



June 2018

Final

Kawina Chalets, 113 Kawina Road Bickley

Prepared For:

Blackcat Nominees

Transport Impact Statement



## **APPENDIX C**

OPERATIONAL MANAGEMENT PLAN  
(provided by client)

## DOCUMENT ISSUE AUTHORISATION

Issue	Rev	Date	Description	Written By	Checked By	Approved By
0	0	5/02/2018	Draft Report	BV/CS	DNV	DNV
1	0	31/05/2018	Final Report	BV/CS	DNV	DNV
1	1	14/06/2018	Amended Figure 2.1	BV/CS	DNV	DNV

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Donald Veal Consultants Pty Ltd

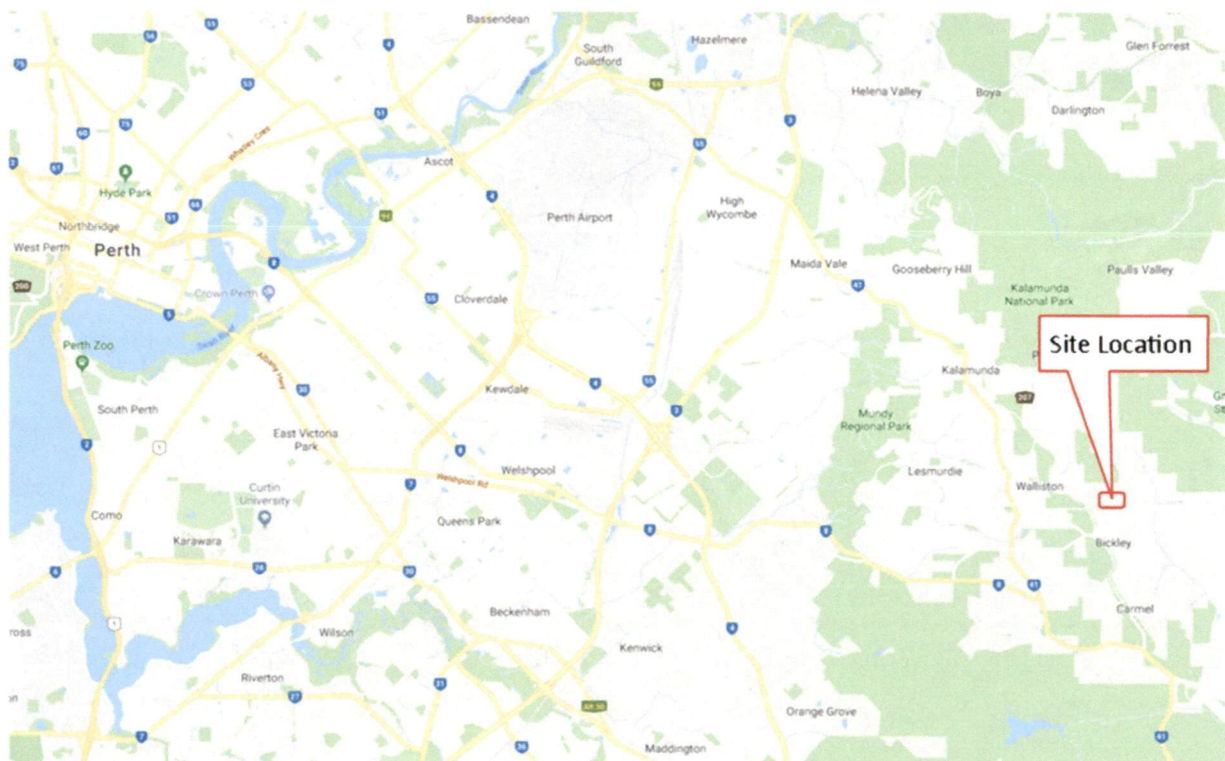
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# 1 INTRODUCTION

## 1.1 BACKGROUND

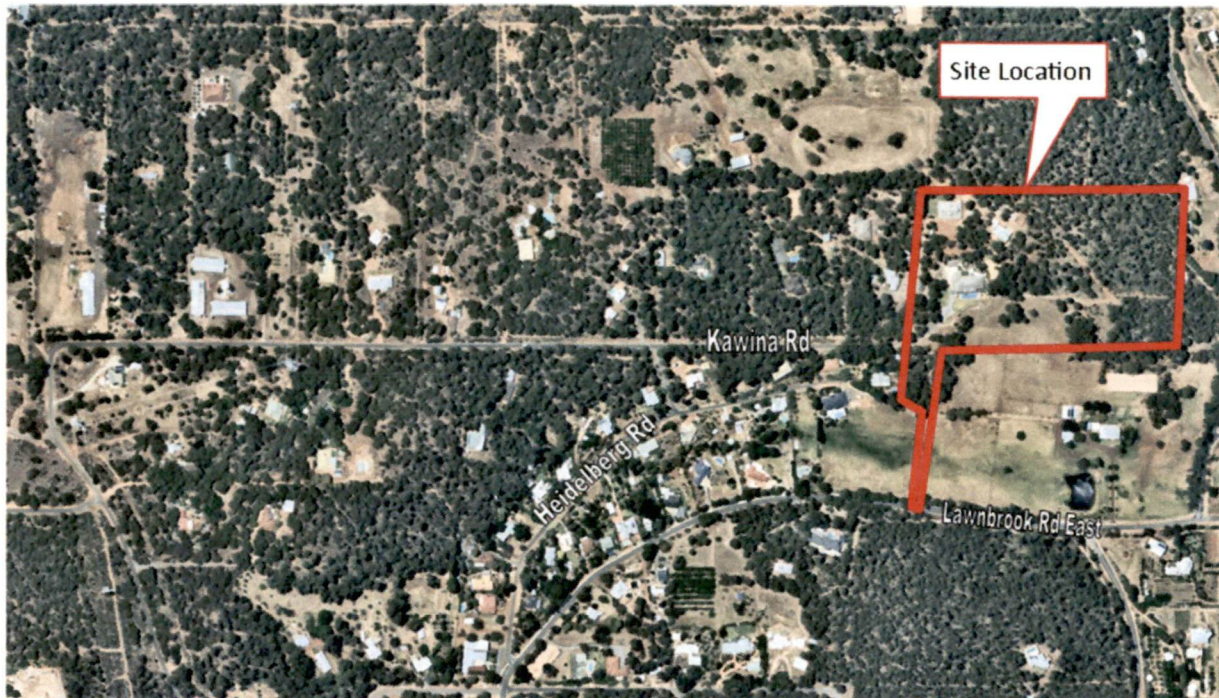
This Transport Impact Statement has been prepared by Donald Veal Consultants on behalf of Blackcat Nominees, with regard to the proposed chalets and restaurant to be located at 113 Kawina Road, Bickley. The site is located at the end of the cul-de-sac connecting to Kawina Road, Heidelberg Rd and Lawnbrook Road East, within the City of Kalamunda.

The site is located approximately 23kms to the southeast of the Perth CBD and only 6kms to the southeast of Kalamunda Town Centre. Major arterial roads within close proximity include Canning Road. The site location is shown in a regional context in **Figure 1.1** and in a local context in **Figure 1.2**.



**Figure 1.1: Site location – Regional context**

Source: Google Maps



**Figure 1.2: Site location – Local context**

Source: Nearmap

## 1.2 SCOPE OF ASSESSMENT

This Transport Impact Statement has been prepared in accordance with the Western Australian Planning Commission’s (WAPC’s) *Transport Impact Assessment Guidelines* (2016).

The intent of this report is to provide the approving authority with sufficient transport information to confirm that the proponent has adequately considered the transport aspects on the development and that it would not have an adverse transport impact on the surrounding area.

The level of transport assessment required is considered to be that of a ‘moderate impact’ development. A “moderate impact” development is one that generates between 10 -100 vehicle trips in the development’s peak hour.

## **2 DEVELOPMENT PROPOSAL**

### **2.1 PROPOSED LAND USES**

The proposed development on Kawina Road is for six chalets and a restaurant. The chalets will have a maximum of 12 guests, whilst the restaurant will accommodate a maximum of 120 seats. The existing house on the property will remain and there will also be a day spa for the incidental use of the chalet residents as shown in **Figure 2.1**. In the site plan the restaurant is shown as “Existing Shed” in the northwest corner of the property.

The primary access to the site is via an existing driveway off Kawina Road, however in the future an access would also be provided off Lawnbrook Road East for emergency use only, in line with the bush fire evacuation plan requirements of the City.

Client: Blackcat Nominees

Project: Kawina Chalets, 113 Kawina Rd Bickley TIS

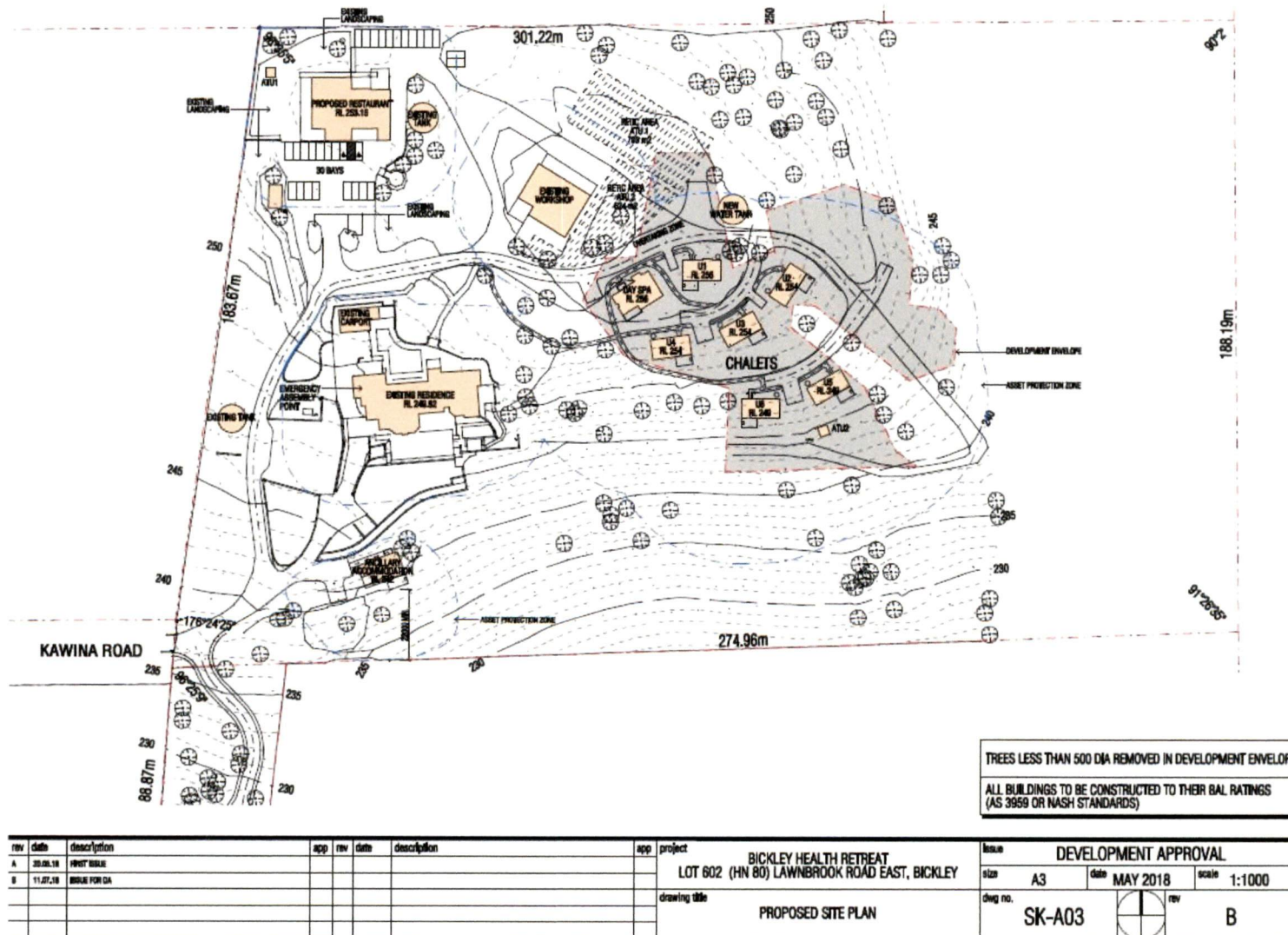


Figure 2.1: Site Plan Layout

Source: Blackcat Nominees



## **2.2 HOURS OF OPERATION**

The chalets are proposed to operate twenty-four hours a day, seven days a week, while the restaurant will operate 4 to 5 days a week. The day spa will be open during normal business hours during the week and on weekends.

### 3 DAILY TRAFFIC VOLUMES AND VEHICLE TYPES

#### 3.1 TRAFFIC VOLUMES

Main Roads WA does not have traffic volumes for Kawina Road or the surrounding roads. The City of Kalamunda was also contacted for any available traffic count data for Kawina Road, Palmateer Drive, Heidelberg Road and Lawnbrook Road East.

The City provided annual average daily traffic volumes (AADT), Monday to Sunday for Lawnbrook Road East of 518 vehicles per day (vpd), at a location some 225m east of Aldersyde Road, which is to the east of the proposed development.

By comparison Mundaring Weir Road (a *Regional Distributor Road*) and Pickering Brook Road (a *Local Distributor Road*) carry in the order of 1,644 vpd and 924 vpd on an average weekday, respectively. A copy of the traffic data obtained is included as **Appendix A**.

The City has no data available for Kawina Road, but it serves only local residential traffic, as it is a cul-de-sac road with no through connections. This road would most likely carry less than 500 vpd.

#### 3.2 TRAFFIC GENERATION

In order to determine traffic generation for the proposed development, documented trip generation rates were sourced from "*Trip Generation Manual, 8<sup>th</sup> Edition, Institution of Transportation Engineers.*" The documented trip rates for a motel (chalet) are as follows:

- Weekday Trip Rate = 5.63 trips/ room = 34 trips per day for 6 chalets
- AM peak hour Trip Rate = 0.47 trips/ room = 3 trips per AM peak hour
- PM peak hour Trip Rate = 0.47 trips/ rooms = 3 trips per PM peak hour

Restaurant trip generation rates from the same manual are as follows:

- Weekday Trip Rate = 2.86 trips/ seat = 343 trips per day for 120 seats
- AM peak hour Trip Rate = 0.03 trips/ seat = 4 trips per AM peak hour
- PM peak hour Trip Rate = 0.26 trips/ seat = 31 trips per PM peak hour

The day spa use is for chalet guests and will not generate additional traffic other than the day spa staff. It is understood that a maximum of two day spa clinicians will be working at any one time and therefore not more than 6 trips are expected to be generated per day (inbound and outbound trips from the clinicians and 1 delivery per day on average). Based on the assumptions above, it can be seen that day spa trip generation will not contribute significantly to the overall trip generation.

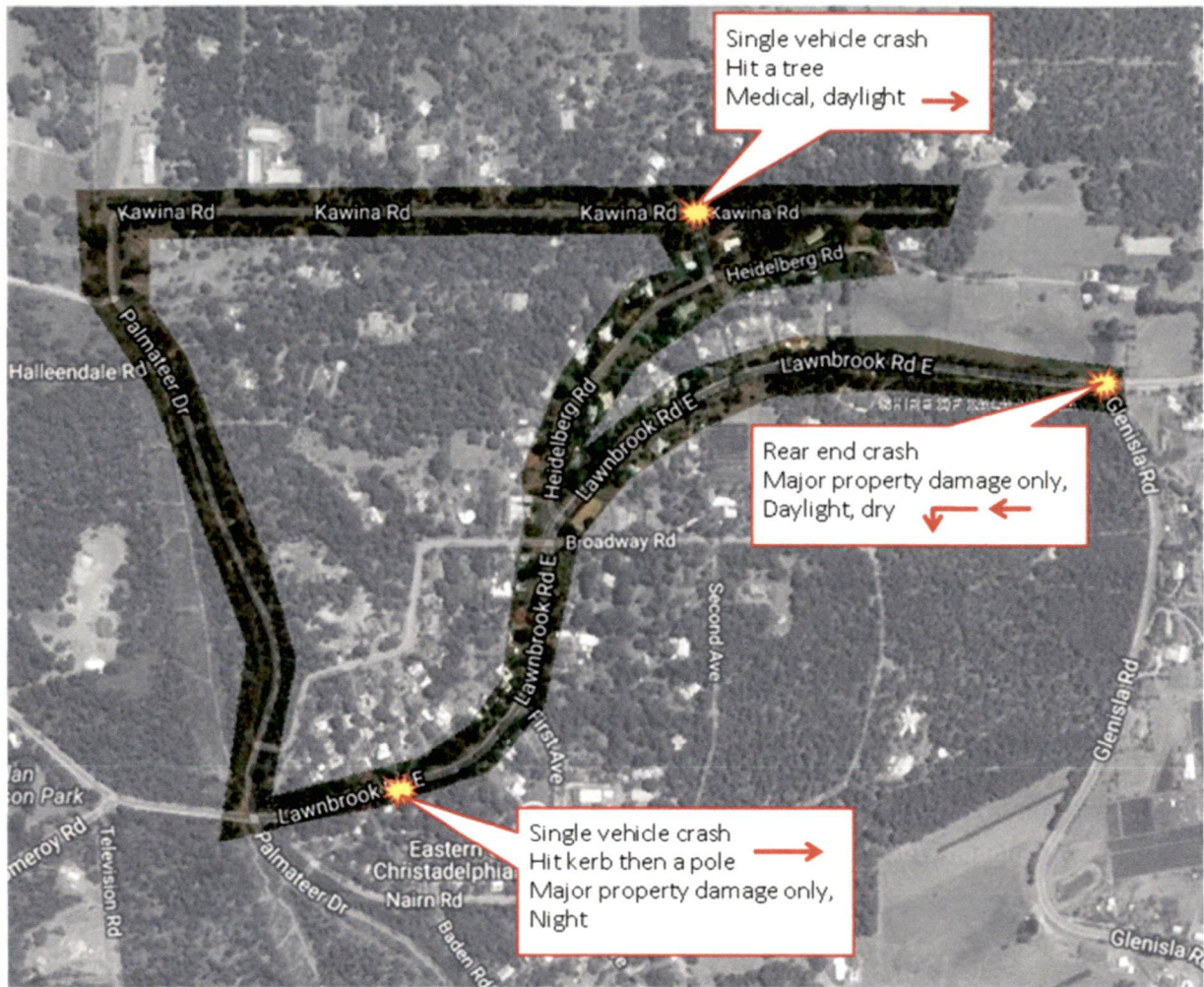


Figure 3.1: Crash Locations

### 3.3 IMPACT ON LOCAL ROAD NETWORK

Kawina Road is classified as an *Access Road* and operates under a 50 km/h speed zone. The road has been constructed to a two lane single carriageway standard.

The expected increases in traffic from the proposed development is approximately 383 vehicles per day, that is 34 trips to/from the chalets, 6 trips to/from the day spa and 343 trips to/from restaurant per day. Some 36 of those trips are expected to take place in the PM peak hour including 2 from the day spa. If access to the site is provided on Kawina Road, this traffic can be readily accommodated within the practical capacity of Kawina Road, with no significant impact on existing traffic operations.

Lawnbrook Road East is classified as a *Distributor B Road* and operates under a 60 km/h speed zone. Under the Main Roads WA Road Hierarchy, *Distributor B* roads are expected to carry more than 6,000 vpd.

### 3.4 TRAFFIC MANAGEMENT ON FRONTAGE STREETS

No traffic management will be required on surrounding streets to accommodate the expected increase in traffic.

### 3.5 CRASH HISTORY DATA

Crash volumes and details were sourced from Main Roads WA from January 2012 to December 2016. One crash was recorded on Kawina Road when a car collided with a tree at the intersection of Kawina Road and Hill Street. This crash occurred in October 2016, and was classified as requiring medical attention.

Two crashes were recorded on Lawnbrook Road East. One occurred at the intersection of Lawnbrook Road East and Glenisla Road. One crash was classified as major property damage only, when a car hit the rear end of another car making a left turn in May 2014. The second crash occurred midblock to the east of Palmateer Drive. This was also a major property damage only incident, when a single vehicle hit the kerb and then a SEC pole on a Saturday night in April 2015.

Full details of the crashes have been included in **Appendix A**.

The crash locations are shown in **Figure 3.1**. Note the areas checked for crashes is shown in the colour sections, whereas areas not checked for crashes are greyscale.



**Photo 3: Looking east from proposed Lawnbrook Rd East access**



**Photo 4: Looking west from proposed Lawnbrook Rd East access**

## 4 VEHICLE ACCESS AND PARKING

### 4.1 ACCESS ARRANGEMENTS

The existing access to the site is via the driveway on Kawina Road located at the eastern end of the cul-de-sac road, as shown in **Photo 1**. It is understood that a second emergency access via Lawnbrook Road East is required as part of the bush fire emergency evacuation plan. This is envisaged as an alternative entry point for emergency crews and vehicles in an emergency situation only. The location of the proposed emergency driveway onto Lawnbrook Road East is approximately 215m to the west of Glenisla Road, as shown in **Photo 2**.



**Photo 1: Existing Access to/from the site from Kawina Road**

The proposed emergency access off Lawnbrook Road East will require some civil works to ensure that the intersection with Lawnbrook Road East is satisfactory and that the uphill gradients on the northern side of the paddock (see **Photo 2**) suit emergency vehicles. This is not included as part of the scope of this report.



**Photo 2: Future Emergency Access to/from the site on Lawnbrook Road East**

#### **4.2 PROVISION FOR SERVICE VEHICLES**

Service deliveries to the site will include various goods for the restaurant as well as deliveries for the day spa. Service vehicles will use the same access point as guests. There is a separate waste removal plan for the development.

#### **4.3 SIGHT DISTANCES AT THE ENTRANCES**

Sight distances from the existing Kawina Road driveway access are good, as the driveway is located at the end of the cul-de-sac road as shown in **Photo 1**.

Sight distances for the future additional access point off Lawnbrook Road East were also inspected; the Safe Intersection Sight Distance (SISD) from the west was measured as 180m. The SISD from the east was measured as approximately 200m. Both east and west approaches exceeded the requirement, including the allowance for grade. The requirements for Minimum Gap Sight Distance (MGSD) were also met.

**Photos 3 and 4** show the typical sight lines from the proposed site access along Lawnbrook Road East.

#### **4.4 PUBLIC TRANSPORT ACCESS**

There are no bus services along Kawina Road or Lawnbrook Road East. There are no nearby train stations. Restaurant patrons may use taxi or Uber services, but generally it can be expected that they would drive themselves.

#### **4.5 PEDESTRIAN AND CYCLE ACCESS**

Similarly, it is unlikely that many patrons will walk or cycle to the restaurant and any neighbours would simply use Kawina Road itself.

#### **4.6 PARKING PROVISIONS**

The six chalets on the property will all be single bedroom chalets with a total maximum of 12 guests at any one time. The existing shed at the rear of the property is to be converted into the restaurant, which will be able to accommodate a maximum of 120 patrons.

The City of Kalamunda Local Planning Scheme No.3 (updated 09/01/2018) sets out the parking requirements for land uses. For a Bed and Breakfast (chalets) one bay per bedroom and two for the residence is required. With six bedrooms plus the residents a total of eight bays are needed for the chalets.

For the restaurant, one bay is required for every four persons to be accommodated (or 1 bay for every 5m<sup>2</sup> of dining area), whichever is greater. The restaurant has capacity for 120 patrons at any one time which would require 30 bays.

Two staff parking bays will be required by the day spa. Ample parking is available at the restaurant during these hours and therefore can be covered by reciprocal parking arrangements.

With the chalets, restaurant, day spa and the residence, a total of 38 parking bays are required on site to meet the City's requirements. The site plan shows eight bays provided for the chalets and day spa. The restaurant parking layout (**Figure 2.1**) currently shows an additional 32 bays including 2 ACROD bays. There is also ample room on site for overflow parking should this be required. Separate parking is provided at the main residence.



## **APPENDIX A: TRAFFIC DATA**

Client: Blackcat Nominees

Project: Kawina Chalets, 113 Kawina Rd Bickley TIS

Road	SLK	Intersection	Date	Day	Time	Severity	Crash No.	Light Cond	Road Cond	Traffic Control	Road Feature	Road Alignment	MR Nature	Location	RUM	Unit	Unit Type	From Dir	To Dir	Veh/Ped Move	Object Hit	Target Impact Point
Kawina Rd (1020341)	0.85	Hill St (116400)	13/10/2016	Thursday	1030	Medical	2016320670	Daylight		No Sign Or Control	3-way Intx (T-junction)		Hit Object	On Left Verge After Leaving Cway	70:Off Path On Straight: Other	Colliding		W - Kawina Rd		Out Of Control: Other	Tree	
Lawnbrook Rd East (1021163)	0.38	Midblock	18/04/15	Saturday	2345	PDO Major	2015050653			No Sign Or Control		Curve	Hit Object	On Left Verge After Leaving Cway	84:Off Path On Curve: Off Left Bend In Obj	Colliding	Car	W	E	Out Of Control: Other	Kerb, then SEC Pole	
Lawnbrook Rd East (1021163)	1.58	Glenisla Rd (045559)	03/05/2014	Saturday	1110	PDO Major	2014736932	Daylight	Dry	Give Way Sign	3-way Intx (T-junction)	Straight	Rear End	On Cway	32:Same Dirn: Same Lane Left Rear	Target	Car	E - Lawnbrook Rd East	S - Glenisla Rd	Turning: To Make Left Turn		Rear
																Colliding	Car	E - Lawnbrook Rd East	W - Lawnbrook Rd East	Straight Ahead: Not Out Of Control		

## Weekly Volume by Hour

Traffic Flow: **Both Directions**      Road Name: **Mundaring Weir Rd (1020620)**  
 Site No: **6926**      Location Description: **West of Hinkler Rd (SLK 1.73)**  
 Date Range: **08 Dec 2015 to 09 Dec 2015**      Count Type: **Classification Counts**

Average Vehicle Volume									
Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon - Fri	Mon - Sun
0000		3	3					3	
0100		4	0					2	
0200		3	0					2	
0300		2	1					2	
0400		8	4					6	
0500		20	20					20	
0600		59	53					56	
0700		111	88					100	
0800		101	140					121	
0900		110	97					104	
1000		89	104					97	
1100		118	132					125	
1200		100	109					105	
1300		104	104					104	
1400		112	121					117	
1500		150	150					150	
1600		133	158					146	
1700		130	151					141	
1800		88	110					99	
1900		53	67					60	
2000		28	52					40	
2100		20	23					22	
2200		18	15					17	
2300		4	6					5	
Total		1568	1708					1644	

Peak Statistics									
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon - Fri	Mon - Sun
AM	1/4 Hour		0830	0800				1100	
	1/4 Hr Vol		37	40				36	
	1/2 Hour		1145	1100				0830	
	1/2 Hr Vol		68	72				67	
	1 Hour		1115	0800				1100	
	1 Hr Vol		120	140				125	
	1 Hr Fact		.8824	.875				.8803	
	2 Hour		1030	1045				1030	
PM	2 Hr Vol		230	241				235	
	1/4 Hour		1500	1430				1500	
	1/4 Hr Vol		47	43				44	
	1/2 Hour		1445	1500				1500	
	1/2 Hr Vol		88	83				85	
	1 Hour		1445	1630				1430	
	1 Hr Vol		160	159				153	
	1 Hr Fact		.8511	.8454				.8793	
Peak	2 Hour		1445	1600				1500	
	2 Hr Vol		290	309				296	
	12 Hour		0700	0700				0700	
	12 Hr Vol		1345	1454				1405	

## Weekly Volume by Hour

Traffic Flow: Directional      Road Name: Mundaring Weir Rd (1020620)  
 Site No: 6926      Location Description: West of Hinkler Rd (SLK 1.73)  
 Date Range: 08 Dec 2015 to 09 Dec 2015      Count Type: Classification Counts

Average Vehicle Volume																		
Hour	Mon		Tue		Wed		Thu		Fri		Sat		Sun		Mon - Fri		Mon - Sun	
	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W
0000			1	2	1	2									1	2		
0100			2	2	0	0									1	1		
0200			1	2	0	0									1	1		
0300			1	1	0	1									1	1		
0400			6	2	3	1									5	2		
0500			10	10	5	15									8	13		
0600			20	39	24	29									22	34		
0700			50	61	43	45									47	53		
0800			36	65	55	85									46	75		
0900			58	52	39	58									49	55		
1000			38	51	45	59									42	55		
1100			54	64	61	71									58	68		
1200			54	46	47	62									51	54		
1300			55	49	53	51									54	50		
1400			60	52	60	61									60	57		
1500			69	81	82	68									76	75		
1600			80	53	79	79									80	66		
1700			83	47	104	47									94	47		
1800			48	40	63	47									56	44		
1900			27	26	23	44									25	35		
2000			17	11	29	23									23	17		
2100			10	10	10	13									10	12		
2200			11	7	8	7									10	7		
2300			2	2	3	3									3	3		
Total			793	775	837	871									823	827		

Peak Statistics																			
	Mon		Tue		Wed		Thu		Fri		Sat		Sun		Mon - Fri		Mon - Sun		
	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	E	W	
AM	1/4 Hour			0715	0830	1100	0800									1100	0830		
	1/4 Hr Vol			20	24	21	27									20	20		
	1/2 Hour			1145	0830	1100	0800									1100	0830		
	1/2 Hr Vol			35	40	37	49									33	38		
	1 Hour			1145	0745	1100	0800									1100	0800		
	1 Hr Vol			59	68	61	85									58	75		
	1 Hr Fact			.8194	.7083	.7262	.787									.7436	.9615		
	2 Hour			1030	0700	1100	0800									1100	0730		
PM	1/4 Hour			1700	1500	1715	1430									1715	1500		
	1/4 Hr Vol			26	32	36	23									30	26		
	1/2 Hour			1700	1445	1700	1600									1700	1500		
	1/2 Hr Vol			49	50	59	41									54	43		
	1 Hour			1615	1430	1700	1600									1630	1430		
	1 Hr Vol			94	82	104	79									97	78		
	1 Hr Fact			.9039	.6406	.7222	.9405									.822	.7647		
	2 Hour			1615	1430	1600	1500									1615	1430		
Peak	12 Hour			0700	0630	0700	0730									0700	0715		
	12 Hr Vol			695	664	731	745									708	701		

## Weekly Volume by Hour

Traffic Flow: **Both Directions**      Road Name: **Pickering Brook Rd (1020018)**  
 Site No: **51087**      Location Description: **West of Merrivale Rd (SLK 2.78)**  
 Date Range: **08 Feb 2011 to 16 Feb 2011**      Count Type: **Classification Counts**

Average Vehicle Volume									
Hour	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon - Fri	Mon - Sun
0000	3	3	1	1	1	7	5	2	3
0100	0	1	0	0	1	1	3	0	1
0200	0	0	2	2	2	3	2	1	2
0300	1	2	2	3	1	1	2	3	2
0400	7	8	5	12	5	5	3	7	6
0500	27	28	26	28	32	8	8	28	22
0600	48	50	51	48	50	36	20	49	43
0700	50	60	63	64	50	22	27	57	48
0800	115	107	133	138	126	41	35	124	99
0900	30	48	45	43	42	51	56	42	45
1000	26	41	45	38	41	46	57	38	42
1100	25	37	42	36	44	64	53	37	43
1200	46	35	47	50	50	60	43	46	47
1300	34	49	35	44	36	56	71	40	46
1400	70	58	63	75	73	44	68	68	64
1500	105	94	87	104	119	57	67	102	90
1600	72	56	65	69	68	61	61	66	65
1700	58	75	77	64	74	46	43	70	62
1800	60	62	66	41	60	49	49	58	55
1900	27	36	38	41	29	31	33	34	34
2000	22	19	22	25	19	29	14	21	21
2100	14	17	11	16	18	13	11	15	14
2200	9	8	12	3	14	14	9	9	10
2300	4	6	6	8	15	7	1	8	7
Total	853	900	944	953	970	752	741	924	871

Peak Statistics										
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon - Fri	Mon - Sun	
AM	1/4 Hour	0830	0830	0830	0830	0815	1145	1000	0830	0830
	1/4 Hr Vol	41	38	50	53	38	19	28	44	36
	1/2 Hour	0830	0815	0815	0815	0815	0930	0945	0815	0815
	1/2 Hr Vol	74	67	81	95	75	34	46	76	63
	1 Hour	0800	0800	0800	0815	0800	1115	0930	0800	0800
	1 Hr Vol	115	106	133	148	126	65	75	122	104
	1 Hr Fact	.7012	.6974	.6717	.6981	.8289	.8553	.6696	.6977	.7245
	2 Hour	0700	0645	0700	0715	0700	1115	0930	0700	0715
	2 Hr Vol	165	167	195	211	176	134	117	180	156
	PM	1/4 Hour	1500	1500	1500	1500	1500	1300	1315	1500
1/4 Hr Vol		50	46	54	52	60	23	24	52	43
1/2 Hour		1445	1445	1445	1445	1445	1245	1530	1445	1445
1/2 Hr Vol		75	73	85	83	91	39	40	81	69
1 Hour		1445	1445	1430	1430	1445	1215	1315	1445	1445
1 Hr Vol		111	102	114	122	134	69	77	112	100
1 Hr Fact		.555	.5543	.5327	.5865	.5583	.75	.8021	.5429	.5769
2 Hour		1415	1445	1430	1445	1445	1515	1315	1445	1445
Peak	12 Hour	0645	0645	0645	0645	0645	0745	0745	0645	0645
	12 Hr Vol	691	726	769	781	792	609	644	750	719

Client: Blackcat Nominees

Project: Kawina Chalets, 113 Kawina Rd Bickley TIS



## Weekly Volume by Hour

Traffic Flow: **Dirrectional** Pickering Brook Rd (1020018)  
 Site No: **51087** Location Description: **West of Marnvale Rd (SLK 2.78)**  
 Date Range: **06 Feb 2011 to 16 Feb 2011** Count Type: **Classification Counts**

Hour	Average Vehicle Volume							Average Vehicle Volume										
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon - Fri	Sun	Mon - Fri	Mon - Sun							
	E	W	E	W	E	W	E	W	E	W	E	W						
0000	2	1	2	1	1	0	0	1	1	0	5	2	3	2	1	1	2	1
0100	0	0	1	0	0	0	0	0	0	1	1	0	2	1	0	0	1	0
0200	0	0	0	0	1	1	1	1	2	0	1	2	2	0	1	0	1	1
0300	1	0	1	1	1	1	0	2	0	1	0	1	0	2	1	1	0	1
0400	3	4	3	5	3	2	4	8	3	2	3	2	0	3	3	4	3	4
0500	6	21	9	19	8	18	11	17	7	25	6	2	6	2	8	20	8	15
0600	24	34	31	29	32	29	32	36	35	25	19	17	9	11	23	37	20	23
0700	19	31	27	33	30	33	33	31	24	26	9	13	17	10	27	31	23	25
0800	50	65	44	53	53	60	52	86	48	78	17	24	17	18	45	74	40	59
0900	13	17	18	30	19	26	21	32	17	25	26	25	27	29	18	34	30	25
1000	11	15	19	32	22	23	16	22	17	24	23	23	33	24	17	21	20	22
1100	13	12	21	16	22	20	16	20	24	20	31	33	33	20	15	18	23	20
1200	24	22	15	20	24	23	28	22	26	24	29	31	22	21	23	22	24	23
1300	17	17	25	23	16	19	24	20	18	18	32	24	41	30	20	19	25	22
1400	41	29	38	20	39	24	45	29	43	30	20	24	31	37	41	26	37	28
1500	34	71	29	65	22	65	35	69	34	85	28	29	35	32	31	71	31	59
1600	40	32	31	25	43	22	40	22	40	29	34	27	24	37	38	28	36	29
1700	36	32	50	25	45	30	29	35	45	29	25	21	19	24	41	29	36	27
1800	37	23	32	30	31	35	21	20	26	34	29	20	25	24	29	26	29	27
1900	12	15	22	14	23	15	31	10	17	12	11	20	19	14	21	13	19	14
2000	14	8	10	9	11	11	15	10	10	9	17	12	7	7	12	9	12	9
2100	7	7	11	5	5	6	11	5	12	6	7	6	4	7	9	6	8	6
2200	7	2	4	4	7	5	2	1	9	5	5	6	7	2	6	3	6	4
2300	2	2	3	3	3	3	4	4	9	6	5	2	1	0	4	4	4	3
Total	413	440	437	463	451	493	462	491	455	515	384	368	384	387	442	479	428	447

Hour	Average Vehicle Volume							Average Vehicle Volume										
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon - Fri	Sun	Mon - Fri	Mon - Sun							
	E	W	E	W	E	W	E	W	E	W	E	W						
1/4 Hour	0815	0830	0830	0830	0830	0815	0845	0945	1115	1000	0900	0830	0830	0830	0830	0830	0830	
1/4 Hr Vol	18	29	16	23	20	30	20	33	19	30	11	12	21	9	17	27	14	22
1/2 Hour	0815	0830	0815	0830	0815	0815	0815	0830	0930	1100	0945	0845	0815	0830	0815	0830	0815	0830
1/2 Hr Vol	30	48	30	38	38	53	36	59	36	50	20	19	30	16	34	48	28	39
1 Hour	0830	0800	0800	0745	0800	0815	0815	0800	0815	1130	1100	0930	0900	0800	0800	0800	0800	0800
1 Hr Vol	50	65	44	63	53	80	59	89	48	79	36	33	48	29	49	73	42	62
1 Hr Fact	.6944	.6603	.7097	.7	.6795	.6667	.7375	.6742	.6316	.6883	.9	.6875	.5714	.8056	.7206	.6832	.7383	.7154
2 Hour	0700	0700	0645	0700	0700	0715	0715	0645	0715	1115	1100	0930	0845	0700	0700	0715	0715	0715
2 Hr Vol	69	96	71	96	82	113	90	121	74	106	71	64	72	54	76	105	66	90
1/4 Hour	1445	1500	1715	1500	1445	1500	1445	1500	1445	1500	1300	1245	1315	1515	1445	1500	1445	1500
1/4 Hr Vol	17	41	21	37	23	45	23	40	22	52	17	11	15	14	21	42	18	35
1/2 Hour	1430	1445	1715	1500	1430	1445	1500	1445	1500	1430	1345	1230	1530	1515	1445	1500	1445	1500
1/2 Hr Vol	30	49	34	46	31	54	35	54	34	67	22	19	25	25	30	52	27	44
1 Hour	1415	1500	1645	1500	1630	1430	1430	1415	1445	1215	1530	1315	1415	1545	1500	1630	1500	1500
1 Hr Vol	46	71	51	55	50	70	53	69	47	88	39	32	43	40	45	69	41	61
1 Hr Fact	.5755	.4329	.6071	.4452	.7613	.3889	.5751	.4313	.5341	.4231	.5735	.6	.7157	.8333	.736	.4075	.7752	.4343
2 Hour	1415	1445	1545	1445	1615	1415	1430	1445	1445	1430	1515	1415	1300	1315	1445	1545	1445	1445
2 Hr Vol	80	103	82	91	90	91	84	100	69	118	65	59	72	74	81	97	75	90
12 Hour	0645	0515	0700	0545	0645	0545	0645	0545	0645	0730	0745	0745	0745	0745	0645	0645	0715	0645
12 Hr Vol	335	361	347	381	363	407	366	415	365	429	309	303	333	311	354	356	345	374

Peak Statistics

Public Holidays → School Holidays →  
 Run on 23-Jan-2018 15:15 by Bryony Veal