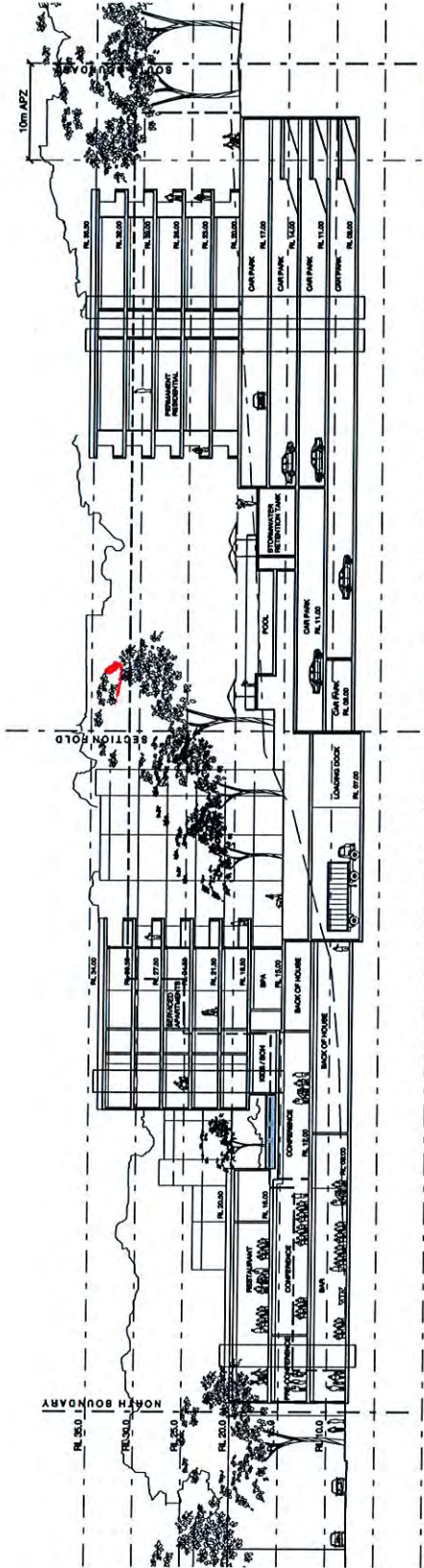
*	Residential apartments	5 x one-bedroom	
		9 x two-bedroom	
		30 x three-bedroom	
		Total	44
*	Serviced apartments	34 x two-bedroom (dual key)	
*	Hotel	84 rooms	
		Bar/lounge	570m ²
		Bistro	400m ²
		Pre-function	115m ²
		Conference	550m ²
		Café/retail	260m ²
		Gym/games/recreation	430m ²
		Back of house/store	

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.

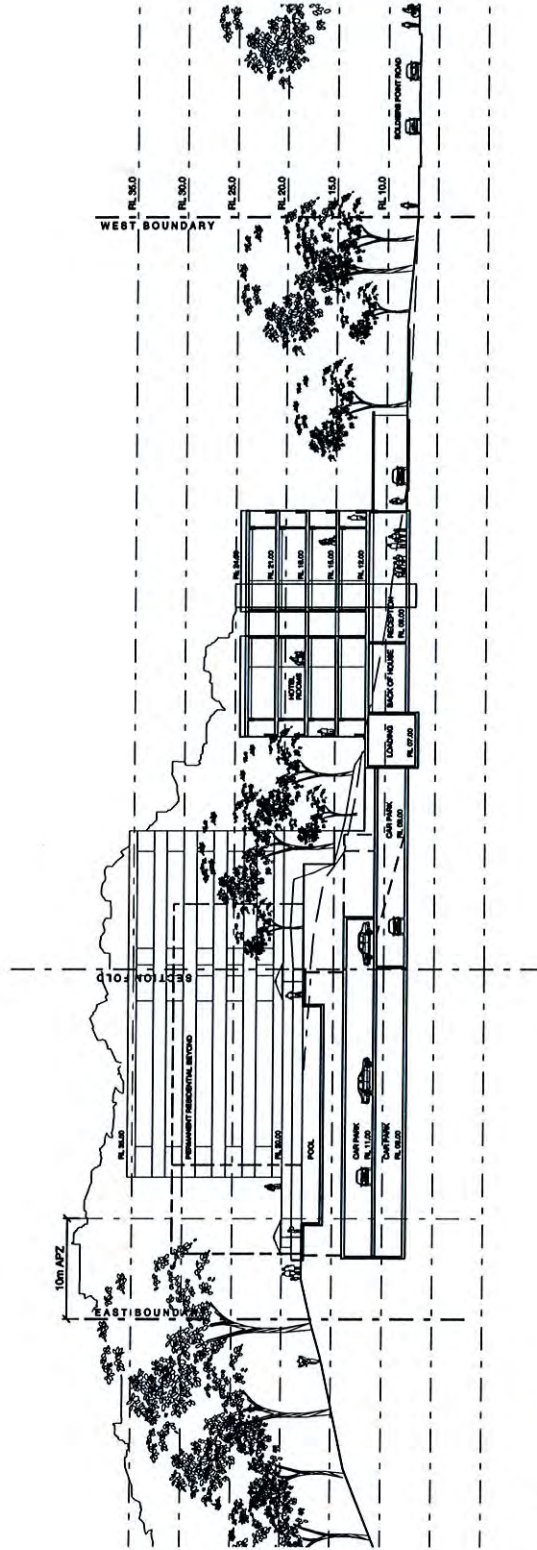
Details of the Concept Plan are provided on the plans prepared by Daryl Jackson and Robin Dyke which accompany the Application and are reproduced in part overleaf.



PRELIMINARY



SECTION 01 - NORTH SOUTH



SECTION 02 - WEST EAST

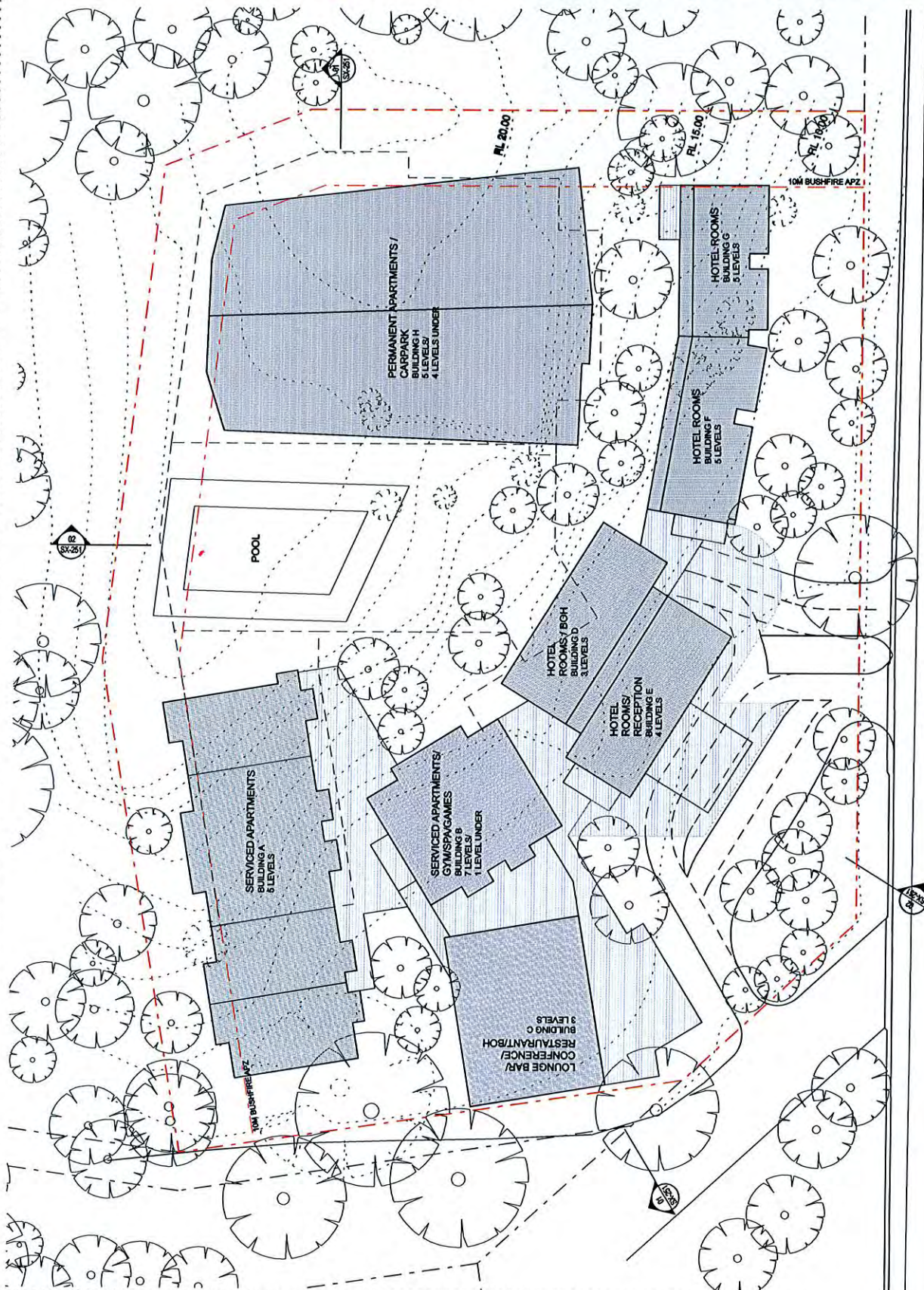
P2	07.05.10	FOR INFORMATION	JF
P1	07.04.10	FOR INFORMATION	JF
Rev.	Date	Amendment	Drawn
Architect	DAVID JACOBSON ROBIN DYKE PTY LTD		
Architects	64 Ross Street Chippendale NSW 2008		
Phone	15119 2555 / 0615 1116		
Email	info@djrd.com.au		
Permit	SAKE Development		
Permit	Sub 11 340 During Street Staircase NSW 2041		
Permit	15810 3501		
Client	SALAMANDER SHORES HOTEL		
Project	SALAMANDER SHORES		
Project	147 SOLDIERS POINT ROAD		
Project	SOLDIERS POINT		

CONCEPT PLAN APPLICATION
Scale @ A3
Date: 7/05/2010
1:500

0 5 10 15 20 25m
1:500

SECTION
SHEET 01

Job Number: 06 431
Drawn: SK-251
Revision: P2



SOLDIERS POINT ROAD

ROOF PLAN

Job Number	Draw. No.	Revision
06 431	SK-107	P5

SCHEDULE

PERMANENT RESIDENTIAL	44 (5x18, 6x28 & 30x38)
SERVICED APARTMENTS	34
HOTEL ROOMS	84
BAR	570 SQM
RESTAURANT	400 SQM
PRIE FUNCTION	115 SQM
CONFERENCE	550 SQM
CAFETERIA	280 SQM
GYM/SPA/RECREATION	430 SQM
GENERAL BOATSTORAGE	1900 SQM
CAR PARKING	275

PSR 1:81

PRELIMINARY

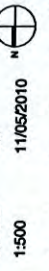
Rev.	Date	Author	Checked
P5	11.05.10	SCHEDULE REVISED	SE
P4	07.05.10	FOR INFORMATION	SE
P3	28.04.10	FOR INFORMATION	SE
P2	15.04.10	COMMUNITY CONSULT	JF
P1	07.04.10	FOR INFORMATION	JF

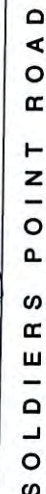
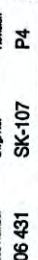
Architect
DARYL JACKSON ROBIN DYCKE PTY LTD
ARCHITECTS
64 Rose Street Chippendale NSW 2008
t 02 9555 1468 f 02 9555 1116
jackson@robin-dycke.com.au

Client
SALAMANDER SHORES HOTEL

Project
SALAMANDER SHORES
147 SOLDIERS POINT ROAD
SOLDIERS POINT

Concept Plan Application
Scale @ A3
Date: 11/05/2010







Rev.	Date	Assessment	Drawn
P4	07.05.10	FOR INFORMATION	SE
P3	28.04.10	FOR INFORMATION	SE
P2	15.04.10	COMMUNITY CONSULT	JF
P1	07.04.10	FOR INFORMATION	JF

Planner
SAKE Development
Suite 11 340 Darling Street Balmalm NSW 2041
t 9810 3801
Email: enr_tjuly@optusnet.com.au

Client
SALAMANDER SHORES HOTEL

Project **SALAMANDER SHORES**

**147 SOLDIERS POINT ROAD
SOLDIERS POINT**

Scale: \odot A3 Date:


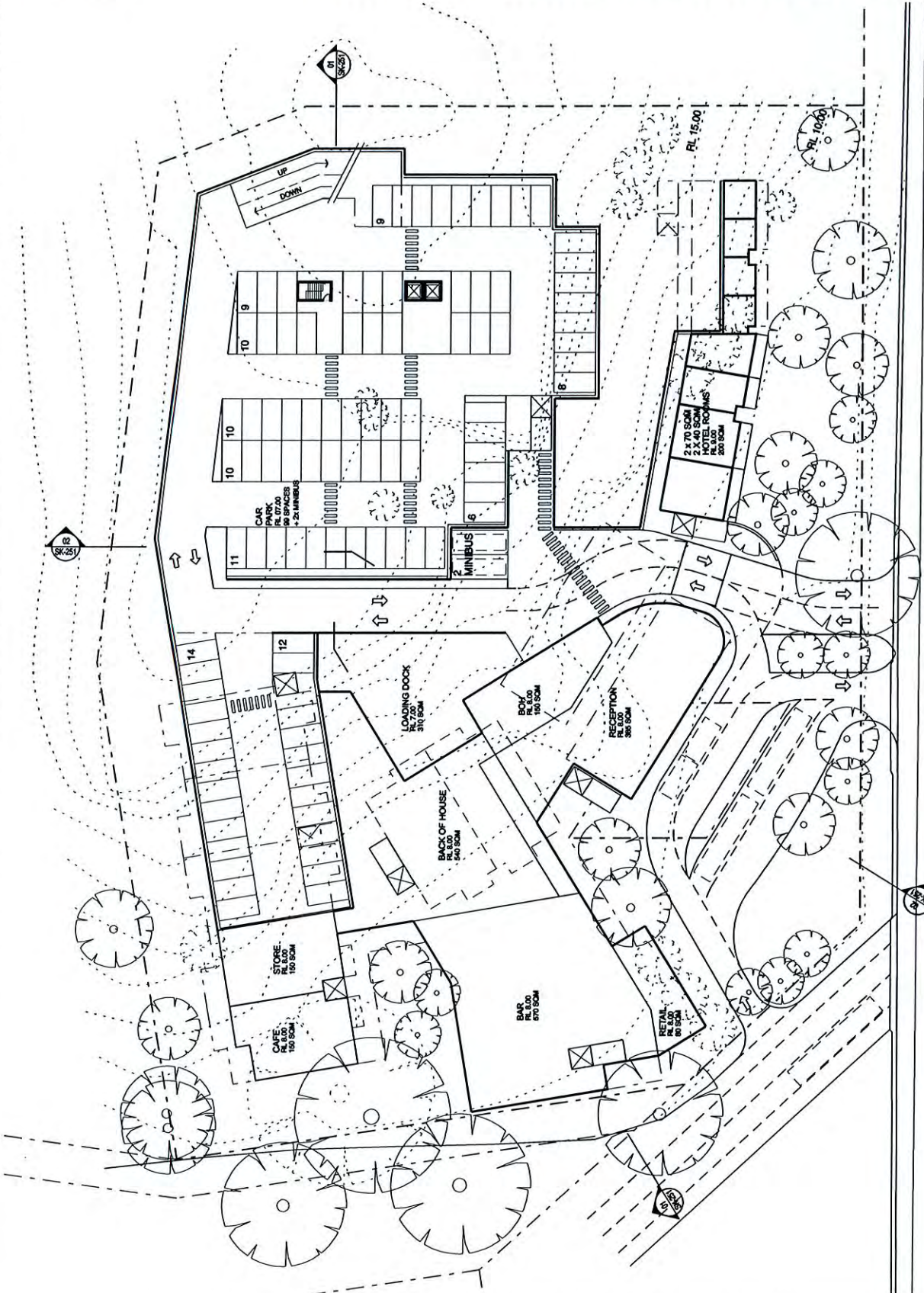
1:500
7/05/2010


Figure 1 is a schematic diagram of a road network at a 1:500 scale. The road is represented by a horizontal line with several segments. The segments are labeled with numbers: 0, 5, 10, 15, 20, and 25. A scale bar at the bottom left indicates a scale of 1:500. A legend box is located in the bottom right corner, containing the text 'Description' and a line segment.

GROUND LEVEL PLAN
BI 08 00

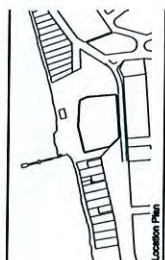
Job Number	Draw. No.	Revision
06 424	01 404	D4



SOLDIERS POINT ROAD

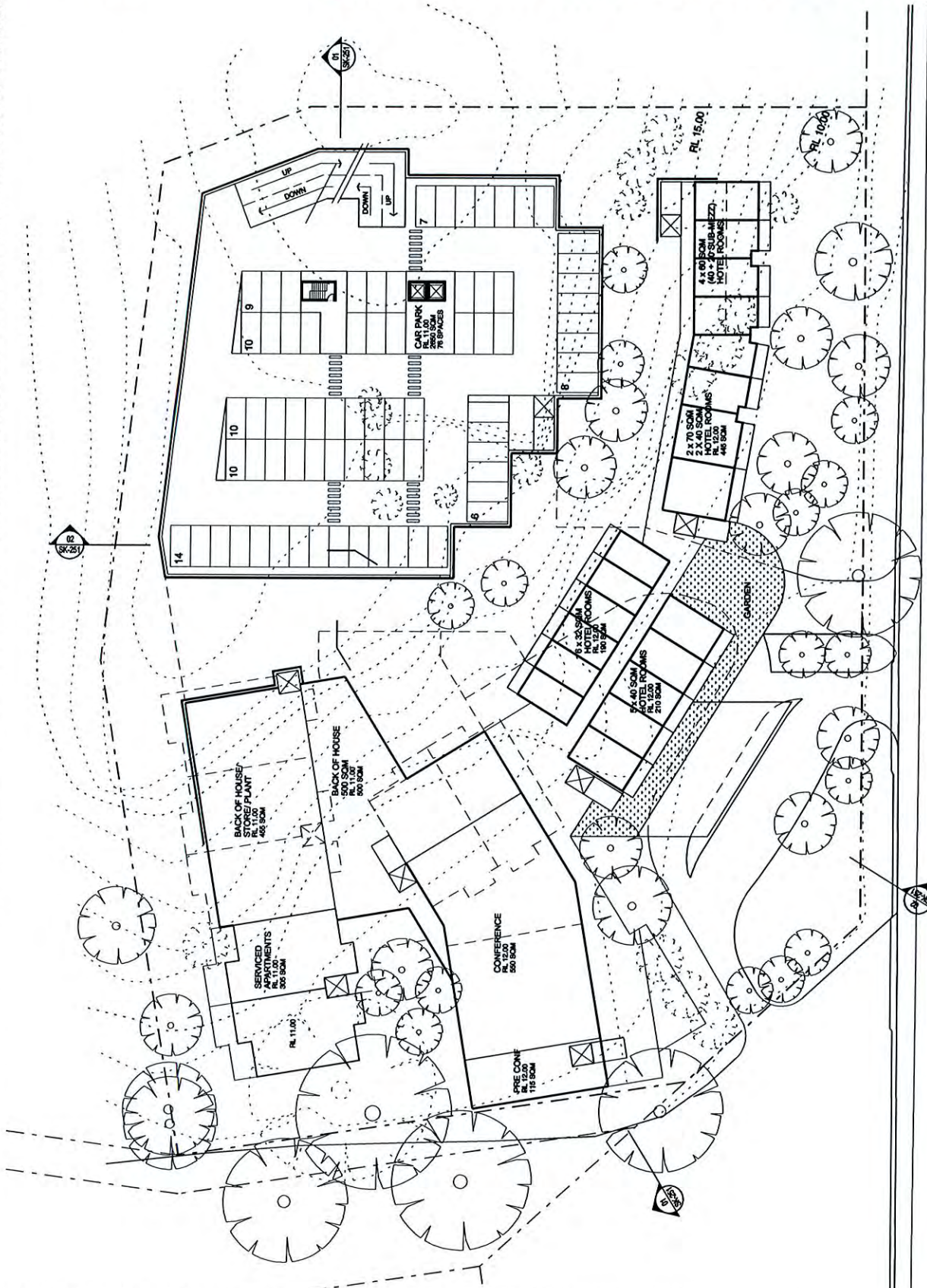
GROUND LEVEL PLAN
BI 08 00

Job Number	Draw. No.	Revision
06 424	01 404	D4



PRELIMINARY

P4 07/05/10 FOR INFORMATION SE
 P3 28/04/10 FOR INFORMATION SE
 P2 15/04/10 COMMUNITY CONSULT JF
 P1 07/04/10 FOR INFORMATION JF
 Rev. Date Amendment Drawn
 Architect
 DARYL JACKSON ROBIN DYKE PTY LTD
 ARCHITECTS
 40/41 DUNDAS STREET WEST
 SYDNEY NSW 2008
 1 8171 2555 1 8008 1119
 jacksonarchitects.com.au
 Email: daryl@jacksonarchitects.com.au
 Project
 SAGE Development
 147 Soldiers Point Road
 Soldiers Point NSW 2241
 1 8010 3801
 Email: info@sageproperties.com.au
 Client
 SALAMANDER SHORES HOTEL
 Project
 SALAMANDER SHORES
 147 SOLDIERS POINT ROAD
 SOLDIERS POINT
 CONCEPT PLAN APPLICATION
 Scale @ A3
 Date: 7/05/2010
 1:500
 0 5 10 15 20 25m
 1:100
 Description
 LEVEL 1 PLAN
 RL 12.00
 Job Number
 06 431
 Orig. No.
 SK-102
 Revision
 P4



SOLDIERS POINT ROAD



Location Plan

PRELIMINARY

P4	07.03.10	FOR INFORMATION	SE
P3	26.04.10	FOR INFORMATION	SE
P2	16.04.10	COMMUNITY CONSULT	JF
P1	07.02.10	FOR INFORMATION	JF
Rev.	Date	Amendment	Drawn
Author	JACKSON ROBIN DYKE PTY LTD		
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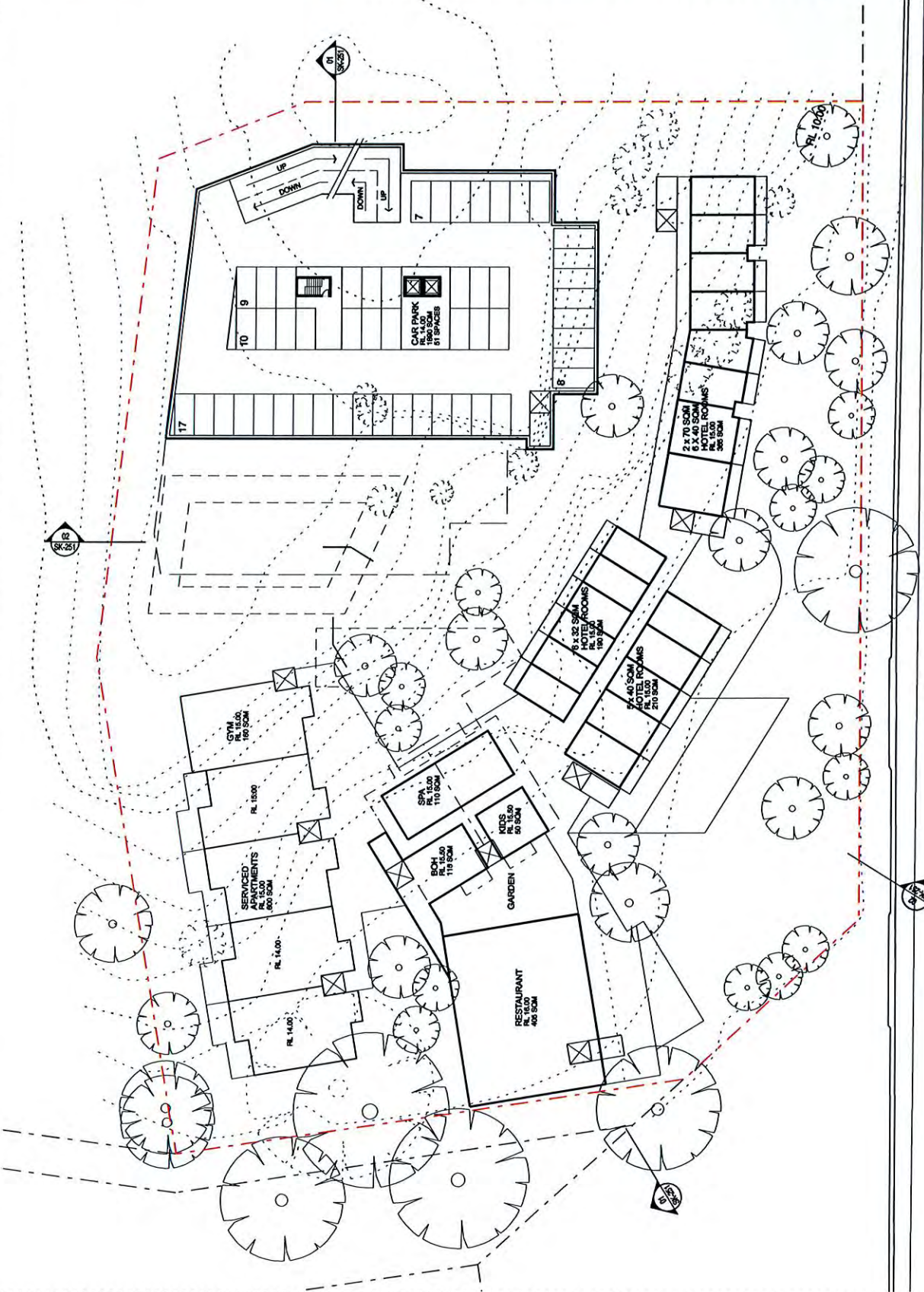
Project
SALAMANDER SHORES HOTEL
147 SOLDIERS POINT ROAD
SOLDIERS POINT

Client
SALAMANDER SHORES HOTEL

Scale 1:500
Date 7/05/2010

Description
LEVEL 2 PLAN
RL 15.00

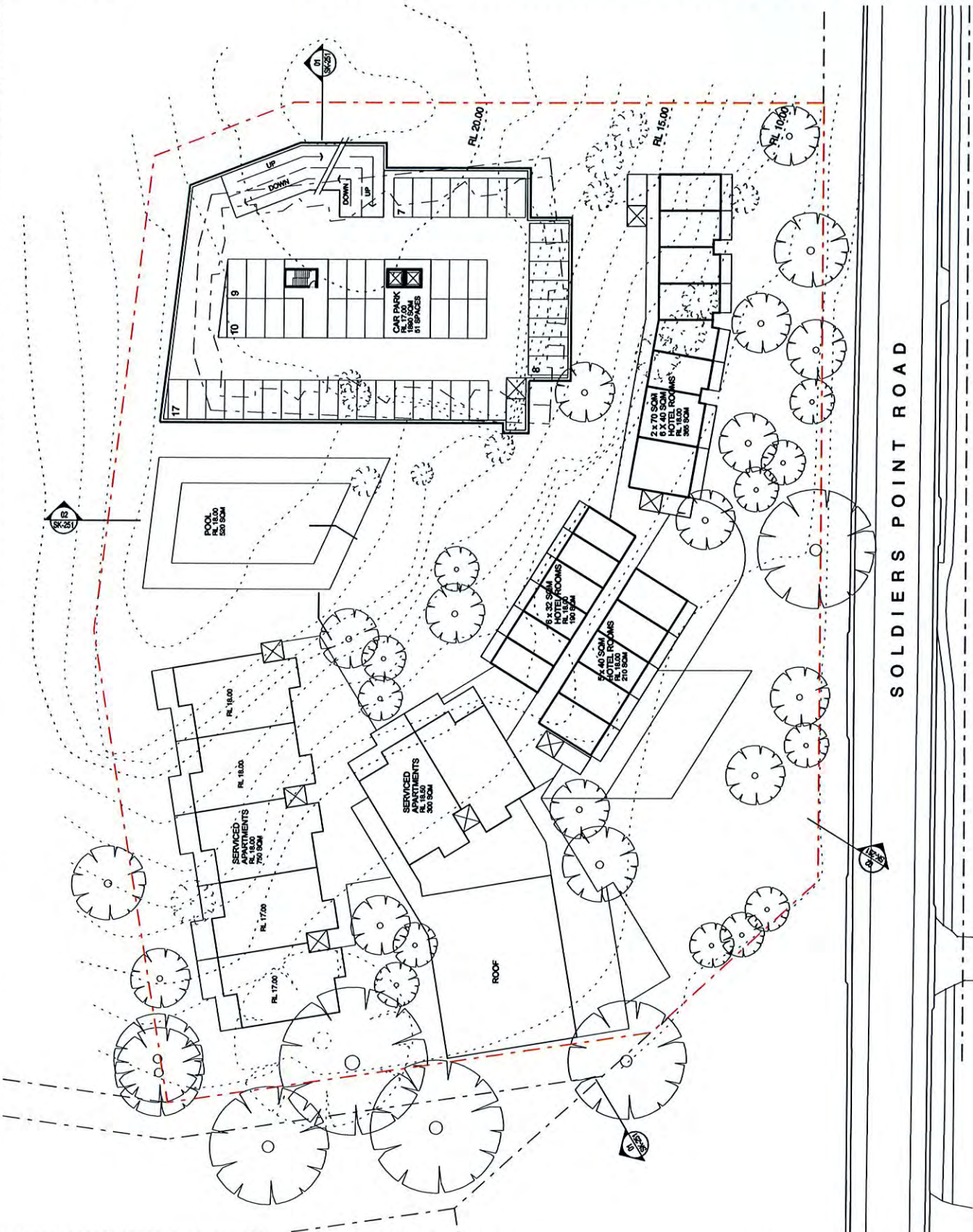
Job Number	06 431	Dep. No.	SK-103	Revision	P4
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SOLDIERS POINT ROAD



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3. EXISTING ROAD NETWORK AND TRAFFIC CONDITIONS

3.1 ROAD NETWORK

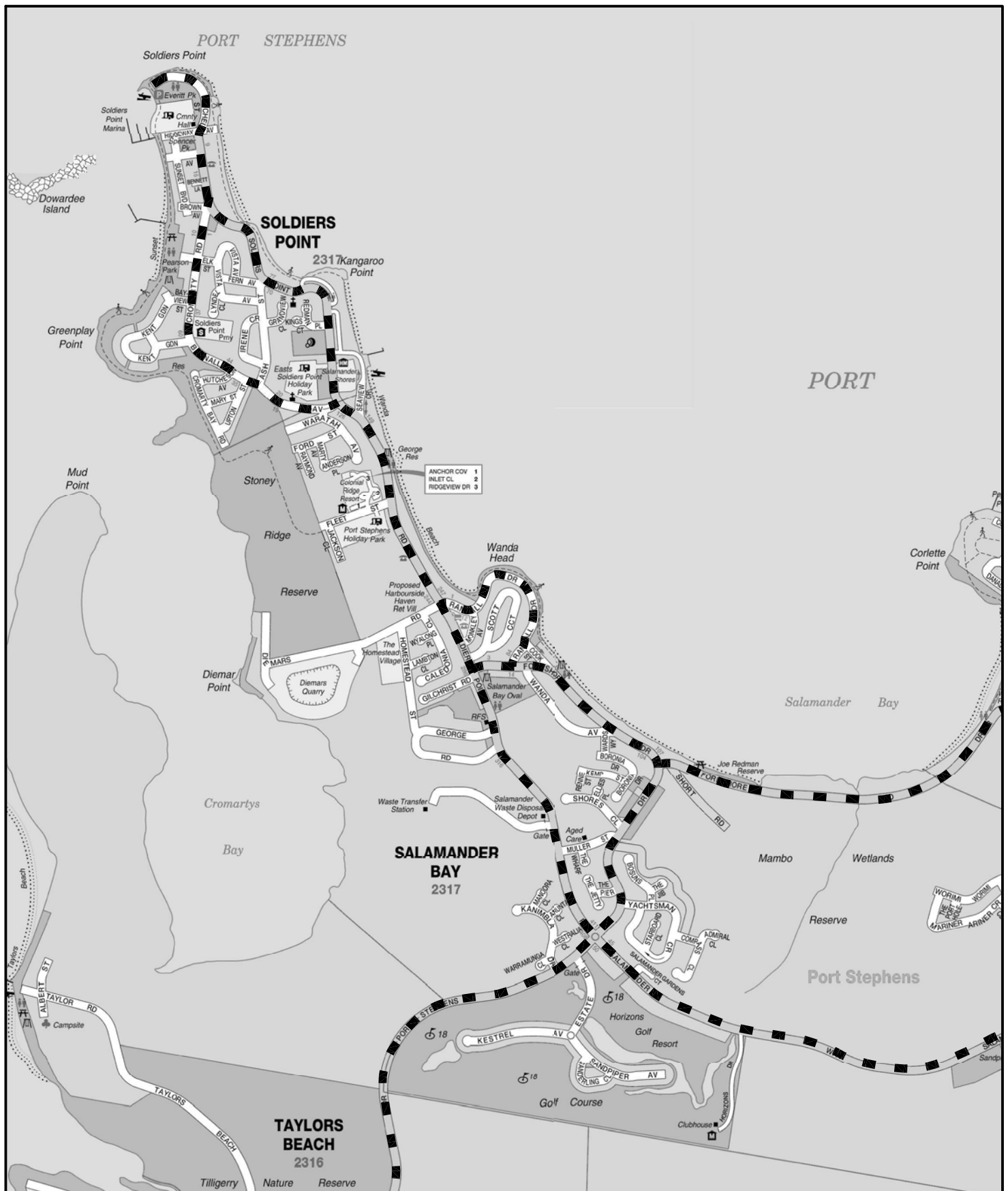
The road network serving the site (Figure 3) comprises:

- * *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 straight and level alignment being some 12 metres wide.

3.2 TRAFFIC CONTROLS

The relatively few 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 linemarking 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.

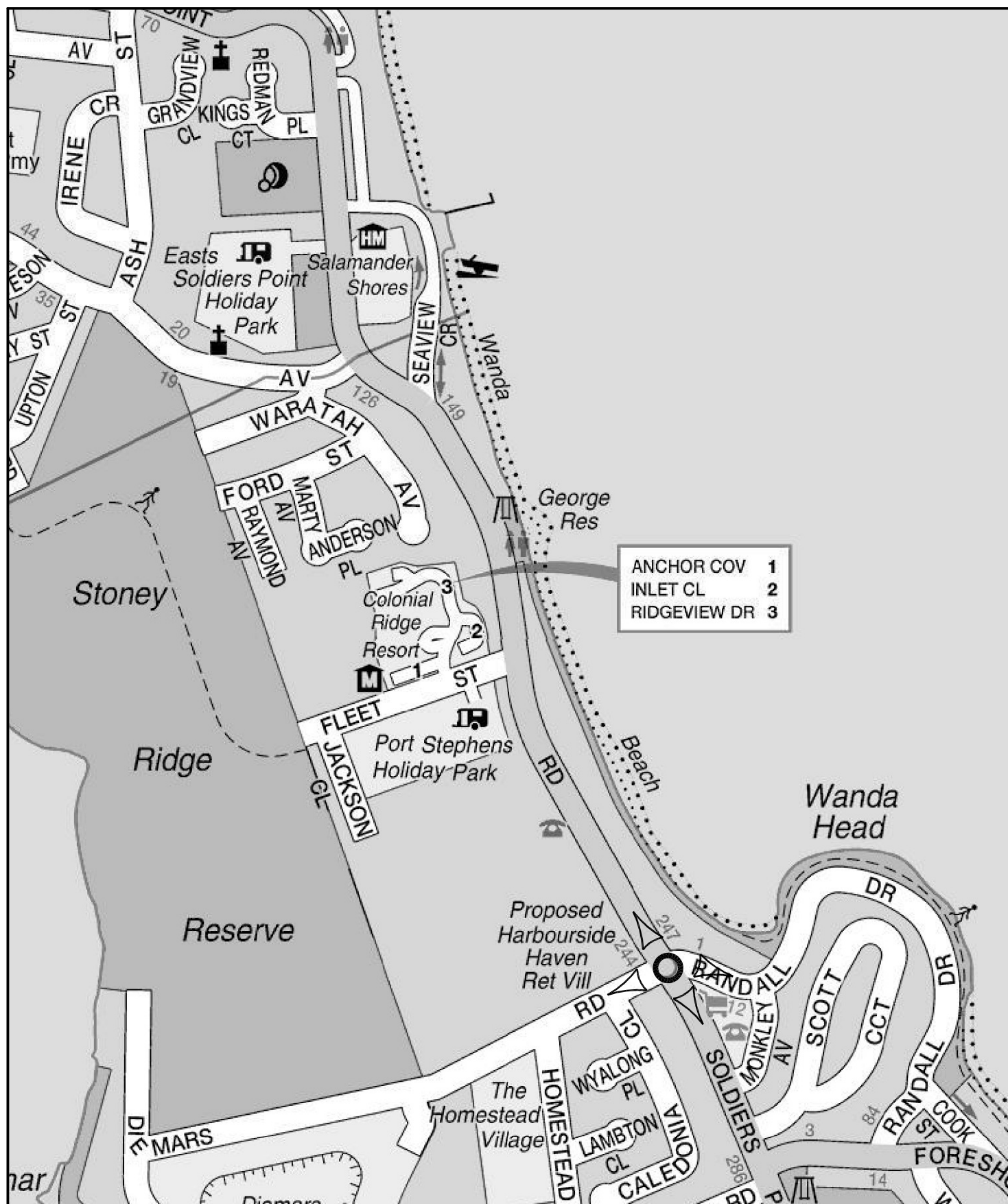
3.3 TRAFFIC CONDITIONS

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




	AADT		
	1998	2001	2004
Nelson Bay Road north of Cabbage Tree Road	14,893	15,401	17,174
Nelson Bay Road east of Gan Gan Road	9,481	7,887	9,481

This data indicates a typical steadily increasing traffic flow while additional traffic flow characteristics are provided by details from the 'permanent' counting station north of Cabbage Tree Road in terms of:

- 7 day / 24 hour directional volumes
- 365 day directional volumes



LEGEND

-  TRAFFIC SIGNAL CONTROL
-  ROUNDABOUT
-  RESTRICTED TURNING MOVEMENT



TRAFFIC CONTROLS

FIG 4

These details are provided in Appendix A with particular apparent features being:

- * the fairly consistent flows throughout the business hours
- * the heightened volumes during the summer months.

Traffic surveys have recently been undertaken in the vicinity of the site in February 2010 during the Friday morning and afternoon peak and Saturday morning periods. Details of the recorded movement volumes are provided in Appendix B and summarised in the following:

		AM	PM	Sat
Soldiers Point Road	Northbound	94	158	135
	Left-turn	125	110	88
	Southbound	150	117	163
	Right-turn	1	1	4
Bagnall Avenue	Right-turn	167	141	101
	Left-turn	8	10	16
<hr/>				
Soldiers Point Road	Northbound	212	364	266
	Right-turn	6	14	8
	Left-turn	12	6	20
	Southbound	328	256	340
	Right-turn	10	14	6
	Left-turn	12	6	16
Randall Drive	Westbound	4	8	2
	Right-turn	22	24	50
	Left-turn	36	30	26
Diemars Road	Eastbound	-	2	-
	Right-turn	50	32	28
	Left-turn	10	14	8

		AM	PM	Sat
Soldiers Point Road	Northbound	198	224	156
	Right-turn	22	76	32
	Left-turn	148	170	108
	Southbound	230	214	244
	Right-turn	158	92	134
	Left-turn	18	28	20
Port Stephens Drive	Eastbound	46	94	56
	Right-turn	172	198	148
	Left-turn	138	146	116
	Westbound	96	58	90
	Right-turn	48	8	16
	Left-turn	96	58	68

	AM		PM		Sat	
	IN	OUT	IN	OUT	IN	OUT
Hotel Access	8	3	11	12	31	31
Seaview Crescent	3	7	19	19	8	18
Bowling Club Access	26	10	78	47	25	12
Caravan Park Access	8	13	13	5	8	24

3.4 PUBLIC TRANSPORT

Public transport services in the vicinity of the site are essentially limited to the bus service operated by Port Stephens Coaches which connects between Soldiers Point and Newcastle. This service offers 4 morning and 4 afternoon services in each direction on weekdays and 5 services in each direction on Saturdays, Sundays and Public Holidays as indicated in the timetable details provided in Appendix D.

4. ACCESS AND TRAFFIC

Access

The proposed vehicle access provisions will comprise:

- * 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 porte-cochere 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 AS 2890.1 and 2 and will provide for all vehicles requiring to access the site.

Traffic

The proposed redevelopment scheme remains of a similar make up and nature to that of the existing development albeit with some additional floorspace areas and the residential/serviced apartments.

The RTA Guidelines do not contain any criteria in relation to the traffic generation characteristics of tourist hotels, however a study undertaken by the 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 (2003) 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 C 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)

It is apparent that the hotel rooms and the serviced apartments will exhibit a similar generation characteristic. The proposed hotel will have 80 rooms and there will be 34 serviced apartments, and on this basis (ie the criteria provided for 82% occupancy) the weekday morning and afternoon peak traffic generation for 114 accommodation units will be:

AM	36 vtpH	(26 IN / 10 OUT)
PM	48 vtpH	(21 IN / 27 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 vtp/h). 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:

Peak Traffic Generation

Residential apartments - 0.35 vtp/h

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

44 apartments @ 0.35 vtp/h – 16 vtp/h

AM		PM	
IN	OUT	IN	OUT
4	12	12	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 these periods (ie bar, restaurant)
- * they are very largely ancillary to the accommodation elements (ie 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/Service Apartments	26	10	21	27	39*	39*
Residential	4	12	12	4	6	6
Other (service, coaches etc)	4	4	4	4	2	2
Total	34	26	37	35	47	47

* 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	A	A	A
DS	0.042	0.058	0.058
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
'D'	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
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	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**¹ 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.

¹ the values of DS for intersections under traffic signal control are only valid for cycle length of 120 secs

5. PARKING

Assessment in relation to the appropriate parking provision for the various elements of development scheme has had regard to Council's DCP and the RTA Development Guidelines.

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 serviced apartments.

In relation to the parking provision for the hotel element the Roads and Traffic Authority's Guide to Traffic Generating Developments² contains the following:

Section 5.5.3 Hotels - Tourist

Definition: A Tourist Hotel is a building or buildings (other than a hotel licensed under the Liquor Act, motel, boarding house or residential building) substantially used for the accommodation of tourists.

Hotels with a 3, 4 or 5 star rating are generally considered to be tourist hotels and the parking provision recommended for 3 and 4 star hotels is 1 space per 4 bedrooms. Provision should be made for tour coach parking and stacked parking should not be used unless a valet parking service is available.

The guidelines note that 3, 4 and 5 star hotels incorporate operational elements of retail, entertainment, conference and health facilities but do not apply separate additional parking requirement for these elements.

² Guide to Traffic Generating Developments
Roads and Traffic Authority of NSW October 2002

The application of 'compound' parking requirements for each element of the proposed development is clearly not appropriate due to the very significant and distinct 'dual and complementary' characteristics of these elements with:

- * hotel guests being the pre-eminent users of the restaurant, bar and function elements
- * the different peak usage times for elements (eg room occupation, restaurant, conference).

It is also apparent that 100% occupancy would be a rare seasonal event and 65% to 70% would be the normal expected week to week peak occupancy.

Reference to the Institute of Engineers Publication 'Parking Generation' 2003 contains the following assessments:

Landuse	All Suites Hotel	Motel	Business Hotel	Resort Hotel
Av № rooms	170	200	130	365
Av Peak Parking Demand (cars parked per room)				
Weekday	0.86	0.90	0.64	NA
Weekend	0.85	NA	0.66	0.64

NA = Not accurate or not available

Council's DCP № 2007 specifies the following:

Residential apartments

One and two-bedroom	-	1 space
Three-bedroom	-	2 spaces
Visitors	-	1 per 3 apartments
Tourist facility	-	1 space per unit + 1 space per 2 staff
Restaurant	-	15 spaces per 100m ² GFA
Function	-	Not stated

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

5 x one-bedroom apartments	5 spaces
9 x two-bedroom apartments	9 spaces
30 x three-bedroom apartments	60 spaces
Visitors	15 spaces
Hotel/serviced apartments	118 spaces
Staff (30)	15 spaces
Total	222 spaces
Bistro 400m ²	60 spaces
Total	282 spaces

It is apparent that the provision of this level of parking (ie compound maximums) would be excessive and not in keeping with 'sustainable' principles or actual need given the dual use (restaurant/hotel room/apartment), the travel mode of hotel guest/serviced apartments involving coaches, shared travel etc, the unlikely event that all 3 bedroom apartments would require 2 space and the normal level of occupancy.

It is proposed to provide a total of 275 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 RTA Guidelines). An appropriate component of spaces for disabled drivers would also be incorporated into this proposed provision in accordance with the DCP criteria.

By comparison application of the RTA Development Guideline criteria would suggest:

Hotel rooms	84 @ 1 per 4	21 spaces
Serviced apartments	34 @ 1.2 spaces	41 spaces
Residential apartments	5 x one-bedroom @ 1 space	5 spaces
	9 x two-bedroom @ 1.2 spaces	11 spaces
	30 x three-bedroom @ 1 per 5	51 spaces
	Visitors @ 1 per 5	9 spaces
Restaurant	400m ² @ 15 per 100m ²	60 spaces
	Total	198 spaces

6. INTERNAL CIRCULATION AND SERVICING

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 serviced apartments
- * the basement carpark area for the residential apartment.

The design of these areas will accord with the requirements of AS 2890.1 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.

Servicing

Service vehicle movements for the development 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. PEDESTRIANS, CYCLISTS AND PUBLIC TRANSPORT

The site and the nature of the 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 and serviced apartment 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.

8. OTHER ISSUES AND MITIGATION MEASURES

* *Intersection Sight Distances*

As can be seen from the Figure 2 Google image there are excellent sight distances available along Soldiers Point Road at the site access point. These distances will comply with the AS 2890.1 criteria.

* *Connectivity with other Developments*

The existing resort site does not present a circumstance of integrating with existing nearby uses and as such connectivity is not a particularly relevant issue. The elements of connectivity are potentially with:

- the Bowling club opposite
- the foreshore
- the Primary School (for residents)
- the Stoney Ridge Reserve.

All of these elements are easily accessed by walking or cycling while shopping and other trips further afield would be reliant on the bus services, the hotel mini-bus or private car.

* *Impact on Public Transport including School Bus Routes*

The only impact would be the potential for increased patronage.

* *Mitigation Measures*

There will not be any adverse impacts which necessitate mitigation. However, if increased travel by private motor vehicle is seen to need mitigation then the relevant measures are:

- provision of hotel mini-bus/van
- provision of cyclist's facilities and access to the existing bicycle network

- provision to encourage walking and linkage to the pedestrian network
- provision for tour coach parking
- integrated on-site facilities (accommodation, recreation, restaurant, bar etc).

9. CONSULTATION

During the course of this assessment consultation was undertaken with:

Port Stephens Shire Council

Mr Joe Gleeson (telephone discussion on 3.6.10)

Roads and Traffic Authority

Mr David Young (telephone discussion on 8.6.10)

Advice was received from the officers that:

- * there were no proposed or envisaged works or changes which would impact on the proposed development site
- * there were no apparent difficulties or problems in relation to the existing development
- * the proposed development did not appear to present any new or undue adverse traffic implications.

Accordingly, no formal correspondence was entered into in relation to the proposed redevelopment.

10. CONCLUSION

The proposed redevelopment scheme for Salamander Shores with its new residential elements is significant, however these uses will not engender a high level of traffic generation and the access movements will be spread.

Assessment of the Concept Scheme 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.

APPENDIX A

RTA TRAFFIC VOLUME DATA

HOURLY TRAFFIC VOLUMES for Week commencing MON 16/08/04 Station No. 05.191.N
NELSON BAY RD,MR108 WILLIAMTOWN-0.2KM N MR302,TOMAGO RD

HOUR comm.	MON 16/08	TUE 17/08	WED 18/08	THU 19/08	FRI 20/08	SAT 21/08	SUN 22/08	WEEKDAYS			WEEKEND (+HOLIDAYS)			WHOLE WEEK		
								TOTAL	MEAN	%	TOTAL	MEAN	%	TOTAL	MEAN	%
0	21	38	32	38	53	78	93	182	36	0.40	171	86	1.27	353	50	0.60
1	16	17	23	20	30	43	54	106	21	0.23	97	49	0.72	203	29	0.34
2	8	26	12	18	20	37	44	84	17	0.18	81	41	0.60	165	24	0.28
3	13	18	12	17	24	28	29	84	17	0.18	57	29	0.42	141	20	0.24
4	40	35	30	33	49	37	44	187	37	0.41	81	41	0.60	268	38	0.45
5	158	136	131	126	146	105	90	697	139	1.53	195	98	1.45	892	127	1.51
6	483	538	489	511	504	163	83	2525	505	5.54	246	123	1.83	2771	396	4.69
7	759	835	805	820	827	223	150	4046	809	8.88	373	187	2.77	4419	631	7.48
8	504	520	476	507	500	363	266	2507	501	5.50	629	315	4.67	3136	448	5.31
9	487	472	457	479	456	527	345	2351	470	5.16	872	436	6.47	3223	460	5.46
10	373	399	352	400	425	562	448	1949	390	4.28	1010	505	7.49	2959	423	5.01
11	419	458	396	415	456	548	707	2144	429	4.70	1255	628	9.31	3399	486	5.76
12	462	445	460	434	496	733	530	2297	459	5.04	1263	632	9.37	3560	509	6.03
13	505	518	537	547	594	637	472	2701	540	5.93	1109	555	8.23	3810	544	6.45
14	508	504	520	581	635	604	438	2748	550	6.03	1042	521	7.73	3790	541	6.42
15	803	845	749	916	944	576	449	4257	851	9.34	1025	513	7.61	5282	755	8.94
16	871	924	916	934	968	560	439	4613	923	10.12	999	500	7.41	5612	802	9.50
17	904	1000	929	963	985	471	524	4781	956	10.49	995	498	7.38	5776	825	9.78
18	500	464	496	514	598	334	276	2572	514	5.64	610	305	4.53	3182	455	5.39
19	237	236	261	290	330	184	191	1354	271	2.97	375	188	2.78	1729	247	2.93
20	211	206	215	248	270	164	193	1150	230	2.52	357	179	2.65	1507	215	2.55
21	160	188	177	226	261	156	97	1012	202	2.22	253	127	1.88	1265	181	2.14
22	102	111	113	130	277	145	61	733	147	1.61	206	103	1.53	939	134	1.59
23	63	81	87	107	167	125	50	505	101	1.11	175	88	1.30	680	97	1.15
DAY TOT	8607	9014	8675	9274	10015	7403	6073	45585	9117	100.00	13476	6738	100.00	59061	8437	100.00
MAX	904	1000	929	963	985	733	707	AWT =	9117		AWE =	6738		ADT =	8437	

HOURLY TRAFFIC VOLUMES for Week commencing MON 16/08/04 Station No. 05.191.S
NELSON BAY RD,MR108 WILLIAMTOWN-0.2KM N MR302,TOMAGO RD

HOUR comm.	MON 16/08	TUE 17/08	WED 18/08	THU 19/08	FRI 20/08	SAT 21/08	SUN 22/08	WEEKDAYS			WEEKEND (+HOLIDAYS)			WHOLE WEEK		
								TOTAL	MEAN	%	TOTAL	MEAN	%	TOTAL	MEAN	%
0	7	27	30	16	36	24	42	116	23	0.27	66	33	0.51	182	26	0.32
1	11	21	19	12	14	19	18	77	15	0.18	37	19	0.28	114	16	0.20
2	18	17	16	11	22	9	19	84	17	0.19	28	14	0.22	112	16	0.20
3	18	20	21	21	30	17	17	110	22	0.25	34	17	0.26	144	21	0.26
4	56	45	51	54	54	35	18	260	52	0.60	53	27	0.41	313	45	0.56
5	279	276	289	274	285	116	75	1403	281	3.23	191	96	1.47	1594	228	2.83
6	636	671	625	637	616	200	123	3185	637	7.34	323	162	2.49	3508	501	6.22
7	937	953	954	937	855	234	130	4636	927	10.68	364	182	2.80	5000	714	8.87
8	921	947	886	892	848	421	320	4494	899	10.36	741	371	5.71	5235	748	9.28
9	601	596	620	618	599	502	431	3034	607	6.99	933	467	7.18	3967	567	7.04
10	576	549	552	615	634	691	488	2926	585	6.74	1179	590	9.08	4105	586	7.28
11	451	427	418	400	512	496	570	2208	442	5.09	1066	533	8.21	3274	468	5.81
12	435	391	384	431	511	467	610	2152	430	4.96	1077	539	8.29	3229	461	5.73
13	447	533	460	512	669	565	548	2621	524	6.04	1113	557	8.57	3734	533	6.62
14	509	480	466	460	822	468	656	2737	547	6.31	1124	562	8.65	3861	552	6.85
15	526	564	468	569	687	476	642	2814	563	6.48	1118	559	8.61	3932	562	6.97
16	773	832	794	795	544	462	662	3738	748	8.61	1124	562	8.65	4862	695	8.62
17	589	581	630	569	539	445	404	2908	582	6.70	849	425	6.54	3757	537	6.66
18	239	270	216	306	393	271	264	1424	285	3.28	535	268	4.12	1959	280	3.47
19	123	149	127	151	141	149	148	691	138	1.59	297	149	2.29	988	141	1.75
20	80	101	111	110	181	106	134	583	117	1.34	240	120	1.85	823	118	1.46
21	141	117	119	121	147	135	118	645	129	1.49	253	127	1.95	898	128	1.59
22	52	41	64	92	80	94	50	329	66	0.76	144	72	1.11	473	68	0.84
23	36	46	49	55	35	82	17	221	44	0.51	99	50	0.76	320	46	0.57
DAY TOT	8461	8654	8369	8658	9254	6484	6504	43396	8679	100.00	12988	6494	100.00	56384	8055	100.00
MAX	937	953	954	937	855	691	662	AWT =	8679		AWE =	6494		ADT =	8055	

DAILY TRAFFIC VOLUMES Year 2004

NELSON BAY RD, MR108

WILLIAMTOWN-0.2KM N MR302, TOMAGO RD

Station No. 05.191.N

Week	Beginning	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Total	Percent	
1	29/12/03	7748	8253	9099	6405p	7986	8072	6609	54172	1.7056	
2	5/01/04	9558	8446	9545	9146	9391	10987	6895	63968	2.0140	
3	12/01/04	8930	8952	9407	9392	9575	7536	6579	60371	1.9008	
4	19/01/04	9266	9323	10788	8773	10385	10857	6637	66029	2.0789	
5	26/01/04	5791p	8860	9041	9407	14882	7798	6741	62520	1.9684	
6	2/02/04	9053	9026	9079	9399	11612	7802	6455	62426	1.9655	
7	9/02/04	9959	9183	9580	9722	10859	8084	8458	65845	2.0731	
8	16/02/04	8555	9439	9451	10212	11859	7384	6169	63069	1.9857	
9	23/02/04	9057	9014	8383	9200	10552	7398	8930	62534	1.9689	
10	1/03/04	8907	9161	9374	9665	10003	6657	5587	59354	1.8688	
11	8/03/04	9409	10106	9276	9518	10351	7245	5961	61866	1.9479	
12	15/03/04	9011	8879	9362	9145	10458	7343	5548	59746	1.8811	
13	22/03/04	8709	8744	9193	9385	11480	7285	6469	61265	1.9289	
14	29/03/04	9066	10032	9412	10876	10187	7184	5824	62581	1.9704	
15	5/04/04	9023	9277	9875	11825	7648p	6968	6602	61218	1.9275	
16	12/04/04	5657p	8741	9258	9470	9896	6909	6161	56092	1.7661	
17	19/04/04	9122	9198	9502	9625	10636	7896	5882	61861	1.9477	
18	26/04/04	5422p	9171	9321	9344	10131	7452	5611	56452	1.7774	
19	3/05/04	8765	9040	9189	9450	9885	7324	6629	60282	1.8980	
20	10/05/04	8872	9175	9106	9462	10078	7203	5781	59677	1.8789	
21	17/05/04	8634	9037	9134	9440	9921	7021	5791	58978	1.8569	
22	24/05/04	8680	8866	8991	9361	9990	7217	5827	58932	1.8555	
23	31/05/04	8592	8902	8947	9106	9745	7171	6017	58480	1.8412	
24	7/06/04	8702	8993	9365	9428	10642	7689	6139	60958	1.9193	
25	14/06/04	5451p	8921	9042	9149	9756	6805	6047	55171	1.7371	
26	21/06/04	8990	9277	9421	9568	10153	7165	6197	60771	1.9134	
27	28/06/04	8938	9179	9318	9644	10178	7630	6346	61233	1.9279	
28	5/07/04	9069	9189	9260	9753	9867	7095	5800	60033	1.8901	
29	12/07/04	9012	9307	9523	9609	9909	6958	4240	58558	1.8437	
30	19/07/04	8191	8472	9014	9311	9906	7067	5490	57451	1.8088	
31	26/07/04	8606	8680	9133	9401	9741	7435	5750	58746	1.8496	
32	2/08/04	8858	8996	8961	9262	9799	7556	5966	59398	1.8701	
33	9/08/04	8798	9133	9296	9334	10069	7023	5285	58938	1.8557	
34	16/08/04	8607	9014	8675	9274	10015	7403	6073	59061	1.8595	
35	23/08/04	9000	9105	9287	9519	10027	7057	5857	59852	1.8844	
36	30/08/04	8772	9064	9157	9345	10189	6923	6504	59954	1.8877	
37	6/09/04	9042	9285	9123	9465	10317	6716	5690	59638	1.8777	
38	13/09/04	9014	9198	9370	9507	10354	6911	5932	60286	1.8981	
39	20/09/04	8943	9550	9616	9724	10288	7653	6474	62248	1.9599	
40	27/09/04	9461	9563	9628	9688	10039	7351	6487	62217	1.9589	
41	4/10/04	6372p	9351	9741	10013	10165	7145	5566	58353	1.8372	
42	11/10/04	9316	9455	10711	10098	11391	7179	5732	63882	2.0113	
43	18/10/04	9094	8641	8841	9288	9470	7230	5808	58372	1.8378	
44	25/10/04	9695	9975	10132	10590	11293	7502	6359	65546	2.0637	
45	1/11/04	9060	8643	9481	9943	10421	7667	6679	61894	1.9487	
46	8/11/04	9236	9265	9672	9843	10925	7611	6677	63229	1.9908	
47	15/11/04	9406	9629	9945	10316	12349	7112	5835	64592	2.0337	
48	22/11/04	9313	9655	9748	10362	11157	8186	9501	67922	2.1385	
49	29/11/04	9607	8757	9937	9944	10922	7978	6436	63581	2.0019	
50	6/12/04	9638	9731	10008	10227	10625	8680	6548	65457	2.0609	
51	13/12/04	9834	9907	10400	10500	10767	8241	7794	67443	2.1234	
52	20/12/04	9413	9815	9865	9436	8962	9098	7004	63593	2.0022	
53	27/12/04	7505p	7399p	8792	9894	10015	9603	7888	61096	1.9236	
Annual Averages:		9033	9165	9411	9661	10376	7594	6326	61079		
								AADT	AAWT	AAWE	AAPH
								8726	9538	6960	6406

p indicates Public Holiday

APPENDIX B

TRAFFIC SURVEYS RESULTS



R.O.A.R. DATA

Reliable, Original & Authentic Results
Ph.88196847, Fax 88196849, Mob.0418-239019

Client : T.T.P.A.

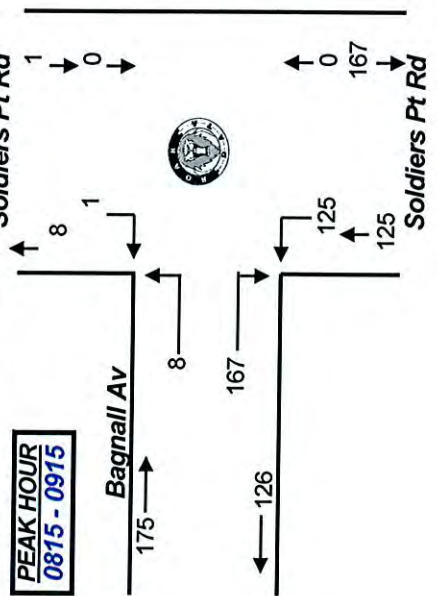
Job No/Name : 2999 SALAMANDER BAY Sample Counts

Day/Date : Friday 26th February 2010

All Vehicles

Time Per	NORTH		WEST		SOUTH		TOTAL
	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	
0700 - 0715	0	1	14	5	5		20
0715 - 0730	0	0	22	6	6		28
0730 - 0745	1	0	22	13	13		36
0745 - 0800	0	3	29	15	15		47
0800 - 0815	0	1	26	19	19		46
0815 - 0830	0	1	30	19	19		50
0830 - 0845	1	1	40	43	43		85
0845 - 0900	0	4	51	45	45		100
0900 - 0915	0	2	46	18	18		66
0915 - 0930	0	1	22	14	14		37
0930 - 0945	2	2	25	18	18		47
0945 - 1000	1	2	22	18	18		43
Period End	5	0	18	349	233	0	605

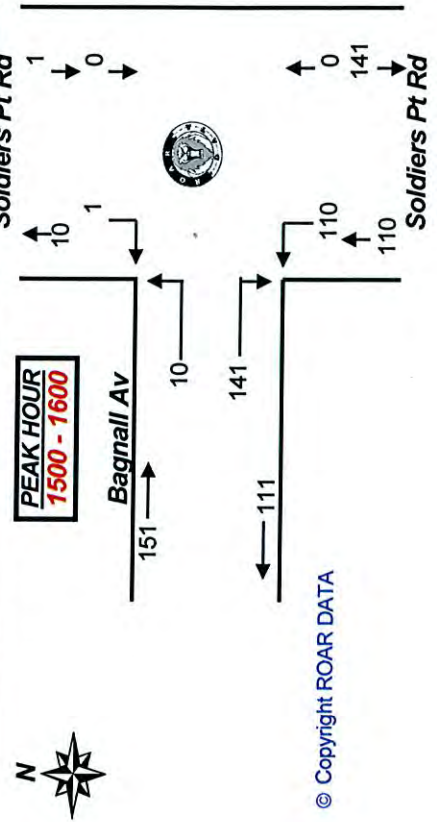
Peak Per	NORTH		WEST		SOUTH		TOTAL
	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	
0700 - 0800	1	0	4	87	39	0	131
0715 - 0815	1	0	4	99	53	0	157
0730 - 0830	1	0	5	107	66	0	179
0745 - 0845	1	0	6	125	96	0	228
0800 - 0900	1	0	7	147	126	0	281
0815 - 0915	1	0	8	167	125	0	301
0830 - 0930	1	0	8	159	120	0	288
0845 - 0945	2	0	9	144	95	0	250
0900 - 1000	3	0	7	115	68	0	193
PEAK HR	1	8	167	125	125	0	301



© Copyright ROAR DATA

Time Per	NORTH		WEST		SOUTH		TOTAL
	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	
1500 - 1515	0	2	69	30	30		101
1515 - 1530	0	2	36	30	30		68
1530 - 1545	0	3	19	28	28		50
1545 - 1600	1	3	17	22	22		43
1600 - 1615	2	2	14	38	38		56
1615 - 1630	1	5	24	20	20		50
1630 - 1645	1	3	14	27	27		45
1645 - 1700	1	6	17	30	30		54
1700 - 1715	1	2	15	30	30		48
1715 - 1730	1	2	19	39	39		61
1730 - 1745	3	1	19	31	31		54
1745 - 1800	1	5	15	28	28		49
Period End	12	0	36	278	353	0	679

Peak Per	NORTH		WEST		SOUTH		TOTAL
	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	
1500 - 1600	1	0	10	141	110	0	262
1515 - 1615	3	0	10	86	118	0	217
1530 - 1630	4	0	13	74	108	0	199
1545 - 1645	5	0	13	69	107	0	194
1600 - 1700	5	0	16	69	115	0	205
1615 - 1715	4	0	16	70	107	0	197
1630 - 1730	4	0	13	65	126	0	208
1645 - 1745	6	0	11	70	130	0	217
1700 - 1800	6	0	10	68	128	0	212
PEAK HR	1	10	141	110	110	0	262





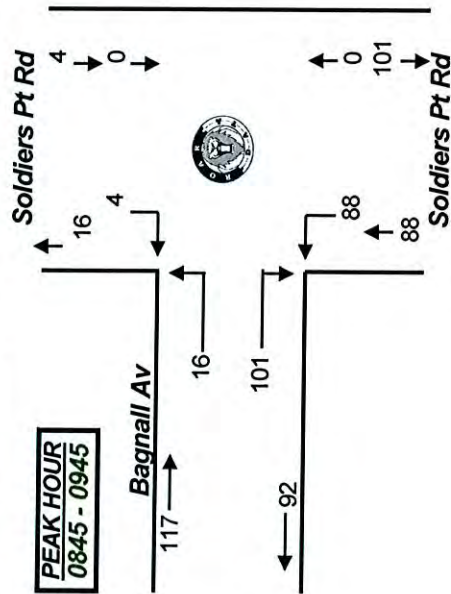
R.O.A.R. DATA

Reliable, Original & Authentic Results
Ph.88196847, Fax 88196849, Mob.0418-239019

All Vehicles

Time Per	NORTH		WEST		SOUTH		TOTAL
	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	
0800 - 0815	0	0	17	8	0	0	25
0815 - 0830	0	0	1	23	9	0	33
0830 - 0845	1	0	3	27	13	0	44
0845 - 0900	3	0	5	23	26	0	57
0900 - 0915	0	0	5	26	26	0	57
0915 - 0930	0	0	3	29	15	0	47
0930 - 0945	1	0	3	23	21	0	48
0945 - 1000	1	0	2	22	14	0	39
1000 - 1015	2	0	3	24	18	0	47
1015 - 1030	2	0	4	23	18	0	47
1030 - 1045	4	0	4	23	24	0	55
1045 - 1100	2	0	2	24	22	0	50
Period End	16	0	35	284	214	0	549

Peak Per	NORTH		WEST		SOUTH		TOTAL
	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	Soldiers Pt Rd	Bagnall Av	
0800 - 0900	4	0	9	90	56	0	159
0815 - 0915	4	0	14	99	74	0	191
0830 - 0930	4	0	16	105	80	0	205
0845 - 0945	4	0	16	101	88	0	209
0900 - 1000	2	0	13	100	76	0	191
0915 - 1015	4	0	11	98	68	0	181
0930 - 1030	6	0	12	92	71	0	181
0945 - 1045	9	0	13	92	74	0	188
1000 - 1100	10	0	13	94	82	0	199
PEAK HR	4	0	16	101	88	0	209



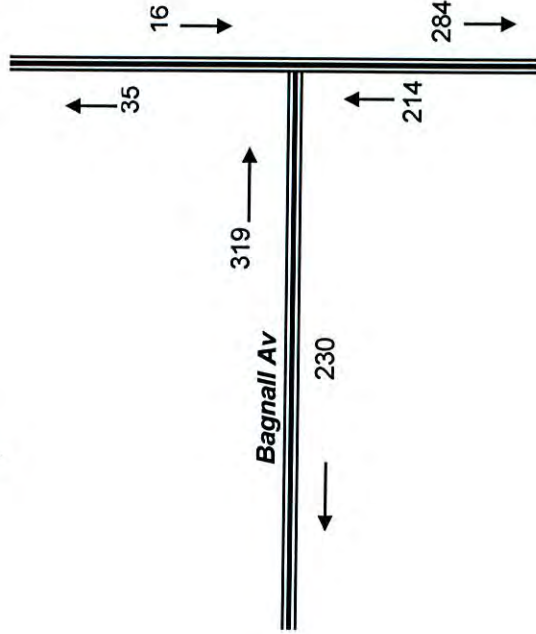
Client
Job No/Name
Day/Date

: T.T.P.A.
: 2999 SALAMANDER BAY Sample Counts
: Saturday 27th February 2010

TOTAL VOLUMES
FOR PERIOD
COUNTED



Soldiers Pt Rd



Soldiers Pt Rd



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

PM

Client : T.T.P.A.

Job No/Name : 2999 SALAMANDER BAY Sample Counts

Day/Date : Friday 26th February 2010

All

Soldiers Pt Rd				
At Driveways				
Vehicles	NB	SB	TOT	
Time Per				
0700 - 0715	18	12	30	
0715 - 0730	13	14	27	
0730 - 0745	18	25	43	
0745 - 0800	29	13	42	
0800 - 0815	30	29	59	
0815 - 0830	26	23	49	
0830 - 0845	26	42	68	
0845 - 0900	25	31	56	
0900 - 0915	23	43	66	
0915 - 0930	28	35	63	
0930 - 0945	29	35	64	
0945 - 1000	16	31	47	
Period End	281	333	614	

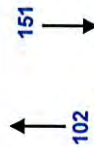
All Through Traffic at Driveways

Bagnall Ave Vehicles included

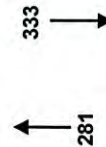
Soldiers Pt Rd

At Driveways				
Peak Per	NB	SB	TOT	
0700 - 0800	78	64	142	
0715 - 0815	90	81	171	
0730 - 0830	103	90	193	
0745 - 0845	111	107	218	
0800 - 0900	107	125	232	
0815 - 0915	100	139	239	
0830 - 0930	102	151	253	
0845 - 0945	105	144	249	
0900 - 1000	96	144	240	

Peak Hour
0830 - 0930



TOTAL VOLUMES



All

Soldiers Pt Rd				
At Driveways				
Vehicles	NB	SB	TOT	
Time Per				
1500 - 1515	43	44	87	
1515 - 1530	33	41	74	
1530 - 1545	35	29	64	
1545 - 1600	29	15	44	
1600 - 1615	37	26	63	
1615 - 1630	29	27	56	
1630 - 1645	29	26	55	
1645 - 1700	40	32	72	
1700 - 1715	47	33	80	
1715 - 1730	44	33	77	
1730 - 1745	37	20	57	
1745 - 1800	37	21	58	
Period End	440	347	787	

Soldiers Pt Rd

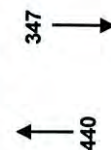
At Driveways				
Peak Per	NB	SB	TOT	
1500 - 1600	140	129	269	
1515 - 1615	134	111	245	
1530 - 1630	130	97	227	
1545 - 1645	124	94	218	
1600 - 1700	135	111	246	
1615 - 1715	145	118	263	
1630 - 1730	160	124	284	
1645 - 1745	168	118	286	
1700 - 1800	165	107	272	

PEAK HR 168 118 286

Peak Hour
1645 - 1745



TOTAL VOLUMES





R.O.A.R. DATA
Reliable, Original & Authentic Results
Ph.88196847, Fax 88196849, Mob.0418-239019

Client : T.T.P.A.
Job No/Name : 2999 SALAMANDER BAY Sample Counts
Day/Date : Saturday 27th February 2010

All		Soldiers Pt Rd			
		At Driveways			
Vehicles	Time Per	NB	SB	TOT	
	0800 - 0815	13	18	31	
	0815 - 0830	23	29	52	
	0830 - 0845	31	32	63	
	0845 - 0900	35	34	69	
	0900 - 0915	32	30	62	
	0915 - 0930	23	36	59	
	0930 - 0945	46	22	68	
	0945 - 1000	30	30	60	
	1000 - 1015	40	36	76	
	1015 - 1030	37	42	79	
	1030 - 1045	39	45	84	
	1045 - 1100	35	44	79	
	Period End	384	398	782	

All Through Traffic at Driveways

Bagnall Ave Vehicles included

		Soldiers Pt Rd			
		At Driveways			
Peak Per		NB	SB	TOT	
	0800 - 0900	102	113	215	
	0815 - 0915	121	125	246	
	0830 - 0930	121	132	253	
	0845 - 0945	136	122	258	
	0900 - 1000	131	118	249	
	0915 - 1015	139	124	263	
	0930 - 1030	153	130	283	
	0945 - 1045	146	153	299	
	1000 - 1100	151	167	318	
	PEAK HR	151	167	318	

TOTAL VOLUMES

↑ 384
↓ 398

Peak Hour
1000 - 1100

↑ 151
↓ 167



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client

: T.T.P.A.

Job No/Name

: 2999 SALAMANDER BAY Sample Counts

Day/Date

: Friday 26th February 2010

Time Per	NORTH				WEST				SOUTH				EAST			
	Soldiers Pt Rd				Diemars Rd				Soldiers Pt Rd				Randall Dr			
	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
0700 - 0715	1	36	1	0	1	2	0	24	3	1	1	0	70			
0740 - 0755	1	54	3	4	0	9	2	35	2	3	1	4	118			
0820 - 0835	2	70	1	3	0	8	2	55	1	1	0	5	148			
0900 - 0915	4	94	4	2	0	13	4	51	2	10	2	2	188			
0940 - 0955	2	77	2	4	0	12	14	54	0	8	0	9	182			

Time Per	NORTH				WEST				SOUTH				EAST			
	Soldiers Pt Rd				Port Stephens Dr				Soldiers Pt Rd				Port Stephens Dr			
	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
0720 - 0735	3	21	31	25	2	13	24	15	1	9	24	3	171			
0800 - 0815	4	46	37	26	15	46	34	37	3	19	26	10	303			
0840 - 0855	5	69	42	43	8	39	40	62	8	29	22	14	381			
0920 - 0935	5	54	38	38	11	47	43	54	6	21	20	4	341			

Time Per	NORTH				WEST				SOUTH				EAST			
	Soldiers Pt Rd				Diemars Rd				Soldiers Pt Rd				Randall Dr			
	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
1500 - 1515	8	126	6	3	1	5	8	96	3	12	2	5	275			
1540 - 1555	2	55	8	4	0	12	5	70	0	9	3	8	176			
1620 - 1635	1	62	2	4	1	9	7	75	3	8	1	7	180			
1700 - 1715	0	66	5	3	1	7	8	107	1	7	3	7	215			
1740 - 1755	3	60	2	4	0	3	7	95	1	5	1	8	189			

Time Per	NORTH				WEST				SOUTH				EAST			
	Soldiers Pt Rd				Port Stephens Dr				Soldiers Pt Rd				Port Stephens Dr			
	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT	L	I	R	TOT
1520 - 1535	6	88	37	42	22	50	44	72	25	20	1	432				
1600 - 1615	6	54	24	42	19	51	46	60	18	13	7	3	343			
1640 - 1655	8	53	22	31	28	48	39	52	20	16	7	1	325			
1720 - 1735	4	64	19	51	29	43	38	52	18	11	10	3	342			

Diemars Rd Roundabout

North bound to

Southbound

U-Turns

6

8

7

8

13

Time Per
0700 - 0715
0740 - 0755
0820 - 0835
0900 - 0915
0940 - 0955

11

8

11

7

14

Time Per
1500 - 1515
1540 - 1555
1620 - 1635
1700 - 1715
1740 - 1755



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client

: T.T.P.A.

Job No/Name

: 2999 SALAMANDER BAY Sample Counts

Day/Date

: Saturday 27th February 2010

Time Per	NORTH			WEST			SOUTH			EAST		
	Soldiers Pt Rd			Diemars Rd			Soldiers Pt Rd			Randall Dr		
	L	I	R	L	I	R	L	I	R	L	I	R
0800 - 0815	1	47	1	4	0	3	2	24	1	4	1	2
0840 - 0855	3	81	0	0	0	8	3	77	4	6	0	16
0920 - 0935	5	89	3	0	0	6	9	56	3	7	1	9
1000 - 1015	5	73	5	7	1	11	1	64	1	18	0	12
1040 - 1055	6	86	4	3	0	9	7	58	3	4	3	7
TOT												

Time Per	NORTH			WEST			SOUTH			EAST		
	Soldiers Pt Rd			Port Stephens Dr			Soldiers Pt Rd			Port Stephens Dr		
	L	I	R	L	I	R	L	I	R	L	I	R
0820 - 0835	3	37	22	34	10	35	24	29	9	13	7	3
0900 - 0915	5	61	37	28	14	36	24	36	5	14	18	3
0940 - 0955	5	61	30	30	17	38	30	42	11	20	27	5
1020 - 1035	3	64	35	34	15	33	40	54	10	8	16	1
TOT												

Diemars Rd Roundabout

North bound to

Southbound

U-Turns

7

16

13

16

13

Time Per
0700 - 0715
0740 - 0755
0820 - 0835
0900 - 0915
0940 - 0955



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client : T.T.P.A

Job No/Name : 2999 SALAMANDER BAY Sample Counts

Day/Date : Friday 26th February 2010

AM

All		West		All		West		All		East	
Vehicles		Bowling Club		Vehicles		Caravan Park		Vehicles		Hotel	
Time Per	IN	OUT	TOT	Time Per	IN	OUT	TOT	Time Per	IN	OUT	TOT
0700 - 0715	1	1	2	0700 - 0715	0	1	1	0700 - 0715	0	1	1
0715 - 0730	0	0	0	0715 - 0730	1	1	2	0715 - 0730	0	2	2
0730 - 0745	0	0	0	0730 - 0745	1	3	4	0730 - 0745	2	3	5
0745 - 0800	0	1	1	0745 - 0800	1	0	1	0745 - 0800	0	5	5
0800 - 0815	1	0	1	0800 - 0815	3	2	5	0800 - 0815	2	2	4
0815 - 0830	3	0	3	0815 - 0830	1	2	3	0815 - 0830	2	3	5
0830 - 0845	1	0	1	0830 - 0845	0	6	6	0830 - 0845	0	2	2
0845 - 0900	5	1	6	0845 - 0900	3	0	3	0845 - 0900	0	0	0
0900 - 0915	6	4	10	0900 - 0915	2	6	8	0900 - 0915	1	4	5
0915 - 0930	14	5	19	0915 - 0930	3	1	4	0915 - 0930	2	2	4
0930 - 0945	31	6	37	0930 - 0945	3	7	10	0930 - 0945	4	1	5
0945 - 1000	17	6	23	0945 - 1000	3	4	7	0945 - 1000	3	1	4
Period End	79	24	103	Period End	21	33	54	Period End	25	16	41

WEST				EAST			
Bowling Club				Seaview Crescent			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0700 - 0800	1	2	3	0700 - 0800	2	11	13
0715 - 0815	1	1	2	0715 - 0815	4	12	16
0730 - 0830	4	1	5	0730 - 0830	6	13	19
0745 - 0845	5	1	6	0745 - 0845	4	12	16
0800 - 0900	10	1	11	0800 - 0900	4	7	11
0815 - 0915	15	5	20	0815 - 0915	3	9	12
0830 - 0930	26	10	36	0830 - 0930	3	7	10
0845 - 0945	56	16	72	0845 - 0945	3	5	8
0900 - 1000	68	21	89	0900 - 1000	1	9	10
PEAK HR	68	21	89	PEAK HR	6	13	19

WEST				EAST			
Caravan Park				Hotel			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0700 - 0800	3	5	8	0700 - 0800	8	3	11
0715 - 0815	6	6	12	0715 - 0815	6	4	10
0730 - 0830	6	7	13	0730 - 0830	6	3	9
0745 - 0845	5	10	15	0745 - 0845	6	3	9
0800 - 0900	7	10	17	0800 - 0900	3	3	6
0815 - 0915	6	14	20	0815 - 0915	5	4	9
0830 - 0930	8	13	21	0830 - 0930	7	3	10
0845 - 0945	8	7	15	0845 - 0945	6	3	9
0900 - 1000	6	11	17	0900 - 1000	8	7	15
PEAK HR	8	13	21	PEAK HR	6	3	9

Peak Hour	
0900 - 1000	68

Bowling Club	21	68
Caravan Park	13	8
Hotel	6	3
TOTAL VOLUMES	24	79

Bowling Club	24	79
Caravan Park	33	21
Hotel	25	16
TOTAL VOLUMES	10	32

Peak Hour	
0730 - 0830	13

Service	6	13
TOTAL VOLUMES	6	13

Peak Hour	
0830 - 0930	13

Caravan Park	13	8
TOTAL VOLUMES	13	8

Peak Hour	
0900 - 1000	68

Bowling Club	21	68
Caravan Park	13	8
Hotel	6	3
TOTAL VOLUMES	24	79



R.O.A.R. DATA

Reliable, Original & Authentic Results

Ph.88196847, Fax 88196849, Mob.0418-239019

Client : T.T.P.A.

Job No/Name : 2999 SALAMANDER BAY Sample Counts

Day/Date : Friday 26th February 2010

PM

All			West			All			West			All			East				
Vehicles			Bowling Club			Vehicles			Caravan Park			Vehicles			Seaview Cres				
Time Per	In	Out	TOT	Time Per	In	Out	TOT	Time Per	In	Out	TOT	Time Per	In	Out	TOT	Time Per	In	Out	TOT
1500 - 1515	12	15	27	1500 - 1515	6	1	7	1500 - 1515	4	8	12	1500 - 1515	4	8	12	1500 - 1515	2	6	8
1515 - 1530	13	11	24	1515 - 1530	2	0	2	1515 - 1530	2	6	8	1515 - 1530	2	6	8	1515 - 1530	2	6	8
1530 - 1545	16	10	26	1530 - 1545	6	8	14	1530 - 1545	2	5	7	1530 - 1545	2	5	7	1530 - 1545	3	3	6
1545 - 1600	16	7	23	1545 - 1600	4	1	5	1545 - 1600	5	3	8	1545 - 1600	5	3	8	1545 - 1600	7	3	10
1600 - 1615	6	9	15	1600 - 1615	2	1	3	1600 - 1615	1	4	5	1600 - 1615	1	4	5	1600 - 1615	4	1	5
1615 - 1630	12	5	17	1615 - 1630	2	1	3	1615 - 1630	4	4	8	1615 - 1630	4	4	8	1615 - 1630	3	1	4
1630 - 1645	17	9	26	1630 - 1645	2	0	2	1630 - 1645	3	3	6	1630 - 1645	3	3	6	1630 - 1645	4	3	7
1645 - 1700	24	11	35	1645 - 1700	4	2	6	1645 - 1700	6	8	14	1645 - 1700	6	8	14	1645 - 1700	3	3	6
1700 - 1715	25	22	47	1700 - 1715	5	2	7	1700 - 1715	5	2	7	1700 - 1715	6	4	10	1700 - 1715	2	2	4
1715 - 1730	28	28	56	1715 - 1730	5	1	6	1715 - 1730	5	2	7	1715 - 1730	5	2	7	1715 - 1730	2	4	6
1730 - 1745	15	20	35	1730 - 1745	5	1	6	1730 - 1745	4	6	10	1730 - 1745	4	6	10	1730 - 1745	4	3	7
1745 - 1800	19	13	32	1745 - 1800	3	2	5	1745 - 1800	7	9	16	1745 - 1800	7	9	16	1745 - 1800	5	1	6
Period End	203	160	363	Period End	46	20	66	Period End	49	62	111	Period End	49	62	111	Period End	41	36	77

WEST				WEST				EAST			
Bowling Club				Caravan Park				Seaview Cres			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
1500 - 1600	57	43	100	1500 - 1600	18	10	28	1500 - 1600	13	22	35
1515 - 1615	51	37	88	1515 - 1615	14	10	24	1515 - 1615	10	18	28
1530 - 1630	50	31	81	1530 - 1630	14	11	25	1530 - 1630	12	16	28
1545 - 1645	51	30	81	1545 - 1645	10	3	13	1545 - 1645	13	14	27
1600 - 1700	59	34	93	1600 - 1700	10	4	14	1600 - 1700	14	19	33
1615 - 1715	78	47	125	1615 - 1715	13	5	18	1615 - 1715	19	19	38
1630 - 1730	94	70	164	1630 - 1730	16	5	21	1630 - 1730	20	17	37
1645 - 1745	92	81	173	1645 - 1745	14	5	19	1645 - 1745	17	14	31
1700 - 1800	87	83	170	1700 - 1800	8	3	11	1700 - 1800	11	15	26
PEAK HR	92	81	173	PEAK HR	18	10	28	PEAK HR	19	19	38

WEST				EAST			
Bowling Club				Hotel			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
1500 - 1600	57	43	100	1500 - 1600	14	18	32
1515 - 1615	51	37	88	1515 - 1615	16	13	29
1530 - 1630	50	31	81	1530 - 1630	17	8	25
1545 - 1645	51	30	81	1545 - 1645	18	8	26
1600 - 1700	59	34	93	1600 - 1700	14	8	22
1615 - 1715	78	47	125	1615 - 1715	12	9	21
1630 - 1730	94	70	164	1630 - 1730	11	12	23
1645 - 1745	92	81	173	1645 - 1745	7	9	16
1700 - 1800	87	83	170	1700 - 1800	9	4	13
PEAK HR	92	81	173	PEAK HR	12	9	33

ALL			WEST			ALL			EAST					
Vehicles			Bowling Club			Vehicles			Seaview Cres					
Time Per	IN	OUT	TOT	IN	OUT	TOT	Time Per	IN	OUT	TOT	Time Per	IN	OUT	TOT
1500 - 1515	12	15	27	6	1	7	1500 - 1515	6	1	7	1500 - 1515	4	8	12
1515 - 1530	13	11	24	2	0	2	1515 - 1530	2	0	2	1515 - 1530	2	6	8
1530 - 1545	16	10	26	6	8	14	1530 - 1545	6	8	14	1530 - 1545	2	5	7
1545 - 1600	16	7	23	4	1	5	1545 - 1600	4	1	5	1545 - 1600	5	3	8
1600 - 1615	6	9	15	2	1	3	1600 - 1615	2	1	3	1600 - 1615	1	4	5
1615 - 1630	12	5	17	2	1	3	1615 - 1630	2	1	3	1615 - 1630	4	4	8
1630 - 1645	17	9	26	2	0	2	1630 - 1645	2	0	2	1630 - 1645	3	3	6
1645 - 1700	24	11	35	4	2	6	1645 - 1700	4	2	6	1645 - 1700	6	8	14
1700 - 1715	25	22	47	5	2	7	1700 - 1715	5	2	7	1700 - 1715	6	4	10
1715 - 1730	28	28	56	5	1	6	1715 - 1730	5	1	6	1715 - 1730	5	2	7
1730 - 1745	15	20	35	5	1	6	1730 - 1745	5	1	6	1730 - 1745	4	6	10
1745 - 1800	19	13	32	3	2	5	1745 - 1800	3	2	5	1745 - 1800	7	9	16
Period End	203	160	363	46	20	66	Period End	46	20	66	Period End	49	62	111

ALL			WEST			ALL			EAST					
Vehicles			Bowling Club			Vehicles			Seaview Cres					
Time Per	IN	OUT	TOT	IN	OUT	TOT	Time Per	IN	OUT	TOT	Time Per	IN	OUT	TOT
1500 - 1515	12	15	27	6	1	7	1500 - 1515	6	1	7	1500 - 1515	4	8	12
1515 - 1530	13	11	24	2	0	2	1515 - 1530	2	0	2	1515 - 1530	2	6	8
1530 - 1545	16	10	26	6	8	14	1530 - 1545	6	8	14	1530 - 1545	2	5	7
1545 - 1600	16	7	23	4	1	5	1545 - 1600	4	1	5	1545 - 1600	5	3	8
1600 - 1615	6	9	15	2	1	3	1600 - 1615	2	1	3	1600 - 1615	1	4	5
1615 - 1630	12	5	17	2	1	3	1615 - 1630	2	1	3	1615 - 1630	4	4	8
1630 - 1645	17	9	26	2	0	2	1630 - 1645	2	0	2	1630 - 1645	3	3	6
1645 - 1700	24	11	35	4	2	6	1645 - 1700	4	2	6	1645 - 1700	6	8	14
1700 - 1715	25	22	47	5	2	7	1700 - 1715	5	2	7	1700 - 1715	6	4	10
1715 - 1730	28	28	56	5	1	6	1715 - 1730	5	1	6	1715 - 1730	5	2	7
1730 - 1745	15	20	35	5	1	6	1730 - 1745	5	1	6	1730 - 1745	4	6	10
1745 - 1800	19	13	32	3	2	5	1745 - 1800	3	2	5	1745 - 1800	7	9	16
Period End	203	160	363	46	20	66	Period End	46	20	66	Period End	49	62	111

Bowling Club			Caravan Park			Seaview			
Time Per	IN	OUT	Time Per	IN	OUT	Time Per	IN	OUT	
1500 - 1515	81	15	96	10	1	11	19	8	27
1515 - 1530	12	11	23	2	0	2	19	6	25
1530 - 1545	16	10	26	6	8	14	19	5	24
1545 - 1600	16	7	23	4	1	5	19	3	22
1600 - 1615	6	9	15	2	1	3	19	4	23
1615 - 1630	12	5	17	2	0	2	19	3	22
1630 - 1645	17	9	26	2	0	2	19	3	22
1645 - 1700	24	11	35	4	2	6	19	6	25
1700 - 1715	25	22	47	5	2	7	19	6	25
1715 - 1730	28	28	56	5	1	6	19	5	24
1730 - 1745	15	20	35	5	1	6	19	4	23
1745 - 1800	19	13	32	3	2	5	19	7	26
Period End	203	160	363	46	20	66	111	62	173
TOTAL VOLUMES			TOTAL VOLUMES			TOTAL VOLUMES			

ALL			WEST			ALL			EAST					
Vehicles			Bowling Club			Vehicles			Seaview Cres					
Time Per	IN	OUT	TOT	IN	OUT	TOT	Time Per	IN	OUT	TOT	Time Per	IN	OUT	TOT
1500 - 1515	12	15	27	6	1	7	1500 - 1515	6	1	7	1500 - 1515	4	8	12
1515 - 1530	13	11	24	2	0	2	1515 - 1530	2	0	2	1515 - 1530	2	6	8
1530 - 1545	16	10	26	6	8	14	1530 - 1545	6	8	14	1530 - 1545	2	5	7
1545 - 1600	16	7	23	4	1	5	1545 - 1600	4	1	5	1545 - 1600	5	3	8
1600 - 1615	6	9	15	2	1	3	1600 - 1615	2	1	3	1600 - 1615	1	4	5
1615 - 1630	12	5	17	2	1	3	1615 - 1630	2	1	3	1615 - 1630	4	4	8
1630 - 1645	17	9	26	2	0	2	1630 - 1645	2	0	2	1630 - 1645	3	3	6
1645 - 1700	24	11	35	4	2	6	1645 - 1700	4	2	6	1645 - 1700	6	8	14
1700 - 1715	25	22	47	5	2	7	1700 - 1715	5	2	7	1700 - 1715	6	4	10
1715 - 1730	28	28	56	5	1	6	1715 - 1730	5	1	6	1715 - 1730	5	2	7
1730 - 1745	15	20	35	5	1	6	1730 - 1745	5	1	6	1730 - 1745	4	4	8
1745 - 1800	15	15	30	4	1	5	1745 - 1800	4	1	5	1745 - 1800	4	3	7
1800 - 1815	12	10	22	2	0	2	1800 - 1815	2	0	2	1800 - 1815	2	2	4
1815 - 1830	10	10	20	2	0	2	1815 - 1830	2	0	2	1815 - 1830	2	2	4
1830 - 1845	10	10	20	2	0	2	1830 - 1845	2	0	2	1830 - 1845	2	2	4
1845 - 1900	10	10	20	2	0	2	1845 - 1900	2	0	2	1845 - 1900	2	2	4
1900 - 1915	10	10	20	2	0	2	1900 - 1915	2	0	2	1900 - 1915	2	2	4
1915 - 1930	10	10	20	2	0	2	1915 - 1930	2	0	2	1915 - 1930	2	2	4
1930 - 1945	10	10	20	2	0	2	1930 - 1945	2	0	2	1930 - 1945	2	2	4
1945 - 2000	10	10	20	2	0	2	1945 - 2000	2	0	2	1945 - 2000	2	2	4
2000 - 2015	10	10	20	2	0	2	2000 - 2015	2	0	2	2000 - 2015	2	2	4
2015 - 2030	10	10	20	2	0	2	2015 - 2030	2	0	2	2015 - 2030	2	2	4
2030 - 2045	10	10	20	2	0	2	2030 - 2045	2	0	2	2030 - 2045	2	2	4
2045 - 2100	10	10	20	2	0	2	2045 - 2100	2	0	2	2045 - 2100	2	2	4
2100 - 2115	10	10	20	2	0	2	2100 - 2115	2	0	2	2100 - 2115	2	2	4
2115 - 2130	10	10	20	2	0	2	2115 - 2130	2	0	2	2115 - 2130	2	2	4
2130 - 2145	10	10	20	2	0	2	2130 - 2145	2	0	2	2130 - 2145	2	2	4
2145 - 2200	10	10	20	2	0	2	2145 - 2200	2	0	2	2145 - 2200	2	2	4
2200 - 2215	10	10	20	2	0	2	2200 - 2215	2	0	2	2200 - 2215	2	2	4
2215 - 2230	10	10	20	2	0	2	2215 - 2230	2	0	2	2215 - 2230	2	2	4
2230 - 2245	10	10	20	2	0	2	2230 - 2245	2	0	2	2230 - 2245	2	2	4
2245 - 2300	10	10	20	2	0	2	2245 - 2300	2	0	2	2245 - 2300	2	2	4
2300 - 2315	10	10	20	2	0	2	2300 - 2315	2	0	2	2300 - 2315	2	2	4
2315 - 2330	10	10	20	2	0	2	2315 - 2330	2	0	2	2315 - 2330	2	2	4
2330 - 2345	10	10	20	2	0	2	2330 - 2345	2	0	2	2330 - 2345	2	2	4
2345 - 2400	10	10	20	2	0	2	2345 - 2400	2	0	2	2345 - 2400	2	2	4
2400 - 2415	10	10	20	2	0	2	2400 - 2415	2	0	2	2400 - 2415	2	2	4
2415 - 2430	10	10	20	2	0	2	2415 - 2430	2	0	2	2415 - 2430	2	2	4
2430 - 2445	10	10	20	2	0	2	2430 - 2445	2	0	2	2430 - 2445	2	2	4
2445 - 2500	10	10	20	2	0	2	2445 - 2500	2	0	2	2445 - 2500	2	2	4
2500 - 2515	10	10	20	2	0	2	2500 - 2515	2	0	2	2500 - 2515	2	2	4
2515 - 2530	10	10	20	2	0	2	2515 - 2530	2	0	2	2515 - 2530	2	2	4
2530 - 2545	10	10	20	2	0	2	2530 - 2545	2	0	2	2530 - 2545	2	2	4
2545 - 2600	10	10	20	2	0	2	2545 - 2600	2	0	2	2545 - 2600	2	2	4
2600 - 2615	10	10	20	2	0	2	2600 - 2615	2	0	2	2600 - 2615	2	2	4
2615 - 2630	10	10	20	2	0	2	2615 - 2630	2	0	2	2615 - 2630	2	2	4
2630 - 2645	10	10	20	2	0	2	2630 - 2645	2	0	2	2630 - 2645	2	2	4
2645 - 2700	10	10	20	2	0	2	2645 - 2700	2	0	2	2645 - 2700	2	2	4
2700 - 2715	10	10	20	2	0	2	2700 - 2715	2	0	2	2700 - 2715	2	2	4
2715 - 2730	10	10	20	2	0	2	2715 - 2730	2	0	2	2715 - 2730	2	2	4
2730 - 2745	10	10	20	2	0	2	2730 - 2745	2	0	2	2730 - 2745	2	2	4
2745 - 2800	10	10	20	2	0	2	2745 - 2800	2	0	2	2745 - 2800	2	2	4
2800 - 2815	10	10	20	2	0	2	2800 - 2815	2	0	2	2800 - 2815	2	2	4
2815 - 2830	10	10	20	2	0	2	2815 - 2830	2	0	2	2815 - 2830	2	2	4
2830 - 2845	10	10	20	2	0	2	2830 - 2845	2	0	2	2830 - 2845	2	2	4
2845 - 2900	10	10	20	2	0	2	2845 - 2900	2	0	2	2845 - 2900	2	2	4
2900 - 2915	10	10	20	2	0	2	2900 - 2915	2	0	2	2900 - 2915	2	2	4
2915 - 2930	10	10	20	2	0	2	2915 - 2930	2	0	2	2915 - 2930	2	2	4
2930 - 2945	10	10	20	2	0	2	2930 - 2945	2	0	2	2930 - 2945	2	2	4
2945 - 3000	10	10	20	2	0	2	2945 - 3000	2	0	2	2945 - 3000	2	2	4
3000 - 3015	10	10	20	2	0	2	3000 - 3015	2	0	2	3000 - 3015	2	2	4
3015 - 3030	10	10	20	2	0	2	3015 - 3030	2	0	2	3015 - 3030	2	2	4
3030 - 3045	10	10	20	2	0	2	3030 - 3045	2	0	2	3030 - 3045	2	2	4
3045 - 3100	10	10	20	2	0	2	3045 - 3100	2	0	2	3045 - 3100	2	2	4
3100 - 3115	10	10	20	2	0	2	3100 - 3115	2	0	2	3100 - 3115	2	2	4
3115 - 3130	10	10	20	2	0	2	3115 - 3130	2	0	2	3115 - 3130	2	2	4
3130 - 3145	10	10	20	2	0	2	3130 - 3145	2	0	2	3130 - 3145	2	2	4
3145 - 3200	10	10	20	2	0	2	3145 - 3200	2	0	2	3145 - 3200	2	2	4
3200 - 3215	10	10	20	2	0	2	3200 - 3215	2	0	2	3200 - 3215	2	2	4
3215 - 3230	10	10	20	2	0	2	3215 - 3230	2	0	2	3215 - 3230	2	2	4
3230 - 3245	10	10	20	2	0	2	3230 - 3245	2	0	2	3230 - 3245	2	2	4
3245 - 3300	10	10	20	2	0	2	3245 - 3300	2	0	2	3245 - 3300	2	2	4
3300 - 3315	10	10	20	2	0	2	3300 - 3315	2	0	2	3300 - 3315	2	2	4
3315 - 3330	10	10	20	2	0	2	3315 - 3330	2	0	2	3315 - 3330	2	2	4
3330 - 3345	10	10	20	2	0	2	3330 - 3345	2	0	2	3330 - 3345	2	2	4
3345 - 3400	10	10	20	2	0	2	3345 - 3400	2	0	2	3345 - 3400	2	2	4
3400 - 3415	10	10	20	2	0	2	3400 - 3415	2	0	2	3400 - 3415	2	2	4
3415 - 3430	10	10	20	2	0	2	3415 - 3430	2	0	2	3415 - 3430	2	2	4
3430 - 3445	10	10	20	2	0	2	3430 - 3445	2	0	2	3430 - 3445	2	2	4
3445 - 3500	10	10	20	2	0	2	3445 - 3500	2	0	2	3445 - 3500	2	2	4
3500 - 3515	10	10	20	2	0	2	3500 - 3515	2	0	2	3500 - 3515	2	2	4
3515 - 3530	10	10	20	2	0	2	3515 - 3530	2	0	2	3515 - 3530	2	2	4
3530 - 3545	10	10	20	2	0	2	3530 - 3545	2	0	2	3530 - 3545	2	2	4
3545 - 3600	10	10	20	2	0	2	3545 - 3600	2	0	2	3545 - 3600	2	2	4
3600 - 3615	10	10	20	2	0	2	3600 - 3615	2	0	2	3600 - 3615	2	2	4
3615 - 3630	10	10	20	2	0	2	3615 - 3630	2	0	2	3615 - 3630	2	2	4
3630 - 3645	10	10	20	2	0	2	3630 - 3645	2	0	2	3630 - 3645	2	2	4
3645 - 3700	10	10	20	2	0	2	3645 - 3700	2	0	2	3645 - 3700	2	2	4
3700 - 3715	10	10	20	2	0	2	3700 - 3715	2	0	2	3700 - 3715	2	2	4
3715 - 3730	10	10	20	2	0	2	3715 - 3730	2	0	2	3715 - 3730	2	2	4
3730 - 3745	10	10	20	2	0	2	3730 - 3745	2	0	2	3730 - 3745	2	2	4
3745 - 3800	10	10	20	2	0	2	3745 - 3800	2	0	2	3745 - 3800	2	2	4
3800 - 3815	10	10	20	2	0	2	3800 - 3815	2	0	2	3800 - 3815	2	2	4
3815 - 3830	10	10	20	2	0	2	3815 - 3830	2	0	2	3815 - 3830	2	2	4
3830 - 3845	10	10	20	2	0	2	3830 - 3845	2	0	2	3830 - 3845	2	2	4
3845 - 3900	10	10	20	2	0	2	3845 - 3900	2	0	2	3845 - 3900	2	2	4
3900 - 3915	10	10	20	2	0	2	3900 - 3915	2	0	2	3900 - 3915	2	2	4
3915 - 3930	10	10	20	2	0	2	3915 - 3930	2	0	2	3915 - 3930	2	2	4
3930 - 3945	10	10	20	2										



R.O.A.R. DATA

Reliable, Original & Authentic F

Ph.88196847, Fax 88196849, Mob.0418-235

SAT

Client : T.T.P.A

Job No/Name : 2999 SALAMANDER BAY Sample Counts

Day/Date : Saturday 27th February 2010

WEST				WEST				EAST			
Bowling Club				Caravan Park				Seaview Crescent			
Time Per	IN	OUT	TOT	Time Per	IN	OUT	TOT	Time Per	IN	OUT	TOT
0800 - 0815	4	0	4	0800 - 0815	1	2	3	0800 - 0815	0	3	3
0815 - 0830	10	2	12	0815 - 0830	0	3	3	0815 - 0830	1	2	3
0830 - 0845	23	4	27	0830 - 0845	3	2	5	0830 - 0845	1	1	2
0845 - 0900	15	4	19	0845 - 0900	3	5	8	0845 - 0900	0	5	5
0900 - 0915	4	6	10	0900 - 0915	2	7	9	0900 - 0915	2	4	6
0915 - 0930	4	0	4	0915 - 0930	1	7	8	0915 - 0930	4	6	10
0930 - 0945	2	2	4	0930 - 0945	2	5	7	0930 - 0945	2	3	5
0945 - 1000	4	0	4	0945 - 1000	2	10	12	0945 - 1000	3	7	10
1000 - 1015	8	3	11	1000 - 1015	1	6	7	1000 - 1015	4	4	8
1015 - 1030	13	7	20	1015 - 1030	5	4	9	1015 - 1030	3	2	5
1030 - 1045	7	6	13	1030 - 1045	4	6	10	1030 - 1045	5	1	6
1045 - 1100	6	2	8	1045 - 1100	2	2	4	1045 - 1100	2	6	8
Period End	100	36	136	Period End	26	59	85	Period End	27	44	71

WEST				EAST			
Bowling Club				Seaview Crescent			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0800 - 0900	52	10	62	0800 - 0900	2	11	13
0815 - 0915	52	16	68	0815 - 0915	4	12	16
0830 - 0930	46	14	60	0830 - 0930	7	16	23
0845 - 0945	25	12	37	0845 - 0945	8	18	26
0900 - 1000	14	8	22	0900 - 1000	11	20	31
0915 - 1015	18	5	23	0915 - 1015	13	20	33
0930 - 1030	27	12	39	0930 - 1030	12	16	28
0945 - 1045	32	16	48	0945 - 1045	10	13	23
1000 - 1100	34	18	52	1000 - 1100	7	7	14
PEAK HR	52	16	68	PEAK HR	8	18	26

WEST				EAST			
Bowling Club				Seaview Crescent			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0800 - 0900	52	10	62	0800 - 0900	2	11	13
0815 - 0915	52	16	68	0815 - 0915	4	12	16
0830 - 0930	46	14	60	0830 - 0930	7	16	23
0845 - 0945	25	12	37	0845 - 0945	8	18	26
0900 - 1000	14	8	22	0900 - 1000	11	20	31
0915 - 1015	18	5	23	0915 - 1015	13	20	33
0930 - 1030	27	12	39	0930 - 1030	12	16	28
0945 - 1045	32	16	48	0945 - 1045	10	13	23
1000 - 1100	34	18	52	1000 - 1100	7	7	14
PEAK HR	52	16	68	PEAK HR	8	18	26

WEST				EAST			
Bowling Club				Seaview Crescent			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0800 - 0900	52	10	62	0800 - 0900	2	11	13
0815 - 0915	52	16	68	0815 - 0915	4	12	16
0830 - 0930	46	14	60	0830 - 0930	7	16	23
0845 - 0945	25	12	37	0845 - 0945	8	18	26
0900 - 1000	14	8	22	0900 - 1000	11	20	31
0915 - 1015	18	5	23	0915 - 1015	13	20	33
0930 - 1030	27	12	39	0930 - 1030	12	16	28
0945 - 1045	32	16	48	0945 - 1045	10	13	23
1000 - 1100	34	18	52	1000 - 1100	7	7	14
PEAK HR	52	16	68	PEAK HR	8	18	26

WEST				EAST			
Bowling Club				Seaview Crescent			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0800 - 0900	52	10	62	0800 - 0900	2	11	13
0815 - 0915	52	16	68	0815 - 0915	4	12	16
0830 - 0930	46	14	60	0830 - 0930	7	16	23
0845 - 0945	25	12	37	0845 - 0945	8	18	26
0900 - 1000	14	8	22	0900 - 1000	11	20	31
0915 - 1015	18	5	23	0915 - 1015	13	20	33
0930 - 1030	27	12	39	0930 - 1030	12	16	28
0945 - 1045	32	16	48	0945 - 1045	10	13	23
1000 - 1100	34	18	52	1000 - 1100	7	7	14
PEAK HR	52	16	68	PEAK HR	8	18	26

WEST				EAST			
Bowling Club				Seaview Crescent			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0800 - 0900	52	10	62	0800 - 0900	2	11	13
0815 - 0915	52	16	68	0815 - 0915	4	12	16
0830 - 0930	46	14	60	0830 - 0930	7	16	23
0845 - 0945	25	12	37	0845 - 0945	8	18	26
0900 - 1000	14	8	22	0900 - 1000	11	20	31
0915 - 1015	18	5	23	0915 - 1015	13	20	33
0930 - 1030	27	12	39	0930 - 1030	12	16	28
0945 - 1045	32	16	48	0945 - 1045	10	13	23
1000 - 1100	34	18	52	1000 - 1100	7	7	14
PEAK HR	52	16	68	PEAK HR	8	18	26

WEST				EAST			
Bowling Club				Seaview Crescent			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0800 - 0900	52	10	62	0800 - 0900	2	11	13
0815 - 0915	52	16	68	0815 - 0915	4	12	16
0830 - 0930	46	14	60	0830 - 0930	7	16	23
0845 - 0945	25	12	37	0845 - 0945	8	18	26
0900 - 1000	14	8	22	0900 - 1000	11	20	31
0915 - 1015	18	5	23	0915 - 1015	13	20	33
0930 - 1030	27	12	39	0930 - 1030	12	16	28
0945 - 1045	32	16	48	0945 - 1045	10	13	23
1000 - 1100	34	18	52	1000 - 1100	7	7	14
PEAK HR	52	16	68	PEAK HR	8	18	26

WEST				EAST			
Bowling Club				Seaview Crescent			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0800 - 0900	52	10	62	0800 - 0900	2	11	13
0815 - 0915	52	16	68	0815 - 0915	4	12	16
0830 - 0930	46	14	60	0830 - 0930	7	16	23
0845 - 0945	25	12	37	0845 - 0945	8	18	26
0900 - 1000	14	8	22	0900 - 1000	11	20	31
0915 - 1015	18	5	23	0915 - 1015	13	20	33
0930 - 1030	27	12	39	0930 - 1030	12	16	28
0945 - 1045	32	16	48	0945 - 1045	10	13	23
1000 - 1100	34	18	52	1000 - 1100	7	7	14
PEAK HR	52	16	68	PEAK HR	8	18	26

WEST				EAST			
Bowling Club				Seaview Crescent			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0800 - 0900	52	10	62	0800 - 0900	2	11	13
0815 - 0915	52	16	68	0815 - 0915	4	12	16
0830 - 0930	46	14	60	0830 - 0930	7	16	23
0845 - 0945	25	12	37	0845 - 0945	8	18	26
0900 - 1000	14	8	22	0900 - 1000	11	20	31
0915 - 1015	18	5	23	0915 - 1015	13	20	33
0930 - 1030	27	12	39	0930 - 1030	12	16	28
0945 - 1045	32	16	48	0945 - 1045	10	13	23
1000 - 1100	34	18	52	1000 - 1100	7	7	14
PEAK HR	52	16	68	PEAK HR	8	18	26

WEST				EAST			
Bowling Club				Seaview Crescent			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0800 - 0900	52	10	62	0800 - 0900	2	11	13
0815 - 0915	52	16	68	0815 - 0915	4	12	16
0830 - 0930	46	14	60	0830 - 0930	7	16	23
0845 - 0945	25	12	37	0845 - 0945	8	18	26
0900 - 1000	14	8	22	0900 - 1000	11	20	31
0915 - 1015	18	5	23	0915 - 1015	13	20	33
0930 - 1030	27	12	39	0930 - 1030	12	16	28
0945 - 1045	32	16	48	0945 - 1045	10	13	23
1000 - 1100	34	18	52	1000 - 1100	7	7	14
PEAK HR	52	16	68	PEAK HR	8	18	26

WEST				EAST			
Bowling Club				Seaview Crescent			
Peak Per	IN	OUT	TOT	Peak Per	IN	OUT	TOT
0800 - 0900	52	10	62	0800 - 0900	2	11	13
0815 - 0915	52	16	68	0815 - 0915	4	12	16
0830 - 0930	46	14	60	0830 - 0930	7	16	23
0845 - 0945	25	12	37	0845 - 0945	8	18	26
0900 - 1000	14	8	22	0900 - 1000	11	20	31
0915 - 1015	18	5	23	0915 - 1015	13	20	33
0930 - 1030	27	12	39	0930 - 1030	12	16	28
0945 - 1045	32	16	48	0945 - 1045	10	13	23
1000 - 1100	34	18	52	1000 - 1100	7	7	14
PEAK HR	52	16	68	PEAK HR			

APPENDIX C

HOTEL TRAFFIC GENERATION

Resort Hotel (330)

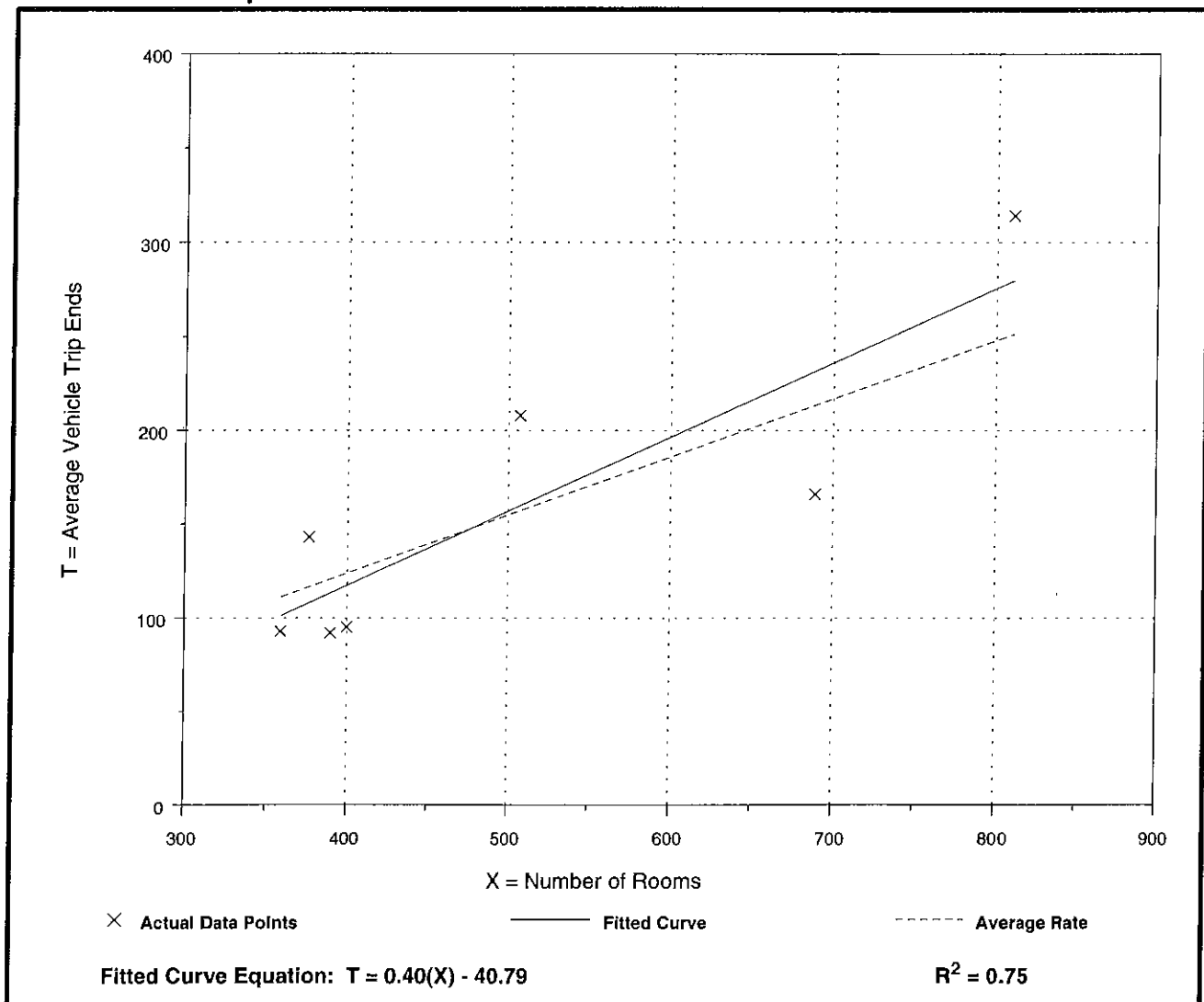
Average Vehicle Trip Ends vs: Rooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

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)

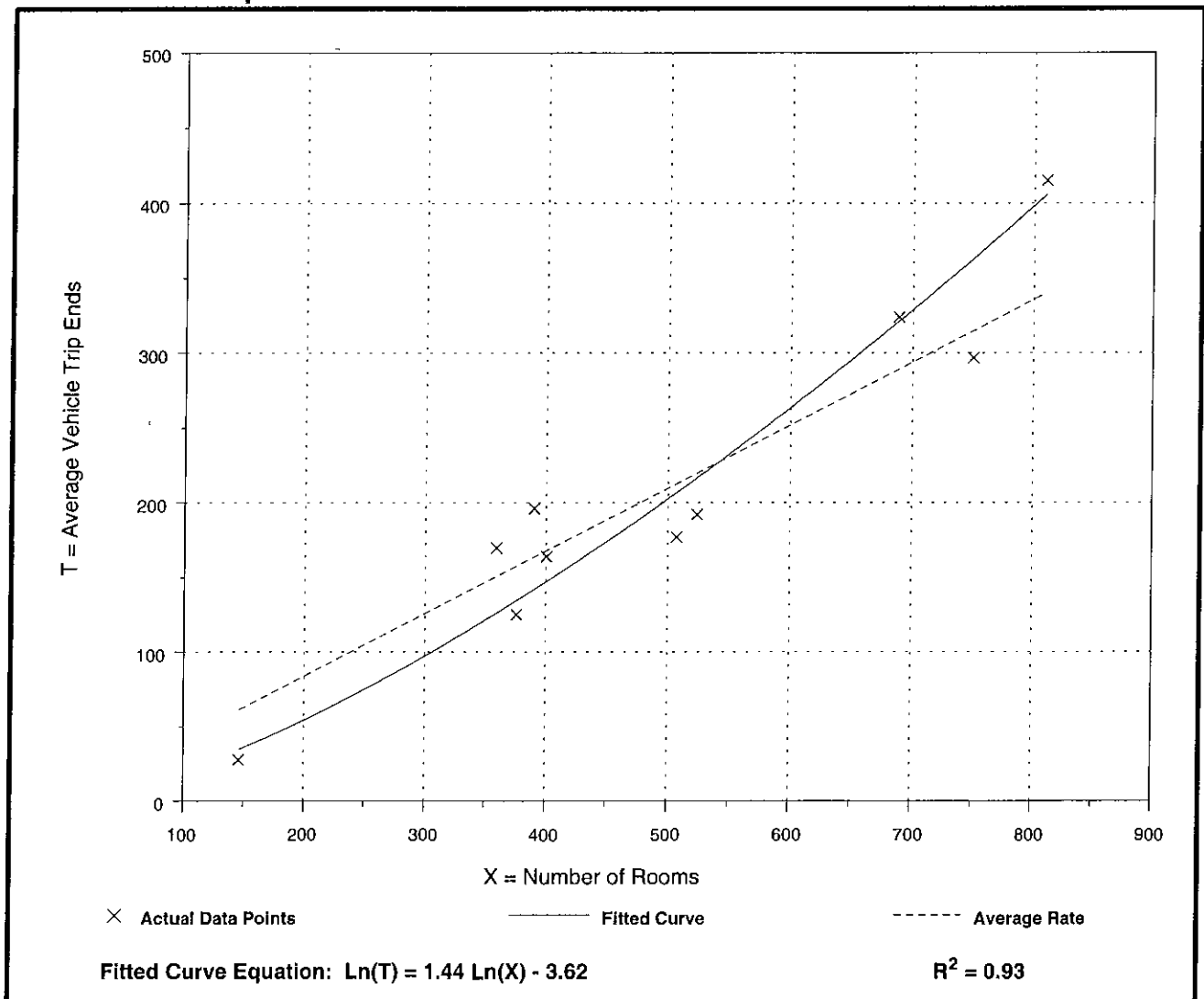
Average Vehicle Trip Ends vs: Rooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

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



APPENDIX D

BUS SERVICES

Port Stephens Coaches Timetable

Monday to Friday - Soldiers Point to Newcastle

[illegible]

1000000

Monday to Friday - Newcastle to Soldiers Point

x Denotes where to change buses

Denotes service by a bus with a “low floor” i.e. no steps and accessible by wheel chair

Saturday, Sunday & Public Holidays - Soldiers Point to Newcastle

Route No. 31

Departs Soldiers Point	6.48#	8.48	10.23	12.38	3.18
Arrive Salamander Centre	7.00	9.00	10.35	12.50	3.30
Depart Salamander Centre	7.02	9.00	11.18	1.30	4.02
Arrive Airport	7.42	9.42	12.05	2.17	4.47
Arrive Newcastle	8.15	10.17	12.40	2.50	5.20

**Change at Salamander Centre
or Anna Bay for Newcastle**

**# Saturday only
(not Sundays or public holidays)**

Saturday, Sunday & Public Holidays - Newcastle to Soldiers Point

Departs Newcastle stand 3	8.25	10.35	1.20	3.20	5.27
Departs Airport	9.03	11.13	1.57	3.55	6.03
Arrive Anna Bay			2.22		
Depart Anna Bay			TR 2.55		
Arrive Salamander Centre	9.45	11.55		4.40	6.40
Depart Salamander Centre	10.10	12.25		4.40	6.42
Arrive Soldiers Point	10.22	12.37	3.15	4.50	6.52

TR – Via Taylors Beach on Request

APPENDIX E

SIDRA RESULTS

MOVEMENT SUMMARY

Site: AM

Soldiers Point Road and Access
AM Peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: RoadName											
2	T	107	0.0	0.040	0.2	LOS A	0.2	1.7	0.07	0.00	58.3
3	R	32	0.0	0.040	8.9	LOS A	0.2	1.7	0.27	0.74	48.3
Approach		139	0.0	0.040	2.2	LOS A	0.2	1.7	0.12	0.17	55.7
East: RoadName											
4	L	21	0.0	0.032	9.5	LOS A	0.1	1.0	0.30	0.62	47.6
6	R	6	0.0	0.032	9.6	LOS A	0.1	1.0	0.30	0.70	47.5
Approach		27	0.0	0.032	9.5	LOS A	0.1	1.0	0.30	0.64	47.6
North: RoadName											
7	L	4	0.0	0.042	8.2	LOS A	0.0	0.0	0.00	1.05	49.0
8	T	159	0.0	0.042	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		163	0.0	0.042	0.2	LOS A	0.0	0.0	0.00	0.03	59.7
All Vehicles		329	0.0	0.042	1.8	NA	0.2	1.7	0.07	0.14	56.8

LOS (Aver. Int. Delay): NA. The average intersection delay is not a good LOS measure for two-way sign control due to zero delays associated with major road movements.

Level of Service (Worst Movement): LOS A. LOS Method for individual vehicle movements: Delay (RTA NSW).

Approach LOS values are based on the worst delay for any vehicle movement.

Processed: Monday, 7 June 2010 3:17:31 PM

SIDRA INTERSECTION 4.0.18.1102

Project: F:\WORK\08\08186 - SALAMANDER SHORES, PORT STEPHENS\SIDRA\Soldiers Point Road and

Access.sip

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SIDRA
INTERSECTION

MOVEMENT SUMMARY

Site: PM

Soldiers Point Road and Access
PM Peak
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: RoadName											
2	T	177	0.0	0.058	0.2	LOS A	0.4	2.7	0.09	0.00	58.0
3	R	32	0.0	0.058	8.8	LOS A	0.4	2.7	0.25	0.81	48.6
Approach		208	0.0	0.058	1.5	LOS A	0.4	2.7	0.11	0.12	56.4
East: RoadName											
4	L	32	0.0	0.040	9.2	LOS A	0.2	1.3	0.25	0.62	47.8
6	R	5	0.0	0.040	9.3	LOS A	0.2	1.3	0.25	0.71	47.8
Approach		37	0.0	0.040	9.2	LOS A	0.2	1.3	0.25	0.63	47.8
North: RoadName											
7	L	7	0.0	0.034	8.2	LOS A	0.0	0.0	0.00	1.01	49.0
8	T	124	0.0	0.034	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		132	0.0	0.034	0.5	LOS A	0.0	0.0	0.00	0.06	59.3
All Vehicles		377	0.0	0.058	1.9	NA	0.4	2.7	0.09	0.15	56.3

LOS (Aver. Int. Delay): NA. The average intersection delay is not a good LOS measure for two-way sign control due to zero delays associated with major road movements.

Level of Service (Worst Movement): LOS A. LOS Method for individual vehicle movements: Delay (RTA NSW).

Approach LOS values are based on the worst delay for any vehicle movement.

Processed: Monday, 7 June 2010 3:18:55 PM

SIDRA INTERSECTION 4.0.18.1102

Project: F:\WORK\08\08186 - SALAMANDER SHORES, PORT STEPHENS\SIDRA\Soldiers Point Road and

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SIDRA
INTERSECTION

MOVEMENT SUMMARY

Site: Sat

Soldiers Point Road and Access
Sat Peak
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: RoadName											
2	T	159	0.0	0.058	0.2	LOS A	0.4	2.6	0.08	0.00	58.1
3	R	42	0.0	0.058	9.0	LOS A	0.4	2.6	0.29	0.76	48.3
Approach		201	0.0	0.058	2.1	LOS A	0.4	2.6	0.13	0.16	55.7
East: RoadName											
4	L	42	0.0	0.057	9.6	LOS A	0.3	1.8	0.31	0.64	47.5
6	R	7	0.0	0.057	9.7	LOS A	0.3	1.8	0.31	0.73	47.4
Approach		49	0.0	0.057	9.6	LOS A	0.3	1.8	0.31	0.65	47.5
North: RoadName											
7	L	7	0.0	0.047	8.2	LOS A	0.0	0.0	0.00	1.03	49.0
8	T	176	0.0	0.047	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		183	0.0	0.047	0.3	LOS A	0.0	0.0	0.00	0.04	59.5
All Vehicles		434	0.0	0.058	2.2	NA	0.4	2.6	0.09	0.17	56.1

LOS (Aver. Int. Delay): NA. The average intersection delay is not a good LOS measure for two-way sign control due to zero delays associated with major road movements.

Level of Service (Worst Movement): LOS A. LOS Method for individual vehicle movements: Delay (RTA NSW).

Approach LOS values are based on the worst delay for any vehicle movement.

Processed: Monday, 7 June 2010 3:19:44 PM

SIDRA INTERSECTION 4.0 18.1102

Project: F:\WORK08\08186 - SALAMANDER SHORES, PORT STEPHENS\SIDRA\Soldiers Point Road and

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