

# **REDLANDS SCHOOL**

**PARKING ACCUMULATION SURVEYS  
EXISTING ON-STREET AND UTILISATION  
OF  
DROP-OFF AND PICK-UP ZONES  
DURING PEAK SCHOOL ARRIVAL  
AND DEPARTURE PERIODS**

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**Job No.: 1146/13  
Report No.: 35/13**

**MARCH 2014**

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## 1.0 INTRODUCTION

### 1.1 Background

Redlands School Cremorne is embarking on a Redlands Masterplan Development RMD project to provide improved facilities for students in both curricular and extra-curricular activities.

Redevelopment of the existing school will be done over a series of stages identified in the Masterplan Stages.

Stage	Works
Transitional Stage	Demountable placed on basketball courts and demolition of No 6 Winnie Street and change rooms fitout to No 1 Belgrave Street.
Stage 1 Monford Place Learning Hub	Demountable located on basketball courts, demolition of building facing Monford Place and refurbishment of Mowill Building and construction of a new Building.
Stage 2A Admin. Relocation and Site Establishment	Demolition of No 2 Monford Pl., Staff Offices and Design and Technology buildings, fitout to No 5 Monford Pl, relocation of Admin to No 1 Belgrave Street and relocation of Admin to No 1 Belgrave Street.
Stage 2B Sports and Performing Arts.	Construction of New Sports and Performing Arts Building facing Military Road.
Stage 3 Redlands Hall and Liggins Building	Construction of New Building at No 6 Winnie Street, Refurbishment of Lang Gymnasium to Redlands Hall and relocation of Canteen to Liggins Building. Relocation of No 1 and No 11 Belgrave Street.
Stage 4 Humphrey Learning Hub and Resource Centre.	Demolition of all Nos. 1,3,7,9 and 11 Belgrave Street. Construction of new building on Humphreys Building Library Site and old Assembly Hall Site
Stage 5 Car Parking and External Play Area	Construction of new undercroft car park facing Belgrave Street and play area.
Stage 6 Science Extension and Adams Centre.	Construction of small extension between Roseby Building and Sport Hall.

It is understood that there will not be any increase in school enrolment and staff numbers. There are currently a total of **8 parking spaces for cars and 4 spaces for mini buses** in the Senior Campus car park and a *driveway turning area for buses with access from Military Road.*

### 1.2 Scope of Investigations and Report

The purpose of this Study is to determine the availability and existing utilisation of parking spaces on-street within *5 to 7 minutes* walking distance of Redlands School and to determine the *number of students* being 'dropped off' and 'picked up' by vehicle in the *three drop off zones* in Winnie Street west of Belgrave Street near the Neutral Bay Kindergarten (**7 spaces**). Winnie Street east of Belgrave Street (**5 spaces**), and Waters Road east of Belgrave Street (**8 spaces**) and the *degree of utilisation* of each of these Zones to provide a *data base for assessment of the parking and traffic impacts of the proposed RMD.*

The *attached* Site Plan shows the existing facilities and buildings located at the School.

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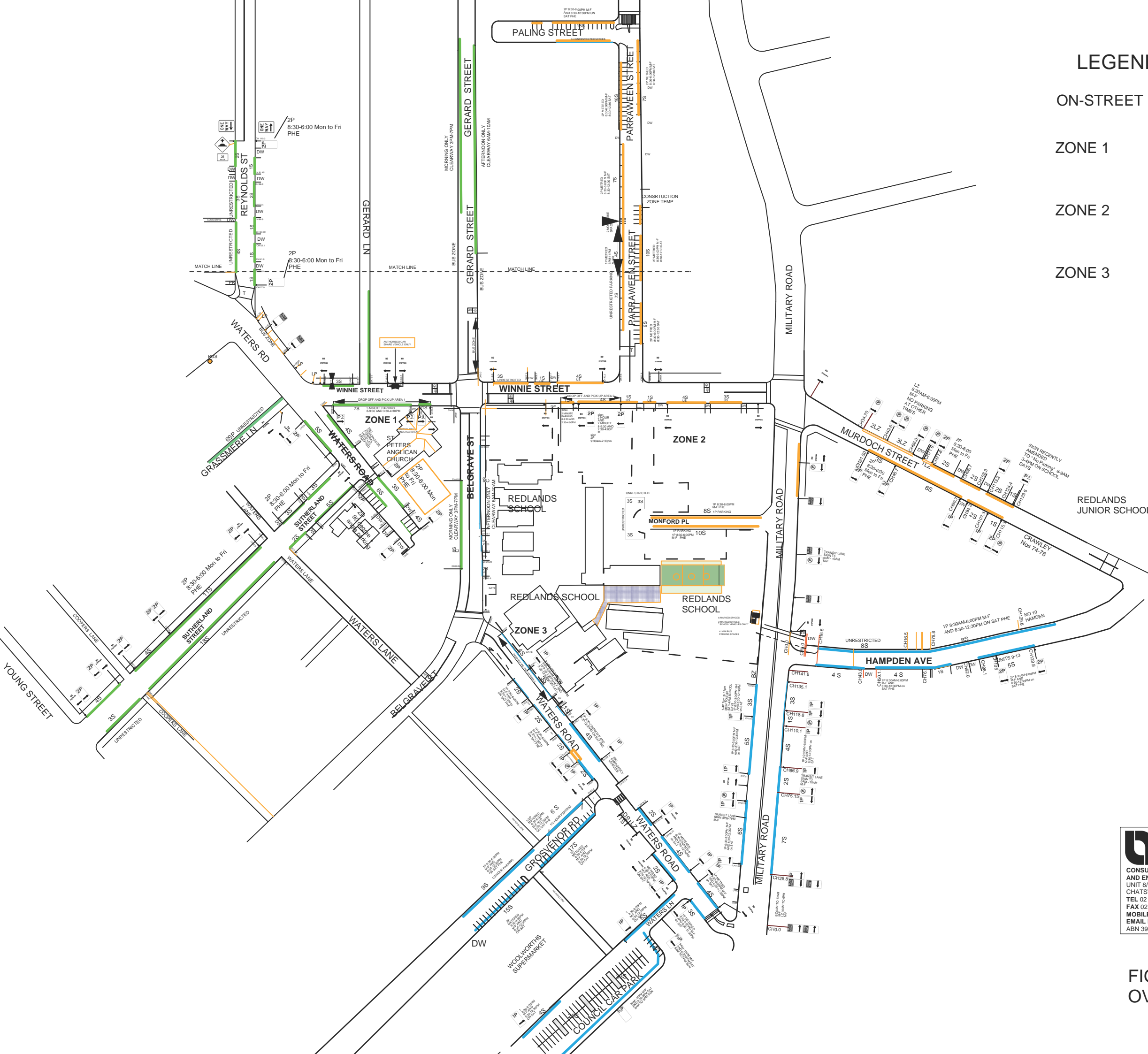
## 2.0 EXISTING ON-STREET PARKING SUPPLY

The parallel spaces on-street are not line marked. All driveways, No Stopping Zones, No Parking Zones, Bus Zones, loading zones and drop off areas were measured and located in all streets in the area surveyed, as shown on **Figure 1 Street Inventory Plan Drawing 01-1146-13, Figures 2A, 2B and 2C show each area Green, Orange and Blue at a larger scale.** A space length of 6 metres was adopted for intermediate spaces and 5.4 metres for unobstructed end spaces in accordance with **Figure 2.5 in AS/NZS 2890.1 - 2004**

### 2.1 Time Restricted and Time Limit Parking Spaces

The *time restricted parking spaces* within **5 – 7 minutes walking distance** of Redlands School area as follows:-

- **Half hour** parking between **8:30am – 6:00pm** Monday to Friday and **8:30am – 12:30pm** Saturday
- **Half hour** metered parking between **8:30am – 6:00pm** Monday to Friday and **8:30am – 12:30pm** Saturday.
- **One hour** parking **8:30am – 6:00pm** Monday to Saturday *Authorised Residents Vehicles Permitted*
- **One hour** parking **10:00am – 6:00pm** Monday Friday and **8:30 - 12:30** on Saturday
- **One hour** parking **8:30am – 6:00pm** Monday to Friday and **8:30am – 12:30pm** Saturday *Authorised Residents Vehicles Permitted*
- **One hour** parking **8:30am – 6:00pm** Monday to Friday and **8:30am – 12:30pm**
- **One hour** metered parking **8:30am – 6:00pm** Monday to Friday and **8:30am – 12:30pm**
- **One hour** **8:30am – 3:00pm** Monday to Friday and **8:30am – 12:30pm**
- **One hour** metered parking **9:30am – 2:30pm** Monday to Friday and **8:30am – 12:30pm**
- **Two hour** parking **8:30am – 6:00pm** Monday to Saturday *Authorised Residents Vehicles Permitted*
- **Two hour** parking **8:30am – 6:00pm** Monday to Friday and **8:30am – 12:30pm** Saturday *Authorised Residents Vehicles Permitted*
- **Two hour** parking metered **8:30am – 4:00pm** Monday to Friday and **8:30am – 12:30pm**
- **Two hour** parking metered **8:30am – 6:00pm** Monday to Friday and **8:30am to 12:30pm** on Saturday.
- **One** Loading Zone space from **8:30am – 4:00pm** Monday to Saturday.

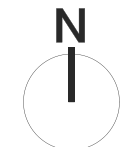
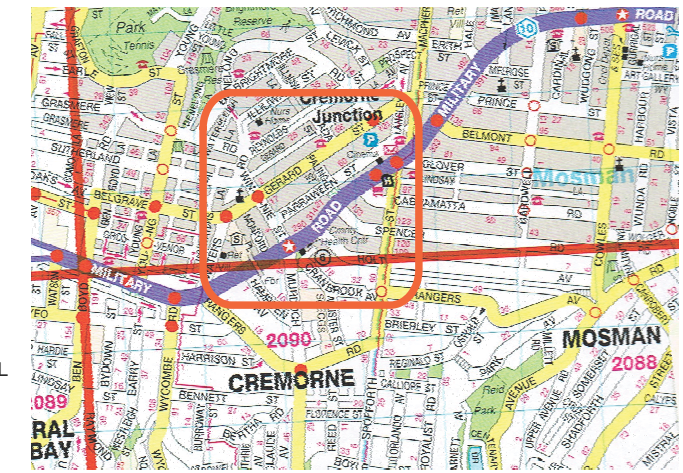



**LEGEND**

ON-STREET PARKING SPACES COUNTED IN SURVEY

- ZONE 1
- ZONE 2
- ZONE 3

**LOCALITY MAP**



 <p><b>LYLE MARSHALL AND ASSOCIATES PTY LTD</b> CONSULTING ENGINEERS, TRANSPORT AND ENVIRONMENTAL PLANNERS UNIT 8/871 PACIFIC HIGHWAY CHATSWOOD NSW 2067 TEL 02 9419 8191 FAX 02 9419 8107 MOBILE TEL 041 969 64 01 (Erica) EMAIL lylemarshall@ozemail.com.au ABN 39 001 200 620</p>	PROJECT REDLANDS	CLIENT SANDRICK PROJECT DIRECTIONS
	JOB NO. 1146-13	PLOT DATE 2013

**FIGURE 1:  
OVERALL STREET INVENTORY PLAN**

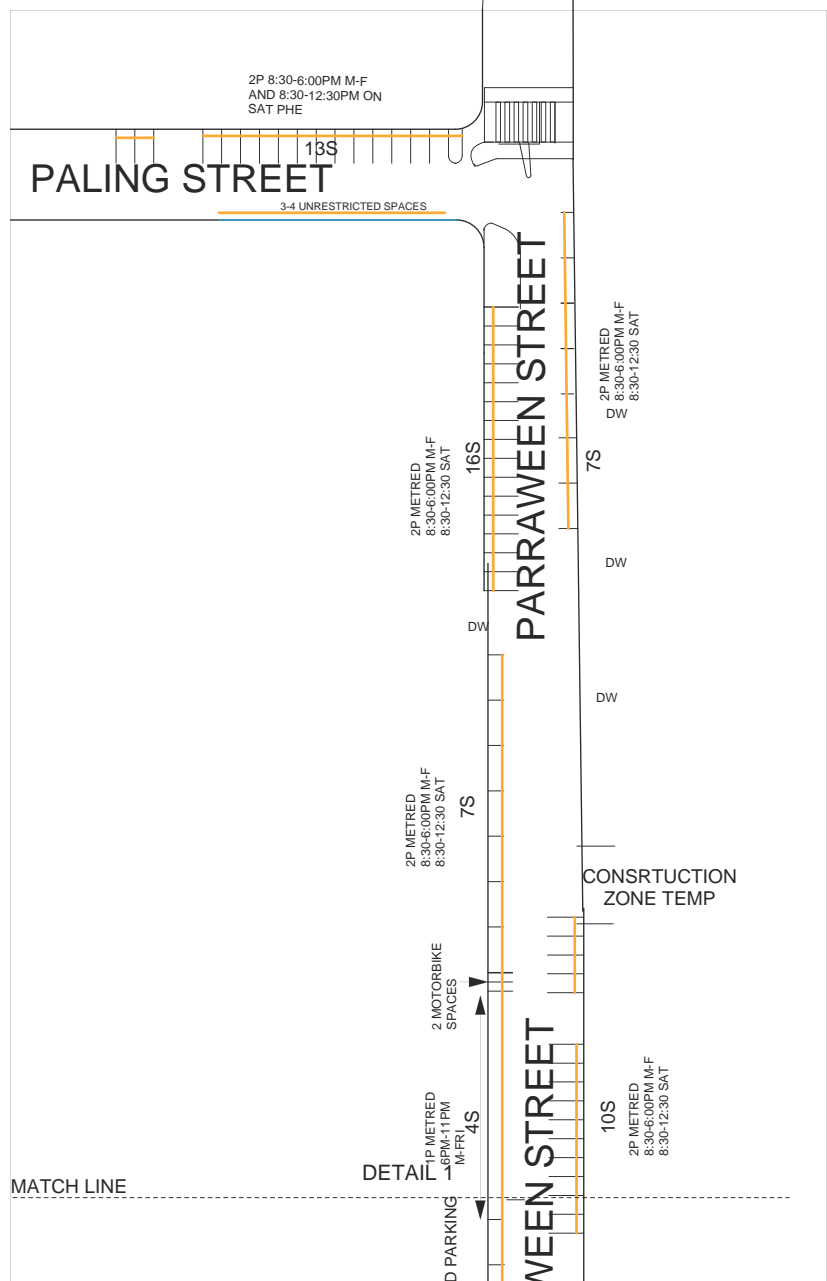
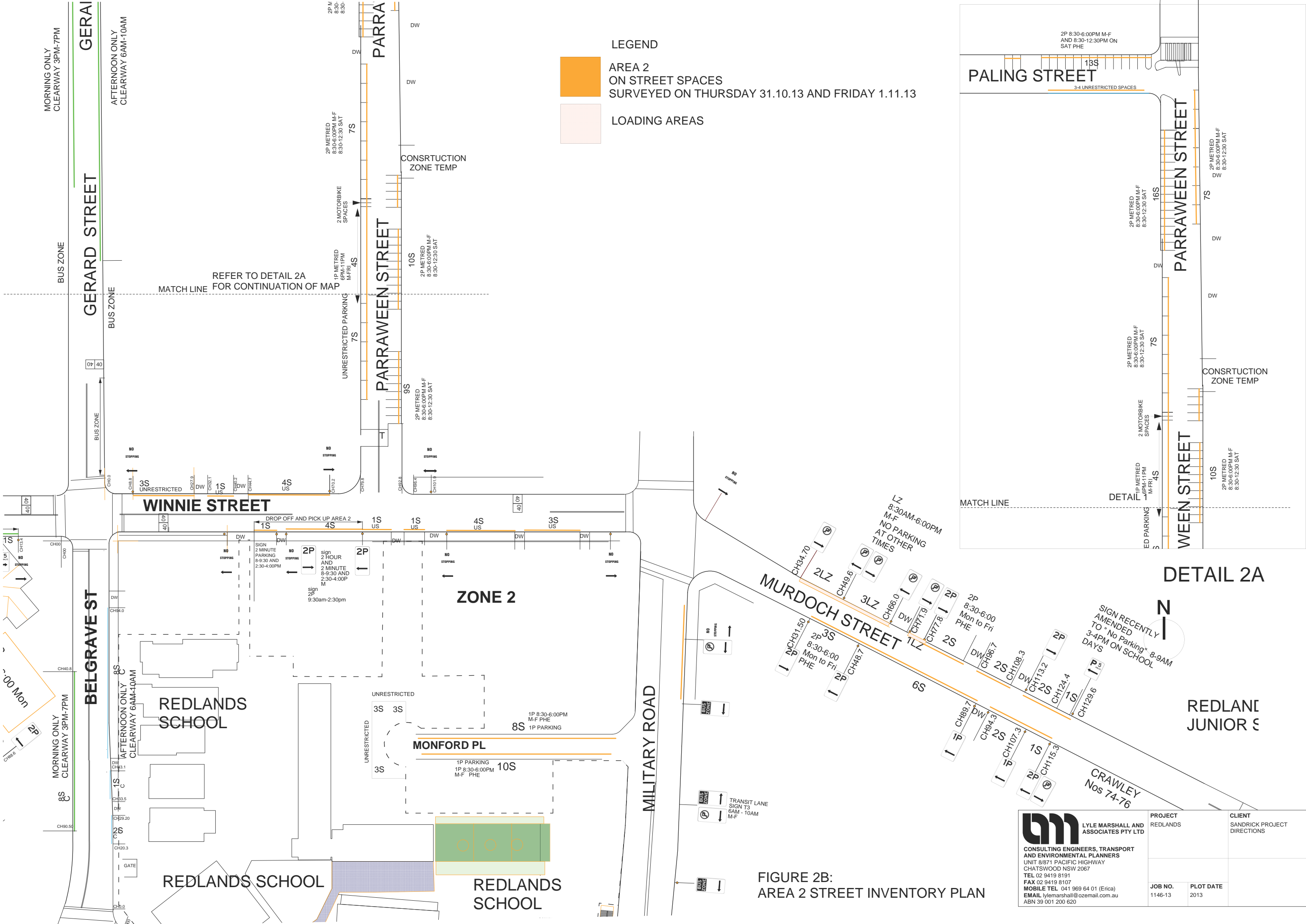


LEGEND



AREA 2  
ON STREET SPACES  
SURVEYED ON THURSDAY 31.10.13 AND FRIDAY 1.11.13

LOADING AREAS

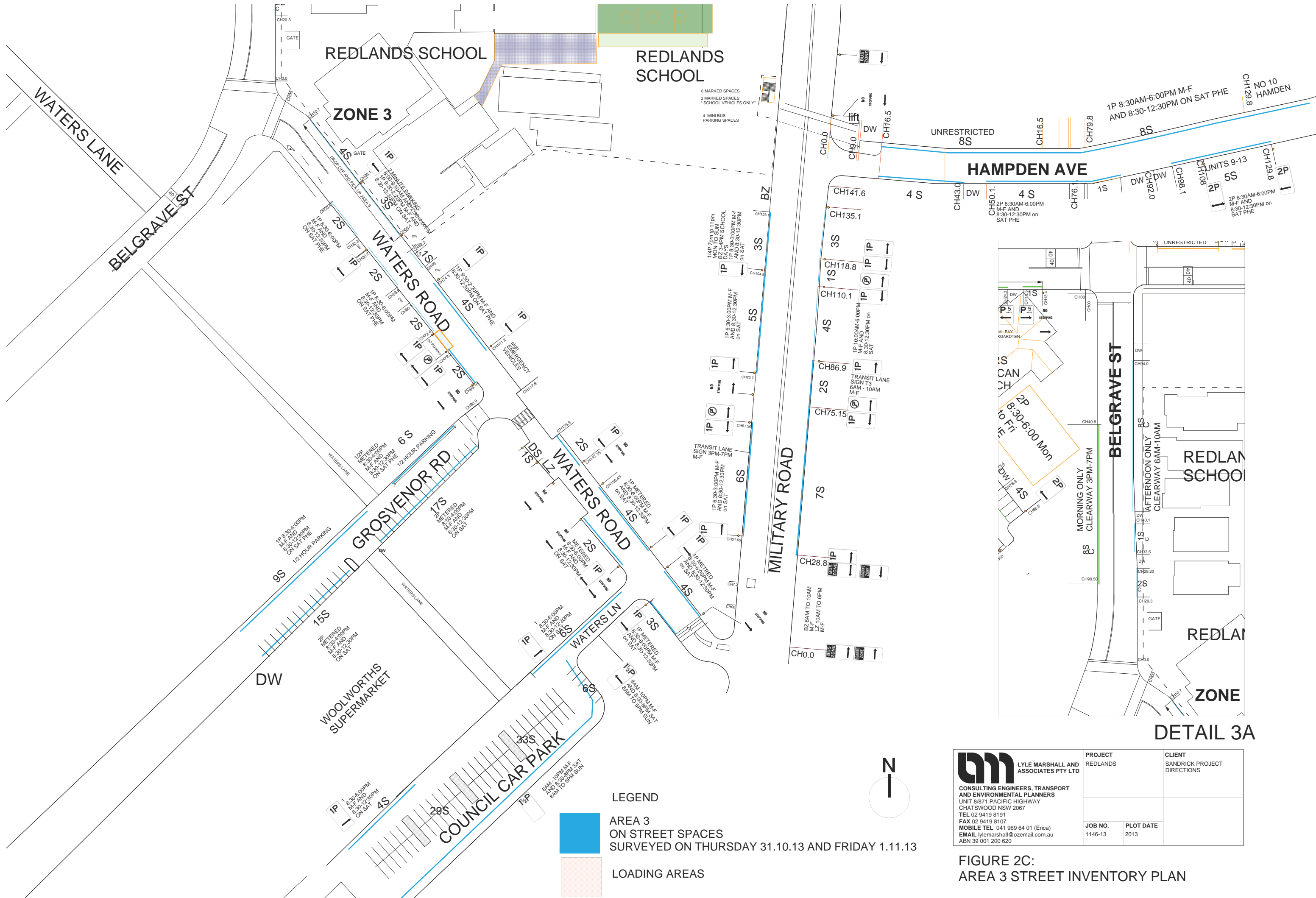


DETAIL 2A

FIGURE 2B:  
AREA 2 STREET INVENTORY PLAN

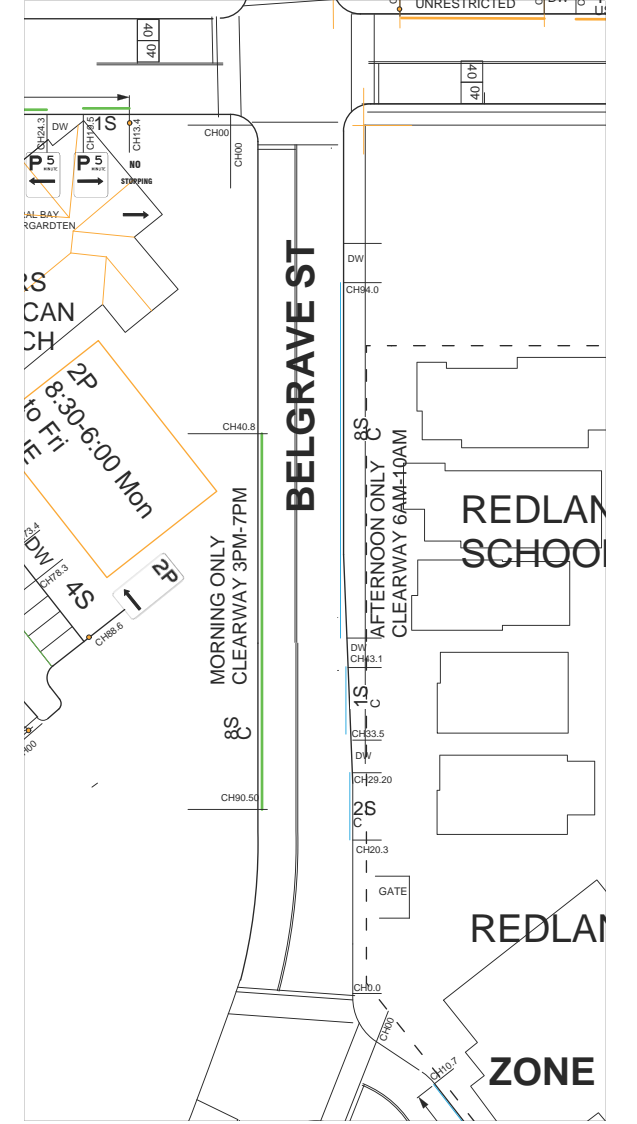
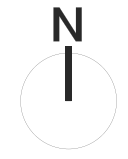
<p><b>LYLE MARSHALL AND ASSOCIATES PTY LTD</b> CONSULTING ENGINEERS, TRANSPORT AND ENVIRONMENTAL PLANNERS UNIT 8/871 PACIFIC HIGHWAY CHATSWOOD NSW 2067 TEL 02 9419 8191 FAX 02 9419 8107 MOBILE TEL 041 969 64 01 (Erica) EMAIL lylemarshall@ozemail.com.au ABN 39 001 200 620</p>	<p>PROJECT REDLANDS</p>	<p>CLIENT SANDRICK PROJECT DIRECTIONS</p>
	<p>JOB NO. 1146-13</p>	<p>PLOT DATE 2013</p>


REFER TO DETAIL 3A FOR CONTINUATION



**LEGEND**

- AREA 3 ON STREET SPACES SURVEYED ON THURSDAY 31.10.13 AND FRIDAY 1.11.13
- LOADING AREAS



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	JOB NO. 1146-13	PLOT DATE 2013

**FIGURE 2C:**  
**AREA 3 STREET INVENTORY PLAN**

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**2.0 (Continued)****2.1 Drop Off and Pick Up Zones****Green Area Zone 1- 7 spaces:**

Winnie Street West of Belgrave Street. Southern side signposted “**5 Minute Parking**” **8:00-9:30am** and **3:30-4:30pm** and ‘*unrestricted*’ at other times.

**Orange Area Zone 2- 5 spaces:**

Winnie Street, east of Belgrave Street. Southern Side signposted “**2 Minute Parking**” **8:00am - 9:30am** and **2:30pm - 4:00pm** and **2P Parking 9:30-2:30pm** Monday to Friday.

**Blue Area- Zone 3-8 spaces:**

Waters Road, east of Belgrave Street. North-East side signposted “**2 Minute Parking**” **8:00am - 9:30am** and **2:30pm - 4:00pm** and **1P Parking 9:30-2:30pm** Monday to Friday.

The total number of these spaces is listed in **Table 2.1a** and **2.1b** respectively and the locations are shown on **Sheet 1 of Drawing No. 1142-13**. This means that the number of spaces available for restricted parking is 444 spaces and unrestricted parking spaces *varies* throughout the day from **7:00am** to **10:00pm** and is a *maximum* of **464 spaces** from **6:00am** to **7:00am** on weekdays, 7:00pm to Midnight on weeknights of **440 spaces** and **445 spaces** for *24 hours* on *Sunday*.

**2.3 Unrestricted Parking (No Time Limit) Spaces**

The number of unrestricted parking spaces varies according to time within **5 – 7** minute walking distance of Redlands School. The number of unrestricted parking spaces is **93 spaces**. These locations and number of spaces are shown on **Sheet 1, 2, 3 and 4 of Drawing No. 1146 – 13** and **Table 1 in Appendix 1**.

Table 2.1a SUMMARY OF PARKING RESTRICTIONS AND NUMBER OF SPACES RESTRICTED PARKING

RESTRICTED PARKING																							
	1/4P																						
	7pm to 11pm M to SUN																						
3	8:30-6:00pm M to F 8:30-12:30 Sat	1/2P Metered																					
6	8:30-6:00pm M to F 8:30-12:30 Sat	1/2P																					
9	8:00-9:30am 3:30-4:30pm	DP ZONE																					
7	8:00-9:00am 3:00-4:00pm	DP ZONE																					
3	8:00-9:30am 2:30-4:00pm	DP ZONE																					
12	9:30-2:30pm M to F PHE 8:30-12:30 SAT	1P																					
8	8:30-6:00pm M to F PHE	1P																					
40	10:00-6:00pm M to F 8:30-12:30 Sat	1P																					
14	8:30-6:00pm M to F 8:30-12:30 Sat	1P																					
27	8:30-6:00pm M to F 8:30-12:30 Sat	1P M																					
10	6:30-3:00pm M to F 6:30-12:30 Sat	1P																					
11	8:30AM-10:00PM (M to F) 8:30AM-8:00PM Sat and 8AM TO 5PM SUN	1 1/2 P																					
72	8:30-4:00pm M to Fri and 8:30-12:30 Sat	2P M																					
37	8:30-6:00pm Mon to Fri and 8:30-12:30 Sat PHE	2P																					
14	8:30-6:00pm M-F 8:30am-12:30pm Sat	2P M																					
53	8:30-6:00pm Mon to Sat	2P																					
11	6AM-10AM Clearway	CW-AM																					
63	3PM-7PM Clearway	CW-PM																					
30	24 HOURS	CS																					
35	7:00-5:00pm Mon to Sat	NP																					
4	8:30-4:00pm Mon to Sat	LZ																					
1																							
5																							

Table 2.1b SUMMARY OF PARKING RESTRICTIONS AND NUMBER OF SPACES UNRESTRICTED PARKING

MONDAY TO FRIDAY									SATURDAY				SUNDAY
6A-7AM	7AM-8AM	8AM-9:30AM	9:30AM-10AM	10AM-2:30PM	4PM-5PM	5PM-6PM	6-7PM	7PM-MIDNIGHT	8:30AM-12:30PM	12:30PM-5PM	5PM-6PM	6PM-MIDNIGHT	24 HOURS
465	465	114	121	151	170	170	398	440	227	444	444	444	444

### 3.0 PARKING ACCUMULATION ON-STREET

#### 3.1 Parking Accumulation in Time Restricted and Time Limit Parking Spaces

*Time Limit* parking spaces and *unrestricted parking spaces* were surveyed at *hourly intervals* from **8:00am** to **9:30am** on school days in school drop-off zones over **three** consecutive mornings in October - November and between **10:00am** and **6:00pm** and **7:00pm** to **10:00pm** in all other spaces. The surveys were completed over a **3 day period**, **31<sup>st</sup> October** **1<sup>st</sup> November** and **4<sup>th</sup> November**.

The complete Survey Data is contained in **Tables 2, 3, 4, 5, 6** and **7** in **Appendix 1** and is summarised in **Table 3.1**. This Table shows the occupancy rates for all parking spaces and for *restricted* and *unrestricted* parking areas.

During the lunch time period **midday** to **2:00pm** the occupancy rate of *spaces*, particularly in **Orange Area Zone 2** and **Parraween Street** rises between **midday** and **2:00pm**. Occupancy for *metered* parking spaces is generally *lower*. After **5:00pm** there is a *significant drop* in the occupancy rate.

The occupancy rate of *restricted parking spaces* is *lower* than for the *unrestricted spaces*. At **10:00am** there is an occupancy of **315** (70%) vehicles which rises to a *maximum* of **355** vehicles at **midday** then drops to **256 vehicles** (57%) at **6:00pm**. In some areas such as those with the *closest proximity* to restaurants, there is a *slight increase* between **7pm** and **8pm**.

The **three** 'drop off' and 'pick-up' areas identified and used by parents of the Senior School had *varying* 'sign posting' and 'restrictions'.

##### **Green Area Zone 1- 7 spaces:**

**"5 Minute Parking"** **8:00-9:30am** and **3:30-4:30pm** Monday to Friday. Underutilised in the *afternoon* period.

##### **Orange Area Zone 2- 5 spaces:**

**"2 Minute Parking"** **8:00am - 9:30am** and **2:30pm - 4:00pm** Monday to Friday. This Zone is *underutilised* and is also used by *commercial vehicles* for loading.

##### **Blue Area- Zone 3-8 spaces:**

**"2 Minute Parking"** **8:00am - 9:30am** and **2:30pm - 4** Monday to Friday. Refer to Section 4.4.1 for comments.

TABLE 3.1 PARKING ACCUMMULATION ON STREET ON SCHOOL DAYS

			No Of Spaces	10am	11am	12pm	1pm	2pm	5pm	6pm	7pm	8pm	9pm
Green Zone	clearway pm	3pm-7pm	21	18	19	20	17	14	0	0	1	2	4
ZONE 1	clearway	6am-10am	19	19	19	18	20	20	7	11	6	2	1
	2P	8.30-6.00pm Mon to Fri PHE	21								18	19	21
	2P	8.30-6.00pm Mon to Sat PHE	37	24	33	32	24	30	28	22	28	27	26
	DP Zone /1P Zone	8:30-6:00pm M to F 8:30-12:30 Sat	7	7	4	5	4	4	6	5	3	5	3
	UNRES		57	50	49	50	50	51	49	46	51	47	43
Orange Zone	1P	8.30-6.00pm Mon to Fri PHE	26	13	11	10	12	13	19	8	19	18	19
ZONE 2	2P	8.30-6.00pm Mon to Fri PHE	15	17	17	16	17	17	16	9	16	15	11
	2P	8.30-6.00pm Mon to Sat PHE	8	8	7	8	8	7	8	7	8	8	9
	DP Zone/2P	8.30-6.00pm Mon to Sat PHE	3	3	2	3	3	2	1	0	0	0	0
	LZ Zone	Loading Zone 8:30-4:00pm Mon- Sat	5	1	1	0	0	0	0	0	0	0	0
	2P	Metered Parking 8am-10pm Mon- Sat	53	29	27	29	33	36	20	29	56	41	15
	UNRES		28	26	25	28	28	27	26	21	26	21	22
Blue Area	1 1/2 P	8:30AM-10:00PM (M to F) 8:30AM-8:00PM Sat and 8AM TO 5PM SUN	72	67	67	66	67	66	65	65	57	54	31
ZONE 3	1/2 P	8:30-6:00pm M to F 8:30-12:30 Sat	9	8	8	8	8	8	8	8	7	7	7
	1/2P Meterd	8:30-6:00pm M to F 8:30-12:30 Sat	6	5	5	5	5	5	5	5	5	5	4
	1P CW-AM	10:00-6:00pm M to F 8:30-12:30 Sat	14	9	13	12	13	14	0	0	0	0	0
	1P METERD	8:30-6:00pm M to F 8:30-12:30 Sat	10	8	10	10	8	7	11	9	8	7	7
	1P CW PM	6:30-3:00pm M to F 6:30-12:30 Sat	14	7	10	10	10	11	6	6	CW	CW	CW
	1P/dp ZONE	8:30-6:00pm M to F PHE	12	9	12	13	10	8	12	7	13	8	8
	1P	8:30-6:00pm M to F 8:30-12:30 Sat	22	20	21	21	21	21	20	21	23	21	16
	2P	8.30-6.00pm Mon to Fri and 8:30-12:30 Sat PHE	14	12	11	12	12	11	13	11	12	12	12
	2P METERED	8.30-4.00pm M to Fri and 8:30-12:30 Sat	51	31	23	45	43	40	32	26	26	27	15
	CW-AM	6AM-10AM CLEARWAY	11		12	12	12	12	8	7	6	3	0
	UNRES		8	9	9	9	9	9	9	9	8	8	8
	TOTAL	Total Occupancy		543	400	415	442	434	433	369	332	397	357
Percentage				74%	76%	81%	80%	80%	68%	61%	73%	66%	52%
RESTRICTED	Occupancy Rate Restricted		450	315	332	355	347	346	285	256	312	281	209
	percentage			70%	74%	79%	77%	77%	63%	57%	69%	62%	46%
UNRESTRICTED	Occupancy Rate unrestricted		93	85	83	87	87	87	84	76	85	76	73
				91%	89%	94%	94%	94%	90%	82%	91%	82%	78%

Notes: Counts used for 31.10.13 for 10am to 6pm and from 7-9pm 4.11.13

### 3.2 Parking Accumulation in Unrestricted Parking Spaces

The Occupancy rates of the **93** unrestricted parking spaces in Gerard Lane, Reynolds Street, Winnie Street and Sutherland Street between Waters Road and Waters Lane are *well utilised* and the parking spaces in Belgrave Street with 'Clearway Restrictions' are also *heavily utilised*. Adjacent to the **7 Unrestricted Parking** spaces in Parraween Street are 4 x one hour parking spaces which were not signposted at the time of the surveys and were included in the 2P metered parking area. These spaces have now been *re-signposted* "**1P 6:00-11:00pm** Monday to Friday", *since the Surveys* were carried out.

The *occupancy* at each hour from **6:00am** to **10:00pm** is shown in **Table 3.1** and ranged from **85** vehicles at **10:00am** (91%) to a *maximum* of **87** vehicles at **12 midday** (94%). The *low occupancy* at **5:00pm**, **76** (82%) vehicles is due to *drivers who work in the area leaving*.

#### 4.0 STUDENTS DROPPED OFF BY VEHICLE IN AM ARRIVAL PERIOD AND PICKED UP BY VEHICLE IN PM DEPARTURE PERIOD

##### 4.1 Winnie Street West of Belgrave Street- Zone 1.

##### 4.2 5 Minute Parking Zone

There is a 5 minute Parking Zone signposted 8:00-9:30am and 3:30-4:30pm on School Days which primarily services the Neutral Bay Preschool. It was noted during site inspections that Redlands school children were also dropped off in this area particularly those with smaller siblings.

The full Survey results for **Drop-off** and **Pick-up** are in **Tables 5A** and **5B** in **Appendix 1**. The Summary follows:-

##### 4.1.1 Morning 'Drop Off'.

Zone	Time AM		No. Vehicles in Queue	Total Vehicles	Length of Stay	No. of Vehicles	No. of Students Dropped Off	
Green Area 1 capacity 7 spaces	8:00:00	8:15:00	5	9	<1min	1	7	
					<=1min	1		
					<2	1		
					<3	2		
					<5			
					>4	5		
		8:15:00	8:30:00	3	3	<1min		3
						<=1min		
						<2		
						<3		
						<5	3	
						>10		
		8:30:00	8:45:00	2	4	<1min		6
					<=1min			
					<2			
					<3	1		
					<5	1		
					>15	2		
	8:45:00	9:00:00	2	4	<1min		4	
					<=1min			
					<2			
					<3	1		
					<5	1		
					>5	2		
	9:00:00	9:15:00	3	5	<1min	1	6	
					<=1min			
					<2			
					<3			
					<5	1		
					>5	1		
					>15	2		
Total Vehicles and Children				25			26	
				length of stay 5 minutes or less			52%	

**Car Occupancy: 1.04 students / vehicle.**  
**Length of Stay ≤ 5 minutes – 13 vehicles (52%).**

**4.2 Continued)****Comments:**

- **Zone 1** . After **8:30am** in the *morning* a *higher number of vehicles* stayed in *excess of the 5 minute 'drop off' period*. As it is 'unrestricted' parking these vehicles are not dropping off children and may be *parking for shopping purposes or work related purposes*.

**Recommendations:**

1. Provide effective Traffic Management. This can be done in consultation with Council's Parking rangers to manage compliance with the sign posted traffic conditions.
2. Mark out and number all queueing bays.

**4.1.2. Afternoon 'Pick-Up'**

Zone	Time		No. Vehicles in Queue	Total Vehicles	Length of Stay	No. of Vehicles	No. of Students Picked Up
Green area 1	2:15:00	2:30:00	4	4	<1min		0
7 spaces					>5	4	
	2:30:00	3:00:00	1	1	<1min		0
					>10	1	
	3:00:00	3:15:00	1	1	<3	1	1
	3:15:00	3:30:00	2	2	<1	2	5
	3:30:00	3:45:00	2	5	>5	1	
					>10	1	
Total Vehicles and Children				13			6
length of stay 5 minutes or less							31%

**Car Occupancy:** *0.5 students per vehicle.*  
**Length of Stay** *≤ 5 minutes – 6 vehicles (31%).*

**Comments:**

- Although vehicles arrive at **2:30pm** and wait, it is an *unrestricted parking area before 3:30pm*.
- The Drop Off Zone in the *afternoon* appears underutilised.

**Recommendations:**

1. Provide effective Traffic Management. This can be done in consultation with Council. It may be that the "5 Minute Parking" signposting should be amended to 2:30pm-4:00pm the same as the other drop off zones.
2. Mark out Bays - (as for *Morning Drop Off*).
3. It would be of benefit to have it signposted **2P 9:30-2:30pm Monday to Friday** in conjunction with the *5 minute* signposting.

### 4.3 Winnie Street East of Belgrave Street- Zone 2

There are 5 “2 Minute Parking” spaces on the southern side of Winnie Street along the frontage of Redlands School with a signposted ‘*Time Restriction 8:00 – 9:30am*’ and ‘*2:30 – 4:00pm Schooldays*’ that are used to drop-off and pick-up students. From **9:30-2:30pm** it is sign posted **1P** Parking. The Zone is used by Commercial vehicles for goods loading and is underutilised by parents.

The full Survey results for Drop-Off and Pick-Up are in **Tables 6A** and **6B** respectively in **Appendix 1**. The Summary follows with comments and recommendations.

#### 4.3.1 Morning ‘Drop-Off’

Zone	Time		No. Vehicles in Queue	Total Vehicles	Length of Stay	No. of Vehicles	No. of Students Dropped Off
Orange Area capacity 5 spaces	8:00:00	8:15:00	4	4	<1min	1	1
					<=1min	2	
					<2		
					<3	1	
					<5		
					>15	1	
	8:15:00	8:30:00	1	1			0
	<b>Total Vehicles and Children</b>			5			1

**Car Occupancy:**      **0.2 students / vehicle.**  
**Length of Stay**      **≤ 2 minutes – 3 vehicles (60%).**

#### Comments:

- Spaces could be marked out and vehicles such as trucks prevented from using this zone.
- This Zone similar to Zone 3 in terms of time restrictions.

#### Recommendations:

1. Provide improved traffic management control to effectively manage the Drop-Off Zone.
2. *Stop loading and commercial vehicles using the drop off Zone* by appropriate signposting to use the sign “**School Drop Off and Pick Up Zone Signs.**” **RMS sign number R9-303.**

**4.3 (Continued)****4.3.2 Afternoon 'Pick-Up'**

Zone	Time		No. Vehicles in Queue	Total Vehicles	Length of Stay	No. of Vehicles	No. of Students Picked Up
Orange Area	2:30pm	2:45pm	3	3	>5	1	0
capacity 5 spaces					>30	2	
	2:45pm	3:00pm	1	1	>30	1	0
	3:00pm	3:30pm	1	1	<1	1	1
Total Vehicles and Children				5			1

**Car Occupancy:** 0.2 students / vehicle.  
**Length of Stay** 4 vehicles in excess of 30 minutes only 1 vehicle less than 1 minute

**Comments:**

- Spaces could be marked out and vehicles such as trucks prevented from using this zone.
- This Zone similar to Zone 3 in terms of time restrictions.

**Recommendations:**

1. Provide improved traffic management control to effectively manage the Drop-Off Zone.
2. Stop *loading and commercial vehicles* using the Drop Off Zone by appropriate signposting to use the sign “**School Drop Off and Pick Up Zone Signs.**” RMS sign number R9-303

**4.4 Waters Road School Drop Off Zone 3**

There are 8 “2 Minute Parking spaces” Signposted **8:00-9:30am** and **2:30-4:00pm** Monday to Friday. Outside of these times **1P parking** is permitted between **9:30am-2:30pm** Monday to Friday

The full Survey results for the *drop-off and pick-up* are in **Tables 7, 7B and 7C** respectively in **Appendix 1**. The summary follows with comments and recommendations.

**4.4 (Continued)****4.4.1 Morning 'Drop-Off'**

Zone	Time am	Period	No. Vehicles in Queue	Total Vehicles	Length of Stay	No. of Vehicles	No. of Students Dropped Off
Blue area Zone 3 capacity 8 spaces	8:00:00	8:15:00	3	19	<1min	14	25
					<=1min		
					<2	5	
					<3		
					<5		
				>4			
	8:15:00	8:30:00	5	7	<1min	2	7
<=1min							
<2					3		
<3							
<5					1		
				>10	1		
	8:30:00	8:45:00	1	1	<1min	0	0
<=1min							
<2							
<3					0		
<5					0		
				>15	0		
	8:45:00	9:00:00	0	0	<1min		0
<=1min							
<2							
<3					0		
<5					0		
				>5	0		
	9:00:00	9:30:00	1	1	<1min	1	2
<=1min							
<2							
<3							
<5							
				>5			
				>15			
Total Vehicles and Children				28			25
length of stay 2 minutes or less							89%

**Car Occupancy: 0.89 students / vehicle.**

**Length of Stay ≤ 2 minutes – 25 vehicles (89.0%).**

**Comments:**

- A majority of vehicles followed the signposted restrictions and the drop-off area was well utilised and effective during the busiest time **8:00-8:15am**
- Bays could be line marked to ensure effective use of the length of the zone.

**4.4 (Continued)****Recommendations:**

1. "School Zone" signs, **RMS** sign number **R9-303** could be installed..
2. That the queueing Bays be '*marked and numbered*'.

**4.3.2 Afternoon 'Pick-up'**

Zone	Time pm	Period	No. Vehicles in Queue	Total Vehicles	Length of Stay	No. of Vehicles	No. of Students Picked Up
Blue area capacity 8 spaces	2:30:00	2:45:00	3	5	<1min	1	1
					<=1min	1	
					<2		
					<3	2	
					<5	1	
					>4		
	2:45:00	3:00:00	3	3	<1min		2
					>15	4	
					<1min	0	0
					<=1min		
					<5	1	
					>15	5	
	3:15:00	3:30:00	8	5	<1min		0
					<=1min		
					<2		
					<3	0	
					<5	0	
					>5	0	
	3:30:00	3:45:00	5	10	<1min	10	10
					<=1min		
					<2		
					<3		
					<5		
					>5		
	3:45:00	4:00:00	5	4	<1min	2	2
					<2	1	
					<5	1	
Total Vehicles and Children				33			15
				length of stay 2 minutes or less			45%

**Car Occupancy: 0.45 students / vehicle.**  
**Length of Stay ≤ 2 minutes – 15 vehicles (45%).**

#### 4.4 (Continued)

##### Comments:

- 54% (18 vehicles) overstayed the *2 minute time limit* .
- **Zone 3** was 'parked out' over a *5 minute period* with **1** vehicle parked illegally.
- There was *no Traffic Controller* supervising the pick-up.
- No vehicles picked-up students after **4:00pm**

##### **Recommendations:-**

1. 'School Zone' signs could be installed to improve visibility of the Drop-off and Pick-Up area.
2. 'Mark out' *parking bays*.

## 5.0 SUMMARY

- The purpose of the Study was to determine the availability and existing utilisation of parking spaces on-street within **5 – 7** minutes walk of Redlands School and the number of students being ‘dropped off’ and ‘picked up’ by vehicles in *the “ 2 Minute” and “5 Minute” Parking Areas.*

### Parking Supply:

- The total number of Unrestricted Parking spaces is **93**.
- Whilst there is 93 unrestricted spaces. This number varies as the time limits on restricted parking spaces varies with the time of day.
- The total number of restricted parking spaces is **440**.
- The total number of spaces available for unrestricted parking is a **maximum** of **464** from **6:00am** to **7:00am** Monday to Saturday and **440** spaces for **24 hours** on **Sunday**.
- The **minimum** number of spaces available for unrestricted parking is **114** from **8:00am** to **9:30am** and **2:30** to **4:00pm** on **School days**.
- At **7:00am**, **8:00am-9:30am** and **10:00am-2:30pm** and **5:00pm** Monday to Friday the number of spaces available for *unrestricted* parking is **466**, **114**, **121** and **170**.

### Parking Demand:

- The number of vehicles parked in the unrestricted spaces at 10:00am was 85 vehicles (91%). There was an increase at midday to 87 vehicles (94%) then a drop at 6pm to 76 vehicles (82%) across the three zone areas, green orange and blue.
- The restricted parking utilisation rates at 10:00am were 315 vehicles (70%). This increased at 12 midday to 355 vehicles (79%) and then decreased at to 285 vehicles at 6pm (63%). There was an increase between 7pm to 312 vehicles (69%) to reflect the restaurants around the school.
- Occupancy rates for 2 hour parking restricted parking spaces (PHE) resident parking permitted were higher than for 1 hour parking (PHE).
- ½P metered and non-metered parking spaces in Grosvenor Street; generally higher utilisation than for other restricted parking areas.

The current supply of restricted and non-restricted parking spaces satisfies the current demand for parking with adequate surplus for increase in demand. The management of the drop off zones will further increase effective utilisation of these spaces.

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**5.0 (Continued)****School Drop-Off 8:00 – 9:00am:**

- There are **3 Drop-Off, Pick-Up Zones (7 spaces)** in Winnie Street, **Zone 1**, **5 spaces**, in Winnie Street **Zone 2** and **8 spaces** in Waters Road **Zone 3**.
- A **total of 38 vehicles dropped-off 52 students** between **8:30am** and **9:30am**. The number of students per vehicle was **1.04** in Winnie Street **Zone 1**; **0.2** students per vehicle in Winnie Street **Zone 2** and **0.45** students per vehicle in **Zone 3**.

**COMMENTS:**

- Other users such as *commercial vehicles* are using the Winnie Street **Zone 2** for loading. Revised signposting to state “**School Drop Off Zone**” for this area will be important once the works program commences for **Stage 1**.

**School Pick Up-Off 2:30pm – 4:00pm:**

- There are **3 Drop-Off, Pick-Up Zones (7 spaces)** in Winnie Street Zone 1; **5 spaces** in **Winnie Street Zone 2** and **8 spaces** in Waters Road **Zone 3**.
- A **total of 51 vehicles** picked-up **22 students** between **2:30pm** and **4:00pm**. The number of students per vehicle was **0.46** in Winnie Street **Zone 1**; **0.2** students per vehicle in Winnie Street **Zone 2** and **0.45** students per vehicle in **Zone 3**.

**COMMENTS:**

- Other users such as *commercial vehicles* are using the Winnie Street **Zone 2** for loading. Revised signposting to state “**School Drop Off Zone**” for this area will be important once the works program commencing for **Stage 1**.
- Vehicles were recorded parked ‘*way in excess*’ of the *5 minute parking* limit of the Waters Road **Zone 3**.

**5.0 (Continued)****RECOMMENDATIONS:**

- The School, in the form of a Traffic Management Policy, could remind parents of the 'signage' and 'time restrictions' at *each zone* and failing improvement could provide the use of an interim Traffic Controller/ Supervisor to improve the operation of the Waters Road **Zone 3**.
- Seek Council approval to add *additional* signs to Drop-Off and Pick-Up Zones **2** and **3** to include "School Zone Drop Off" and "Pick Up" signs. **RMS** sign number **R9-303**
- Queueing Bays to be **marked** and **numbered** in all **3 Zones**.
- With *effective traffic management*, the **existing 'Drop-Off'** and **'Pick-Up'** **Zones** have **sufficient queueing spaces** for the **busiest period**.

## **APPENDIX 1**



APPENDIX 1: TABLE 2A PARKING ACCUMMULATION GREEN AREA THURSDAY 31/10/13

PERSON 1 ZONE 1

31.10.13

PARKING ACCUMULATION TIME

Street Name	No. of Spaces	NOTES	SIDE	LOCATION	10AM	11AM	12 NOON	1PM	2PM	5PM	6PM	7PM	8PM	9PM
WINNIE STREET	7	DP ZONE/1P	SOUTH	WATERS RD TO GERARD ST	7	4	5	4	4	6	5			
	3+ 2CS	UNRES/CS	NORTH	WATERS RD TO GERARD ST	3	2	3	3	3	2	2			
GERARD LN	14	UNRES	EAST SIDE	WINNIE ST TO ADA ST	14	13	13	12	15	17	15			
WATERS ROAD	11	2P/4S UNRES	EAST	WINNIE ST TO BELGRAVE ST	11	13	13	10	11	13	11			
	11	2P	WEST	WINNIE ST TO BELGRAVE ST	10	12	10	8	11	9	5			
SUTHERLAND STREET	6	UNRES	N-WEST	WATERS RD TO WATERS LANE	6	7	7	7	7	6	6			
	7	UNRES	S-EAST	WATERS RD TO WATERS LANE	7	7	7	7	6	7	6			
SUTHERLAND STREET	19	2P	N-WEST	WATERS LANE TO COOPERS LN	7	12	13	10	12	10	10			
	21	UNRES	S-EAST	WATERS LANE TO COOPERS LN	16	16	16	17	16	13	13			
GERARD STREET	13	CW-PM	WEST	WINNIE STREET TO PALING ST	10	11	13	11	11	CWAY	CWAY	CWAY	CWAY	CWAY
	19	CW-AM	EAST	WINNIE STREET TO PALING ST	19	18	19	20	20	7	11			
GERARD STREET	8	CW-PM	WEST	WINNIE ST TO WATERS RD	8	8	7	6	3	CWAY	CWAY	CWAY	CWAY	CWAY
Total Demand	141				118	123	126	115	119	90	84	0	0	0
Occupancy Rate					0.84	0.87	0.89	0.82	0.84	0.64	0.60			

- Notes
- CS Car Share
  - UNRES Unrestricted
  - CW clearway restrictions AM = 6AM-10AM
  - DP School Drop Off Zone 8-9:30PM = 3PM-7PM
  - NP No Parking Area
  - LZ Loading Zone
  - DS Disabled Parking

APPENDIX 1: TABLE 2B PARKING ACCUMMULATION ORANGE AREA THURSDAY 31.10.13

PERSON 2 ZONE 2

31.10.13

PARKING ACCUMULATION TIME

Street Name	No. of Spaces	NOTES	SIDE	LOCATION	10AM	11AM	12 NOON	1PM	2PM	5PM	6PM	7PM	8PM	9PM
WINNIE STREET	5	DP ZONE/1P	SOUTH	BELGRAVE ST TO PARRAWEEN ST	2	3	3	3	3	1	2			
	8	UNRES	NORTH	BELGRAVE ST TO PARRAWEEN ST	9	8	9	9	8	7	4			
WINNIE STREET	9	UNRES	SOUTH	PARRAWEEN STREET TO MILITARY RD	9	8	8	9	9	8	7			
PARRAWEEN ST	27	2P METERED *	WEST	UP TO PALING STREET	9	10	14	14	16	8	7			
	26	2P METERED	EAST	WINNIE ST TO PALING ST	20	17	15	19	20	12	22			
MURDOCH STREET	0	No Parking	NORTH	MILITARY RD TO HAMPDEN AVE	0	0	0	0	0	0	0			
	5	Loading Zone	NORTH	MILITARY RD TO HAMPDEN AVE	1	1	0	0	0	0	0			
	4	2P	NORTH	MILITARY RD TO HAMPDEN AVE	2	2	3	2	3	5	1			
	8	1P	SOUTH	MILITARY RD TO HAMPDEN AVE	2	1	1	2	2	4	3			
	4	2P	SOUTH	MILITARY RD TO HAMPDEN AVE	6	5	5	6	4	3	6			
MONFORD PLACE	8	1HR	NORTH	SCHOOL AND MILITARY RD	2	1	0	1	3	6	8			
	10	1HR	SOUTH	SCHOOL AND MILITARY RD	9	9	9	9	8	9	7			
PALING STREET	13	2 HR	NORTH		17	17	16	17	17	16	9			
	4	UNRES	SOUTH		4	4	4	4	4	4	4			
MURDOCH STREET	3	DP ZONE / 2P	NORTH		3	2	3	3	2	1	0			
PARRAWEEN ST	7	UNRES	WEST	TO WINNIE STREET	4	5	7	6	6	7	6			

\* Parraween St -1HR- WEST- After 6 PM

Total Demand	141				99	93	97	104	105	91	86			
Occupancy Rate					0.70	0.66	0.69	0.74	0.74	0.65	0.61			

- Notes
- CS Car Share
  - UNRES Unrestricted
  - CW clearway restrictions
  - DP School Drop Off Zone 8-9:30AM AND 2:30-4:00PM 5 MINUTE PARKING
  - NP No Parking Area
  - LZ Loading Zone
  - DS Disabled Parking
  - 1P
  - \* This area includes 4 x 1P parking spaces which were not signposted

APPENDIX 1: TABLE 2C PARKING ACCUMMULATION BLUE AREA THURSDAY 31.10.13

PERSON 3 - ZONE 3

31.10.13

PARKING ACCUMULATION TIME

Street Name	No. of Spaces	NOTES	SIDE	LOCATION	10AM	11AM	12 NOON	1PM	2PM	5PM	6PM	7PM	8PM	9PM
WATERS ROAD	12	DP ZONE/1P	N-EAST	BELGRAVE TO GROSVENOR	9	12	13	10	8	12	7			
WATERS ROAD	10	1P METERED	N-EAST	GROSVENOR TO MILITARY RD	8	10	10	8	7	11	9			
WATERS ROAD	8	1P	S-WEST	BELGRAVE TO GROSVENOR	7	8	8	8	8	7	7			
WATERS ROAD	5	5 2P METERED/1DS/1LZ 1P	S-WEST	GROSVENOR TO MILITARY RD	4	2	4	4	4	4	2			
GROSVENOR ST	17	2P METERED	EAST	WATERS RD TO WATERS LANE	7	6	16	16	16	7	8			
GROSVENOR ST	15	2P METERED	EAST	WATERS LN TO WOOLWORTHS EXIT	8	7	13	11	9	8	5			
GROSVENOR ST	6	1/2P METERED	WEST	WATERS RD TO WATERS LANE	5	5	5	5	5	5	5			
GROSVENOR ST	9	1/2P	WEST	WATERS LN TO WOOLWORTHS EXIT	8	8	8	8	8	8	8			
COUNCIL CAR PARK	6	1P	NORTH	access off waters road	10	10	10	10	10	10	9			
COUNCIL CAR PARK	72	1 1/2 P	N-East		67	67	66	67	66	65	65			
MILITARY ROAD	14	1P/CW PM AND 3 1/4p	WEST	WATERS RD TO HAMPDEN AVE	9	13	12	13	14	CWAY	CWAY	CWAY	CWAY	CWAY
MILITARY ROAD	14	14 1P CW AM/ 3NP	EAST	WATERS RD TO HAMPDEN AVE	7	10	10	10	11	6	6			
HAMPDEN AVE	8	UNRES	NORTH	OFF MILITARY ROAD	9	9	9	9	9	9	9			
HAMPDEN AVE	8	1P	NORTH	UP TO STREET No 10	3	3	3	3	3	6	5			
HAMPDEN AVE	14	2P	SOUTH	to Nos 9-13	12	11	12	12	11	13	11			
BELGRAVE ST	11	CW-AM	EAST	WINNIE ST TO WATERS RD	CWAY	12	12	12	12	8	7			
Total Demand	229				173	193	211	206	201	179	163			
Occupancy Rate					0.76	0.84	0.92	0.90	0.88	0.78	0.71			

- Notes
- CS Car Share
  - UNRES Unrestricted
  - CW clearway restrictions
  - DP School Drop Off Zone 8-9:30AM AND 2:30-4:00PM 5 MINUTE PARKING
  - NP No Parking Area
  - LZ Loading Zone
  - DS Disabled Parking

APPENDIX 1: TABLE 3A PARKING ACCUMMULATION GREEN AREA FRIDAY 1.11.13

PERSON 1 ZONE 1

1.11.13

PARKING ACCUMULATION TIME

Street Name	No. of Spaces	NOTES	SIDE	LOCATION	10AM	11AM	12 NOON	1PM	2PM	5PM	6PM	7PM	8PM	9PM
WINNIE STREET	7	DP ZONE/1P	SOUTH	WATERS RD TO GERARD ST	4	3	3	3	2	4	9	3	5	3
WINNIE STREET	3+ 2CS	UNRES/CS	NORTH	WATERS RD TO GERARD ST	3	3	4	3	3	2	3			
GERARD LN	14	UNRES	EAST SIDE	WINNIE ST TO ADA ST	14	14	14	14	15	18	17			
WATERS ROAD	7	2P	EAST	WINNIE ST TO BELGRAVE ST	7	6	6	5	6	6	9	8	5	6
WATERS ROAD	4	UNRES	EAST	WINNIE ST TO BELGRAVE ST	4	4	4	4	4	4	4	4	4	4
WATERS ROAD	11	2P	WEST	WINNIE ST TO BELGRAVE ST	11	10	10	10	9	9	11	11	12	11
SUTHERLAND STREET	6	UNRES	N-WEST	WATERS RD TO WATERS LANE	7	7	8	8	8	4	8	7	6	6
SUTHERLAND STREET	7	UNRES	S-EAST	WATERS RD TO WATERS LANE	7	7	7	7	7	7	7	6	5	4
SUTHERLAND STREET	19	2P	N-WEST	WATERS LANE TO COOPERS LN	14	12	10	13	12	10	15	9	10	9
SUTHERLAND STREET	21	UNRES	S-EAST	WATERS LANE TO COOPERS LN	17	18	18	18	18	15	14	15	15	13
GERARD STREET	13	CW-PM	WEST	WINNIE STREET TO PALING ST	11	12	12	10	11	CWAY	CWAY	1	2	4
GERARD STREET	19	CW-AM	EAST	WINNIE STREET TO PALING ST	9	9	16	17	17	9	11	6	2	1
REYNOLDS STREET	19	UNRES	WEST	WATERS ST TO ILLILIWA ST								19	17	16
REYNOLDS STREET	21	2P	EAST	WATERS ST TO ILLILIWA ST								18	20	21
GERARD ST	8	CW-PM	WEST	WINNIE ST TO WATERS RD	7	7	6	4	3	CWAY	CWAY	CWAY	CWAY	CWAY

Total Demand 181 115 112 118 116 115 88 108 107 103 98

Occupancy Rate 0.64 0.62 0.65 0.64 0.64 0.49 0.60 0.59 0.57 0.54

- Notes
- CS Car Share
  - UNRES Unrestricted
  - CW clearway restrictions
  - DP School Drop Off Zone 8-9:30AM AND 2:30-4:00PM 5 MINUTE PARKING
  - NP No Parking Area
  - LZ Loading Zone
  - DS Disabled Parking

APPENDIX 1: TABLE 3B PARKING ACCUMMULATION ORANGE ZONE FRIDAY 1.11.13

PERSON 2 ZONE 2

1.11.13

PARKING ACCUMULATION TIME

Street Name	No. of Spaces	NOTES	SIDE	LOCATION	10AM	11AM	12 NOON	1PM	1:50 PM	5PM	6PM	7PM	8PM	9PM
WINNIE STREET	5	DP ZONE/1P	SOUTH	BELGRAVE ST TO PARRAWEEN ST	3	3	2	4	3	1	2			
	8	UNRES	NORTH	BELGRAVE ST TO PARRAWEEN ST	8	8	8	8	8	5	4			
WINNIE STREET	9	UNRES	SOUTH	PARRAWEEN STREET TO MILITARY RD	9	9	10	10	9	9	7			
PARRAWEEN ST	27	2P METERED *	WEST	UP TO PALING STREET	10	7	9	23	19	12	11			
	26	2P METERED	EAST	WINNIE ST TO PALING ST	18	17	16	25	21	15	24			
MURDOCH STREET	0	No Parking	NORTH	MILITARY RD TO HAMPDEN AVE	0	0	0	0	0	0	0			
	5	Loading Zone	NORTH	MILITARY RD TO HAMPDEN AVE	0	0	0	1	1	0	0			
	4	2P	NORTH	MILITARY RD TO HAMPDEN AVE	2	4	2	3	6	4	7			
	8	1P	SOUTH	MILITARY RD TO HAMPDEN AVE	4	2	2	1	5	2	8			
	4	2P	SOUTH	MILITARY RD TO HAMPDEN AVE	2	2	1	4	4	6	7			
MONFORD PLACE	8	1P	NORTH	SCHOOL AND MILITARY RD	3	2	2	2	5	8	6			
	10	1P	SOUTH	SCHOOL AND MILITARY RD	6	8	8	7	7	8	8			
PALING STREET	13	2P	NORTH		16	16	14	17	17	15	16			
	4	UNRES	SOUTH		4	4	4	4	4	3	3			
MURDOCH STREET	3	DP ZONE/ 2P	NORTH		1	1	1	2	1	0	1			
PARRAWEEN ST	7	UNRES	WEST	TO WINNIE STREET	6	6	6	6	8	7	6			

\* Parraween St - After 6 PM

Total Demand	141				92	89	85	117	118	95	110			
Occupancy Rate					0.65	0.63	0.60	0.83	0.84	0.67	0.78			

- Notes
- CS Car Share
  - UNRES Unrestricted
  - CW clearway restrictions
  - DP School Drop Off Zone 8-9:30AM AND 2:30-4:00PM 5 MINUTE PARKING
  - NP No Parking Area
  - LZ Loading Zone
  - DS Disabled Parking
  - \* This area includes 4 x 1P parking spaces which were not signposted

APPENDIX 1: TABLE 2C PARKING ACCUMMULATION BLUE AREA THURSDAY 31.10.13

PERSON 3 - ZONE 3

31.10.13

PARKING ACCUMULATION TIME

Street Name	No. of Spaces	NOTES	SIDE	LOCATION	10AM	11AM	12 NOON	1PM	2PM	5PM	6PM	7PM	8PM	9PM
WATERS ROAD	12	DP ZONE/1P	N-EAST	BELGRAVE TO GROSVENOR	9	12	13	10	8	12	7			
WATERS ROAD	10	1P METERED	N-EAST	GROSVENOR TO MILITARY RD	8	10	10	8	7	11	9			
WATERS ROAD	8	1P	S-WEST	BELGRAVE TO GROSVENOR	7	8	8	8	8	7	7			
WATERS ROAD	5	5 2P METERED/1DS/1LZ 1P	S-WEST	GROSVENOR TO MILITARY RD	4	2	4	4	4	4	2			
GROSVENOR ST	17	2P METERED	EAST	WATERS RD TO WATERS LANE	7	6	16	16	16	7	8			
GROSVENOR ST	15	2P METERED	EAST	WATERS LN TO WOOLWORTHS EXIT	8	7	13	11	9	8	5			
GROSVENOR ST	6	1/2P METERED	WEST	WATERS RD TO WATERS LANE	5	5	5	5	5	5	5			
GROSVENOR ST	9	1/2P	WEST	WATERS LN TO WOOLWORTHS EXIT	8	8	8	8	8	8	8			
COUNCIL CAR PARK	6	1P	NORTH	access off waters road	10	10	10	10	10	10	9			
COUNCIL CAR PARK	72	1 1/2 P	N-East		67	67	66	67	66	65	65			
MILITARY ROAD	14	1P/CW PM AND 3 1/4p	WEST	WATERS RD TO HAMPDEN AVE	9	13	12	13	14	CWAY	CWAY	CWAY	CWAY	CWAY
MILITARY ROAD	14	14 1P CW AM/ 3NP	EAST	WATERS RD TO HAMPDEN AVE	7	10	10	10	11	6	6			
HAMPDEN AVE	8	UNRES	NORTH	OFF MILITARY ROAD	9	9	9	9	9	9	9			
HAMPDEN AVE	8	1P	NORTH	UP TO STREET No 10	3	3	3	3	3	6	5			
HAMPDEN AVE	14	2P	SOUTH	to Nos 9-13	12	11	12	12	11	13	11			
BELGRAVE ST	11	CW-AM	EAST	WINNIE ST TO WATERS RD	CWAY	12	12	12	12	8	7			
Total Demand	229				173	193	211	206	201	179	163			
Occupancy Rate					0.76	0.84	0.92	0.90	0.88	0.78	0.71			

- Notes
- CS Car Share
  - UNRES Unrestricted
  - CW clearway restrictions
  - DP School Drop Off Zone 8-9:30AM AND 2:30-4:00PM 5 MINUTE PARKING
  - NP No Parking Area
  - LZ Loading Zone
  - DS Disabled Parking

APPENDIX 1: TABLE 4B PARKING ACCUMMULATION ORANGE AREA MONDAY 4.11.13

PERSON 2 ZONE 2

4.11.13

PARKING ACCUMULATION TIME

Street Name	No. of Spaces	NOTES	SIDE	LOCATION	10AM	11AM	12 NOON	1PM	1:50 PM	5PM	6PM	7PM	8PM	9PM
WINNIE STREET	5	DP ZONE/1P	SOUTH	BELGRAVE ST TO PARRAWEEN ST								5	3	3
	8	UNRES	NORTH	BELGRAVE ST TO PARRAWEEN ST								6	3	4
WINNIE STREET	9	UNRES	SOUTH	PARRAWEEN STREET TO MILITARY RD								9	8	9
PARRAWEEN ST	27	2P METERED	WEST	UP TO PALING STREET								27	25	15
	26	2P METERED	EAST	WINNIE ST TO PALING ST								29	16	
MURDOCH STREET	0	No Parking	NORTH	MILITARY RD TO HAMPDEN AVE								0	0	0
	5	Loading Zone	NORTH	MILITARY RD TO HAMPDEN AVE								0	0	0
	4	2P	NORTH	MILITARY RD TO HAMPDEN AVE								3	2	3
	8	1P	SOUTH	MILITARY RD TO HAMPDEN AVE								4	5	4
	4	2P	SOUTH	MILITARY RD TO HAMPDEN AVE								5	6	6
MONFORD PLACE	8	1P	NORTH	SCHOOL AND MILITARY RD								7	4	5
	10	1P	SOUTH	SCHOOL AND MILITARY RD								8	9	9
PALING STREET	13	2P	NORTH									16	15	11
	4	UNRES	SOUTH									5	4	4
MURDOCH STREET	3	DP ZONE /2P	NORTH									0	0	0
PARRAWEEN ST	8	UNRES	WEST									6	6	5

\* Sign 1 HR removed

Total Demand 142  
Occupancy Rate

130 106 78  
0.92 0.75 0.55

Notes

- CS Car Share
- UNRES Unrestricted
- CW clearway restrictions
- DP School Drop Off Zone 8-9:30AM AND 2:30-4:00PM 5 MINUTE PARKING
- NP No Parking Area
- LZ Loading Zone
- DS Disabled Parking

APPENDIX 1: TABLE 4C PARKING ACCUMMULATION BLUE AREA MONDAY 4.11.13

PERSON 3 - ZONE 3

4.11.13

PARKING ACCUMULATION TIME

Street Name	No. of Spaces	NOTES	SIDE	LOCATION	10AM	11AM	12 NOON	1PM	2PM	5PM	6PM	7PM	8PM	9PM
WATERS ROAD	12	DP ZONE/1P	N-EAST	BELGRAVE TO GROSVENOR								13	8	5
	10	1P METERED	N-EAST	GROSVENOR TO MILITARY RD								8	7	7
	8	1P	S-WEST	BELGRAVE TO GROSVENOR								8	6	6
	5	5 2P METERED/1	S-WEST	GROSVENOR TO MILITARY RD								5	5	2
GROSVENOR ST	17	2P METERED	EAST	WATERS RD TO WATERS LANE								16	13	9
	15	2P METERED	EAST	WATERS LN TO WOOLWORTHS EXIT								10	14	6
	6	1/2P METERED	WEST	WATERS RD TO WATERS LANE								5	5	4
	9	1/2P	WEST	WATERS LN TO WOOLWORTHS EXIT								7	7	7
COUNCIL CAR PARK	6	1P	NORTH	access off waters road								9	10	5
	72	1 1/2 P	N-East									57	54	31
MILITARY ROAD	14	1P/CW PM	WEST	WATERS RD TO HAMPDEN AVE						CWAY	CWAY	CWAY	CWAY	CWAY
	16	3NP/16 CW	EAST	WATERS RD TO HAMPDEN AVE								7	10	6
HAMPDEN AVE	8	UNRES	NORTH	OFF MILITARY ROAD								8	8	8
	8	1P	NORTH	UP TO STREET No 10								6	5	5
	14	2P	SOUTH	to Nos 9-13								12	12	12
BELGRAVE ST	11	CW-AM	EAST	WINNIE ST TO WATERS RD								6	3	
Total Demand	231											177	167	113
Occupancy Rate												0.77	0.72	0.49

- Notes
- CS Car Share
  - UNRES Unrestricted
  - CW clearway restrictions
  - DP School Drop Off Zone 8-9:30AM AND 2:30-4:00PM 5 MINUTE PARKING
  - NP No Parking Area
  - LZ Loading Zone
  - DS Disabled Parking

WINNIE STREET WEST OF BELGRAVE STREET 8 SPACES

31.10.13

Drop off and Pick Up Areas.

TIME

TIME

	AREA ZONE 1		LENGTH OF STAY			Length of Stay in Hours	AREA ZONE 1		LENGTH OF STAY			Length of Stay in Hours		
	Numberplate	CH	DECIMAL		IN		OUT	Number Plate	CH	DECIMAL			IN	OUT
			BEFORE	OUT						BEFORE	OUT			
1	42C		BEFORE 8:00				42C		BEFORE 2:30					
2	24K	1	8:00:00	8:08:00	0.13		309		BEFORE 2:30	2:45:00				
3	111	1	8:00:00	8:02:00	0.03		85F		BEFORE 2:30	3:30:00				
4	38D	1	8:00:00	8:08:00	0.13		6FO		BEFORE 2:30	2:35:00				
5	142	1	8:00:00	8:07:00	0.12		167	2	2:35:00	2:57:00	0.37			
6	94J	1	8:05:00	8:08:00	0.05		25Y		3:14:00	3:17:00	0.05			
7	12L	1	8:07:00	8:15:00	0.13		84S	1	3:32:00	3:40:00	0.13			
8	OYC	1	8:09:00	8:13:00	0.07		OYX	1	3:30:00	3:38:00	0.13			
9	GFO		8:14:00				381	1	3:36:00					
10	84S	1	8:15:00	8:20:00	0.08		LY2	1	3:40:00	3:44:00	0.07			
11	O8K	1	8:24:00	8:29:00	0.08		9NU(Track)		3:41:00					
12	96E	1	8:28:00	8:36:00	0.13		46U	2	3:44:00	3:50:00	0.10			
13	45M	1	8:29:00	8:34:00	0.08		2XX		3:52:00					
14	24H	1	8:32:00	8:35:00	0.05		67Q		3:53:00					
15	611	1	8:32:00	8:48:00	0.27		0		4:00:00					
16	70S	2	8:40:00	8:44:00	0.07									
17	46U	2	8:42:00	9:03:00	0.35									
18	85R	1	8:48:00	8:51:00	0.05									
19	D8B	1	8:51:00	8:56:00	0.08									
20	2JP	1	8:57:00	9:06:00	0.15									
21	8YA	1	8:58:00	9:05:00	0.12									
22	OTF	1	9:15:00	9:29:00	0.23									
23	67Q	1	9:18:00	9:24:00	0.10									
24	45K	2	9:20:00	9:30:00	0.17									
25	MAY	1	9:24:00											
26	O6C	1	9:25:00	9:30:00	0.08									

WINNIE STREET WEST OF BELGRAVE STREET 8 SPACES

1.11.13

Drop off and Pick Up Areas.		TIME			TIME					
AREA ZONE 1	CH	LENGTH OF STAY DECIMAL		Length of Stay in Hours	AREA ZONE 1	CH	LENGTH OF STAY DECIMAL		Length of Stay in Hours	
Numberplate		IN	OUT		Number Plate		IN	OUT		
1	42C		BEFORE 8:00		75F	1	2:33:00	2:34:00	0.02	
2	38D	1	7:55:00	8:07:00	0.20	309	BEFORE 2:30	3:30:00		
3	6FO		BEFORE 8:00		557		BEFORE 2:30	3:35:00		
4	2YK	1	8:00:00	8:02:00	0.03	96E	1	3:19:00	3:23:00	0.07
5	L42	1	8:01:00	8:05:00	0.07	62Y	2	4:13:00	4:18:00	0.08
6	9YJ	1	8:01:00	8:04:00	0.05	9LQ		4:14:00		
7	2YH	1	8:04:00	8:07:00	0.05	12B		4:23:00		
8	O8K	1	8:04:00	8:07:00	0.05	4UA		4:25:00		
9	1YQ	2	8:08:00	8:16:00	0.13	85R		4:27:00		
10	OYC	1	8:10:00	8:15:00	0.08					
11	71C	1	8:20:00	8:26:00	0.10					
12	L2B	2	8:21:00	8:25:00	0.07					
13	2JP	1	8:25:00	8:31:00	0.10					
14	96E	1	8:27:00	8:31:00	0.07					
15	OOS	1	8:35:00	8:43:00	0.13					
16	53G	1	8:41:00	8:52:00	0.18					
17	52C	1	8:42:00	8:53:00	0.18					
18	381	1	8:45:00	8:48:00	0.05					
19	85R	1	9:00:00	9:03:00	0.05					
20	63V	1	9:10:00	9:13:00	0.05					
21	95E	1	9:14:00	9:20:00	0.10					
22	OWY		9:17:00							
23	70S	2	9:23:00							
24	O4X	2	9:27:00							

REDLANDS SCHOOL CREMORNE

WINNIE STREET EAST OF BELGRAVE STREET 5 SPACES

31.10.13

**Drop off and Pick Up Areas.**

TIME

TIME

	AREA ZONE 2				Length of Stay in Hours	AREA ZONE 2				
	CH	LENGTH OF STAY DECIMAL		Length of Stay in Hours		CH	LENGTH OF STAY DECIMAL		Length of Stay in Hours	
	Numberplate	IN	OUT		Number Plate	IN	OUT			
1	2PD(Truck)	0	8:00:00	9:04:00	1.07	2PD(Truck)		2:30:00	2:50:00	0.33
2	248	0	8:15:00	8:15:00	0.00	39C		3:55:00	AFTER 4:00	
3	43G	1	8:31:00	8:35:00	0.07					
4	14E	0	8:35:00	8:35:00	0.00					
5	89Z	0	9:13:00	9:13:00	0.00					
6	59Z	0	9:15:00	After 9:30						

APPENDIX 1: TABLE 6B STUDENT DROP OFF ZONE  
IN WINNIE STREET EAST OF BELGRAVE ST FRIDAY 1.11.13

WINNIE STREET EAST OF BELGRAVE STREET 5 SPACES

1.11.13

**Drop off and Pick Up Areas.**

TIME

TIME

	AREA ZONE 2				Length of Stay in Hours	AREA ZONE 2					
	CH	LENGTH OF STAY DECIMAL		IN		OUT	CH	LENGTH OF STAY DECIMAL		IN	OUT
Numberplate		IN	OUT		Number Plate		IN	OUT			
1	40F	1	8:00:00	8:00:00	0.00	54H	0	2:30:00	3:27:00		0.95
2	79X	0	8:00:00	8:01:00	0.02	2WV	0	2:30:00	2:55:00		0.42
3	2PD(Truck)	0	8:00:00	9:20:00	1.33	4HM	0	2:30:00	2:37:00		0.12
4	110	0	8:00:00	8:01:00	0.02	23G	0	3:25:00	3:50:00		0.42
5	89Z	0	8:30:00	8:36:00	0.10	70N	1	3:28:00	3:28:00		0.00
6											

DROP OFF ZONE IN WATERS ROAD N-EAST SIDE EAST OF BELGRAVE RD 12 SPACES

Friday 1.11.13

Observer R Rabinovitch

**Drop off and Pick Up Areas.**

AREA ZONE 3a	No of CH	Length Of Stay		Time Decimal	Number Plate	No of CH	Length Of Stay		Time Decimal
		IN	OUT				IN	OUT	
1 92C	1	8:01:00	8:02:00	0.02	13K	2	8:09:00	8:12:00	0.05
2 96F	2	8:01:00	8:01:00	0.00	76V	1	8:10:00	8:10:00	0.00
3 09M	1	8:02:00	8:03:00	0.02	50D	1	8:10:00	8:10:00	0.00
4 27R	1	8:03:00	8:03:00	0.00	98R	1	8:11:00	8:11:00	0.00
5 31F	1	8:03:00	8:03:00	0.00	21N	1	8:11:00	8:12:00	0.02
6 20K	1	8:04:00	8:04:00	0.00	407	1	8:11:00	8:12:00	0.02
7 47M	2	8:05:00	8:05:00	0.00	36T	1	8:11:00	8:12:00	0.02
8 82H	2	8:05:00	8:05:00	0.00	84R	1	8:13:00	8:13:00	0.00
9 01B	1	8:05:00	8:05:00	0.00	05M	1	8:14:00	8:15:00	0.02
10 10A	2	8:06:00	8:07:00	0.02	48R	1	8:15:00	8:15:00	0.00
11 46A	1	8:07:00	8:07:00	0.00	ANM	1	8:15:00	8:15:00	0.00
12 34E	1	8:07:00	8:07:00	0.00	03Z	1	8:16:00	8:16:00	0.00
13 204	1	8:07:00	8:07:00	0.00	27Y	1	8:16:00	8:16:00	0.00
14 714	1	8:08:00	8:08:00	0.00	19D	1	8:16:00	8:16:00	0.00
15 3WH	1	8:08:00	8:08:00	0.00	73H	2	8:17:00	8:17:00	0.00
16 AH9	1	8:08:00	8:09:00	0.02	06J	1	8:18:00	8:18:00	0.00
17 35Y	2	8:08:00	8:09:00	0.02	50T	1	8:18:00	8:19:00	0.02
18 40L	1	8:09:00	8:09:00	0.00	49S	1	8:20:00	8:20:00	0.00
19 85Y	3	8:09:00	8:09:00	0.00	00D	2	8:20:00	8:26:00	0.10

REDLANDS SCHOOL PARKING SURVEY

Friday 1.11.13

Observer R Rabinovitch

**Drop off and Pick Up Areas.**

AREA ZONE 3a	No of CH	Length Of Stay		Time Decimal	Number Plate	No of CH	Length Of Stay		Time Decimal
		IN	OUT				IN	OUT	
1 75G	1	8:21:00	8:25:00	0.07					
2 71S	0	8:22:00	8:40:00	0.30					
3 55L	1	8:23:00	8:24:00	0.02					
4 43X	2	8:23:00	8:25:00	0.03					
5 47A	1	8:23:00	8:24:00	0.02					
6 03Q	1	8:27:00	8:27:00	0.00					
7 84T	1	8:29:00	8:29:00	0.00					
8 73Q	0	8:38:00							
9 INC	0	9:00:00							
10 9TX	2	9:23:00							

REDLANDS SCHOOL PARKING SURVEY

Friday 1.11.13

Observer R Rabinovitch

**Drop off and Pick Up Areas.**

AREA ZONE 3a	No of CH	Length Of Stay		Time Decimal	Number Plate	No of CH	Length Of Stay		Time Decimal
		IN	OUT				IN	OUT	
1 36F	0	2:32:00 PM	2:32:00 PM	0.00	B28	1	3:30:00 PM	3:30:00 PM	0.00
2 89k	0	2:37:00 PM	2:40:00 PM	0.05	00D	1	3:30:00 PM	3:30:00 PM	0.00
3 90G	1	2:37:00 PM	2:40:00 PM	0.05	4BF	1	3:30:00 PM	3:30:00 PM	0.00
4 62G	0	2:40:00 PM	2:47:00 PM	0.12	56A	1	3:31:00 PM	3:31:00 PM	0.00
5 36H	0	2:42:00 PM	2:43:00 PM	0.02	575	1	3:32:00 PM	3:32:00 PM	0.00
6 O12	1	2:55:00 PM	3:27:00 PM	0.53	74C	1	3:34:00 PM	3:34:00 PM	0.00
7 14V	1	2:55:00 PM	3:12:00 PM	0.28	74B	1	3:34:00 PM	3:34:00 PM	0.00
8 1FC	0	2:56:00 PM	3:16:00 PM	0.33	92D	1	3:37:00 PM	3:37:00 PM	0.00
9 56U	0	3:02:00 PM	3:05:00 PM	0.05	17G	2	3:39:00 PM	3:39:00 PM	0.00
10 59E	2	3:03:00 PM	3:30:00 PM	0.45	63U	1	3:39:00 PM	3:39:00 PM	0.00
OAK	1	3:06:00 PM	3:29:00 PM	0.38	41W		3:50:00 PM	4:00:00 PM	0.17
R74	1	3:10:00 PM	3:30:00 PM	0.33	86W		3:51:00 PM	3:54:00 PM	0.05
25Z	1	3:12:00 PM	3:28:00 PM	0.27	Q1P	1	3:54:00 PM	3:54:00 PM	0.00
RWS	1	3:14:00 PM	3:29:00 PM	0.25	172	1	3:58:00 PM	3:58:00 PM	0.00
33B	1	3:16:00 PM	3:27:00 PM	0.18					
37K	1	3:18:00 PM	3:23:00 PM	0.08					
21V	1	3:18:00 PM	3:21:00 PM	0.05					
75G	1	3:18:00 PM	3:23:00 PM	0.08					
24Y	1	3:21:00 PM	3:30:00 PM	0.15					