

From: [IpswichSARA](#)
To: [Scenic Rim Regional Council Mail](#)
Cc: [vegouthregion](#); [scland@tmr.qld.gov.au](#); [admin@kellynet.com.au](#)
Subject: Amended Concurrence Agency Response: 90-196 Guanaba Road, Tamborine Mountain (SARA Ref:SDA-0614-011623/Council Ref:MCBd14/053)
Date: Tuesday, 3 March 2015 10:24:00 AM
Attachments: [image001.png](#)
[N56-T50s290\(1\)\(b\) Amended concurrence agency response.pdf](#)

Good morning,

Please find attached the department's amended concurrence agency response to Scenic Rim Regional Council, concerning the development application referral for 98-186 Guanaba Rd, Tamborine Mountain.

If you have any queries regarding the response, please let me know.

Regards

Aimee Ellis
Senior Planner
Regional Services
Department of State Development, Infrastructure and Planning
Queensland Government

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Department of
**State Development,
Infrastructure and Planning**

Our reference: SDA-0614-011623

Your reference: MCBd14/053

Date: 2 February 2015

The Chief Executive Officer
Scenic Rim Regional Council
PO Box 25
Beaudesert QLD 4285
mail@scenicrim.qld.gov.au

Attn: Mr John Creagan

Dear John,

Amended concurrence agency response – with conditions

98-196 Guanaba Road, Tamborine Mountain

(Given under section 290(1)(b) of the *Sustainable Planning Act 2009*)

The Department of State Development Infrastructure and Planning issued a concurrence agency response under section 285 of the *Sustainable Planning Act 2009* (the Act) on 21 November 2014 and subsequently received representations on 2 December 2014 under section 320(1) of the Act requesting that the department amend its concurrence agency response under section 290(1)(b)(i) of the Act.

The department has considered the written representations and agrees to issue the following amended concurrence agency response.

Applicant details

Applicant name: Mt Tamborine Camping & Activities Pty Ltd
Applicant contact details: C/- TJ Kelly Surveys, PO Box 221, Beaudesert QLD 4285

Site details

Street address: 98-196 Guanaba Road, Tamborine Mountain
Lot on plan: Lot 3 RP181081
Local government area: Scenic Rim Regional Council

Approved plans and specifications

The department requires that the following plans and specifications set out below and in Attachment 4 must be attached to any development approval.

Drawing/Report Title	Prepared by	Date	Reference no.	Version/Issue
Aspect of development: Material Change of Use				
Referral Agency Response (Vegetation) Plan (Sheets 1 to 4)	Department of Natural Resources and Mines	18 November 2014	RARP SDA-0614-011623	-
Overall Site Map	Design Evolution for Guanaba Experience	21 April 2014	-	-
Plan Phase 1 – Trails and Shuttles	Jim Noort	25 March 2014	-	-
Trails Plan Annotated Lot 3 RP181081 amended in red by DNRM 13 February 2015	Eldon Bottcher Architect Pty Ltd	24 April 2014	FM1797 FM 02	C
Traffic Impact Assessment Report	Total Traffic Solutions Group	14 April 2014	80111	4

A copy of this response has been sent to the applicant for their information.

The applicant has provided written agreement to this amended concurrence agency response, as attached.

For further information, please contact Kieran Hanna, Principal Planning Officer, on 3432 2404, or email lpswitchSARA@dndip.qld.gov.au who will be pleased to assist.

Yours sincerely



Darren Nightingale
Manager (Planning)

enc: Attachment 1—Amended conditions to be imposed
Attachment 2—Amended reasons for decision to impose conditions
Attachment 3—Further advice
Attachment 4 – Approved plans and specifications
Applicant written agreement to amended concurrence agency response

cc: Mt Tamborine Camping and Activities Pty Ltd c/- TJ Kelly Surveys, admin@kellynet.com.au
Department of Natural Resources and Mines, vegsouthregion@dnrm.qld.gov.au
Department of Transport and Main Roads, scrland@tmr.qld.gov.au

ⓧ aimee.ellis@dspdip.qld.gov.au

Your reference: SDA-0614-011623

Attn: ⓧ ipswichSARA@dsidp.qld.gov.au

Written agreement for the Department of State Development, Infrastructure and Planning to amend its concurrence agency response

(Given under section 290(1)(b)(i) of the *Sustainable Planning Act 2009*)

Street address: 98-196 Guanaba Road, Tamborine Mountain
Real property description: Lot 3 RP181081
Assessment manager reference: MCBd14/053
Local government area: Scenic Rim Regional Council

As the applicant of the above development application, I hereby agree to the amended concurrence agency response provided to me in the notice dated 26 February 2015:

Name of applicant: Mt Tamborine Camping & Activities Pty Ltd C/- TJ Kelly Surveys

Signature of applicant:  (TJ KELLY SURVEYS)

Date: 27 FEB, 2015

Our reference: SDA-0614-011623

Your reference: MCBd14/053

Attachment 1—Amended conditions to be imposed

No.	Conditions	Condition timing
Development Permit – Material Change of Use for Community Services Uses (Outdoor Sports/Recreation, Mountain Bike Trails and Outdoor Recreation Park and Camping Ground [up to 300 persons]) and Business Use (Food Establishment/ Reception Centre)		
State-controlled road and State-transport infrastructure—Pursuant to section 255D of the <i>Sustainable Planning Act 2009</i> , the chief executive administering the Act the nominates the Director-General of the Department of Transport and Main Roads to be the assessing authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following condition(s):		
1.	<p>The existing large 'steep descent' sign at the north-eastern corner of the Kaiser Road intersection with Guanaba Road must be relocated. The 'steep descent' sign is to be re-installed on Guanaba Road approximately 120 meters west of the Kaiser Road intersection. The applicant/land owner must obtain approval prior to undertaking these works from the Department of Transport and Main Roads under section 33 of the <i>Transport Infrastructure Act 1994</i>.</p> <p>Existing vegetation within this corner is to be removed in accordance with the recommendations of the Traffic Impact Assessment Report to increase visibility and vehicle safety at the Kaiser Road / Guanaba Road intersection. It is required that the applicant/land owner obtain approval prior to undertaking these works from the Department of Transport and Main Roads under section 33 of the <i>Transport Infrastructure Act 1994</i>.</p>	Prior to commencement of Stage 1 operations
2.	<p>Dedicate as road the following requirement:</p> <ul style="list-style-type: none"> • A triangle of land from the subject site (a one chord truncation) that extends 12 metres along the Kaiser Road frontage and 70 metres along Guanaba Road (area of approximately 420m²). • The land is to be dedicated to the Department of Transport and Main Roads to achieve traffic management and safety requirements. 	Prior to commencement of Stage 1 operations
3. 2	The permitted road access location, for which approval under section 62 of the <i>Transport Infrastructure Act 1994</i> must be obtained, is to be located on Guanaba Road generally in accordance with the submitted plan 'Phase 1 - Trails and Shuttles' prepared by Jim Noort dated 25 March 2014.	At all times
4. 3	All vehicles must enter and exit the subject site at the permitted road access location (for which approval under section 62 of the <i>Transport Infrastructure Act 1994</i> must be obtained) in a forward motion.	At all times
5.-4	Road works comprising shoulder sealing of Guanaba Road at the Kaiser Road intersection to create a Basic Right Turn (BAR) treatment must be provided generally in accordance with Figure 13.58 of the Department of Transport and Main Roads Road Planning and Design Manual. The applicant/land owner must obtain approval prior to undertaking these works from the	Prior to commencement of Stage 2 operations

	<p>Department of Transport and Main Roads under section 33 of the <i>Transport Infrastructure Act 1994</i>.</p> <p>The road works must be designed and constructed in accordance with Figure 13.58 of the Road Planning and Design Manual, and specifically include:</p> <ul style="list-style-type: none"> • provision of a minimum 6.5 metre width between road centreline and bitumen seal edge - (C); • provision of a minimum storage length of 12.5 metres - (S); and • relocation of the existing road signage (street name sign, and chevron alignment markers) on the outside of the intersection to a minimum 600mm offset from the edge of the bitumen in accordance with the requirements of the Manual of Uniform Traffic Control Devices. 	
<p>Clearing vegetation—Pursuant to section 255D of the <i>Sustainable Planning Act 2009</i>, the chief executive administering the <i>Sustainable Planning Act 2009</i> nominates the Director-General of the Department of Natural Resources and Mines to be the assessing authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following condition(s):</p>		
<p>6.-5</p>	<p>Clearing of native vegetation must not occur within Area A as shown on Referral Agency (Vegetation) Plan RARP SDA-0614-011623 unless the clearing is:</p> <p>(i.) for vehicle tracks not more than 10 metres in width and the tracks are constructed generally in accordance with those shown on the plan entitled Trails Plan Annotated Lot 3 RP181081, dated 6 November 2014, prepared by Eldon Bottcher Architect as either a shuttle trail, 4wd trail or new trail (vehicular); or and</p> <p>(ii.) mountain bike and walking tracks that are established within the general location shown on the plan entitled Trails Plan Annotated Lot 3 RP181081, dated 6 November 2014, prepared by Eldon Bottcher Architect, as mountain bike trail where clearing of regulated vegetation is necessary for the establishment of the trail and only selective clearing of immature species with a diameter at 1.3 metres above ground less than 20 cm is undertaken; or selective clearing of understorey species necessary for the establishment of the mountain bike tracks constructed generally in accordance with those shown on the attached Trails Plan Annotated dated 6 November 2014 as mountain bike trails.</p> <p>(iii.) for zip lines, climbing fixtures, fixtures and fittings necessary for outdoor recreation, barbeque shelters and picnic tables where no clearing of regulated vegetation is required to establish or maintain the infrastructure.</p> <p>New Infrastructure associated with this material change of use development must not be located within Area A as shown on Referral Agency (Vegetation) Plan RARP SDA-0614-011623, except for:</p> <p>(i) vehicle tracks not more than 10 metres in width where the tracks are constructed generally in accordance with those shown on Trails Plan Annotated Lot 3 RP181081 prepared by Eldon Bottcher Architect amended in red dated 13 February 2015 as either a</p>	<p>At all times</p>

	<p>(ii) Shuttle Trail, 4WD trail or new trail (vehicular); or mountain bike trails and walking tracks that are established within the general location shown on Trails Plan Annotated Lot 3 RP181081 prepared by Eldon Bottcher Architect amended in red 13 February 2015 as mountain bike trail or walking track where clearing of regulated vegetation is necessary for the establishment of the trail/track and only selective clearing of immature species with a diameter at 1.3 metres above ground less than 20cm is undertaken; or</p> <p>(iii) zip line towers and bridge structures where clearing is avoided and minimised and not more than 10 metres in width. The zip line and bridge structures must be located generally in accordance with those shown on Trails Plan Annotated Lot 3 RP181081 prepared by Eldon Bottcher Architect amended in red 13 February 2015; or</p> <p>(iv) zip lines and bridges not more than 5 metres in width where clearing of regulated vegetation is necessary to establish/maintain the zip line/bridge and the zip line/bridge is located generally in accordance with those shown on Trails Plan Annotated Lot 3 RP181081 prepared by Eldon Bottcher Architect amended in red 13 February 2015; or</p> <p>(v) climbing fixtures, fixtures and fittings necessary for outdoor recreation, barbeque shelters, and picnic tables where no clearing of regulated vegetation is required to establish or maintain the infrastructure.</p>	
6.	New infrastructure must not be located within Area A as shown on Referral Agency Response (Vegetation) Plan RARP SDA-0614-011623.	At all times
7.	<p>New infrastructure must not be located within Area B (B1 and B2) as shown on Referral Agency Response (Vegetation) Plan RARP SDA-0614-011623, except for vehicle trails, mountain bike trails, walking tracks, bridges, zip lines, climbing fixtures, fixtures and fittings necessary for outdoor recreation, barbeque shelters and picnic tables, unless the infrastructure is a fence, road, driveway or for underground services.</p> <p>New infrastructure associated with this material change of use must not be located within Area B as shown on Referral Agency Response (Vegetation) Plan RARP SDA-0614-011623, except for vehicle trails, mountain bike trails, walking tracks, bridges, zip lines, climbing fixtures, fixtures and fittings necessary for outdoor recreation, barbeque shelters and picnic tables.</p>	At all times
8.	Camping zones that are shown as camp zone 2 and camp zone 3 on the Trails Plan Annotated dated 6 November 2014 must not be established within Area B as shown on Referral Agency Response (Vegetation) Plan RARP SDA-0614-011623.	At all times

Our reference: SDA-0614-011623

Your reference: MCBd14/053

Attachment 2—Reasons for decision to impose conditions

The reasons for this decision are:

- To ensure that the development is undertaken in accordance with the submitted plans and reports, except where amended by the concurrence agency conditions within Attachment 1.
- To ensure that clearing of remnant vegetation is limited to the extent that is necessary.
- To ensure that vegetation is retained on site that maintains ecosystem functioning.
- To ensure that the development does not adversely impact the safety and efficiency of the state-controlled road.

Our reference: SDA-0614-011623

Your reference: MCBd14/053

Attachment 3—Further advice





General advice	
1.	<p>Access</p> <p>The applicant is to note that when seeking access to a State-controlled road from an adjacent property, a separate application must be made directly to the Department of Transport and Main Roads in accordance with Section 62 of the <i>Transport Infrastructure Act 1994</i>. An application and decision for access under Section 62 of the Act is a separate process to seeking an IDAS development approval.</p> <p>Applications for access under Section 62 of the Act can be made by completing and lodging a Permitted Road Access Location form that can be obtained online from: http://www.tmr.qld.gov.au/Community-and-environment/Planning-and-development/Other-matters-requiring-approval.aspx.</p>
2.	<p>Intersection Upgrade</p> <p>Prior to any physical works being undertaken within the boundary of the State-controlled road, the Department of Transport and Main Roads must issue a separate approval to undertake road access works under section 33 of the <i>Transport Infrastructure Act 1994</i>.</p> <p>Under section 33 of the <i>Transport Infrastructure Act 1994</i>, the applicant must obtain written approval for physical works undertaken within the boundary of the State-controlled road. Section 33 approval is required from the Department of Transport and Main Roads to carry out road works, including road access works, on a State-controlled road. Please contact the Department of Transport and Main Roads' South Coast Region on ph. (07) 5563 6500 to make an application for road works approval. This approval must be obtained prior to commencing any works on the state-controlled road reserve. The approval process may require the approval of engineering designs of the proposed works, certified by a Registered Professional Engineer of Queensland (RPEQ).</p>
3.	<p>Water</p> <p>The taking of groundwater, either artesian or subartesian water, is regulated by the provisions of the Sustainable Planning Regulation 2009 and the <i>Water Act 2000</i>. This development application does not include an operational works aspect of development for the taking of water and therefore a further approval may, or may not, be required if the development will utilise groundwater from a bore.</p>

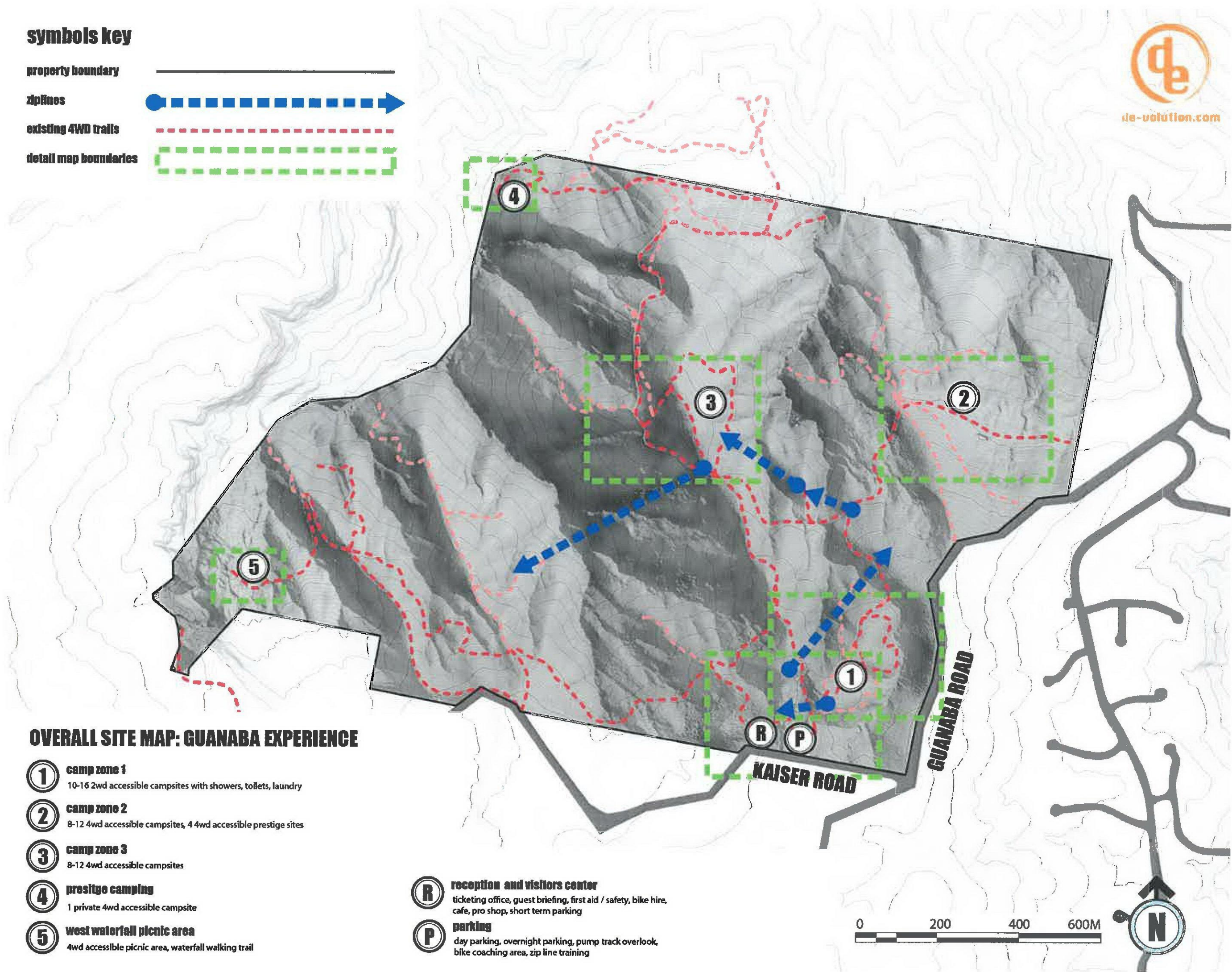
Our reference: SDA-0614-011623

Your reference: MCBd14/053

Attachment 4—Approved plans and specifications

symbols key

- property boundary 
- ziplines 
- existing 4WD trails 
- detail map boundaries 



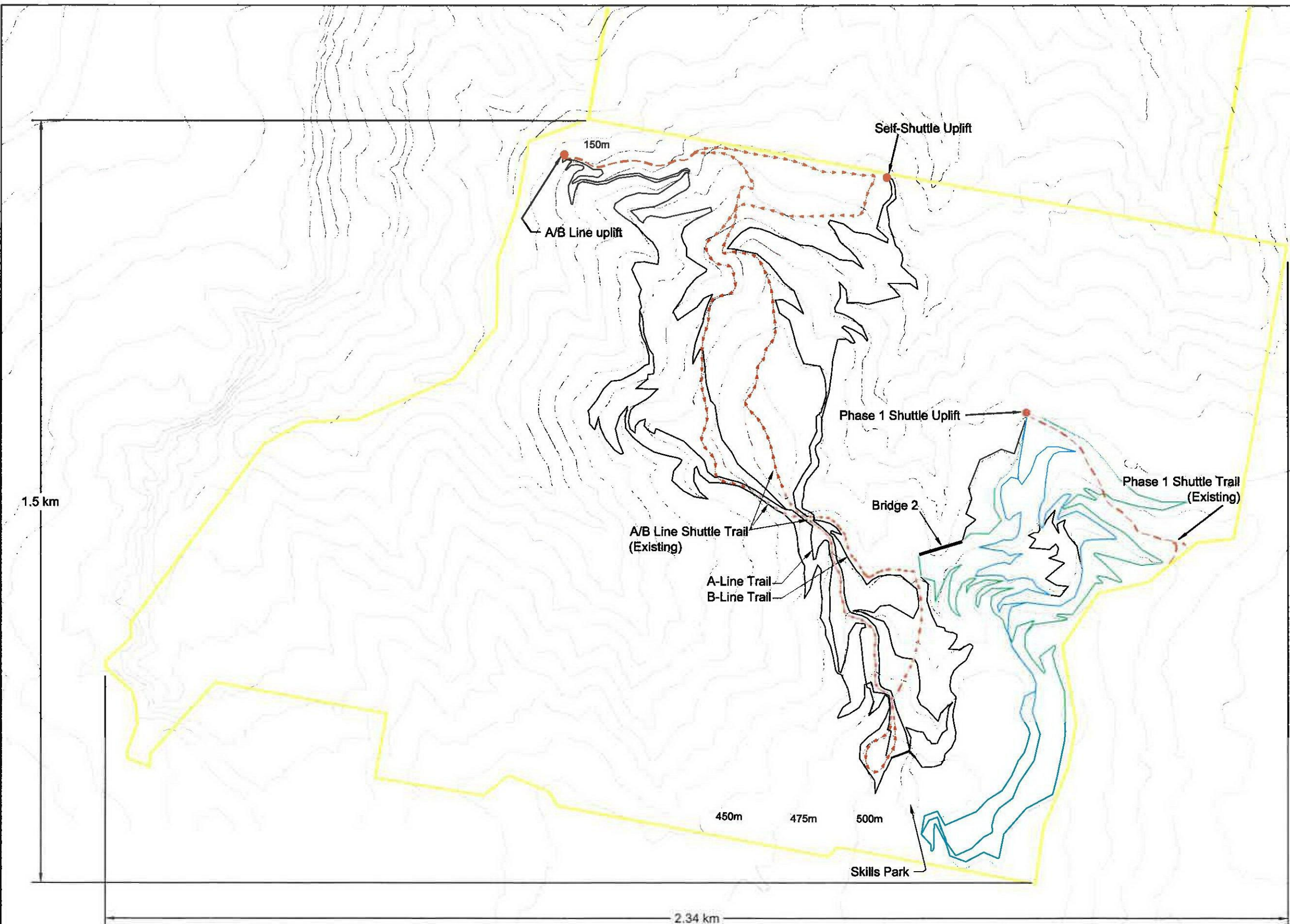
OVERALL SITE MAP: GUANABA EXPERIENCE

- 1** camp zone 1
10-16 2wd accessible campsites with showers, toilets, laundry
- 2** camp zone 2
8-12 4wd accessible campsites, 4 4wd accessible prestige sites
- 3** camp zone 3
8-12 4wd accessible campsites
- 4** prestige camping
1 private 4wd accessible campsite
- 5** west waterfall picnic area
4wd accessible picnic area, waterfall walking trail

- R** reception and visitors center
ticketing office, guest briefing, first aid / safety, bike hire, cafe, pro shop, short term parking
- P** parking
day parking, overnight parking, pump track overlook, bike coaching area, zip line training

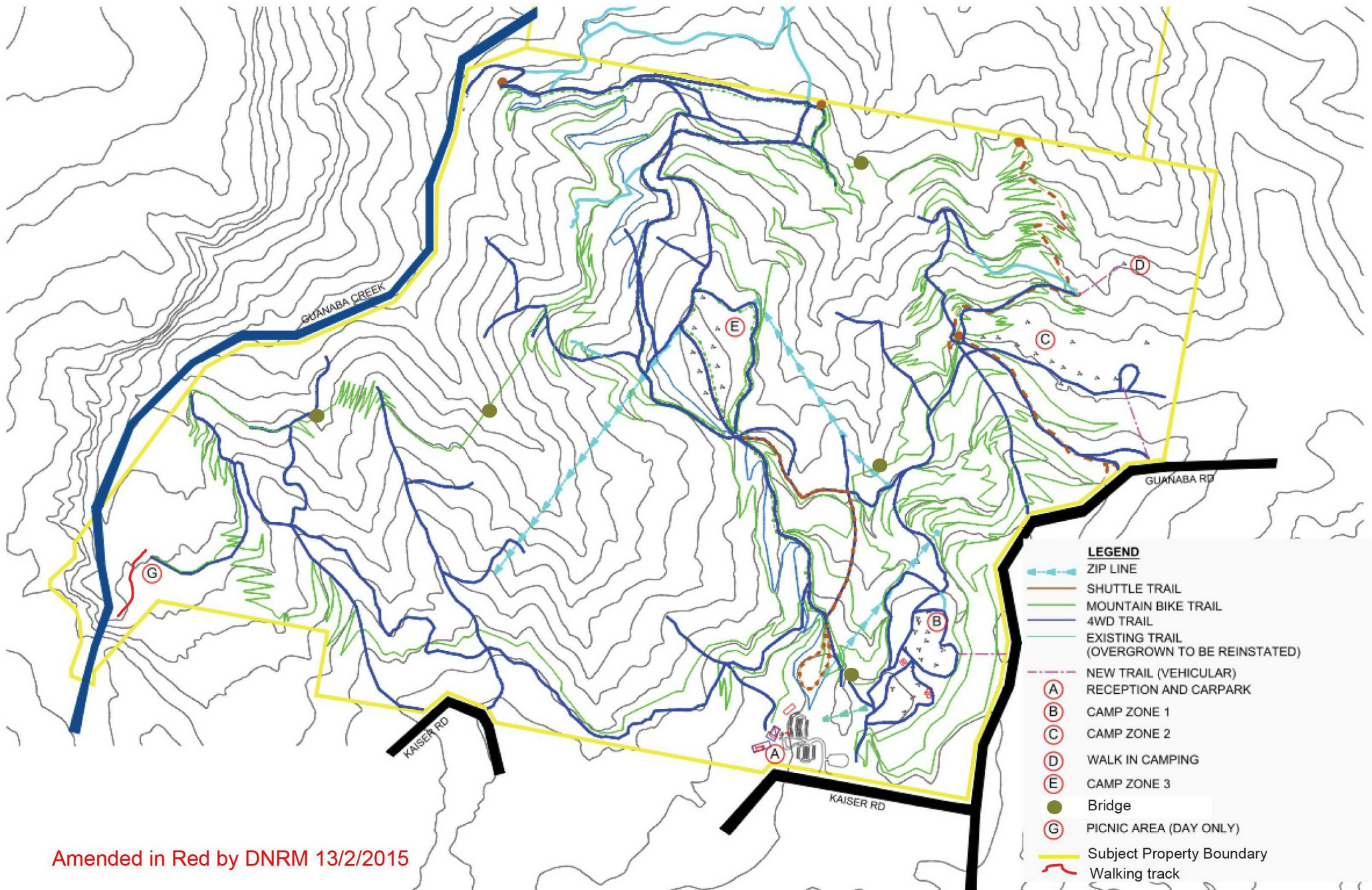


Phase 1
 Trails and Shuttles



- | | |
|----------------------|------------------------|
| Beginner Trail <5% | Proven 4WD Track |
| Intermediate 5%-7% | Unproven 4WD Track |
| Advanced 7%-13% | Shuttle Trail One Way |
| Family X Country <5% | Shuttle Trail Two Ways |
| Suspension Bridge | Property Boundary |





Amended in Red by DNRM 13/2/2015

LEGEND

- ZIP LINE
- SHUTTLE TRAIL
- MOUNTAIN BIKE TRAIL
- 4WD TRAIL
- EXISTING TRAIL (OVERGROWN TO BE REINSTATED)
- NEW TRAIL (VEHICULAR)
- RECEPTION AND CARPARK
- CAMP ZONE 1
- CAMP ZONE 2
- WALK IN CAMPING
- CAMP ZONE 3
- Bridge
- PICNIC AREA (DAY ONLY)
- Subject Property Boundary
- Walking track

NOTES
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 2. Do not scale from drawings
 3. Verify all dimensions on site
 4. Check any discrepancies with Architect.

The copyright for these drawings & any construction produced from these drawings is vested with Eldon Bottcher.
 1. Verify all dimensions on site
 2. Check any discrepancies with Architect.

REVISIONS				
A	REVISE LEGEND	RK	04.02.14	
B	REMOVE CARETAKERS ACCOMM	RK	17.02.14	
C	UPDATE DEVELOPMENT PLAN	JN	24.04.14	

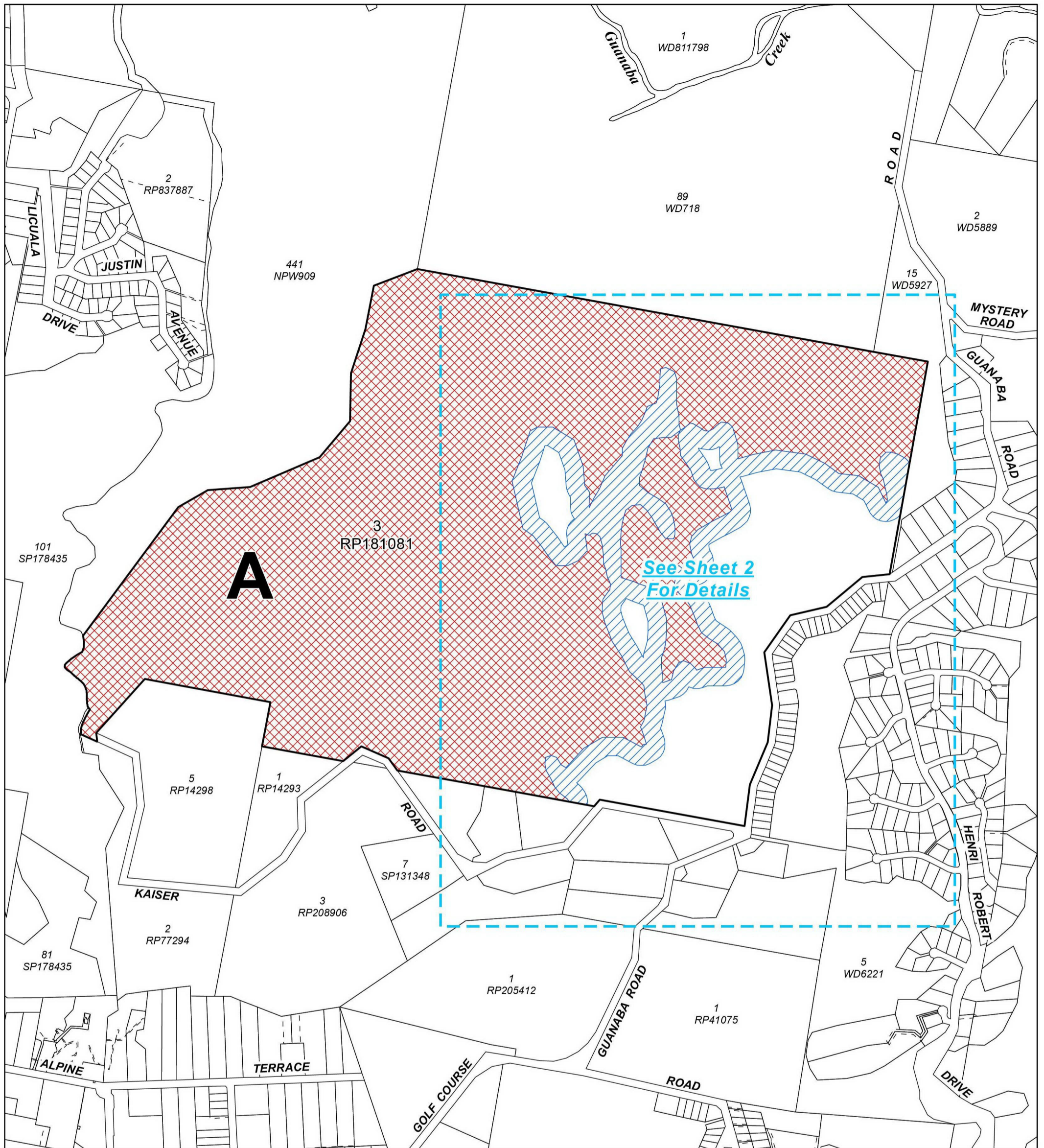
PROJECT TITLE
 GUANABA EXPERIENCE

DRAWING TITLE
 TRAILS PLAN ANNOTATED
 Lot 3 RP181081
 13/02/2015

Eldon Bottcher Architect Pty. Ltd
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SCALE: NTS @ A3
 DATE: 24.04.14
 DRAWN: RK
 CHECKED: RK
 PROJECT NUMBER: FM-1797
 DRAWING NUMBER: FM-02



Scale 1:10000 at A3 paper size



Projection: UTM (MGA Zone 56)

Datum: GDA94

Note: The property boundaries shown on this plan are **APPROXIMATE ONLY**. They are **NOT** an accurate representation of the legal boundaries.

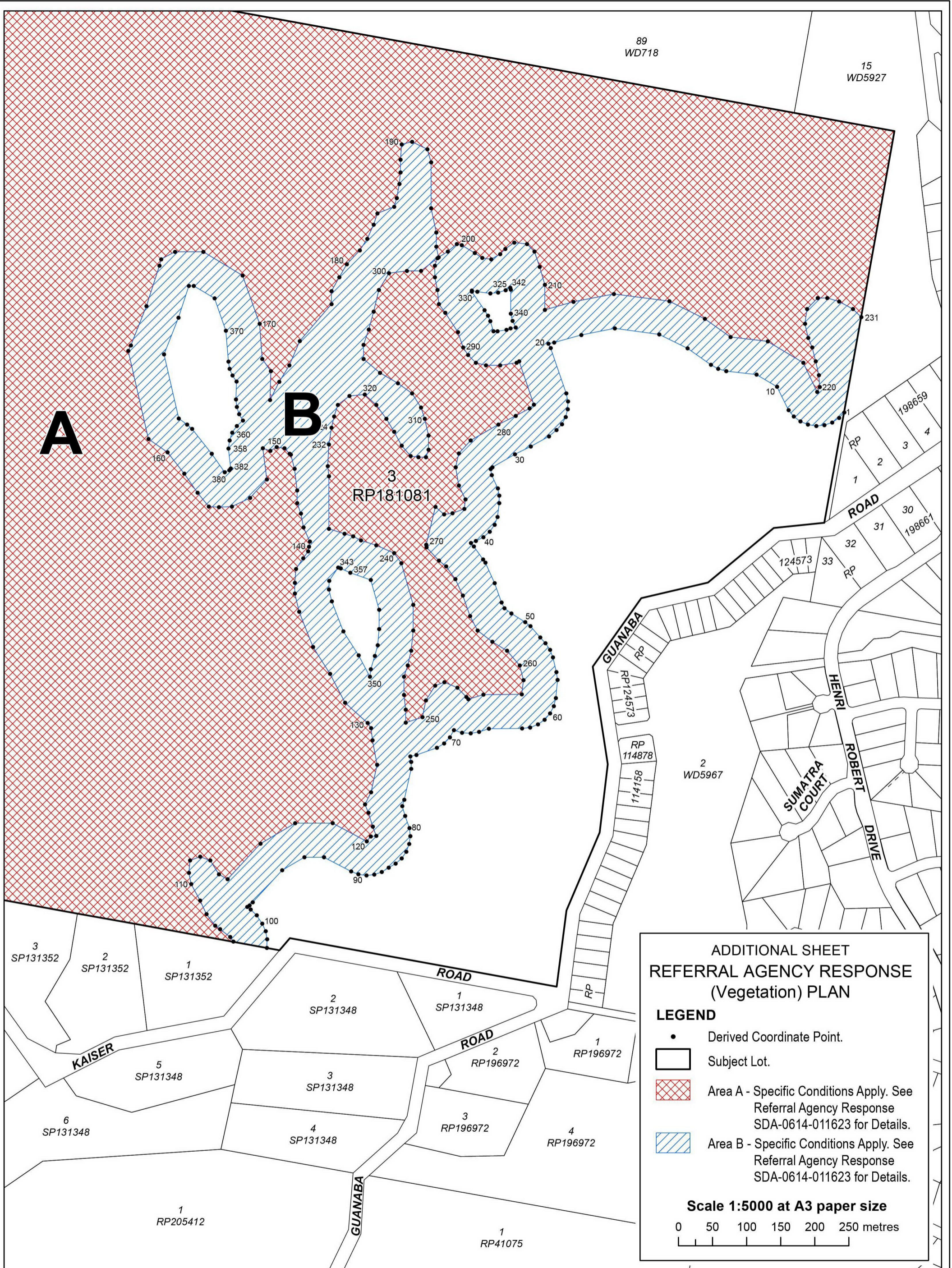
Note: Derived Coordinate Points are provided to aid in the location of the Referral Agency Response boundaries. Responsibility for locating these boundaries lies solely with the landholder and delegated clearing contractor(s).

Note: All Derived Coordinate Points continue sequentially when labels are missing.

Note: This is a colour plan and should be reproduced in colour.

Note: This plan must be read in conjunction with Referral Agency Response SDA-0614-011623.

LEGEND <ul style="list-style-type: none"> • Derived Coordinate Point. □ Subject Lot. ▨ Area A - Specific Conditions Apply. See Referral Agency Response SDA-0614-011623 for Details. ▧ Area B - Specific Conditions Apply. See Referral Agency Response SDA-0614-011623 for Details. 	Referral Agency Response (Vegetation) Plan Plan of Areas A & B in Lot 3 on RP181081		 <small>© The State of Queensland (Department of Natural Resources and Mines) 2014</small>
	CENTRE: IPSWICH LOCALITY: TAMBORINE MOUNTAIN	REGION: SOUTH LGA: REGIONAL COUNCIL OF SCENIC RIM	RARP SDA-0614-011623 <i>Sheet 1 of 4 Sheets</i>
	Map Reference: 9542 File Reference: 2014/004702	For data compilation sources see 2014/004702/GIS Prepared by: NWF Date: 18 November 2014	



Projection UTM (MGA94 Zone 56) Datum - GDA94

Note: The property boundaries shown on this plan are APPROXIMATE ONLY. They are NOT an accurate representation of the legal boundaries.

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RARP
SDA-0614-011623
 Sheet 2 of 4 Sheets

ADDITIONAL SHEET
REFERRAL AGENCY RESPONSE
(Vegetation) PLAN

Derived Coordinate Points

Parcel	Point	Easting	Northing	Parcel	Point	Easting	Northing	Parcel	Point	Easting	Northing
B	1	521628	6907740	B	65	521107	6907277	B	129	520934	6907278
B	2	521620	6907732	B	66	521092	6907272	B	130	520929	6907285
B	3	521610	6907726	B	67	521080	6907270	B	131	520896	6907315
B	4	521599	6907722	B	68	521068	6907271	B	132	520874	6907357
B	5	521587	6907721	B	69	521056	6907275	B	133	520849	6907397
B	6	521575	6907722	B	70	521050	6907264	B	134	520829	6907448
B	7	521564	6907727	B	71	521041	6907255	B	135	520822	6907475
B	8	521554	6907734	B	72	521031	6907249	B	136	520822	6907491
B	9	521546	6907744	B	73	521001	6907238	B	137	520824	6907511
B	10	521529	6907778	B	74	520992	6907236	B	138	520835	6907527
B	11	521499	6907796	B	75	520993	6907228	B	139	520842	6907537
B	12	521455	6907801	B	76	520993	6907218	B	140	520843	6907543
B	13	521443	6907804	B	77	520983	6907173	B	141	520844	6907551
B	14	521432	6907810	B	78	520980	6907163	B	142	520835	6907572
B	15	521398	6907834	B	79	520984	6907149	B	143	520831	6907592
B	16	521357	6907855	B	80	520990	6907131	B	144	520826	6907607
B	17	521292	6907863	B	81	520992	6907120	B	145	520826	6907626
B	18	521242	6907854	B	82	520990	6907108	B	146	520822	6907658
B	19	521203	6907843	B	83	520986	6907097	B	147	520816	6907678
B	20	521194	6907841	B	84	520979	6907087	B	148	520815	6907680
B	21	521197	6907835	B	85	520970	6907079	B	149	520807	6907688
B	22	521220	6907768	B	86	520960	6907073	B	150	520796	6907690
B	23	521223	6907757	B	87	520950	6907067	B	151	520786	6907684
B	24	521222	6907745	B	88	520939	6907063	B	152	520775	6907688
B	25	521219	6907733	B	89	520927	6907062	B	153	520781	6907642
B	26	521214	6907723	B	90	520916	6907063	B	154	520757	6907615
B	27	521206	6907714	B	91	520905	6907068	B	155	520730	6907602
B	28	521195	6907705	B	92	520865	6907088	B	156	520711	6907602
B	29	521168	6907691	B	93	520836	6907088	B	157	520696	6907602
B	30	521145	6907679	B	94	520804	6907069	B	158	520680	6907623
B	31	521112	6907660	B	95	520761	6907022	B	159	520660	6907651
B	32	521110	6907657	B	96	520756	6907018	B	160	520636	6907682
B	33	521111	6907648	B	97	520753	6907015	B	161	520608	6907702
B	34	521120	6907629	B	98	520758	6907012	B	162	520578	6907830
B	35	521122	6907618	B	99	520766	6907003	B	163	520582	6907838
B	36	521122	6907607	B	100	520774	6906991	B	164	520605	6907896
B	37	521119	6907587	B	101	520780	6906980	B	165	520624	6907955
B	38	521115	6907576	B	102	520782	6906968	B	166	520626	6907964
B	39	521108	6907566	B	103	520781	6906956	B	167	520647	6907976
B	40	521099	6907558	B	104	520732	6906965	B	168	520688	6907976
B	41	521088	6907552	B	105	520728	6906972	B	169	520746	6907941
B	42	521081	6907549	B	106	520713	6906983	B	170	520771	6907870
B	43	521085	6907544	B	107	520706	6906988	B	171	520775	6907819
B	44	521099	6907525	B	108	520693	6907005	B	172	520787	6907801
B	45	521102	6907520	B	109	520684	6907025	B	173	520786	6907758
B	46	521115	6907490	B	110	520671	6907049	B	174	520800	6907785
B	47	521125	6907462	B	111	520667	6907066	B	175	520815	6907809
B	48	521130	6907453	B	112	520669	6907084	B	176	520830	6907845
B	49	521140	6907446	B	113	520684	6907089	B	177	520876	6907899
B	50	521160	6907433	B	114	520698	6907084	B	178	520876	6907918
B	51	521168	6907427	B	115	520711	6907064	B	179	520888	6907939
B	52	521182	6907411	B	116	520724	6907056	B	180	520899	6907957
B	53	521190	6907402	B	117	520772	6907109	B	181	520917	6907978
B	54	521196	6907393	B	118	520823	6907138	B	182	520929	6907995
B	55	521201	6907382	B	119	520878	6907138	B	183	520938	6908015
B	56	521206	6907360	B	120	520928	6907112	B	184	520944	6908032
B	57	521208	6907348	B	121	520934	6907119	B	185	520968	6908041
B	58	521205	6907322	B	122	520942	6907120	B	186	520972	6908055
B	59	521202	6907310	B	123	520937	6907133	B	187	520976	6908075
B	60	521197	6907299	B	124	520931	6907154	B	188	520977	6908092
B	61	521189	6907290	B	125	520925	6907166	B	189	520977	6908111
B	62	521179	6907283	B	126	520934	6907184	B	190	520979	6908133
B	63	521168	6907279	B	127	520943	6907224	B	191	520994	6908137
B	64	521156	6907277	B	128	520936	6907260	B	192	521017	6908126

Projection UTM (MGA94 Zone 56) Datum - GDA94

Note: The property boundaries shown on this plan are **APPROXIMATE ONLY**. They are **NOT** an accurate representation of the legal boundaries.

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Responsibility for locating these boundaries lies solely with the landholder and delgated clearing contractor(s).

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ADDITIONAL SHEET
REFERRAL AGENCY RESPONSE
(Vegetation) PLAN

Derived Coordinate Points

Parcel	Point	Easting	Northing	Parcel	Point	Easting	Northing	Parcel	Point	Easting	Northing
B	193	521022	6908107	B	257	521099	6907327	B	321	520903	6907764
B	194	521022	6908040	B	258	521155	6907327	B	322	520886	6907751
B	195	521030	6908004	B	259	521158	6907348	B	323	520880	6907735
B	196	521030	6907983	B	260	521152	6907369	B	324	520876	6907718
B	197	521033	6907968	B	261	521133	6907391	B	325	521131	6907920
B	198	521047	6907976	B	262	521112	6907404	B	326	521120	6907916
B	199	521060	6907987	B	263	521090	6907421	B	327	521109	6907915
B	200	521067	6907985	B	264	521079	6907442	B	328	521090	6907917
B	201	521086	6907974	B	265	521069	6907472	B	329	521082	6907919
B	202	521097	6907967	B	266	521058	6907496	B	330	521082	6907917
B	203	521110	6907965	B	267	521044	6907515	B	331	521100	6907890
B	204	521123	6907972	B	268	521034	6907523	B	332	521105	6907882
B	205	521131	6907980	B	269	521015	6907543	B	333	521109	6907874
B	206	521144	6907989	B	270	521015	6907546	B	334	521114	6907859
B	207	521163	6907987	B	271	521029	6907602	B	335	521120	6907859
B	208	521174	6907976	B	272	521041	6907591	B	336	521133	6907861
B	209	521181	6907954	B	273	521054	6907593	B	337	521139	6907864
B	210	521189	6907927	B	274	521071	6907599	B	338	521146	6907865
B	211	521189	6907891	B	275	521072	6907613	B	339	521142	6907875
B	212	521231	6907903	B	276	521063	6907633	B	340	521139	6907885
B	213	521290	6907914	B	277	521058	6907660	B	341	521139	6907920
B	214	521371	6907903	B	278	521063	6907680	B	342	521138	6907923
B	215	521424	6907878	B	279	521080	6907699	B	343	520890	6907512
B	216	521461	6907851	B	280	521121	6907723	B	344	520886	6907513
B	217	521516	6907844	B	281	521146	6907735	B	345	520873	6907494
B	218	521568	6907813	B	282	521166	6907746	B	346	520872	6907481
B	219	521588	6907771	B	283	521173	6907752	B	347	520876	6907463
B	220	521592	6907778	B	284	521151	6907815	B	348	520894	6907419
B	221	521591	6907795	B	285	521148	6907813	B	349	520916	6907384
B	222	521586	6907815	B	286	521123	6907809	B	350	520932	6907353
B	223	521581	6907836	B	287	521103	6907809	B	351	520934	6907364
B	224	521575	6907850	B	288	521088	6907813	B	352	520940	6907383
B	225	521570	6907870	B	289	521077	6907824	B	353	520944	6907399
B	226	521573	6907892	B	290	521069	6907836	B	354	520946	6907423
B	227	521589	6907908	B	291	521062	6907858	B	355	520946	6907451
B	228	521603	6907908	B	292	521043	6907886	B	356	520934	6907495
B	229	521620	6907903	B	293	521034	6907899	B	357	520904	6907506
B	230	521641	6907892	B	294	521032	6907920	B	358	520725	6907687
B	231	521653	6907880	B	295	521028	6907939	B	359	520727	6907699
B	232	520873	6907693	B	296	521028	6907955	B	360	520731	6907710
B	233	520871	6907662	B	297	521032	6907966	B	361	520737	6907720
B	234	520873	6907647	B	298	521007	6907948	B	362	520746	6907728
B	235	520873	6907570	B	299	520987	6907948	B	363	520741	6907738
B	236	520895	6907562	B	300	520961	6907944	B	364	520737	6907748
B	237	520908	6907559	B	301	520946	6907920	B	365	520736	6907760
B	238	520919	6907553	B	302	520938	6907888	B	366	520737	6907786
B	239	520942	6907546	B	303	520931	6907862	B	367	520731	6907794
B	240	520968	6907534	B	304	520923	6907839	B	368	520727	6907804
B	241	520979	6907519	B	305	520923	6907819	B	369	520725	6907815
B	242	520996	6907458	B	306	520947	6907798	B	370	520721	6907860
B	243	520996	6907421	B	307	520974	6907783	B	371	520705	6907908
B	244	520993	6907391	B	308	520994	6907768	B	372	520674	6907926
B	245	520988	6907369	B	309	521007	6907748	B	373	520667	6907926
B	246	520982	6907353	B	310	521013	6907731	B	374	520652	6907879
B	247	520982	6907326	B	311	521019	6907706	B	375	520631	6907826
B	248	520985	6907305	B	312	521019	6907686	B	376	520652	6907731
B	249	520985	6907286	B	313	521015	6907675	B	377	520665	6907722
B	250	521009	6907294	B	314	521004	6907675	B	378	520672	6907716
B	251	521015	6907318	B	315	520992	6907677	B	379	520701	6907680
B	252	521028	6907340	B	316	520979	6907692	B	380	520720	6907653
B	253	521042	6907345	B	317	520968	6907712	B	381	520726	6907656
B	254	521061	6907337	B	318	520957	6907731	B	382	520729	6907658
B	255	521074	6907324	B	319	520942	6907751				
B	256	521077	6907320	B	320	520925	6907766				

Projection UTM (MGA94 Zone 56) Datum - GDA94

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Report

Guanaba Experience

Mt Tamborine

TRAFFIC IMPACT ASSESSMENT

Prepared for:

Mt Tamborine Camping & Activities P/L

C/o TJ Kelly Surveys

14 April 2014

Reference: 80111

Total Traffic Solutions Pty Ltd

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Guanaba Experience

Mt Tamborine

TRAFFIC IMPACT ASSESSMENT

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- A Traffic Survey Data
- B DTMR Coverage Counts
- C Sidra Output Data

1. Introduction

This report presents the findings of a traffic impact assessment that was carried out by Total Traffic Solutions (TTS Group) for the proposed Guanaba Experience.

It is intended that this report will form part of a development application to be lodged with Scenic Rim Regional Council (SRRC) and the Department of Transport and Main Roads (DTMR).

This report addresses:

- ▶ Existing traffic conditions.
- ▶ Traffic generation and impact on the surrounding road network.
- ▶ Site layout, access and parking arrangements.

The primary objectives of this assessment were to establish the:

- ▶ level of traffic impact the development would have on the surrounding road network; and
- ▶ suitability of the development plans in terms of traffic access, parking and servicing arrangements.

This report also serves to address/respond to the pre-lodgement advice provided by DTMR in the 'Response to request for pre-lodgement meeting-meeting not required' letter dated 13 January 2014. The advice was provided subsequent to DTMR's review of the Guanaba Experience Draft Traffic Impact Assessment Report dated 28 November 2013. The advice provided under the heading "Traffic Impact Assessment" and how it was addressed in this report are provided as follows:

- ▶ Advice: Provide further information on car occupancy rates, specifically the assumption of 4 patrons per car for camping. It is suggested a sensitivity analysis be completed for alternatives to this estimation such as 3 patrons per car.

Response: The assumption of 4 patrons per car has been based on informed advice provided by Mt Tamborine Camping & Activities. The camp sites are designed to accommodate an average of 4 campers per site. It is prudent to assume that these 4 patrons belong to a family or group and will travel to the site in one car. As such, the assumption of 4 patrons per car for camping is considered to be appropriate. This information is also provided in Table 3 of this report. A sensitivity analysis with 3 patrons per car for camping has been completed. This results in a minimal increase in development traffic volumes. The details of the analysis are provided in Section 7.3.

- ▶ Advice: Further justification for cross utilisation figures (25%) provided is required and it is suggested a sensitivity analysis be completed for alternatives to this figure.

Response: The assumption of a 25% trip reduction due to cross utilisation is considered low and very conservative based on the level of cross-utilisation expected for a camping and outdoor sports venue such as this. A significant amount of cross utilisation is expected between campers who stay for a few days and experiences generally open to the public (i.e. non-organised experiences), as well as between these experiences. This information is also provided in Section 6.1 of this report. A sensitivity analysis with a 15% trip reduction due to cross utilisation has been completed. This results in a minimal increase in development traffic volumes. The details of the analysis are provided in Section 7.3.

- ▶ Advice: The development suggests an almost even split of traffic to/from Henri Roberts Drive and to/from Tamborine Mountain. Based on travel times from Brisbane or southern Gold Coast and Northern NSW it is expected that the majority of trips would be made via the M1 and using Henri Roberts Drive to access the site.

Response: The split of development traffic to/from Henri Roberts Drive and to/from Tamborine Mountain is based on the locality of the site relative to the surrounding catchment areas.

It is reasonably assumed that approximately 50% of development traffic will travel via Tamborine Mountain to/from Brisbane, Logan, Ipswich, Scenic Rim and the northern Gold Coast areas. The Scenic Rim areas are located to the west of the site and it is assumed that all development traffic to/from these areas will access the site via Tamborine Mountain. Traffic travelling to/from the Ipswich, Logan and western Brisbane areas to the north west of the site will access the site via Tamborine Mountain (along Mt Lindesay Highway, Waterford-Tamborine Road etc). It is assumed that many patrons will seek to stay on Tamborine Mountain for the weekend but choose hotel accommodation on Tamborine Mountain as a preference over camping. These patrons will then proceed to Guanaba Experience from Tamborine Mountain. The patronage forecast modelling numbers involve a large number of interstate visitors and many of these patrons will stay at hotels on Tamborine Mountain (e.g. St Bernards Hotel). Guanaba Experience will be actively working with local hotels to make them mountain bike friendly with bicycle lock up facilities etc. It is also assumed that a proportion of traffic travelling to/from Brisbane and the northern Gold Coast areas may access the site via Tamborine Mountain as the tourist/recreational traffic associated with the development may prefer to travel to/from the key attractors in the area which are all located in the Tamborine Mountain area. For example, patrons may stop at the numerous and varied touristy shops, cafes, restaurants at Eagle Heights on their way to and from the site. Traffic accessing the site will be travelling to and from the site. This traffic will not only be travelling to the site in the morning, but also travelling from the camp sites to the Tamborine Mountain area and back, or travelling after the zip line experience to Eagle Heights on their way home. It would be

unrealistic to expect that all traffic travelling to/from Brisbane and the northern Gold Coast areas will access the site only, and not other attractions in the Tamborine Mountain area as well. Travelling along this route will result in a minimal (i.e. approximately 10 minute) increase in travel times. The traffic accessing the site is tourist/recreational and it would be prudent to assume that some traffic may choose to do a minor detour via the tourist hot spots on Tamborine Mountain.

It is assumed that the remaining 50% of development traffic travelling via Henri Roberts Drive will comprise of traffic travelling to/from southern Gold Coast and northern New South Wales areas via Nerang, as well as a proportion of traffic travelling to/from Brisbane and northern Gold Coast areas via Maudsland. The patronage forecast modelling numbers incorporate a large number of visitors from the Gold Coast tourism base (incidental visitors, backpackers etc). As such, the Gold Coast Shuttle service could be very popular as Gold Coast tourists often have no alternative means of transport. This would reduce the number of cars travelling to/from the Gold Coast. As such, the number of cars accessing the site via Henri Robert Drive will be reduced as a large number of tourists travelling to/from the Gold Coast (e.g. incidental visitors, backpackers) are expected by shuttle bus and a large number of patrons travelling to/from Brisbane and the Gold Coast (e.g. destination visitors, passionate mountain bikers from interstate) are expected to stay on Tamborine Mountain. This information is also provided in Section 6.2.2 of this report.

A sensitivity analysis with 70% traffic travelling to/from Henri Roberts Drive and 30% travelling to/from Tamborine Mountain was also carried out. The larger volume of traffic using Henri Robert Drive to access the site and the associated larger volume of traffic turning right into Kaiser Road does not result in the need for any intersection improvements or upgrades. The details of this sensitivity analysis are provided in Section 7.3.

- ▶ Advice: Henri Roberts Drive is sign-posted as not suitable for trucks, buses, caravans and trailers due to the steep gradient of the road. The applicant is required to assess impacts to the development, specifically directional splits, for those patrons travelling with trailers or caravans and the MTB shuttle service.

Response: It is important to note that the sign described above is an advisory sign and not a regulatory sign. Whilst the road is sign posted as "Not suitable for buses", there is also a sign asking all bus passengers to be seated which would indicate that buses are using the road. Other heavy vehicles also use this road. The development intends to operate Gold Coast shuttle buses which will travel along Henri Roberts Drive. The buses will be small (i.e. Toyota Coaster or similar small bus) and operate infrequently (i.e. possible one bus every few hours). The development intends to operate MTB shuttles (i.e. Toyota Coaster or similar small bus) which will travel along Guanaba Road only. Any large buses that access the site (e.g. for organised team building activities or high ropes/challenge course) will be advised to avoid Henri Roberts Drive. The development will not be suitable for caravans and camp grounds are not being designed to accommodate caravans. The development will be suitable for camper trailers which may travel along Henri Roberts Drive to access the site.

- ▶ Advice: The applicant is advised to undertake an assessment of the Kaiser Road intersection for the peak travel times for the development. The draft TIA has adopted a development peak based simply on 10% of daily traffic during the peak travel period for Nerang-Tamborine Road (Guanaba Road) being Sunday 11am-12pm. It is generally expected that a peak for this development is likely to occur on Friday afternoon and/or Saturday morning as larger numbers of patrons arrive for weekend camping and/or recreation activities. The draft TIA should determine the peak traffic generation for the development and assess the impacts on the Guanaba Road / Kaiser Road intersection (operational performance and intersection form warrants) using the corresponding existing road traffic volumes.

Response: TTS Group has amended the assessment and conducted the analysis for the Friday afternoon and Saturday morning peak development periods, using the corresponding existing road traffic volumes. TTS Group has determined the peak traffic generation for the development by applying a peak hour factor of 15%. This is in accordance with the DMR Road Planning and Design Manual (Figure 13.23, Note 5) which specifies that where peak hour volumes or peak hour percentages are not available, assume the design peak hour volume equals 15% of the AADT for 500 hours each year, use 5% AADT for the rest of the year. The use of this reference is considered particularly important as Figure 13.23 is applied in the traffic impact analysis in Section 7 to determine if intersection upgrades are warranted. This information is also provided in Section 6.1 of this report.

1.1 Site Locality

The proposed development site is located at the north-western corner of the Guanaba Road and Kaiser Road intersection on Lot 3 RP 181081.

The locality of the development site is shown in Figure 1.

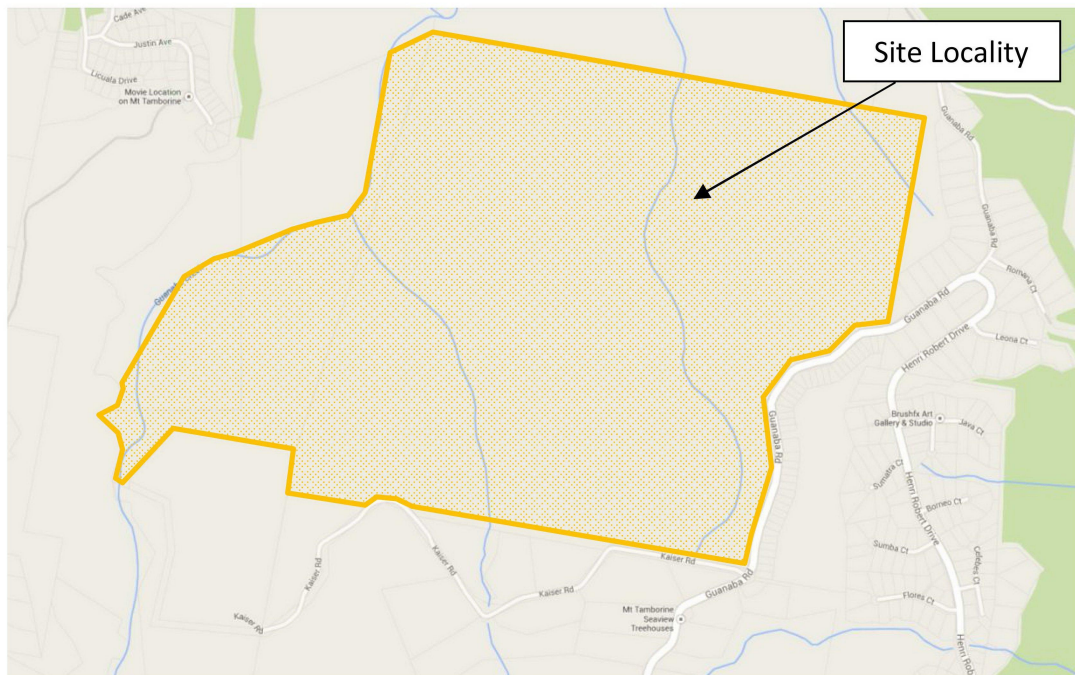


Figure 1: Site Locality Plan

1.2 Applicable Standards and Policies

This assessment was carried out in accordance with the Beaudesert Shire Planning Scheme. In addition to the latter, the following reference documents have been used as part of this assessment:

- ▶ Australian / New Zealand Standard (AS / NZ 2890.1:2004, AS 2890.2 - 2002).
- ▶ Austroads Guide to Road Design - Part 4A: Unsignalised and Signalised Intersections.
- ▶ DTMR Road Planning and Design Manual - Chapter 13: Intersections at Grade.

1.3 Abbreviations

Abbreviations utilised in this report are described in Table 1.

Table 1: Report Abbreviations

Abbreviation	Description
AM	Morning Peak Hour
ASD	Approach Sight Distance
AVD	Average Vehicle Delay (expressed in seconds)

DOS	Degree of Saturation
HRV	Heavy Rigid Vehicle
Km/h	Kilometres per hour
LOS	Level of Service
PM	Afternoon peak hour
RCV	Refuse Collection Vehicle
SRV	Small Rigid Vehicle
SISD	Safe Intersection Sight Distance
vpd	Vehicles Per Day
vph	Vehicles Per Hour

2. Proposed Development

The proposed Guanaba Experience is illustrated in the site layout plan in Figure 2. The site is expected to be opened in 2015 and developed in two stages. The estimated patronage numbers for Stage 1 are expected to be achieved two years after opening (i.e. year 2017). The estimated patronage numbers for Stage 2 are expected to be achieved five years after opening (i.e. year 2020).

The proposed development activities and parameters for each stage, as used within this assessment are summarised as follows:

Stage 1

- ▶ Camping and associated facilities (toilets, showers, laundry etc)
- ▶ Mountain biking (MTB)
- ▶ Flying fox / zipline canopy tours
- ▶ Tree based simulated rock climbing (internal activity for campers)
- ▶ Organised team building activities for corporate and school groups
- ▶ Restaurant/cafe

Stage 2

- ▶ Camping and associated facilities (toilets, showers, laundry etc)
- ▶ Mountain biking (MTB)
- ▶ Flying fox / zipline canopy tours
- ▶ Tree based simulated rock climbing (internal activity for campers)
- ▶ Organised team building activities for corporate and school groups
- ▶ High ropes / challenge course
- ▶ Canopy walks
- ▶ Indigenous guided tour
- ▶ Contingency future activity
- ▶ Restaurant/cafe

Vehicular access to the site for Stage 1 and Stage 2 is proposed to be via:

- A combined entry and exit driveway on Kaiser Road
- A separate entry driveway on Guanaba Road for use by the empty MTB shuttle to travel to the MTB pick up point/trail termination point.
- A separate exit driveway on Guanaba Road for use by the loaded MTB shuttle to travel from the MTB pick up point/trail termination point.

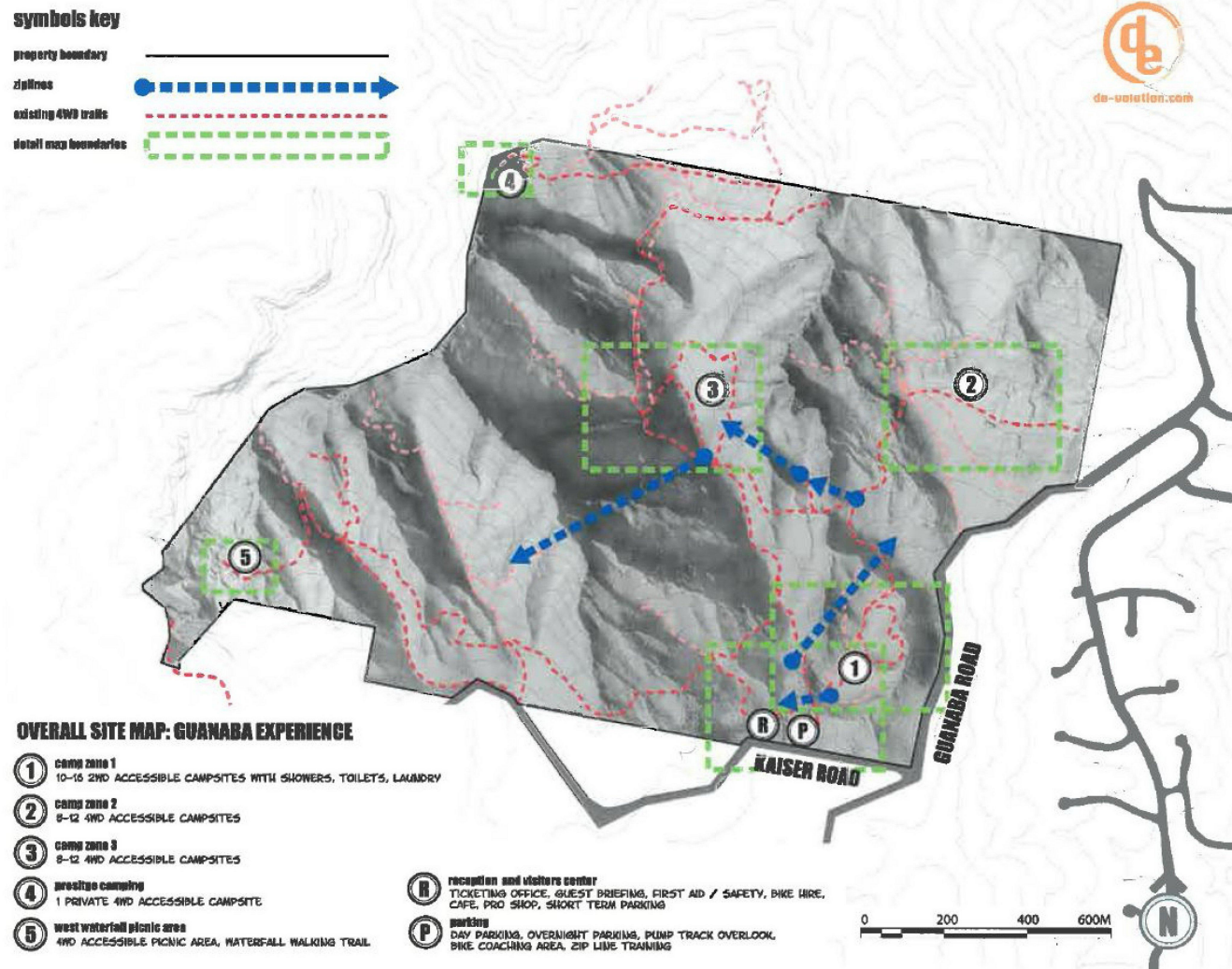


Figure 2: Site Layout Masterplan

3. Future Infrastructure Planning

TTS Group has discussed the planning of the future road network in the vicinity of the Site with SRRC, Gold Coast City Council (GCCC) and DTMR.

SRRC have advised that based on their 10 year capital works program, there are no plans to reconstruct any council controlled roads in the vicinity of the site including Kaiser Road, Guanaba Road and Mystery Road.

GCCC have advised that there are no upgrades planned for Mystery Road.

DTMR have advised that there are no upgrades planned for the state controlled roads in the vicinity of the site including Guanaba Road and Henri Robert Drive, apart from general maintenance works.

4. Existing Traffic Conditions

4.1 Site Description

Approximately three quarter of the development site is remnant forest, with the remainder either cleared or regrowth (former banana plantation and quarry).

For future planning purposes, this assessment has assumed the entire development site does not currently generate any background traffic volumes on the surrounding road network.

4.2 Transport Infrastructure

The existing transport infrastructure immediately surrounding the site is described under the following sections:

4.2.1 Road Network

Guanaba Road:

- ▶ is administered by DTMR for the section between Golf Course Road and Henri Robert Drive
- ▶ has a through connecting function and is not part of the local road network
- ▶ has direct property access
- ▶ is a 2 lane single carriageway with an average pavement width of 6m
- ▶ has a 60km/h sign-posted speed limit



Figure 3: Photo – Guanaba Road Southbound

Henri Robert Drive:

- ▶ extends between Guanaba Road and Beaudesert-Nerang Road
- ▶ is administered by DTMR
- ▶ has a through connecting function and is not part of the local road network
- ▶ has direct property access
- ▶ is a 2 lane single carriageway with an average pavement width of 7m
- ▶ has a 60km/h sign-posted speed limit



Figure 4: Photo – Henri Robert Drive Southbound

Kaiser Road:

- ▶ is administered by SRRC
- ▶ is classified as an access road
- ▶ has direct property access
- ▶ is a 2 lane single carriageway with no line marking and an average pavement width of 5.5m
- ▶ has no sign-posted speed limit. This is assumed to be 50km/h



Figure 5: Photo – Kaiser Road Eastbound

4.2.2 Public Transport

There are no public transport (bus/rail) facilities within walking distance of the development site.

4.2.3 Pedestrian and Bicycle Facilities

There are no designated bikeways (on/off-street) surrounding the development site.

There are no sealed footpaths surrounding the development site.

4.3 Traffic Volumes

Mt Tamborine Camping & Activities have provided the following information.

The proposed operational hours of the development are as follows:

- ▶ 9am to 6pm on weekdays
- ▶ 7am to 6pm on weekends

The estimated peak/busiest hours of the development are as follows:

- ▶ 9am to 11am and 4pm to 6pm on weekdays
- ▶ 7am to 1pm on weekends

Traffic surveys were carried out at the Guanaba Road / Kaiser Road intersection from 9am to 10am and 4pm to 5pm on Monday 16 September 2013 (weekday) and Sunday 15 September 2013 (weekend) to correspond as closely as possible to the development traffic peak hours.

The location for the intersection survey is shown in Figure 6. The intersection numbering provided in this figure is further adopted in this assessment for referencing purposes.

As discussed in Section 1, DTMR have advised that the peak for this development is likely/expected to occur on Friday afternoon and/or Saturday morning. The traffic impact assessment should assess the impacts on the Guanaba Road / Kaiser Road intersection using the corresponding existing road traffic volumes. As such, the surveyed Monday afternoon (4pm to 5pm) and Sunday morning (9am to 10am) peak hour traffic volumes have been adjusted to become Friday afternoon (4pm to 5pm) and Saturday morning (9am to 10am) traffic volumes respectively. The adjustment factors were determined based on DTMR coverage counts for Tamborine -Nerang Road (i.e. Henri Robert Drive) 100m east of Landman Court from Monday 4 March 2013 to Sunday 24 March 2013. A comparison of the coverage count data for Sunday (9am to 10am) and Saturday (9am to 10am) shows that the Saturday volumes are 9% lower than the Sunday volumes. A comparison of the data for Monday (4pm to 5pm) and Friday (4pm to 5pm) shows that the Monday and Friday volumes are similar.

The traffic surveys and DTMR coverage counts were conducted outside the school and public holiday periods.

The resultant adjusted Saturday (9am to 10am) and Friday (4pm to 5pm) peak hour intersection turning movement traffic volumes are provided in network format in Figure 7.

Please also refer to Appendix A for raw traffic survey data, and Appendix B for the DTMR coverage counts.

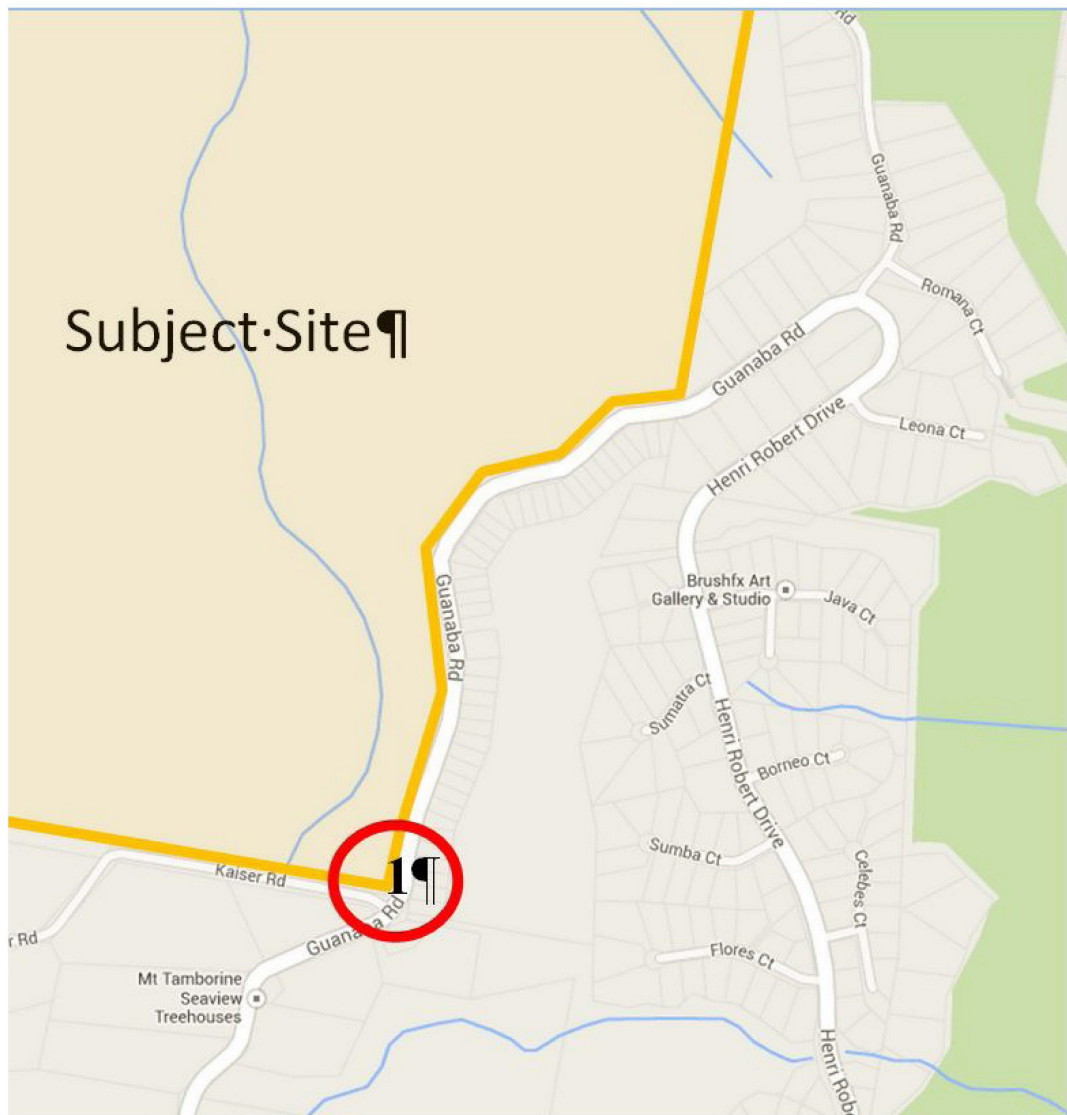


Figure 6: Traffic Survey Location

2013 Peak Hour Traffic Volumes - Base

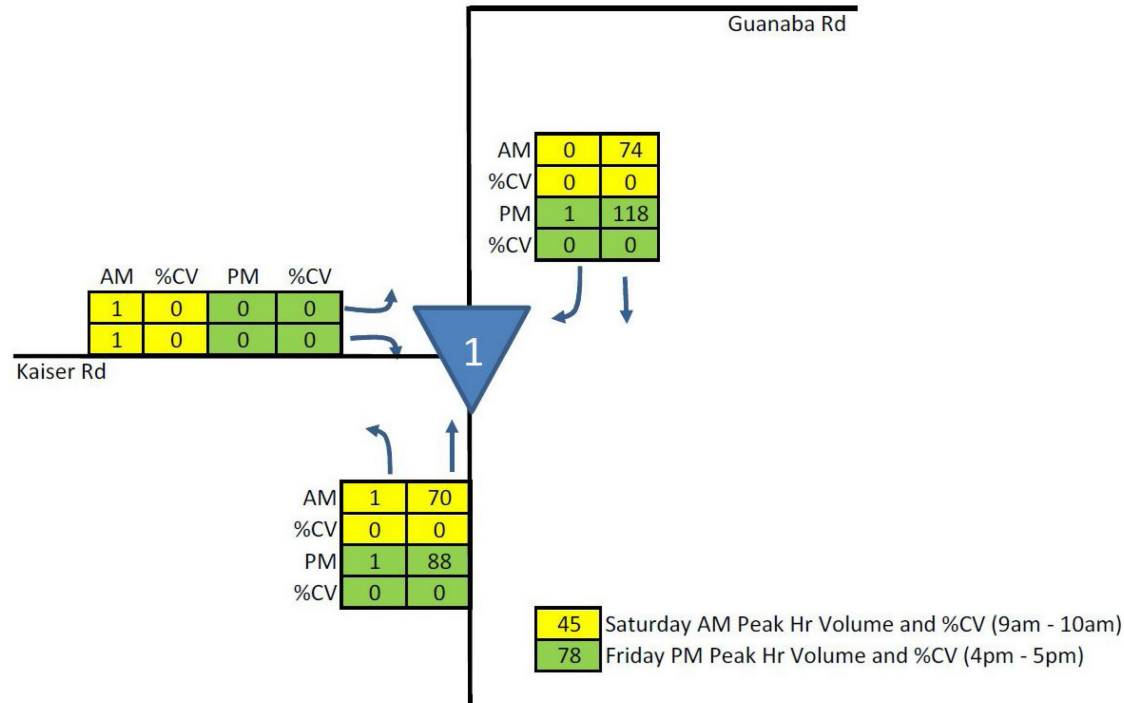


Figure 7: Existing (2013) Traffic Volumes

4.4 Intersection Layout and Capacity

Sidra intersection analysis software was used to assess the existing peak hour operating performance and capacity of the intersection. The existing intersection is priority controlled with basic left turn (BAL) and basic right turn (BAR) treatments on the minor road (i.e. Kaiser Road) and major road (i.e. Guanaba Road) approaches. The existing intersection layout as depicted in Sidra is provided in Figure 8.

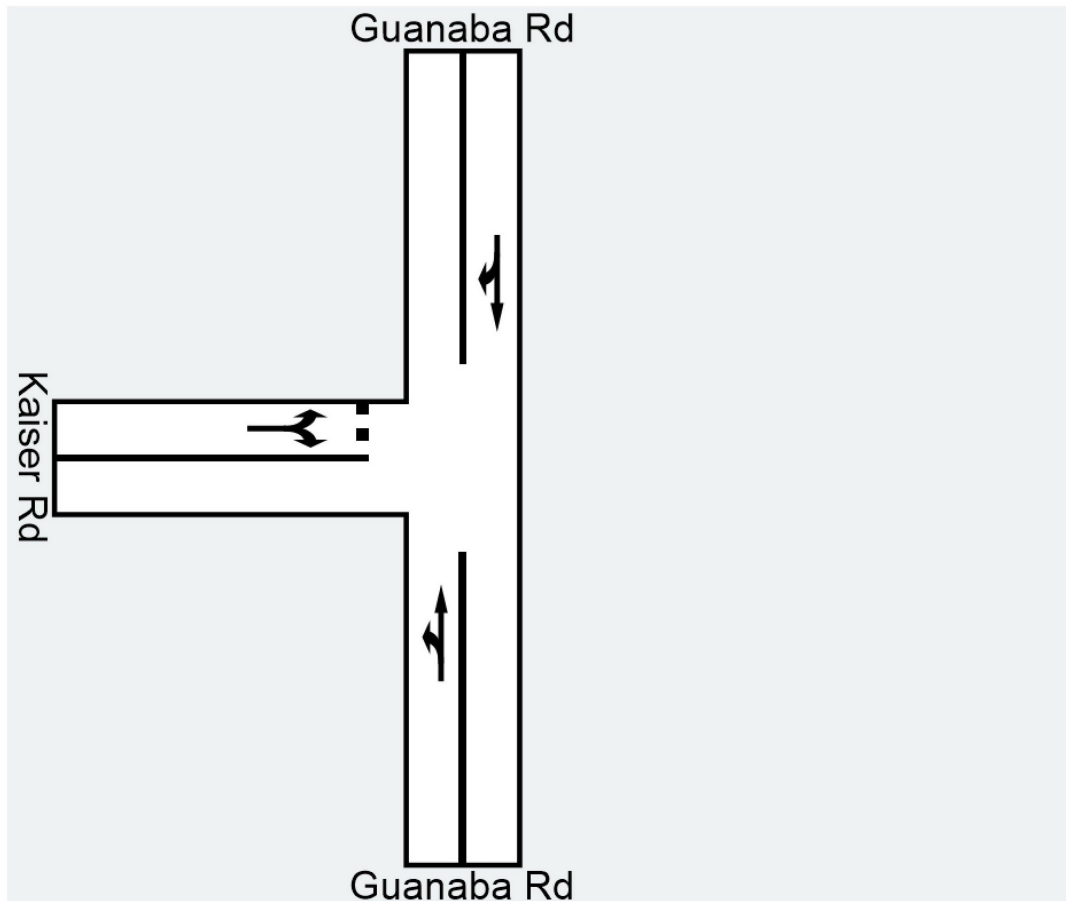


Figure 8: Intersection 1 - Existing Layout

The overall performance of the intersection during the Saturday (AM) and Friday (PM) peak hour resulting from the Sidra analysis is presented in Table 2.

Please also refer to Appendix C for Sidra output data results.

This analysis shows that the intersection is currently operating well within capacity and at an acceptable LOS. For example, the worst case approach for the intersection is operation at 6.4% capacity and LOS B.

Table 2: Intersection 1 Analysis- Existing Conditions

Approach	Peak Hour	AVD (Sec)	DOS (%)	LOS	Queue (m)
Guanaba Rd (S)	Saturday (AM)	0.1	3.8	A	0.0
	Friday (PM)	0.1	4.8	A	0.0
Guanaba Rd (N)	Saturday (AM)	0.4	4.1	B	1.9
	Friday (PM)	0.4	6.4	B	3.1
Kaiser Rd (W)	Saturday (AM)	7.1	0.2	A	0.1
	Friday (PM)	7.2	0.2	A	0.1

5. Background Traffic Growth

DTMR staff have advised that a low annual growth rate (1% to 2%) would be appropriate for the state controlled roads in the vicinity of the site (i.e. Guanaba Road and Henri Robert Drive) as growth will be limited by the limited power and telecommunication connection in the area and the reliance on reticulated water.

SRRC staff have advised that other than this proposed development, there are no other developments in the area that would affect the growth rates on the council controlled roads in the vicinity of the site (e.g. Kaiser Road). Based on the advice from SRRC, it is prudent to assume a growth rate of 0% would be appropriate.

DTMR have provided historical AADT volumes for Tamborine -Nerang Road (i.e. Henri Robert Drive) 100m east of Landman Court from 2003 to 2012. The average annual growth rate over the last 10 years is 0.18%.

TTS Group have applied an annual growth rate of 1% to the existing 2013 background traffic volumes on the state and council controlled roads in the vicinity of the site. This is considered to be conservative based on the lack of road upgrades or developments in the area, and the significantly lower historical growth rate.

The application of the conservative growth rate to the worst case Sunday background traffic volumes will provide for a conservative and worst case scenario analysis of forecast background traffic.

The growth rate has been applied to develop forecast background traffic volumes for the following years:

- ▶ Year 2017 (i.e. two years after opening and year when estimated patronage numbers for Stage 1 are expected to be achieved)
- ▶ Year 2025 (i.e. 10 years post opening and the ultimate design horizon year). The estimated patronage numbers for Stage 2 (ultimate development stage) are expected to be achieved five years after opening (year 2020), and will be similar for the 10 years after opening scenario

A 12 year forecast analysis is considered to be adequate and no further forecast analysis has been conducted.

The 2017 forecast background traffic volumes are provided in Figure 9.

The 2025 forecast background traffic volumes are provided in Figure 10.

2017 Peak Hour Traffic Volumes - Forecast Base

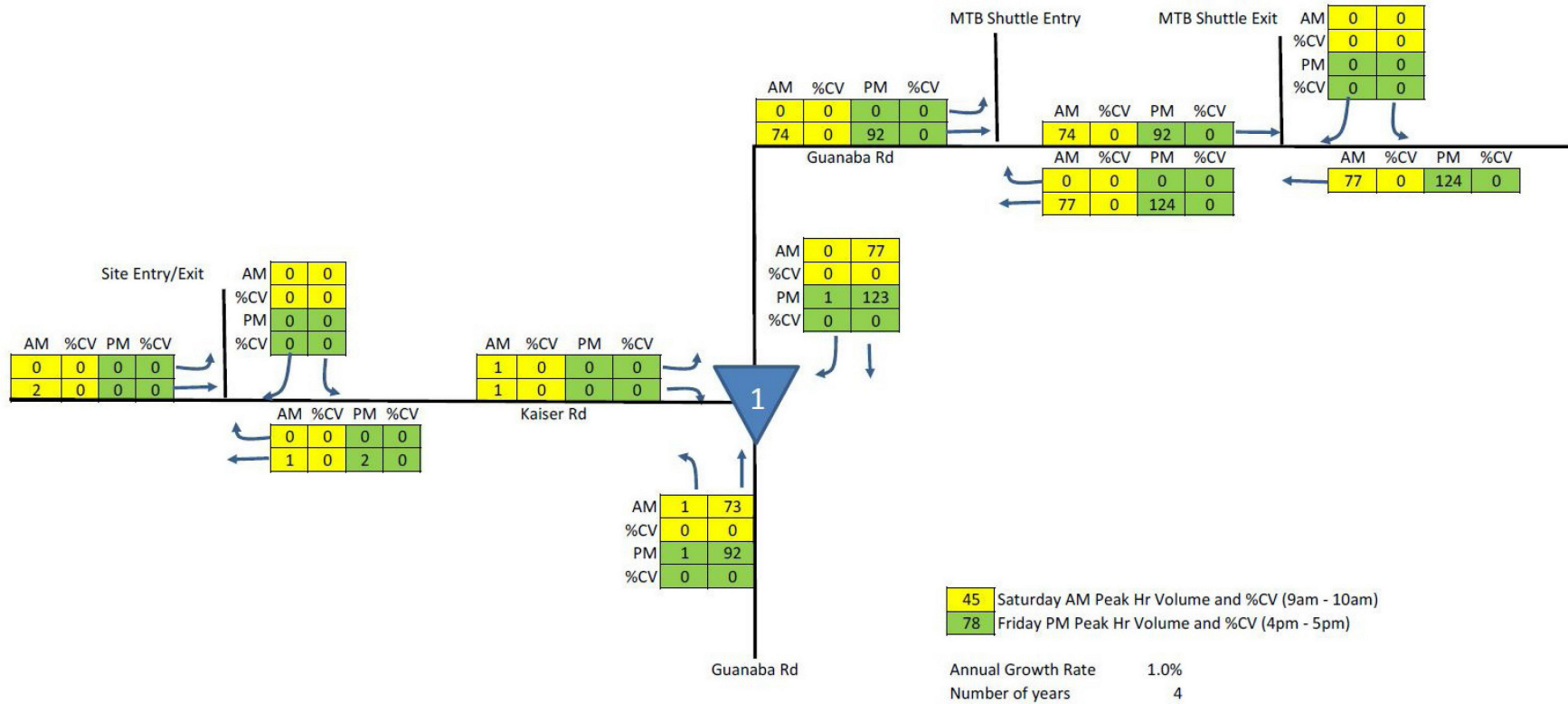


Figure 9: Forecast (2017) Background Traffic Volumes

2025 Peak Hour Traffic Volumes - Forecast Base

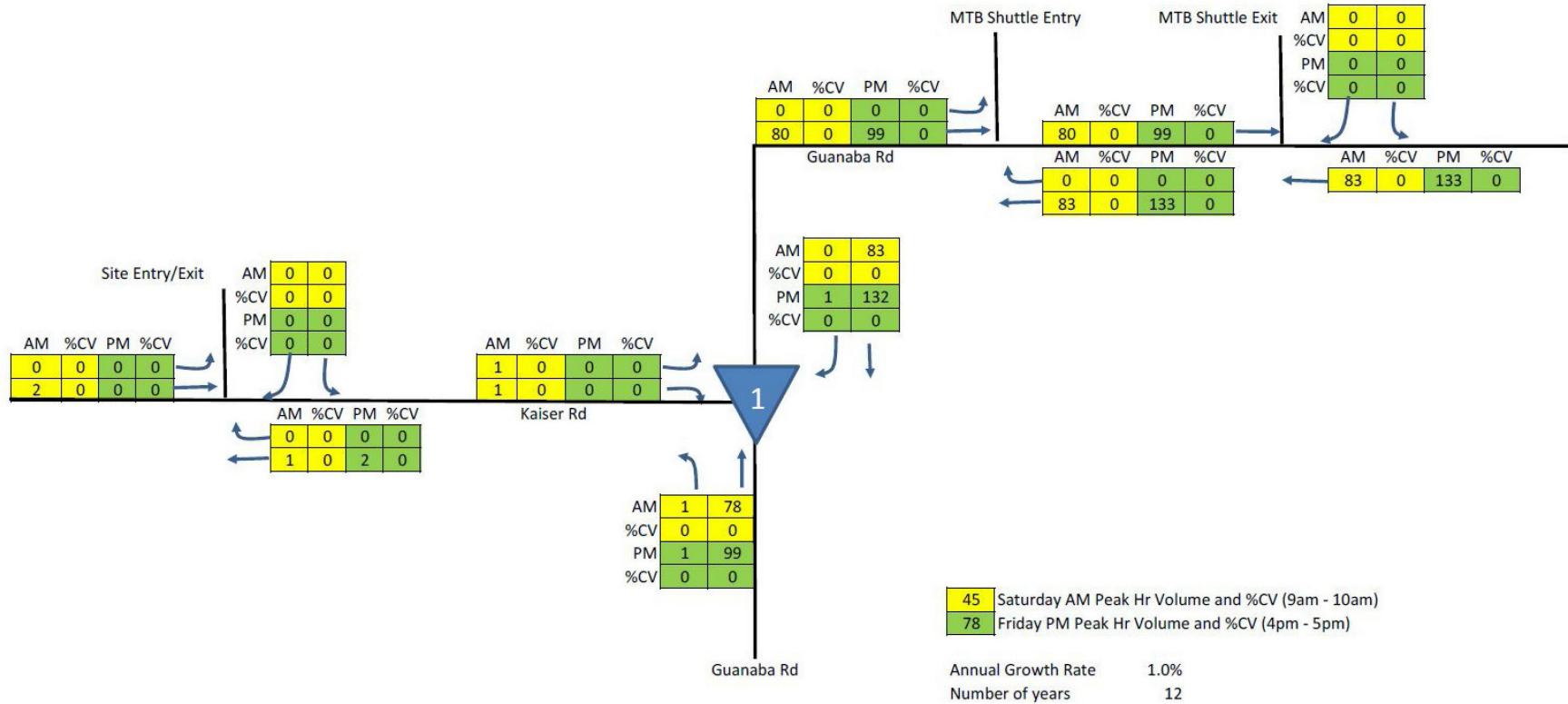


Figure 10: Forecast (2025) Background Traffic Volumes

6. Development Traffic Volumes

6.1 Trip Generation

The estimated patronage and trip generation assumptions for each stage of the development are provided in Table 3. This has been based on information provided by Mt Tamborine Camping & Activities.

Table 3: Development Patronage and Assumptions

Experience	Stage 1 (2 years after opening)	Stage 2 (5 years after opening)
Camping	100 patrons per day (holiday weekend)	300 patrons per day (holiday weekend)
	100 patrons per day (holiday weekday)	300 patrons per day (holiday weekday)
	60 patrons per day (normal weekend)	180 patrons per day (normal weekend)
	30 patrons per day (normal weekday)	90 patrons per day (normal weekday)
	<p>Assumptions</p> <p>Vehicle (car) occupancy: Family of 4/car. The camp sites are designed to accommodate an average of 4 campers per site. It is prudent to assume that these 4 patrons belong to a family or group and will travel to the site in one car.</p> <p>Vehicle (car) trips:</p> <p>Patrons arrive one day, leave after 2 night stay. So 2 vehicle trips over 3 days, or 0.66 vehicle trips/day for each car with 4 patrons.</p> <p>50% of patrons will leave site once per day to do touristy things up or down the mountain. So 1 vehicle trip/day for each car with 4 patrons.</p> <p>Total: 1.66 vehicle trips / day for each car with 4 patrons</p>	
MTB	10,000 patrons per year	50,000 patrons per year
	52 patrons per day (weekend)	262 patrons per day (weekend)
	17 patrons per day (weekday)	87 patrons per day (weekday)

	<p><u>Assumptions:</u></p> <p>Vehicle (car) occupancy: 2 to 3 patrons/car</p> <p>Vehicle (car) trips: Arrive and leave on same day. So 2 vehicle trips/day for each car with 2.5 patrons</p> <p>Shuttle bus to be provided to/from Gold Coast</p> <p>MTB shuttle vehicle frequency: Average of one shuttle every 10 to 20 minutes on weekends</p> <p>MTB shuttle vehicle route:</p> <p>Empty MTB shuttle will travel from the trail head/reception area and turn left at the site exit driveway onto Kaiser Road, turn left from Kaiser Road onto Guanaba Road, and then turn left at the MTB shuttle entry driveway on Guanaba Road to access the internal trail to the pick-up point/trail termination point. Loaded shuttle travel from the pick-up point/trail termination point along the internal trail and turn right at the MTB shuttle exit driveway onto Guanaba Road, turn right from Guanaba Road onto Kaiser Road and turn right at the site entry driveway to return to the trail head/reception area.</p>	
<p>Zip Lines</p>	<p>50 patrons per day (weekend)</p>	<p>120 patrons per day (weekend)</p>
	<p>25 patrons per day (weekday)</p>	<p>70 patrons per day (weekday)</p>
	<p><u>Assumptions:</u></p> <p>Vehicle (car) occupancy: 3 patrons/car. There will be as many families (4 in a car) as there will be couples (2 in a car)</p> <p>Vehicle (car) trips: Arrive and leave on same day. So 2 vehicle trips/day for each car with 3 patrons</p> <p>Shuttle bus to be provided to/from Gold Coast. Will be popular form of transport for Gold Coast tourists, generating higher bus use</p>	
<p>Tree Based Simulated Rock Climbing</p>	<p>Internal activity for campers, not generating any additional vehicle trips</p>	
<p>Organised Team Building Activities</p>	<p>2 buses per week (weekday)</p>	<p>5 buses per week (weekday)</p>
	<p>Maximum of 4 bus trips/day</p>	<p>Maximum of 4 bus trips/day</p>
	<p>0 buses per week (weekend) (only operates on weekdays)</p>	<p>0 buses per week (weekend) (only operates on weekdays)</p>
	<p><u>Assumptions:</u></p> <p>Corporate or school groups arriving in a bus.</p> <p>Buses do not stay on site, and leave after dropping off patrons and come back to pick up patrons, hence 4 bus trips/day</p>	

High Ropes/Challenge Course	N/A	200 patrons per day (weekend)
	N/A	300 patrons per day (weekday)
	<p>Assumptions:</p> <p>Family groups in cars on weekends</p> <p>Vehicle (car) occupancy: Family of 4/car</p> <p>Vehicle (car) trips: Arrive and leave on same day. So 2 vehicle trips/day for each car with 4 patrons</p> <p>Mainly school kids in large buses on weekdays</p> <p>Vehicle (bus) occupancy: 50 child patrons /bus</p> <p>Vehicle (bus) trips: 4 bus trips/day for each bus with 50 child patrons</p> <p>Buses do not stay on site, and leave after dropping off patrons and come back to pick up patrons, hence 4 bus trips/day</p>	
Canopy Walks	N/A	50 patrons per day (weekend)
	N/A	20 patrons per day (weekday)
	<p>Assumptions:</p> <p>Vehicle (car) occupancy: 3 patrons /car. There will be as many families (4 in a car) as there will be couples (2 in a car)</p> <p>Vehicle (car) trips: Arrive and leave on same day. So 2 vehicle trips/day for each car with 3 patrons</p>	
Indigenous Guided Tour	N/A	50 patrons per day (weekend)
	N/A	20 patrons per day (weekday)
	<p>Assumptions:</p> <p>Vehicle (car) occupancy: 3 patrons /car. There will be as many families (4 in a car) as there will be couples (2 in a car)</p> <p>Vehicle (car) trips: Arrive and leave on same day. So 2 vehicle trips/day for each car with 3 patrons</p>	
Contingency Future Activity	N/A	90 patrons per day (weekend)
	N/A	30 patrons per day (weekday)
	<p>Assumptions:</p> <p>Vehicle (car) occupancy: 3 patrons /car. There will be as many families (4 in a car) as there will be couples (2 in a car)</p> <p>Vehicle (car) trips: Arrive and leave on same day. So 2 vehicle trips/day for each car with 3 patrons</p>	
Restaurant/Cafe	240sqm GFA	
Staff	10 staff per day (weekend)	30 staff per day (weekend)

	6 staff per day (weekday)	14 staff per day (weekday)
	<p>Assumptions:</p> <p>Vehicle (car) occupancy: 1 staff/car</p> <p>Vehicle (car) trips: Arrive and leave on same day. So 2 vehicle trips/day for each staff</p>	
Deliveries	0 vehicles per day (weekend)	0 vehicles per day(weekend)
	1 light rigid truck per week (weekday)	2 light rigid trucks per week (weekday)
	2 truck trips/day	2 truck trips/day

The development patronage data in Table 3 has been used to develop the estimated traffic generation volumes in Table 4 and Table 5. The estimated trip reduction percentages due to cross-utilisation between experiences, seasonal variations and the provision of the shuttle bus are also provided in Table 4 and Table 5.

The assumption of a 25% trip reduction due to cross utilisation for the MTB, Zip Lines, High Ropes/Challenge Course, Canopy Walks, Indigenous Guided Tour and Contingency Future Activity is considered low and very conservative based on the level of cross-utilisation expected for a camping and outdoor sports venue such as this. A significant amount of cross utilisation is expected between campers who stay for a few days and experiences generally open to the public (i.e. non-organised experiences), as well as between these experiences.

The assumption of a 60% trip reduction due to cross utilisation for the restaurant/cafe is considered conservative as the restaurant/cafe will cater predominantly for the Guanaba Experience patrons. The assumption that 40% of restaurant patrons will travel from outside the site is considered conservative due to the remote location of the site relative to surrounding development areas.

The provision of a trip reduction due to the provision of shuttle buses for only two of the experiences, and the low trip reduction factors applied (10% for the MTB and 20% for the Zip Lines) is considered conservative. The patronage forecast modelling numbers incorporates a large number of visitors from the Gold Coast tourism base (incidental visitors, backpackers etc). As such, the Gold Coast Shuttle service will be very popular as Gold Coast tourists often have no alternative means of transport.

TTS Group has assumed a peak hour factor of 15%. This is in accordance with the DMR Road Planning and Design Manual (Figure 13.23, Note 5) which specifies that where peak hour volumes or peak hour percentages are not available, assume the design peak hour volume equals 15% of the AADT for 500 hours each year, use 5% AADT for the rest of the year. The use of this reference is considered particularly important as Figure 13.23 is applied in the traffic impact analysis in Section 7 to determine if intersection upgrades are warranted.

6.2 Traffic Distribution

6.2.1 Directional splits

The estimated peak hour directional splits are provided in Table 6 and Table 7.

Table 4: Development Traffic - Generation - Stage 1

Estimated Traffic Generation - Stage 1 (2 years after opening)

Experience	Vehicle type	Weekend				Weekday				Trip reduction						
		No. of patrons	Assumed daily traffic generation rate	Daily traffic generation (vpd)	⁽³⁾ Peak hour traffic generation (vph)	No. of patrons	Assumed daily traffic generation rate	Daily traffic generation (vpd)	⁽¹⁾ Peak hour traffic generation (vph)	⁽²⁾ Due to cross utilisation	⁽³⁾ Due to seasonal variations	Due to provision of shuttle buses	Revised daily traffic generation-Weekend (vpd)	Revised peak hour traffic generation-Weekend (vph)	Revised daily traffic generation-Weekday (vpd)	Revised peak hour traffic generation-Weekday (vph)
Camping	Car	100	1.66 vpd / 4 patrons	42	6	100	1.66 vpd / 4 patrons	42	6	0%	15%	0%	35	5	35	5
MTB	Car	52	2 vpd / 2.5 patrons	42	6	17	2 vpd / 2.5 patrons	14	2	25%	15%	10%	24	4	8	1
Zip Lines	Car	50	2 vpd / 3 patrons	33	5	25	2 vpd / 3 patrons	17	3	25%	15%	20%	17	3	9	1
Team Building Activities	Bus			0	0			4	1	0%	15%	0%	0	0	3	1
⁽⁴⁾ Restaurant/Cafe	Car			144	12			144	12	60%	15%	0%	49	4	49	4
⁽⁵⁾ Staff	Car	10	2 vpd / 1 staff	20	3	6	2 vpd / 1 staff	12	2	0%	15%	0%	17	3	10	2
Deliveries	Truck			0	0			2	0	0%	15%	0%	0	0	2	0
Total				280	32			234	25				142	18	116	14

Notes

⁽¹⁾ Assumed peak hour factor of 15% for car trips, as per DMR RPDM (Figure 13.23, Note 5). Not applied for restaurant.

⁽²⁾ Cross utilisation between campers who stay for a few days and experiences generally open to the public (i.e. non-organised experiences), as well as between these experiences

⁽³⁾ NSW RTA Guide to Traffic Generating Developments specifies that analysis for recreation facilities should be based on 85 percentile usage, rather than usage at capacity to account for seasonal variations

⁽⁴⁾ Traffic generation based on application of DMR RPDM daily (60vpd/100sqm GFA) and peak hour (5vph/100sqm GFA) traffic generation rates for a restaurant to proposed restaurant area (240sqm GFA)

⁽⁵⁾ Most staff trips will be before AM peak and after PM peak, and not during peak hours