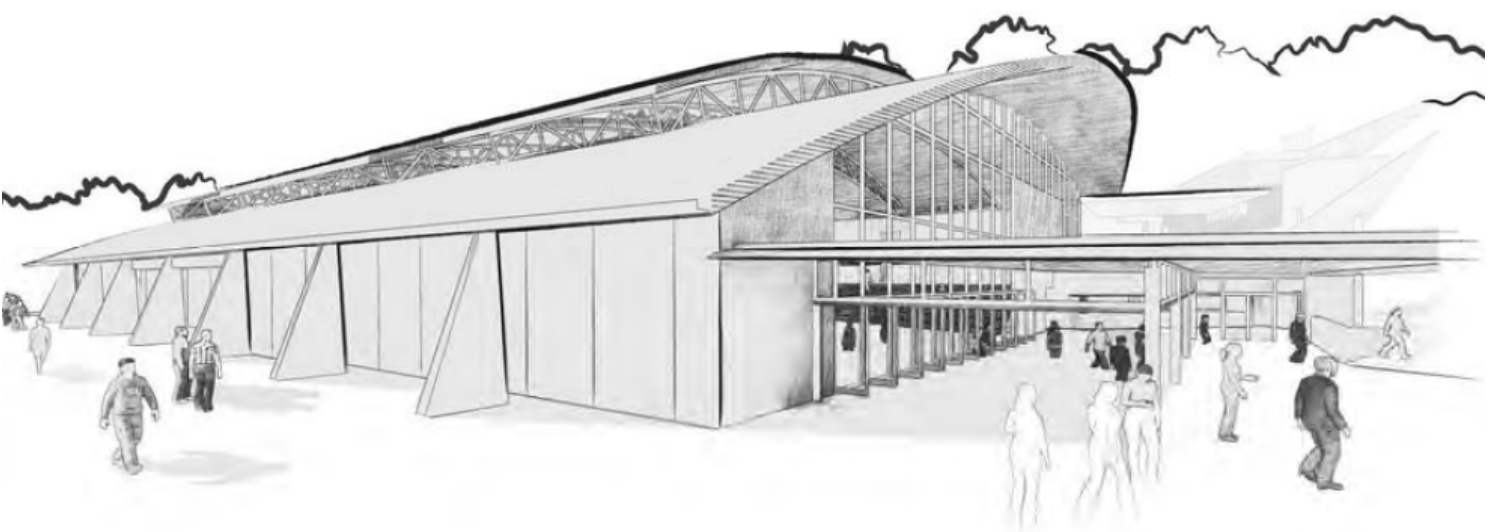




Katoomba Christian Convention Transport Impact Assessment

Prepared for:

Katoomba Christian Convention Limited

19 January 2018

The Transport Planning Partnership

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Katoomba Christian Convention

Transport Impact Assessment

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APPENDICES

- A. TRAFFIC AND PARKING SURVEYS – EASTER CONVENTION 2017
- B. MASTER PLAN
- C. SERVICE VEHICLE SWEPT PATH ANALYSIS

1 Introduction

The Katoomba Christian Convention (KCC) is proposing to redevelop existing facilities at their site at 14-30 Violet Street, Katoomba.

The proposed redevelopment seeks approval for demolition of the existing buildings including the auditorium, bookshop, dining hall and accommodation facilities, and construction of replacement buildings with an increased capacity. The proposed development is seeking to provide modern facilities for the Bible preaching events and worship activities held on the site. The principle use of the new auditorium will remain as a place of public worship.

This report has been prepared by The Transport Planning Partnership (TPPP) on behalf of Katoomba Christian Convention Limited and assesses the potential traffic, transport and parking aspects of a proposed redevelopment of the KCC site. This report has been prepared to accompany a development application to the Blue Mountains City Council seeking approval for the proposed development.

1.1 Purpose of this Report

This report sets out an assessment of the anticipated transport impacts of the proposed development, including the following:

- existing transport conditions surrounding the site
- the traffic generating characteristics of the proposed development
- car parking requirements
- suitability of the proposed access arrangements for the site, and
- the transport impact of the development on the surrounding road network.

1.2 References

In preparing this report, reference has been made to the following:

- DA Architectural Plans prepared by NBR Architecture
- Blue Mountains Council Local Environmental Plan (2015)
- Traffic survey data captured between 14 April and 17 April 2017.

1.3 Background to Site Development

The site has been occupied and operated by the KCC for many years with a development consent granted in 1957 for the main auditorium on the site. Subsequent development applications over the years have added to and altered the original development.

The existing facility provides a 2,300 seat auditorium, bookshop, dining hall, accommodation buildings, office / administration space, informal camping areas and car parking.

Notably in 2012, Council granted development consent for Clairvaux Oval (part of the KCC site) to be used as a formal car parking area for 684 car parking spaces.

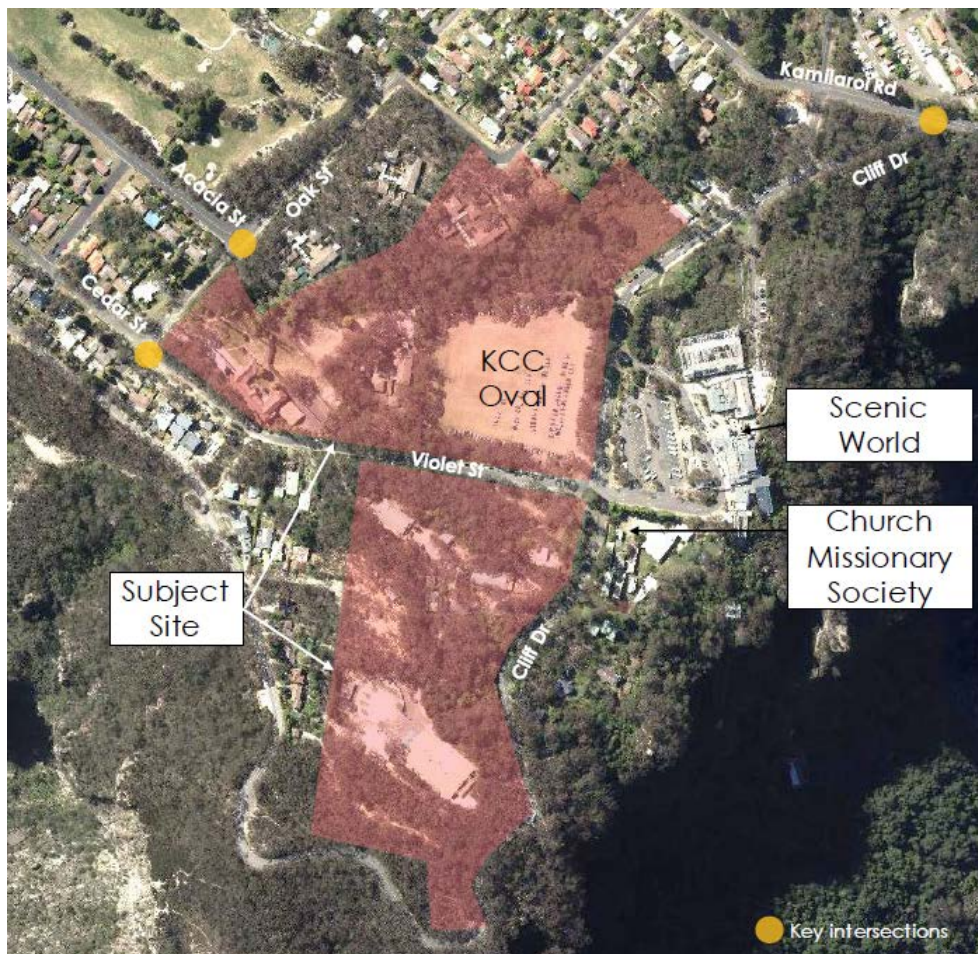
2 Existing Conditions

2.1 Site Location

The subject site area is approximately 5.4 hectares and is bounded by Cliff Drive to the east, south and west and Violet Street to the north. It is noted that the overall KCC site includes land to the north of Violet Street (referred to as the Clairvaux site). Modifications to the facilities on the Clairvaux are not proposed as part of this development application. However, as the proposed KCC development will still rely on the overall site facilities (i.e. car parking), the assessment presented herein has considered the implications of the site as a whole.

The site is located in a bushland setting along the southern escarpment of Katoomba, approximately 2km to the south west of the Katoomba Town Centre. Katoomba Scenic World, a popular tourist attraction, is located to the east of the site and residential properties are situated to the east and west. Existing development to the east includes the Scenic World tourist centre and the Church Missionary Society.

Figure 2.1: Site Location and its Surrounding Environs



Source: ArcGIS

2.2 Road Network

Cliff Drive is a collector road that borders the eastern and southern frontages of the subject site. The road connects to Katoomba Town Centre from the east to the Great Western Highway, via Narrow Neck Road, to the north. Adjacent to the subject site, Cliff Drive is a two-lane, two-way road with a posted speed limit of 50 km/hr.

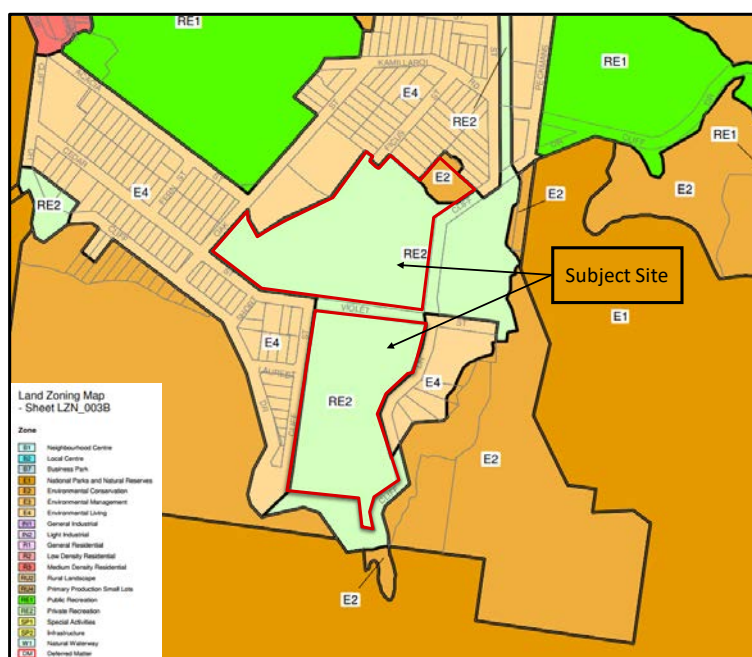
Violet Street is a two-way two-lane local road that borders the northern frontage of the site, and connects the residential properties from the west to Scenic World to the east. The road width varies between 5 and 6m with no centreline marking. The posted speed limit is 50 km/hr in Violet Street.

Laurel Street is a minor road that provides access to the residential houses located in Cliff Street, a southern extension of Laurel Street. The rear access of the subject site is located at the southern end of Cliff Street. Both Laurel Street and Cliff Street are gravel roads.

2.3 Land Use

According to the Blue Mountains City Council Local Environmental Plan 2015, the subject site is located in land zoning map LZN_003B and is zoned as RE2 (private recreation) and E2 (environmental conservation). This land zoning permits community facilities, places of public worship, restaurants/cafes, function centres and indoor/outdoor recreation areas and facilities including eco-tourist facilities.

Figure 2.2: Existing Land Zoning Map



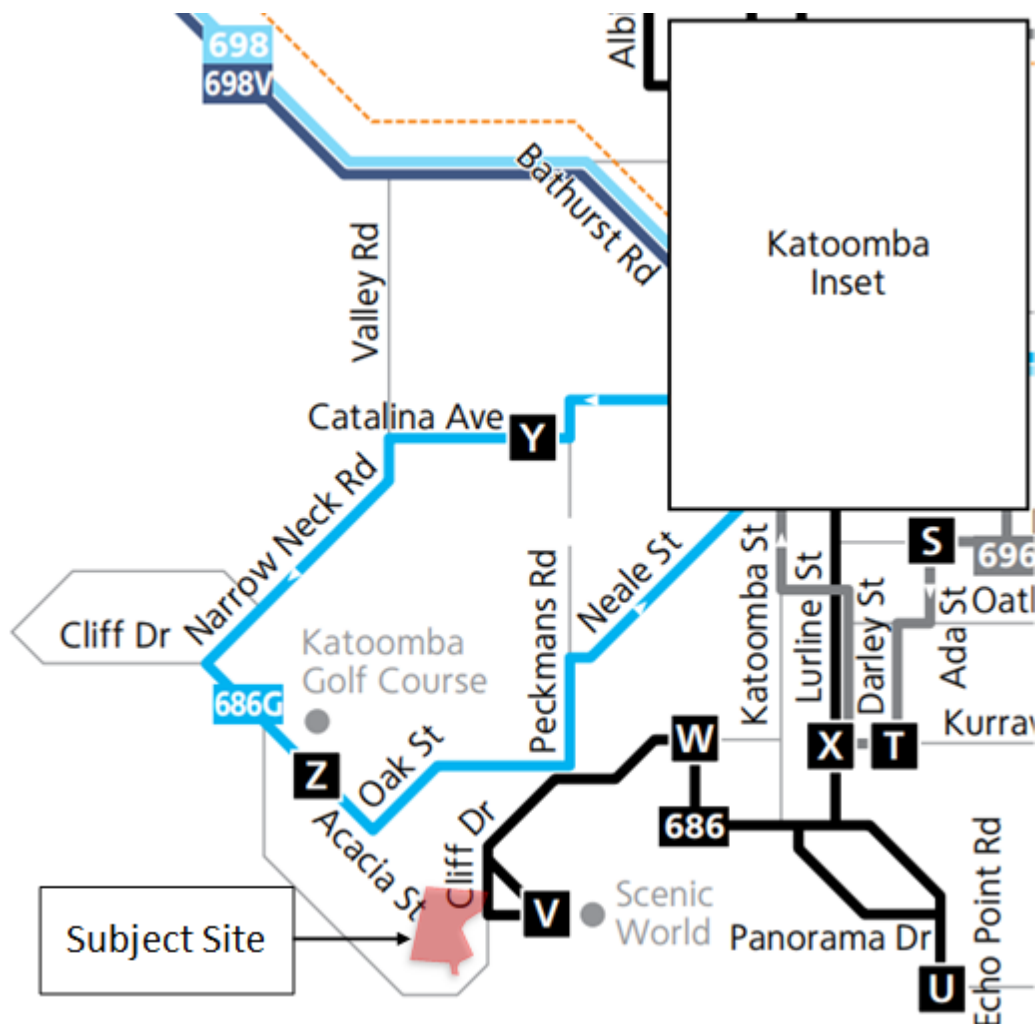
Source: Blue Mountains Council Local Environmental Plan (2015)

2.4 Public Transport Services

Katoomba Station is the closest train station to the subject site, approximately 2.2 km to the north east, or a 40-minute walk. The station provides access to the rest of the Sydney Trains network and runs once every 15 minutes during peak hour and once every hour in the off-peak. Katoomba Station is part of the Blue Mountains Line and connects to other intercity stations, such as Bathurst and Penrith, as well as suburban stations such as Parramatta and Central.

The site is also serviced by Blue Mountains Transit bus route 686. This bus connects Carrington Hotel, near Katoomba Station, to Scenic World which is a 2-minute walk to/from the subject site. Route 686 runs every 15 minutes during the peak hour and once every 30 minutes during the off-peak.

Figure 2.3: Existing Bus Routes



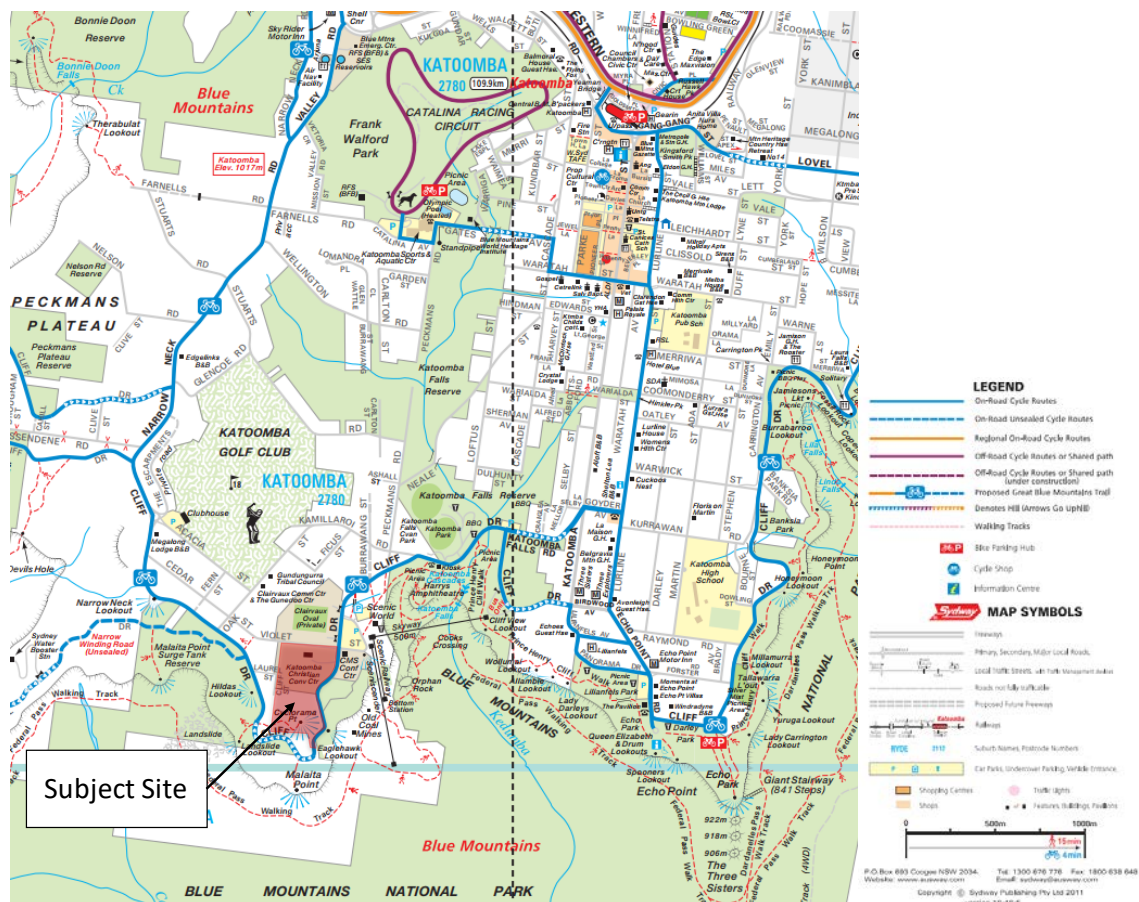
Source: Blue Mountains Transit

2.5 Pedestrian and Cyclist Facilities

Sealed footpaths are provided along Katoomba Street and Cliff Drive, allowing pedestrians to walk on formal pedestrian facilities from Katoomba Station to the subject site.

On-road cycle routes are provided on the roads between the station and site and adjacent to the escarpment.

Figure 2.4: Existing Bicycle Routes



2.6 Existing KCC Site Conditions

2.6.1 On-Site Facilities

KCC is operated as a place of worship where weekend retreats and mid-week study groups are held for one to three days for a wide range of groups. KCC also hires its on-site facilities to other Christian-based organisations.

The following on-site facilities are available at the KCC as shown in Figure 2.5:

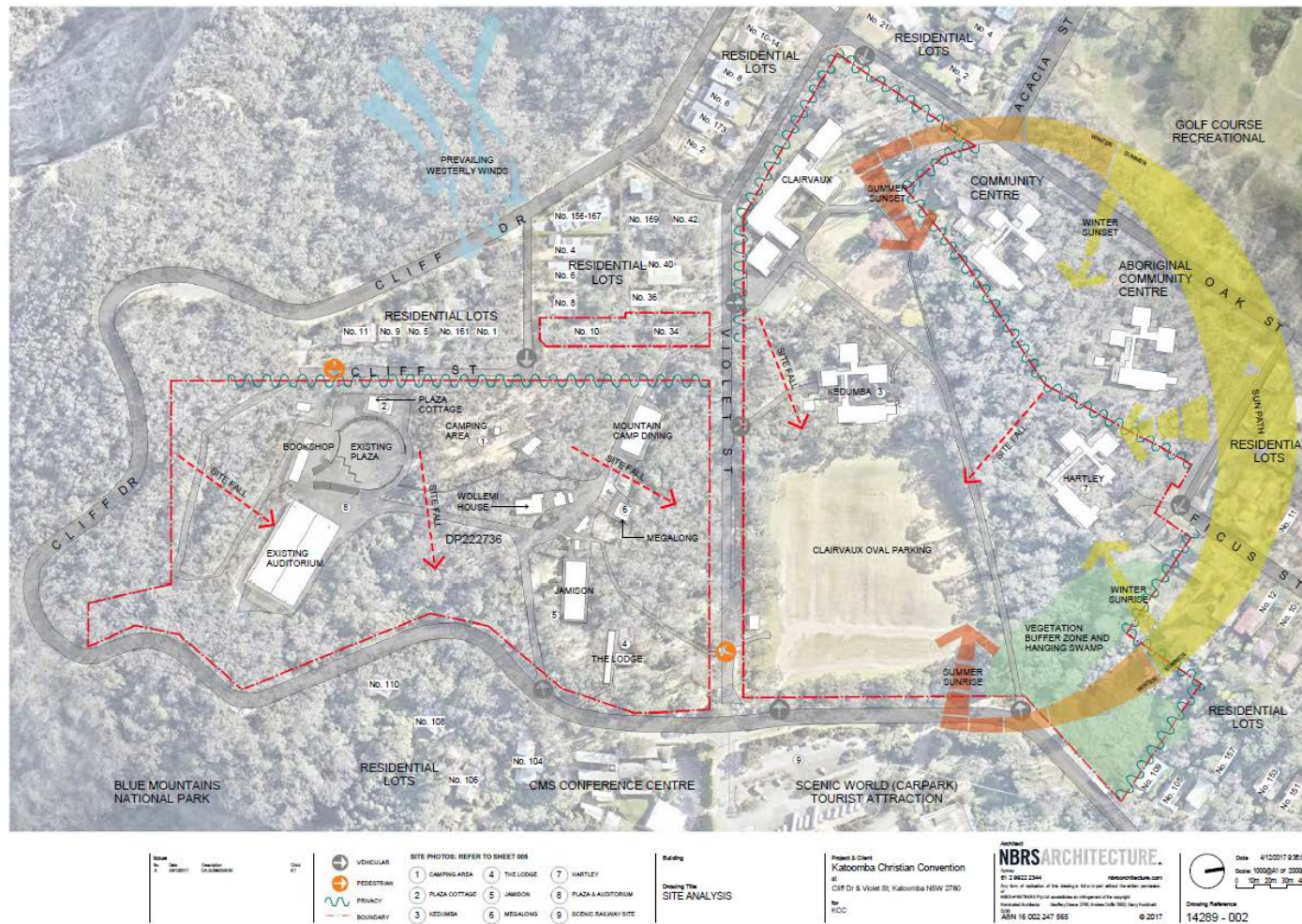
- Auditorium (2,300 seats) – worship conventions, conferences, events, performances, stalls or any large gathering with audio and visual facilities
- Plaza courtyard) – outdoor activities
- Clairvaux Oval – outdoor activities and sports events, helicopter landing, or informal parking spaces for up to 684 cars
- Meeting rooms – up to 10 different meeting spaces for day conference. Dining rooms are also available.
- Accommodation – a total of 473 beds are provided in various lodges on both sites and a camping area that could accommodate 150 people. A total of 159 parking spaces are provided adjacent to the accommodation lodges and the campsite.

Access to the accommodation facilities are at various locations along Cliff Drive, Ficus Street and Laurel Street.

A caretakers dwelling is also located within the site.

Patrons typically arrive at the site by private vehicles and buses (refer to Section 2.4 and Section 2.7.3).

Figure 2.5: Existing On-Site Facilities



Source: KCC (4 December 2017)

2.6.2 Car Parking

Parking facilities are located in Clairvaux Oval, at the corner of Cliff Drive and Violet Street. As an informal arrangement, Clairvaux Oval is used as an overflow car park for the adjacent Scenic World when its parking station (220 spaces) is full. In wet conditions, Clairvaux Oval is closed.

It is noted that the DA approval for Clairvaux Oval increases usable capacity to 684 spaces including 220 spaces on hardstand and improved drainage allowing for greater usage in inclement weather. KCC are currently preparing to lodge a Construction Certification application for to commence construction in 2018.

For the camping ground, during different events it may be used for overflow parking that could accommodate 33 spaces if it is not used for the purpose of camping. It is proposed that for Easter Convention as a worst case car parking would be excluded from within this area in order to accommodate 150 campers.

2.6.3 Special Events

KCC currently hold seven worship events per year, some of which are held over concurrent weekends on the KCC site as well as off site at other facilities in the Blue Mountains.

During these worship events, all the facilities on-site (i.e. accommodation, breakout spaces and seminar rooms) are typically used by KCC. The largest event is the annual Easter Convention which includes activities and events on the KCC site and is further discussed in Section 2.7.

The site is also used by other Christian organisations for worship and Bible study retreats including:

- Church Missionary Society (CMS)
- Scripture Union Family Missions
- Wesley International Congregation
- Moore Theological College, and
- Various Christian church groups.

CMS holds one large event in January each year and utilises all facilities on site. Other uses are typically smaller groups. Outside of KCC events and activities, the accommodation on the site is available to schools and other not-for-profit groups for activities such as bush camps and adventure camps for short term stays. Other minor ancillary uses of the site include Ultra Trail and Scout groups.

As a religious organisation, KCC has strict policies regarding the use of its facilities. The use of the auditorium and accommodation facilities is targeted to religious, not-for-profit and school groups. KCC has the right to refuse bookings on religious grounds. KCC also has a strict no alcohol policy and does not allow the consumption of alcohol on site.

2.7 Easter Convention 2017

KCC holds the annual Katoomba Easter Convention over the Easter long weekend for Bible studies and programs. This is by far the largest activity held on the site during the year.

In 2017, the event was held from 14-17 April with over 3,100 attendees (2,200 adults and 910 youth/children) and 321 volunteers.

2.7.1 Traffic Volumes

Turning traffic volumes were counted at the following locations (refer to Figure 2.1) continuously over the Easter weekend between 00:00am on Friday 14 April 2017 and 23:59pm Monday 17 April 2017, during which the weather condition was consistently fine:

1. Oak Street/ Acacia Street (Priority)
2. Oak Street/ Cedar Street (Priority)
3. Kamilaroi Road/ Cliff Drive (Priority)
4. Violet Street/ Cliff Drive (Priority)
5. Clairvaux Oval – KCC Access
6. Clairvaux Oval – Scenic World Access 1
7. Clairvaux Oval – Scenic World Access 2

Survey data is shown in Appendix A.

Figure 2.6 to Figure 2.9 show the 2017 turning traffic movement volumes at the key intersections and Clairvaux Oval accesses. The traffic volumes in these figures are presented in vehicles per hour (vph) for light vehicles, trucks and buses separately.

The selected peak hours reflected the site peak activity peak hours that occurred at the KCC access (Site 6) on each survey day:

- Friday 14 April 2017 (8:15am to 9:15am and 12:15pm and 1:15pm)
- Saturday 15 April 2017 (8:30am to 9:30am and 12:15pm and 1:15pm)
- Sunday 16 April 2017 (8:30am to 9:30am and 12:30pm and 1:30pm)
- Monday 17 April 2017 (8:30am to 9:30am and 12:15pm and 1:15pm).

The traffic volumes captured the traffic associated with KCC activities and the tourist traffic accessing the adjacent Scenic World as well as other general traffic. Saturday was the peak day where the highest traffic volumes occurred at the Clairvaux Oval as well as the surrounding intersections.

Figure 2.6: 2017 Easter Friday Peak Hour Traffic Volumes at Key Intersection (vph)

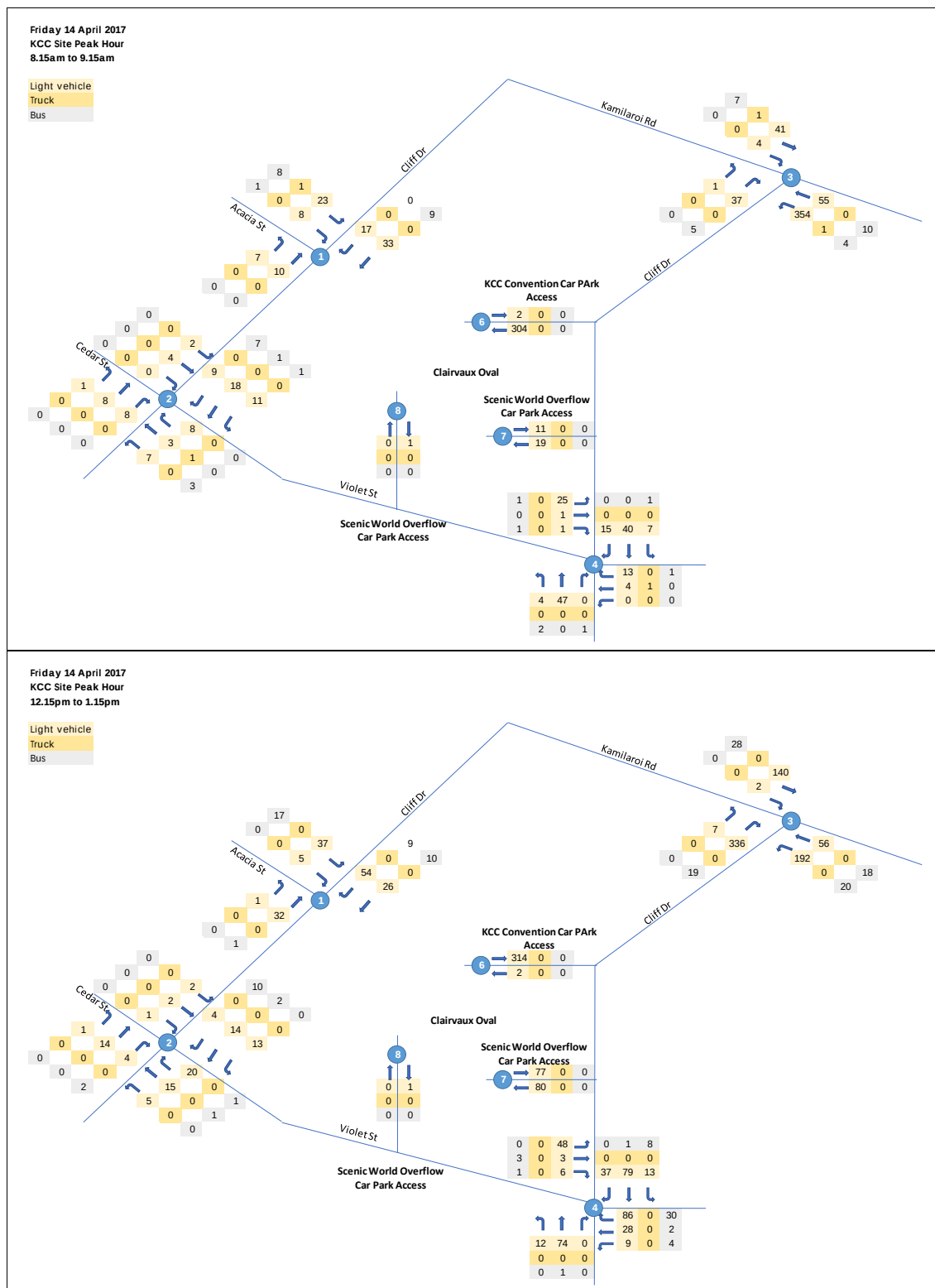


Figure 2.7: 2017 Easter Saturday Peak Hour Traffic Volumes at Key Intersection (vph)

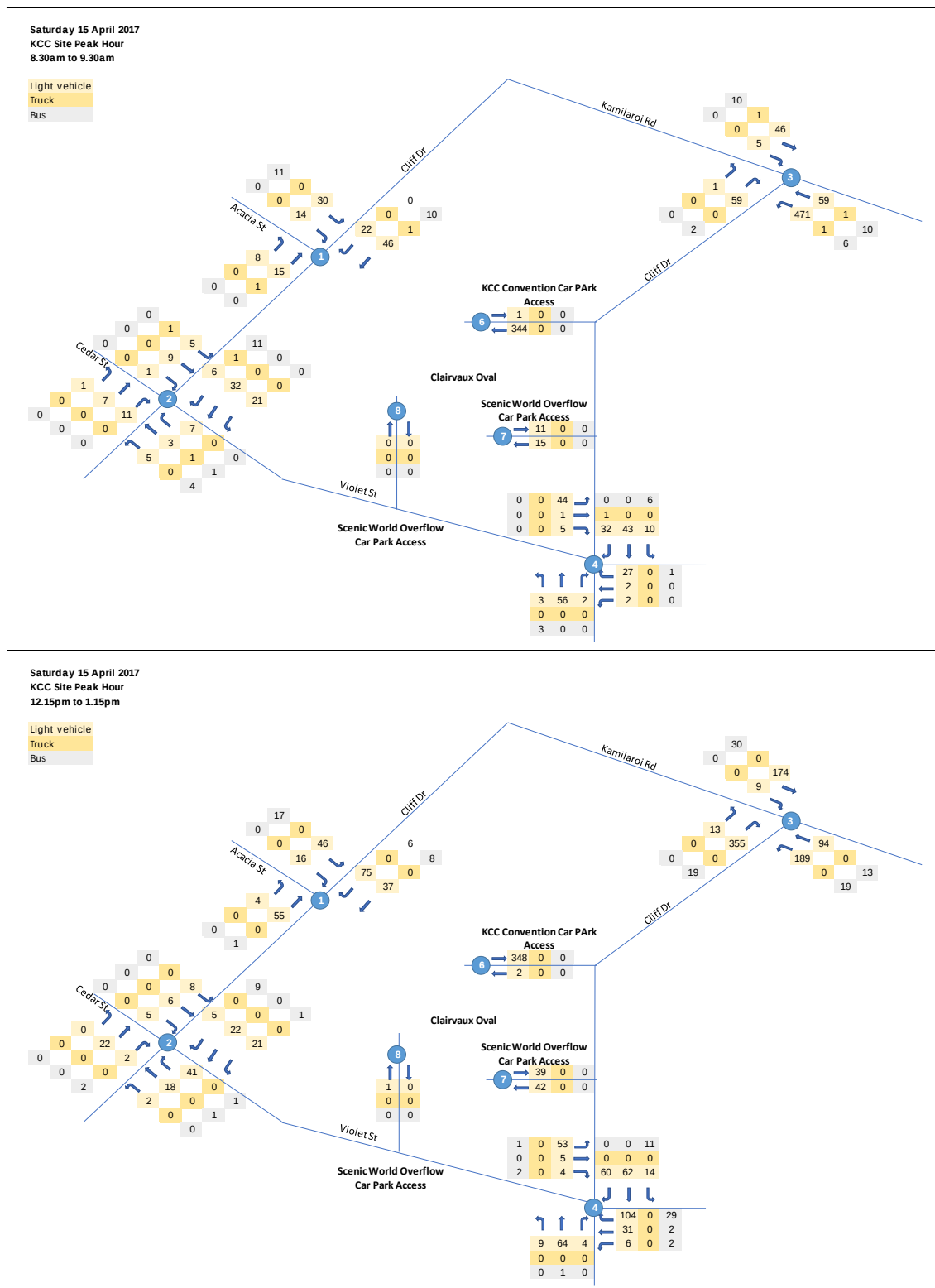


Figure 2.8: 2017 Easter Sunday Peak Hour Traffic Volumes at Key Intersection (vph)

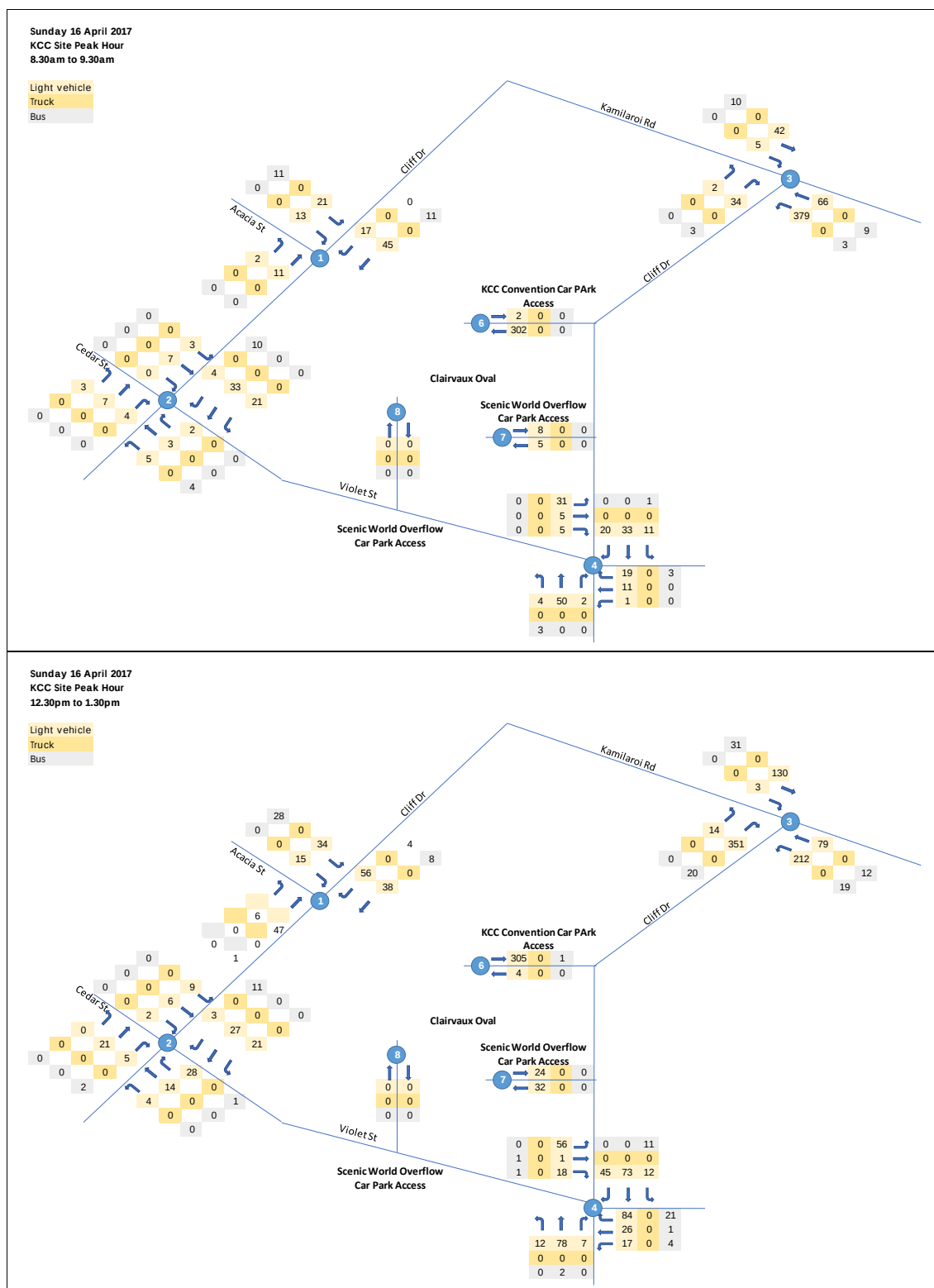
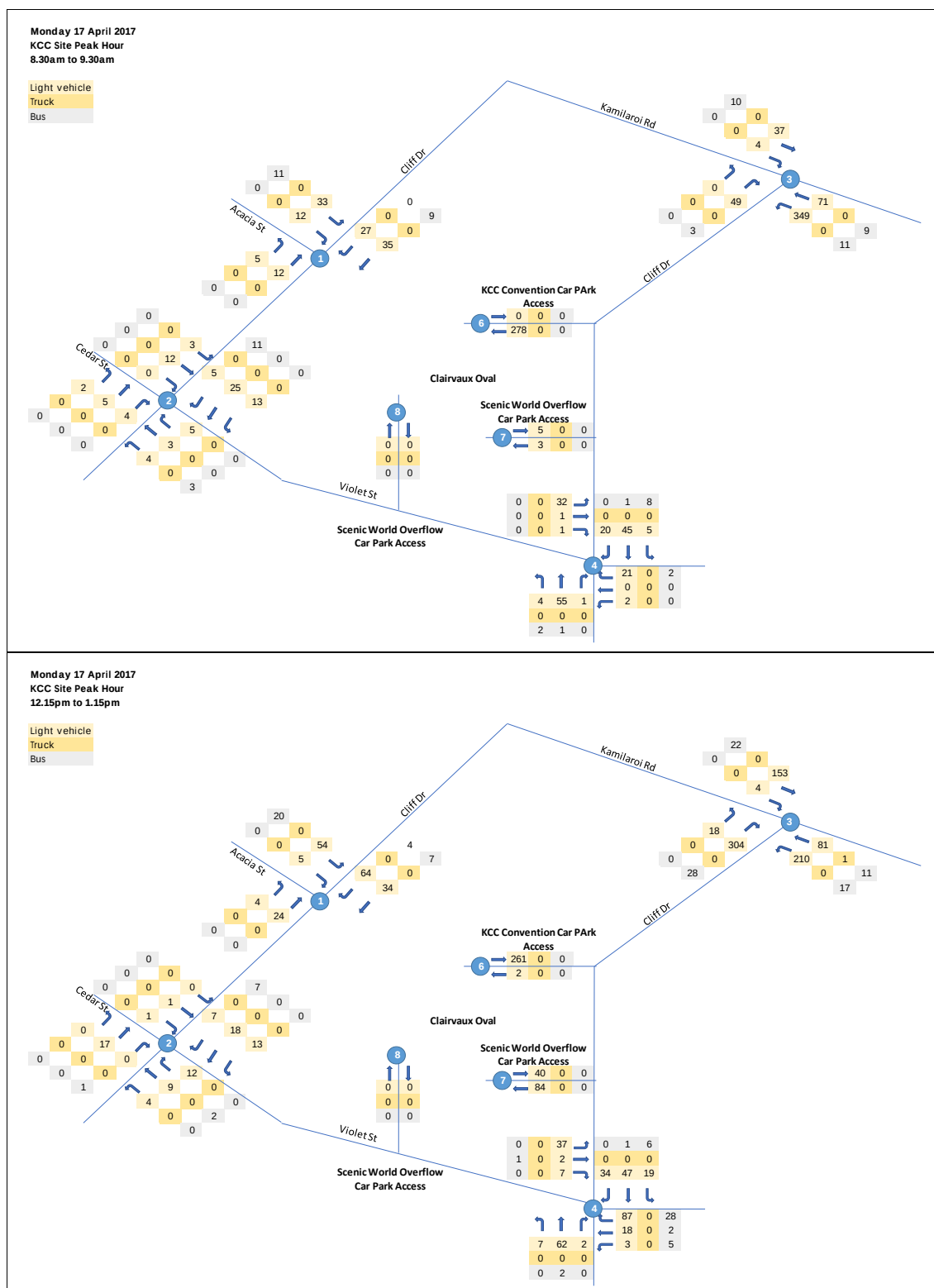


Figure 2.9: 2017 Easter Monday Peak Hour Traffic Volumes at Key Intersection (vph)



2.7.2 Car Park Occupancy

The traffic counts as discussed in Section 2.7.1 provides an indication of the parking occupancy in Clairvaux Oval during the Easter weekend. The capacity of the oval is approximately 684 vehicles.

Table 2.1 shows the peak occupancy of the Oval associated with KCC and the combined use with Scenic World. Daily variations of the total peak occupancy are presented in Figure 2.10.

Table 2.1: Peak Occupancy of Clairvaux Oval (Vehicles) ¹.

Survey Day	Peak Occupancy (KCC Parking only)	Peak Occupancy (KCC plus Scenic World Parking)
Friday 14 April 2017	381	544
Saturday 15 April 2017	398	523
Sunday 16 April 2017	354	499
Monday 17 April 2017	325	410

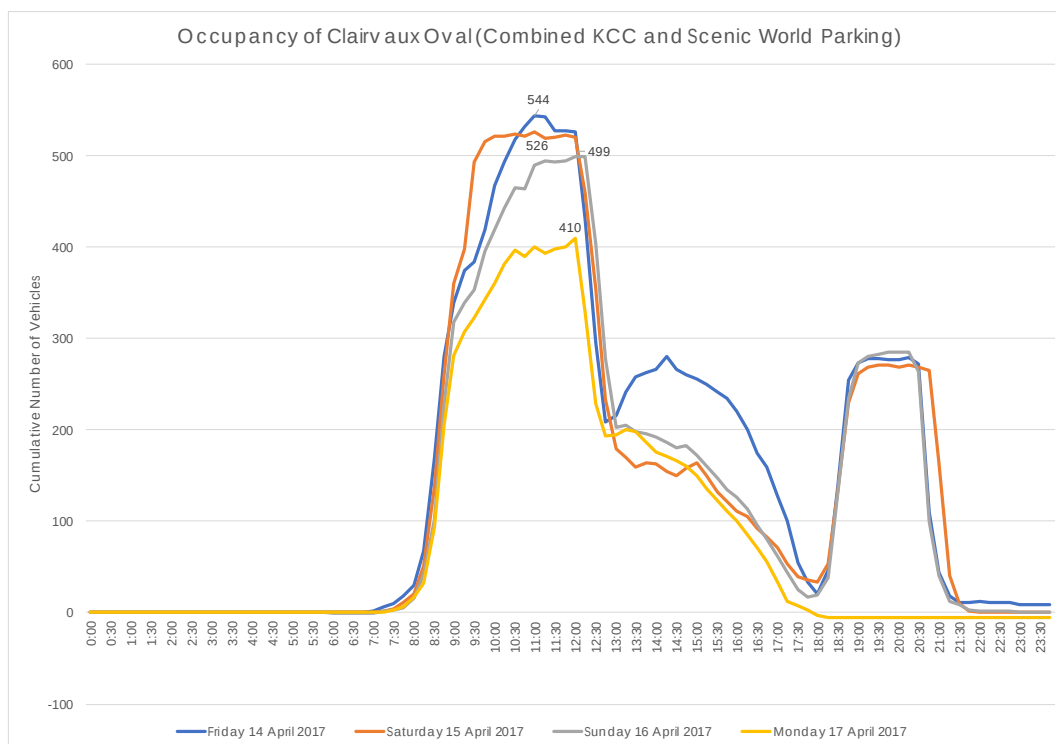
Notes: 1. Assumed zero parking at midnight but the surveys indicate some vehicles parked overnight.

The peak parking demand occurred on Saturday when 398 vehicles associated with KCC only. This indicates the KCC operates well within its own parking capacity.

The peak parking demand occurred on Friday when 544 vehicles associated with KCC and Scenic World were recorded in the oval. This indicates the oval is capable to accommodate the combined parking demand.

Parking associated with the KCC was approximately 70-80% of the combined accumulated parking demand on the survey days. The remaining demand was considered associated with Scenic World, as Scenic World was open during the Easter Public Holiday.

Figure 2.10: Cumulative Occupancy at Clairvaux Oval (KCC plus Scenic World Parking) ¹.



Notes: 1. Assumed zero parking at midnight but the surveys indicate some vehicles parked overnight.

2.7.3 Bus Passenger Survey

Shuttle bus services were provided to transport patrons between Katoomba Town Centre and the Katoomba High School and the subject site over the Easter weekend as a measure to minimise parking demand and traffic movements surrounding the site.

The number of bus passengers were counted at the bus stop located in Oak Street, north of Cedar Street between 00:00am on Friday 14 April 2017 and 23:59pm Monday 17 April 2017. Table 2.2 provides a summary of the daily bus passengers and the survey data is shown in Appendix A.

Table 2.2: Number of Daily Bus Passengers

Survey Day	Number of Bus Services Per Day	Number of Passengers Alighting Per Day	Number of Passengers Boarding Per Day
Friday 14 April 2017	24	357	339
Saturday 15 April 2017	21	406	386
Sunday 16 April 2017	24	398	433
Monday 17 April 2017	21	278	127

The peak times occurred when passengers arrived on site were between 8:45am and 9:00am, and when they departed the site between 12:00pm and 1:00pm on these four days.

2.7.4 Pedestrian Counts

The number of pedestrians was recorded at the three Clairvaux Oval accesses for the same survey period over the Easter weekend.

Table 2.3 provides a summary of the pedestrian counts during the peak hours and 24 hour period for each survey day.

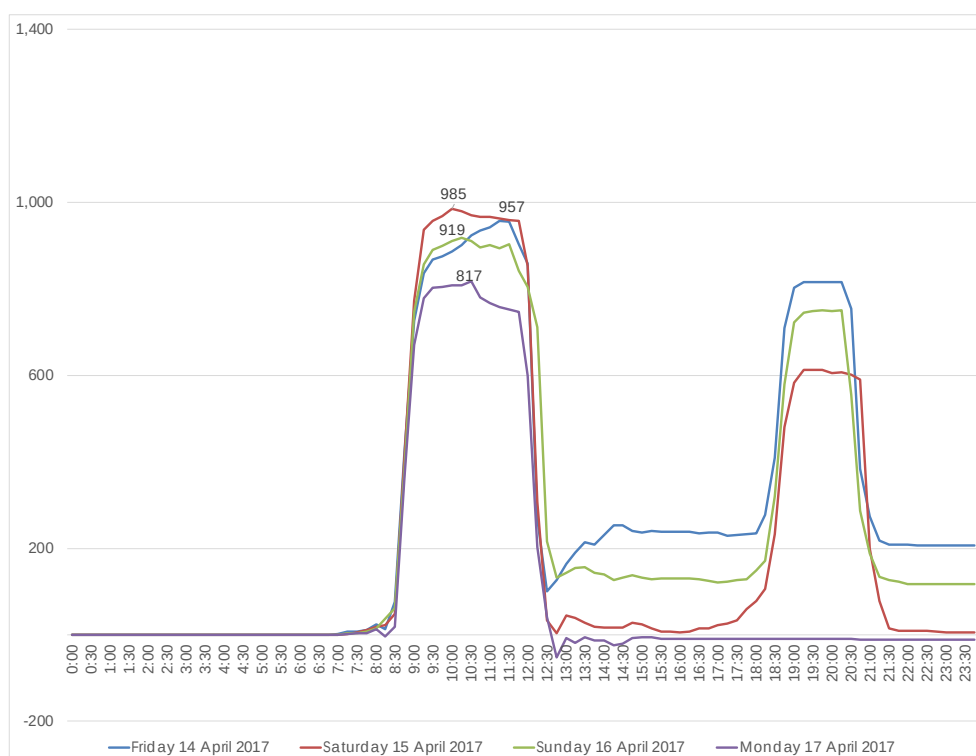
2.7.5 Patronage Estimates

By counting the number of people entering and exiting the KCC site via the shuttle bus stop (Section 2.7.3) and the Clairvaux Oval (Section 2.7.4), the survey allowed for an estimation of the cumulative patronage at the Easter Convention as shown in Figure 2.11.

Table 2.3: Number of Pedestrians at the Clairvaux Oval accesses

Survey Day	Time Period	Violet Street Access (Site 8)			Cliff Drive Accesses (Site 6 and 7)		
		In	Out	2-Way	In	Out	2-Way
Friday 14 April 2017	AM peak (8:30am to 9:15am)	99	628	727	28	28	56
	PM peak (12:15pm and 1:15pm)	705	92	797	156	110	266
	24 hours	1,635	1,823	3,458	1,553	1,065	2,618
Saturday 15 April 2017	AM peak (8:15am to 9:30am)	35	672	707	14	17	31
	PM peak (12:15pm and 1:15pm)	747	65	812	130	117	247
	24 hours	1,583	1,569	3,152	1,101	809	1,910
Sunday 16 April 2017	AM peak (8:30am to 9:30am)	29	650	679	18	25	43
	PM peak (12:30pm and 1:30pm)	618	62	680	131	121	252
	24 hours	1,542	1,641	3,183	1,273	851	2,124
Monday 17 April 2017	AM peak (8:30am to 9:30am)	28	535	563	6	0	6
	PM peak (12:15pm and 1:15pm)	556	76	632	112	152	264
	24 hours	870	839	1,709	1,063	705	1,768

Figure 2.11: Patronage Estimates (Easter 2017)



The peak patronage generally occurred between 10:00am and 11:30am in the Easter weekend when the morning congregations occurred.

It is noted that numerous patrons stayed overnight in the on-site accommodation.

2.8 Intersection Performance

The operation of the key intersections has been assessed using SIDRA Network 7, a computer based modelling package which calculates intersection performance. Intersection configurations were sourced from RMS traffic signal plans and aerial photos. Signal phasing information was obtained in the site inspection to observe operational conditions.

2.8.1 Model Performance Indicators

The ability of each of the key intersections to cater for existing and future traffic forecasts was investigated using the SIDRA Intersection 7 modelling. This modelling provides several useful indicators to determine the level of intersection performance.

2.8.1.1 Level of Service (LoS)

LoS is a basic performance parameter used to describe the operation of an intersection. Levels of service indicators range from A (indicating good intersection operation) to F (indicating over-saturated conditions with long delays and queues). At signalised intersections, the LoS criteria relate to average intersection delay (seconds per vehicle). At priority controlled (give-way and stop controlled) and roundabout intersections, the LoS is based on the modelled delay (seconds per vehicle) for the most delayed movement (refer to Table 2.4).

Table 2.4: Level of service criteria for intersections

Level of Service	Average Delay (seconds per vehicle)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	Less than 14	good operation	good operation
B	15 to 28	good with acceptable delays and spare capacity	acceptable delays and spare capacity
C	29 to 42	satisfactory	satisfactory, but accident study required
D	43 to 56	operating near capacity	near capacity and accident study required
E	57 to 70	at capacity At signals, incidents will cause excessive delays.	at capacity, requires other control mode

F	Greater than 71	unsatisfactory with excessive queuing	unsatisfactory with excessive queuing; requires other control mode
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2.8.1.2 Average Delay

Delay is the difference between interrupted and uninterrupted travel times through the intersection and is measured in seconds per vehicle. At priority controlled intersections, the average delay for the most delayed movement is usually reported.

2.8.2 Existing Performance of the Key Intersections

Table 2.5 shows the SIDRA modelling results of the key intersections' performance under the current traffic conditions on Easter Saturday when the highest traffic volumes were recorded in both AM and PM peak hours during the long weekend.

Table 2.5: Existing Intersection Performance (2017) – Easter Saturday

Intersection	Intersection Control	Morning Peak Hour (8:30am-9:30am)		Afternoon Peak Hour (12:15pm-1:15pm)	
		Average Delay (s)	LoS	Average Delay (s)	LoS
Oak Street/ Acacia Street	Priority	5	A	5	A
Oak Street/ Cedar Street	Priority	5	A	6	A
Kamilaroi Road/ Cliff Drive	Priority	10	A	14	A
Violet Street/ Cliff Drive	Priority	6	A	7	A

Notes: Intersection delays and LoS for priority controlled intersections are based on the highest average delay.

The SIDRA analysis indicates that all the analysed intersections are currently operating at satisfactory LoS A with ample spare capacity and minimum delays during the peak hours.

2.9 Summary of Existing Conditions

The KCC site accommodates a range of different activities on the site each with differing levels of population intensity. Activities take place simultaneously yet independently of each other or they occur in a very co-ordinated manner such as the Easter Convention.

Like the activities the travel demands of the site vary significantly as well. The “group” style accommodation lends itself to organised travel with buses and coaches used for school

groups as well as large organised group. Smaller groups tend to have a higher car based travel demand.

Observations and traffic / parking surveys undertaken by TTPP as part of this assessment have indicated that the KCC site has the ability to successfully manage the site generated travel demand in a manner which does not have a significant adverse impact on the operation of the surrounding road network.

In particular, the assessment of the existing conditions for the Easter Convention indicated that for the very peak operating periods of KCC, various travel demand management measures can be, and are currently, implemented to accommodate efficient travel to and from the site in peak times. KCC proactively encourages attendees not to park in the surrounding streets through pre event and during event to minimise parking impacts in the neighbourhood.

3 Development Proposal

KCC is proposing to redevelop the existing facilities. The proposed works as shown in Figure 3.1 will include:

- Demolition of the existing auditorium and construction of a new 3,500 seat auditorium to be used as a place of public worship. This is an increase of 1,200 people compared to the existing facility.
- A new bookshop building to replace the existing bookshop building. The building will also include new toilet facilities.
- Seven new breakout spaces/meeting rooms.
- A new reception building with store rooms.
- Demolition of the existing 200 seat dining hall and construction of a new dining hall with 500 seat capacity, kitchen; laundry, storage, reception and administration space.
- A new café fronting Violet Street.
- Demolition of the existing accommodation buildings and construction of new accommodation buildings including six eco-lodges (with 56 beds each lodge) and three chalets (18 beds each). The new accommodation will provide a total of 390 beds, a net increase of 170 beds.
- New internal access roads and car parking area.

The proposed works will be constructed in three stages, starting from the northern section and progress toward the south as shown in Appendix B.

The proposed development is seeking to provide modern facilities for the Bible preaching events and worship activities held on the site. The principle use of the new auditorium will remain as a place of public worship.

The bookshop will operate during KCC worship events and other Bible study and worship events.

The dining hall will operate during KCC activities and may be used by guests or groups staying in the accommodation facilities.

The café adjacent to the dining hall is proposed to operate on a daily basis.

For the camping ground, during different events it may be used for overflow parking that could accommodate 33 spaces if it is not used for the purpose of camping. It is proposed that for Easter Convention as a worst case car parking would be excluded from within this area in order to accommodate 150 campers.

The new facilities will provide KCC the opportunity of holding all activities on-site, rather than using both on-site and off-site facilities as currently occurs, for example some children's

activities such as Bible study, craft and games. KCC is anticipating being able to hold all activities on-site concurrently with worship and other activities in the auditorium. The ability to hold all activities on site will reduce vehicular movements from the site to the off-site facilities.

Thus, with regard to the peak activity at the KCC site, namely the Easter Convention, the level of travel demand (i.e. people trips to and from the site) is not expected to increase significantly as a result of the proposed development. During the Easter Convention, vehicle trips may actually decrease compared with existing levels given the ability to accommodate activities on the KCC site and reduced need to shuttle between other sites.

The approved modifications to the Clairvaux Oval car park with formalised car and coach parking are currently being undertaken under a separate development consent.

No changes are being proposed for the Clairvaux Oval and the adjacent accommodation buildings located north of Violet Street, namely Kedumba, Clairvaux and Hartley House. The recreational facilities including a playground and a basketball court are not proposed to change.



4 Transport Impact Assessment

4.1 Parking Assessment

Within the Clairvaux Oval parking area, once the approved car park modifications are completed, a total of 812 car parking spaces and coach set down / pick up bays on Violet Street. These spaces will comprise:

- 266 spaces including a sealed gravel surface area at the eastern end of the oval;
- 418 spaces (overflow parking) on the grassed oval;
- 53 spaces located around the existing Hartley, Kedumba and Clairevaux lodges; and
- 75 additional spaces being proposed with the DA.

The camping ground would also provide 33 spaces if it is used as an overflow parking area.

Thus, a total of 812 parking spaces would be provided on the KCC site and available to accommodate the demands of KCC site uses. This could increase to 845 spaces including the 33 overflow parking spaces that could be provided in the camping ground during different events.

Clairvaux Oval works would include formalising a bus bay along Violet Street to accommodate two coaches.

Parking requirements for the proposed facilities have been assessed based on requirements set out in Blue Mountains Development Control Plan (BM DCP) 2015.

In addition, where information is available regarding existing parking demand for activities that currently occur and will continue to occur on the KCC site this information has been used in the assessment along with the Council's parking requirements. It is noted that the BM DCP sets an objective of ensuring that car parking demand is accommodated on site and / or managed so as to minimise adverse off site implications.

Table 4.1 provides a summary of the required parking provision based upon the DCP parking requirement. It is proposed that for Easter Convention as a worst case car parking will be excluded from the camping ground in order to accommodate 150 campers.

It is also noted that the proposed uses such as the café and dining area are an ancillary to the eco lodges and the eco lodges are themselves ancillary to the auditorium.

Table 4.1: Parking Assessment

Land Use	DCP Parking Rate	Yield	Parking Requirement	Existing Demand	Proposed Parking Provision
Place of Worship	1 space per 4 seats or 1 space per 10m ² GFA, whichever is greater	3,500 seats	875 spaces	398 spaces (Easter Saturday 2017 survey)	754 spaces
Café	15 spaces per 100m ² GFA	Approx. 150m ²	22 spaces	-	5 spaces
Accommodation (eco-tourist facilities)	1 space per proprietor plus 1 space per accommodation suite	390 beds in various bed configurations (45 rooms)	46 spaces	-	53 spaces
Camping ground (during Easter Convention)	Based on parking and traffic report	150 people	30 spaces	30 spaces	0 spaces
Total	-	-	973 spaces	413 spaces	812 spaces

Note: The camping ground when used solely for the purposes of camping has a capacity of 150 people. If it were to be used purely for overflow carparking, it has a capacity to accommodate 33 cars.

The table above shows that the proposed parking provision is less than the requirements based on DCP rates, however surveys of the exiting parking demand for the peak Easter period indicates that actual demand is likely to be significantly less than DCP requirements. This is due to a number of factors but includes:

- Family nature of the Easter Event means that vehicle occupancy (i.e. number of people arriving in the same car) is high;
- The operation of designated shuttle bus services between the site and Katoomba railway station and other off site accommodation facilities; and
- Multi-purpose trips involving patrons attending the auditorium, cafe and/or overnight accommodation, and therefore reducing the overall parking demand on site.

The active management by KCC of travel demand during events was observed by TTPP to be a key factor in the successful running of the Easter Convention 2017.

It is recommended that the continued use of active travel demand management (i.e. shuttle buses, preparation and dissemination of event travel information) be part of the site's ongoing operation.

4.2 Traffic Generation Implications

As described above the proposed development, including the new 3,500 seat auditorium is unlikely to change the intensity of the KCC site operation during the peak events such as the "Easter Convention".

Thus, the road network operating conditions during peak event periods of the proposed KCC development would be the same as those currently experienced. As assessed above, with the implementation of active travel demand management by KCC the surrounding road network will continue to operate satisfactorily.

In considering the 2011 DA for the KCC site which could accommodate approximately 3,000 people on site, Council's assessment report stated:

"It is considered that, in conjunction with the separate Clairvaux Oval car park proposal, the traffic generation and intersection operation will continue to operate in an appropriate and improved manner."
(Ordinary Meeting of Council 13.12.11)

It is noted that the car park proposal has since been approved by Council and construction is anticipated to start in 2018.

Thus, the proposed KCC development is considered to be consistent with the 2011 comments by Council with regard to traffic generation.

4.3 Site Access Arrangements

As shown in Figure 3.1, the KCC site is serviced by a number of vehicle accesses. The primary vehicle access is via Cliff Drive on the eastern site frontage. Other access driveways are provided for onsite parking (limited), service and emergency vehicles via Cliff Street and Laurel Street (western frontage) and Violet Street.

The Clairvaux car park is currently primarily accessed via Cliff Drive although there are accesses for service vehicles via Violet Street.

The proposed development for the KCC site seeks to remain the existing site access arrangements with the introduction of a new vehicle access at Violet Street to essentially service the proposed café / dining room and the associated loading dock facility.

The main vehicle access will continue to be via Cliff Drive (eastern frontage) for access to the KCC site. The Clairvaux car park will also continue to be provided via Cliff Drive.

The proposed vehicle access arrangements are consistent with the 2011 DA assessment report from Council which stated that:

The existing vehicle access from Cliff Drive is to remain unchanged by the proposal. It will be a condition of consent that access to the accommodation buildings should be gained from the Cliff Drive entrance so as to minimise potential impacts on the residential areas to the west of the site."
(Ordinary Meeting of Council 13.12.11)

It is expected that a similar condition of consent would be applied to the current KCC DA.

4.4 Public Transport

No changes to the existing public transport arrangements are proposed as part of the KCC DA. KCC will continue to operate designated KCC shuttle bus services during peak event periods at the site to accommodate travel travels.

4.5 Service Vehicle Arrangements

A separate waste and recycling management plan has been prepared by METECH Consulting¹ as part of this application. As set out in this report, waste and recycling will continue to be undertaken via a private waste contractor. As such the size of the collection vehicles can be adjusted to suit the site access arrangements.

Notwithstanding the above, the site has been designed to accommodate access for a large garbage truck vehicle. Other service vehicles would include delivery vans and maintenance vehicles.

The Cliff Drive access will continue to be used as the primary access for waste collection and deliveries to and from the site.

The vehicle swept path analysis (see Appendix C) shows both a Heavy Rigid Vehicle (HRV) and a Medium Rigid Vehicle (HRV) as defined by AS2890 accessing the site via the main access and travelling through the site to the main auditorium loading / waste area. The swept paths for a typical 7.5m truck are also shown for the designated waste collection areas located at Violet Street and the Cliff Drive/Laurel Street corner.

The analysis shows that these vehicles can access the auditorium and the waste collection areas via a forward entry and forward exit movement at the external road network.

As the access and internal roads can accommodate a HRV (12.5m long) the internal roads would also be suitable for emergency vehicles.

5 Conclusions

The findings of the Transport Impact Study as presented in this report have concluded that with regard to traffic, parking and transport that the proposed DA for the KCC site is consistent with previous approvals for development on the site including the 2011 DA approval (expired) for a 3500 seat auditorium and the 2013 DA for the Clairvaux Oval car park modifications.

It is concluded that with regard to external traffic implications the peak traffic generation potential of the proposed development will be similar to that of existing peak event periods at the site, namely the Easter and Christmas conventions.

In particular the proposed additional accommodation on the KCC site (Eco Lodges) can be considered ancillary to the main “event” and will by nature of on site accommodation reduce the number of vehicle movements to / from the site during these peak periods.

The continued use of travel demand measures such as the shuttle bus to and from Katoomba Railway station and off site locations should be included in the operational management plans of the site. Measures should be flexible to accommodate the various level and needs of travel to and from the site for different uses of the site.

Outside of peak “event” at the site, the proposed uses will reflect a lower intensity use of the site which can be adequately accommodated by the surrounding road network.

In summary the proposed development will not have a significant adverse impact on the operation and safety of the surrounding road network and will facilitate convenient internal vehicle circulation, servicing and parking arrangements.

Appendix A

Traffic and Parking Surveys – Easter Convention 2017

Appendix B

Master Plan

Appendix C

Service Vehicle Swept Path Analysis

The Transport Planning Partnership
Suite 402 Level 4, 22 Atchison Street
St Leonards NSW 2065

P.O. Box 237
St Leonards NSW 1590

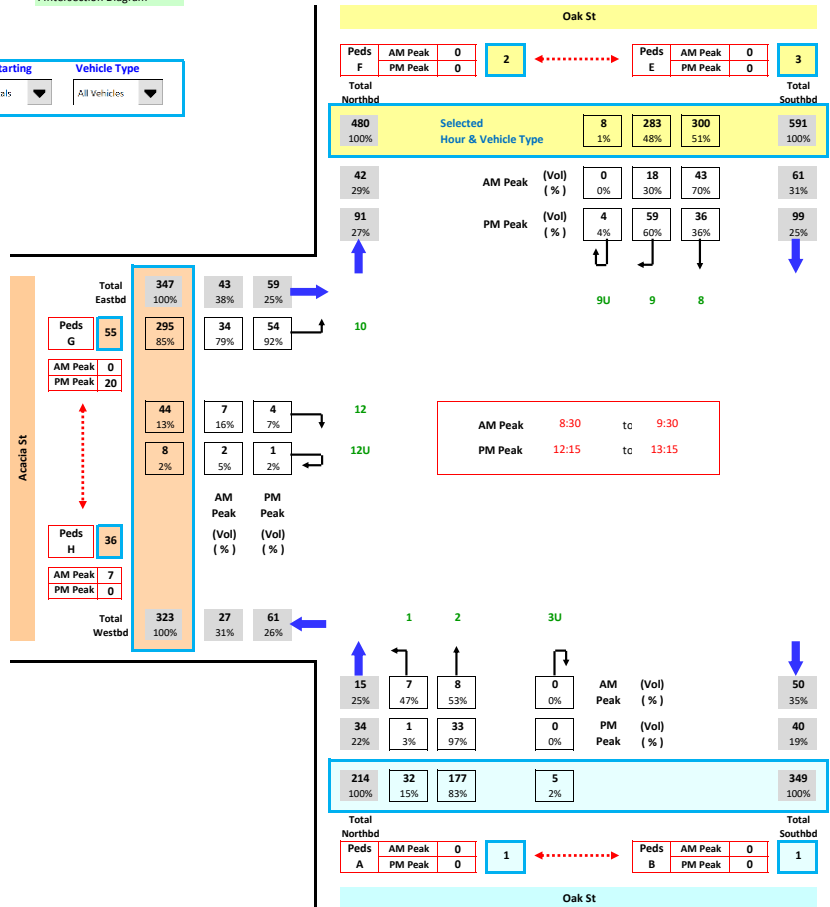
02 8437 7800

info@tpp.net.au

www.tpp.net.au

Job No. : N3172
 Client : TTPP
 Suburb : Katoomba Easter
 Location : 1. Acacia St / Oak St
 Day/Date : Fri, 14th April 2017
 Weather : Fine
 Description : Classified Intersection Count
 : Intersection Diagram

Hour Starting Vehicle Type



Job No. : N3172
 Client : TTPP
 Suburb : Katoomba Easter
 Location : 2. Cedar St / Oak St
 Day/Date : Fri, 14th April 2017
 Weather : Fine
 Description : Classified Intersection Count
 : Intersection Diagram

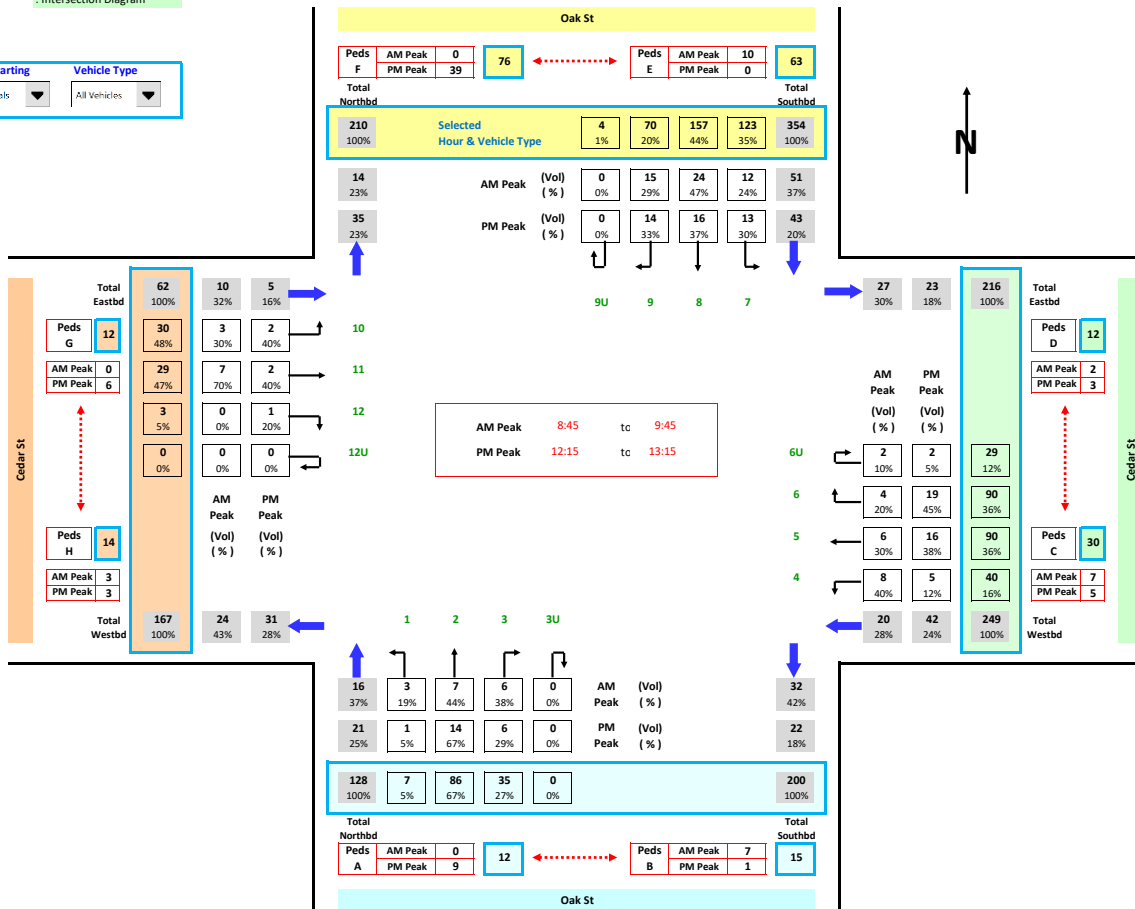


Hour Starting

24hr Totals

Vehicle Type

All Vehicles

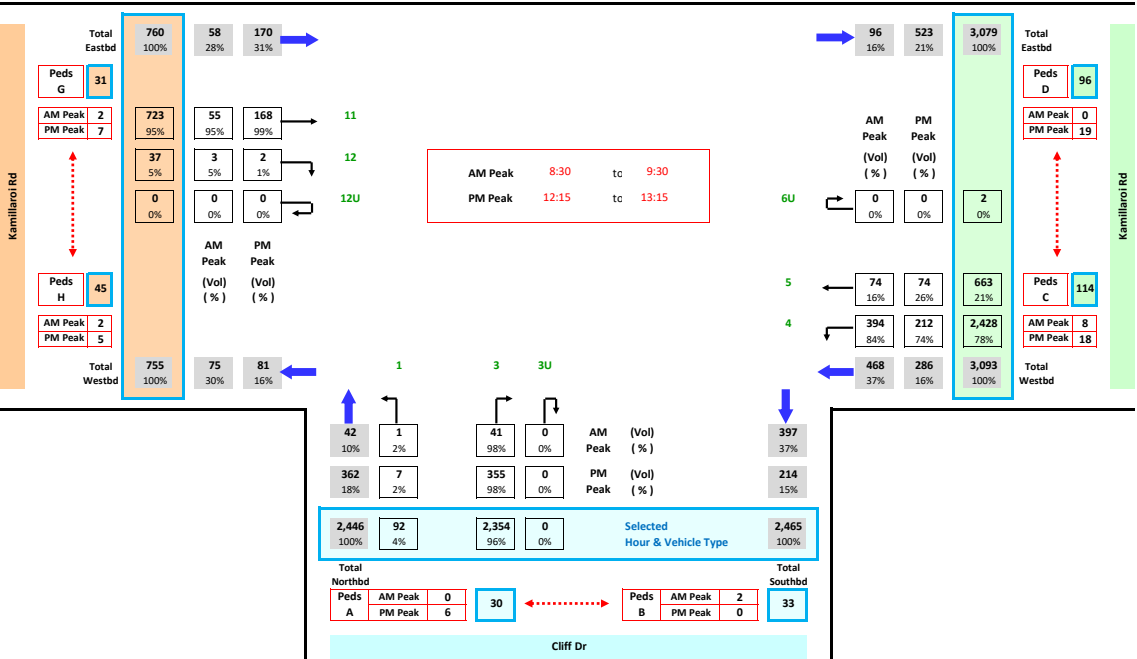


Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 3. Kamillaroi Rd / Cliff Dr

Day/Date : Fri, 14th April 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram



Hour Starting: 24hr Totals
Vehicle Type: All Vehicles

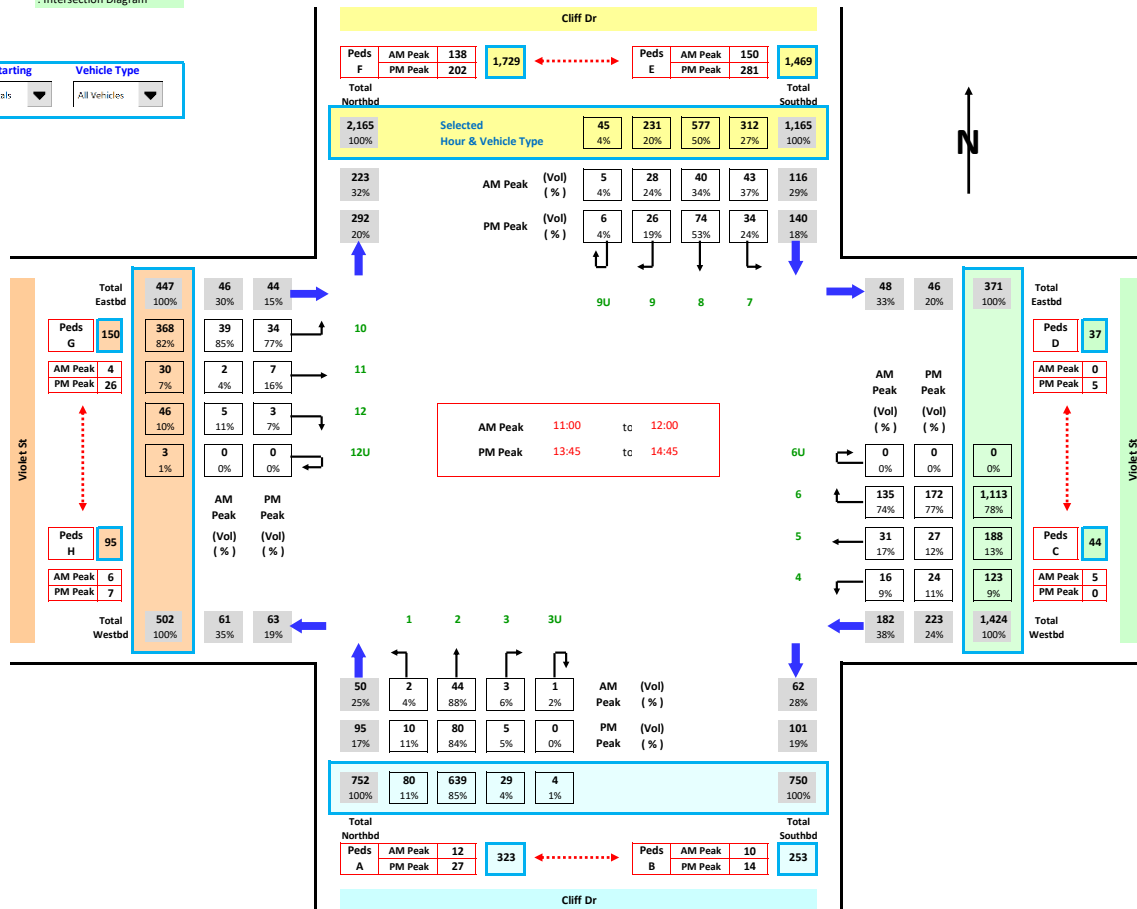


Job No. : N3172
 Client : TTPP
 Suburb : Katoomba Easter
 Location : 4. Violet St / Cliff Dr

Day/Date : Fri, 14th April 2017
 Weather : Fine
 Description : Classified Intersection Count
 Intersection Diagram



Hour Starting 24hr Totals Vehicle Type All Vehicles



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 6. KCC Access

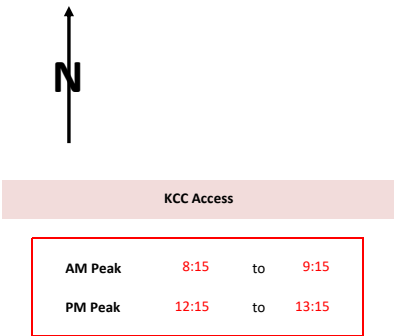
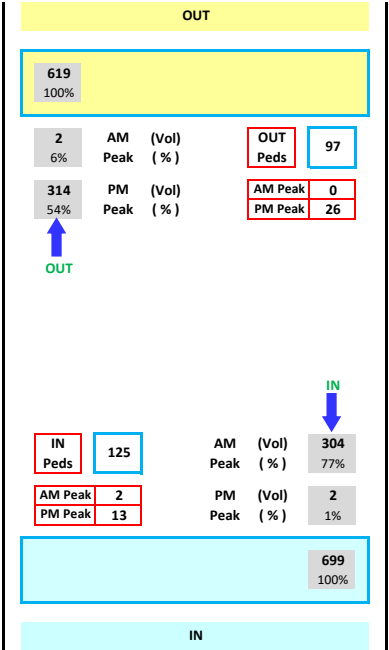
Day/Date : Fri, 14th April 2017
Weather : Fine
Description : IN & OUT Count
Intersection Diagram

Hour Starting

Vehicle Type

24hr Totals

All Vehicles



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 7. Scenic World Access 1



Day/Date : Fri, 14th April 2017
Weather : Fine
Description : IN & OUT Count
: Intersection Diagram

Hour Starting

Vehicle Type

24hr Totals

All Vehicles

Scenic World Access 1

AM Peak 9:45 to 10:45
PM Peak 12:45 to 13:45



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 8. Scenic World Access 2

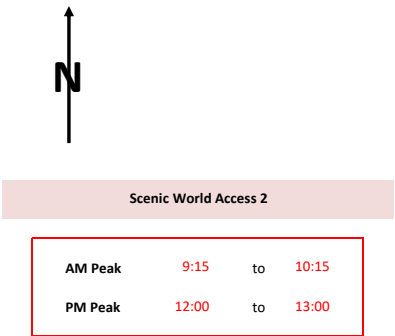
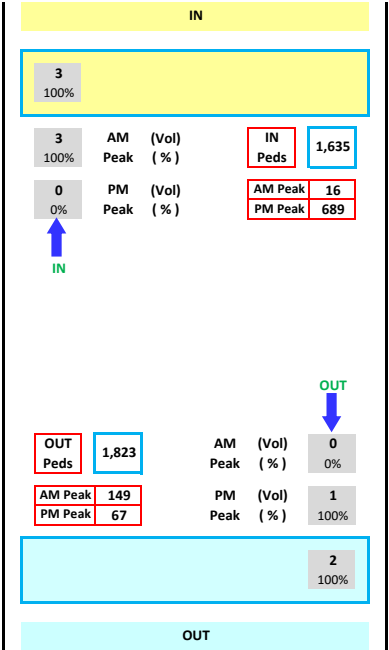
Day/Date : Fri, 14th April 2017
Weather : Fine
Description : IN & OUT Count
Intersection Diagram

Hour Starting

Vehicle Type

24hr Totals

All Vehicles

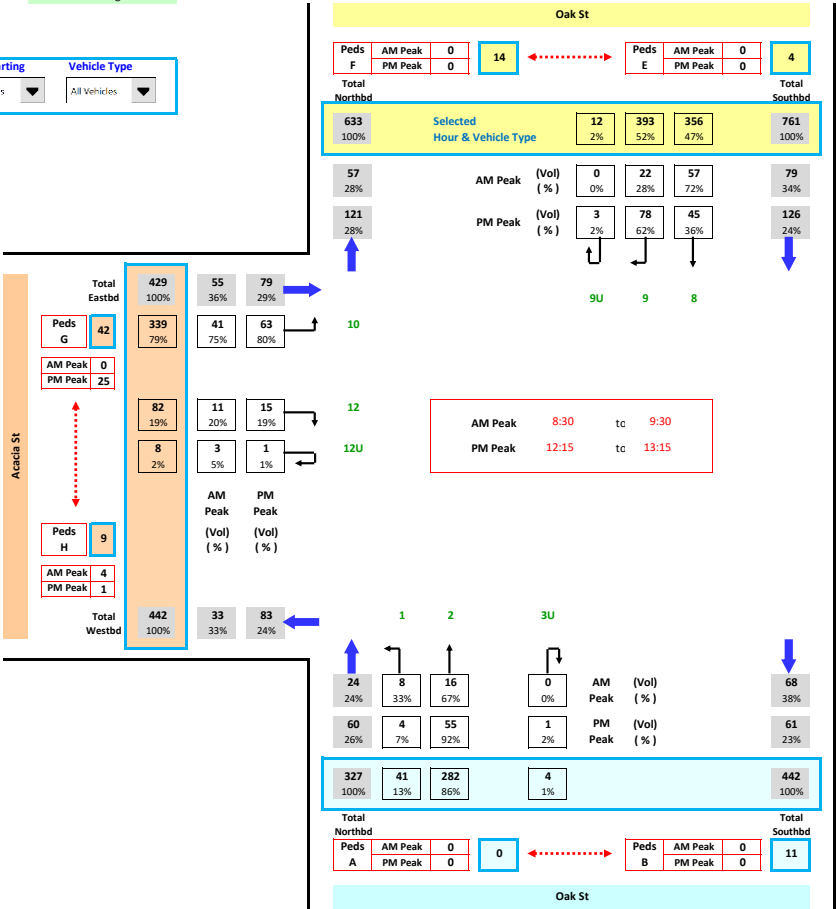


Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 1. Acacia St / Oak St

Day/Date : Sat, 15th April 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram



Hour Starting 24hr Totals Vehicle Type All Vehicles



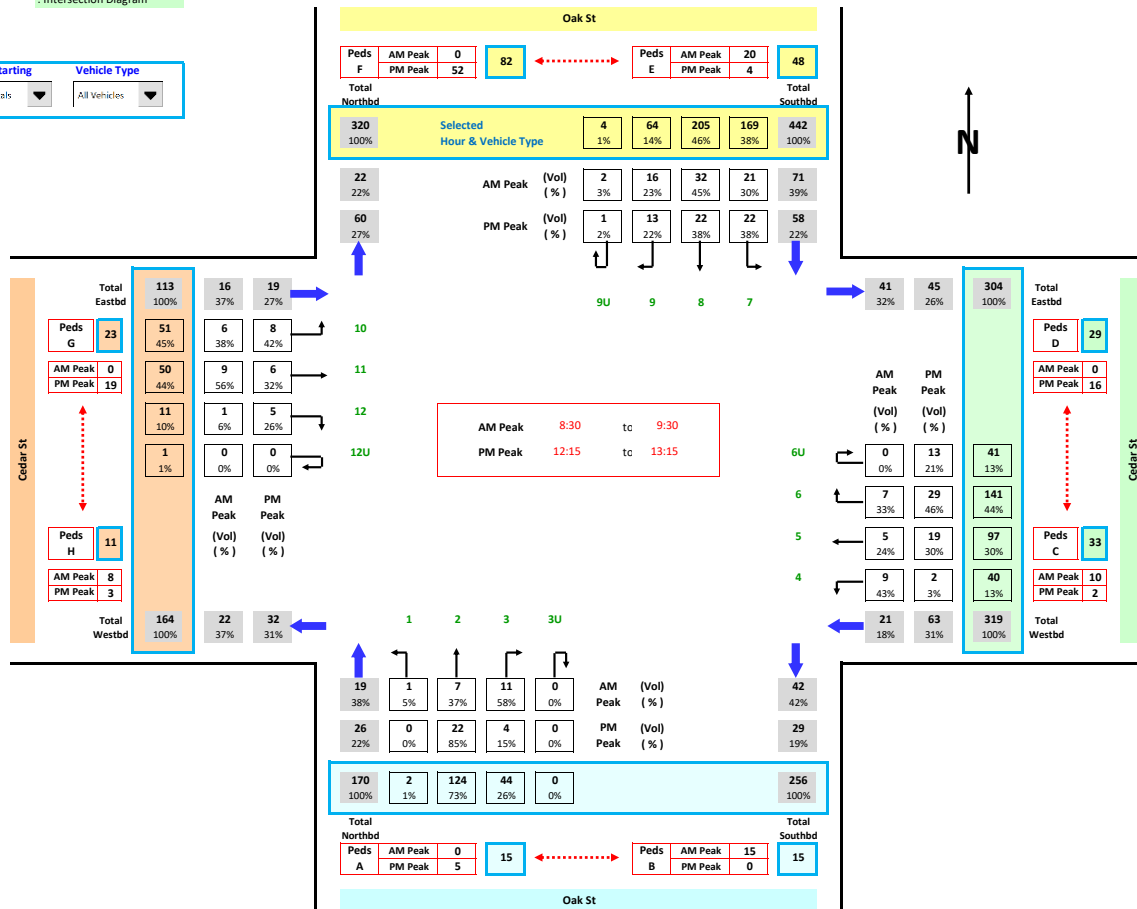
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 Client : TTPP
 Suburb : Katoomba Easter
 Location : 2. Cedar St / Oak St

Day/Date : Sat, 15th April 2017
 Weather : Fine
 Description : Classified Intersection Count
 : Intersection Diagram



Hour Starting Vehicle Type

24hr Totals All Vehicles

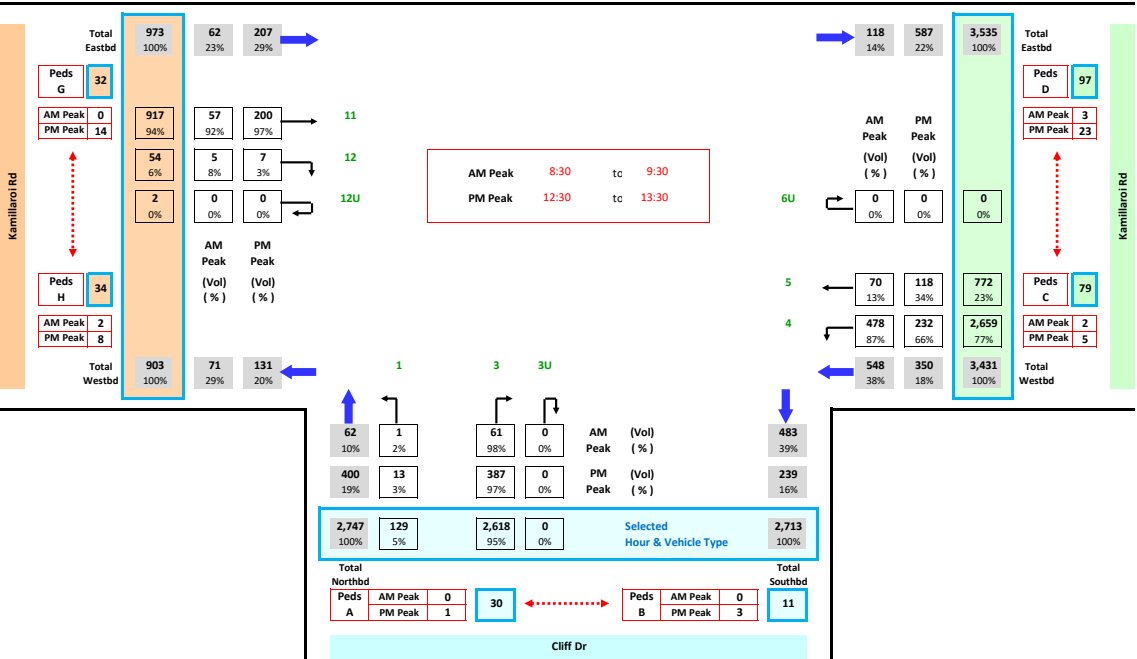


Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 3. Kamillaroi Rd / Cliff Dr

Day/Date : Sat, 15th April 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram



Hour Starting 34hr Totals
Vehicle Type All Vehicles

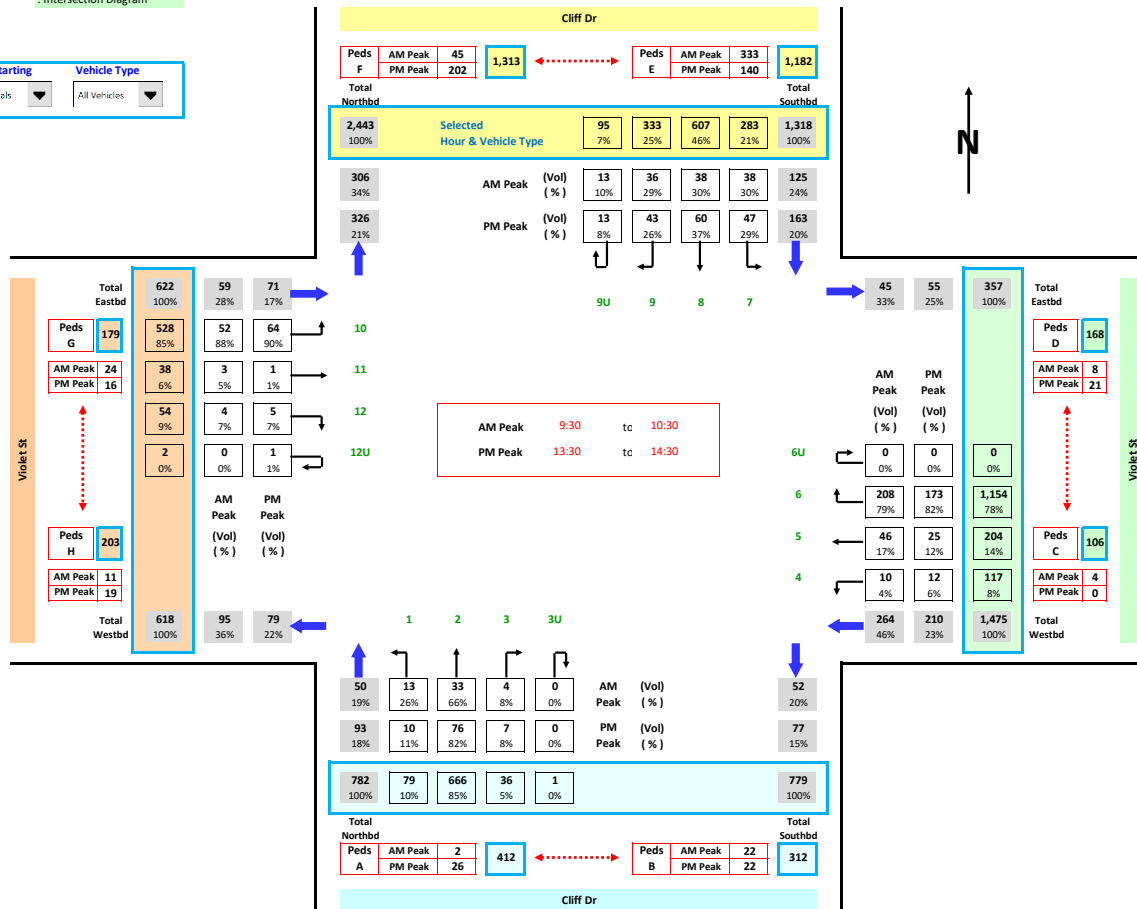


Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 4. Violet St / Cliff Dr

Day/Date : Sat, 15th April 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram



Hour Starting 24hr Totals Vehicle Type All Vehicles



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 6. KCC Access

Day/Date : Sat, 15th April 2017
Weather : Fine
Description : IN & OUT Count
Intersection Diagram

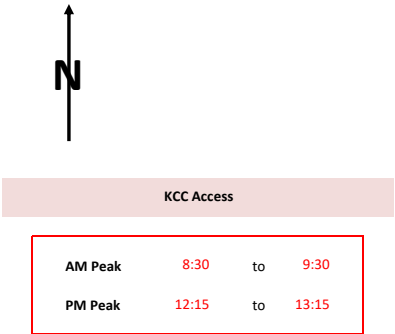
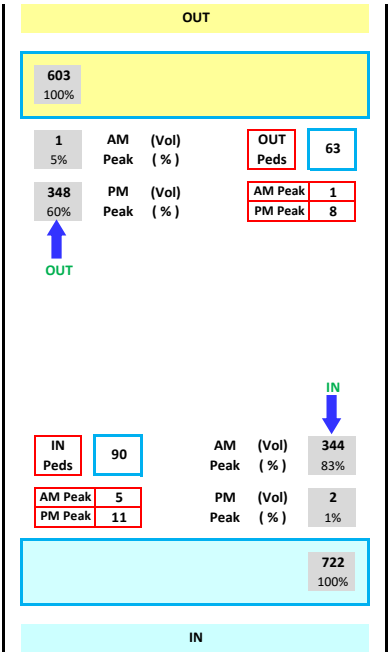


Hour Starting

Vehicle Type

24hr Totals

All Vehicles



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 7. Scenic World Access 1



Day/Date : Sat, 15th April 2017
Weather : Fine
Description : IN & OUT Count
Intersection Diagram

Hour Starting

24hr Totals

Vehicle Type

All Vehicles

Scenic World Access 1

AM Peak 9:30 to 10:30
PM Peak 21:00 to 22:00



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 8. Scenic World Access 2

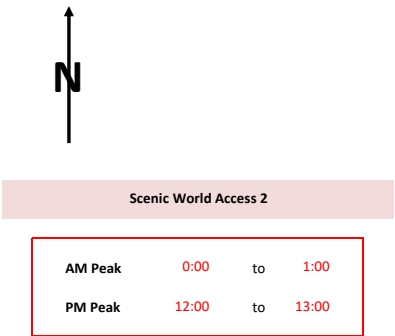
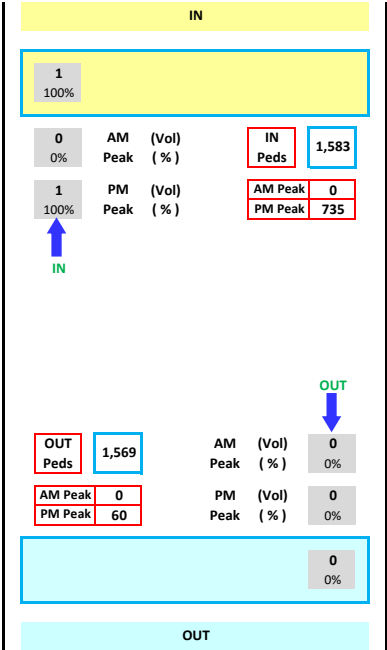
Day/Date : Sat, 15th April 2017
Weather : Fine
Description : IN & OUT Count
Intersection Diagram

Hour Starting

Vehicle Type

24hr Totals

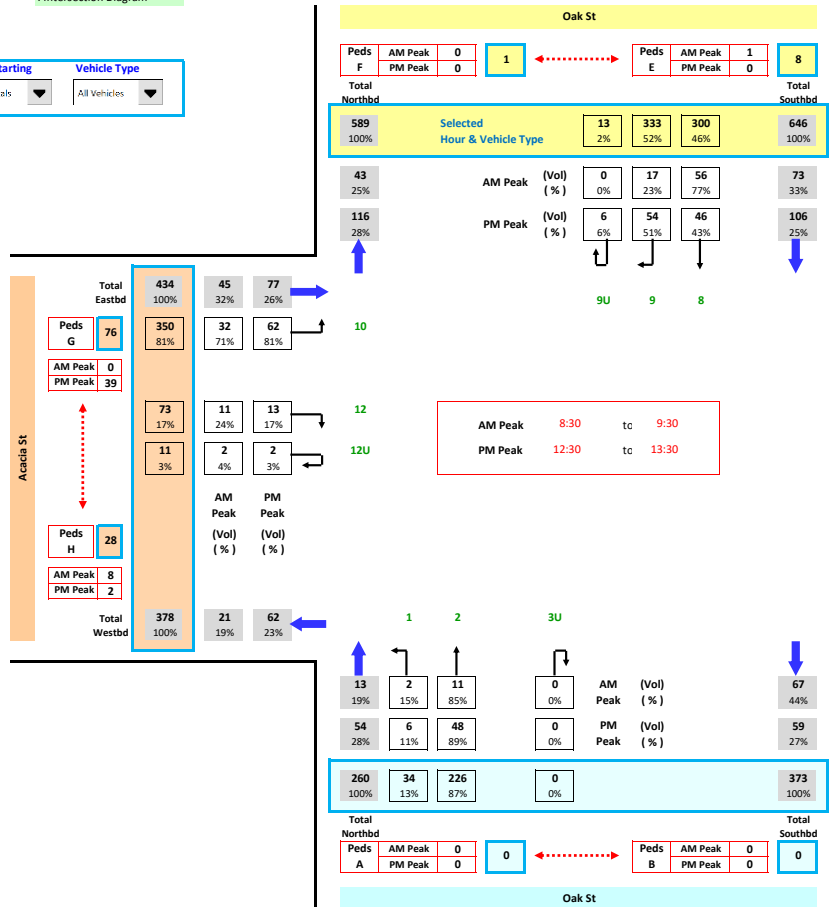
All Vehicles



Job No. : N3172
 Client : TTPP
 Suburb : Katoomba Easter
 Location : 1. Acacia St / Oak St

 Day/Date : Sun, 16th April 2017
 Weather : Fine
 Description : Classified Intersection Count
 : Intersection Diagram

Hour Starting Vehicle Type

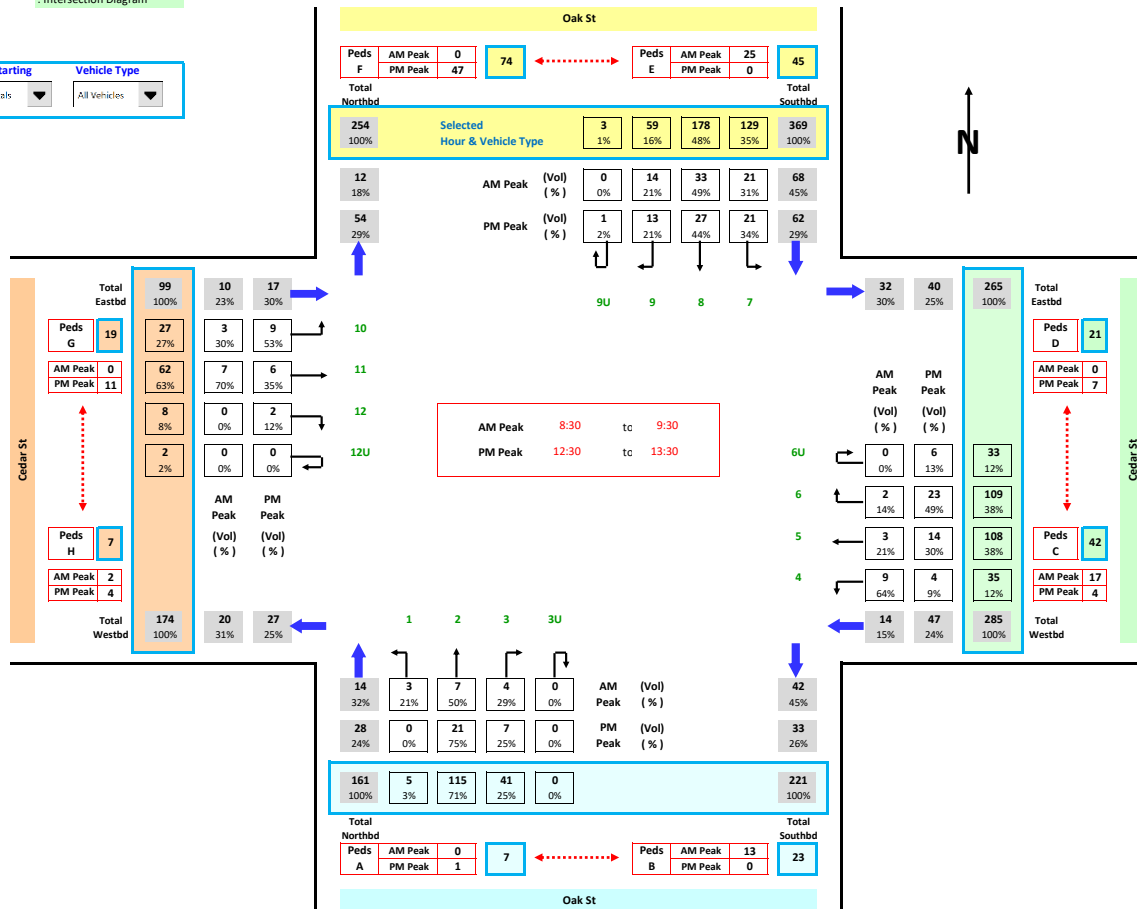


Job No. : N3172
 Client : TTPP
 Suburb : Katoomba Easter
 Location : 2. Cedar St / Oak St

Day/Date : Sun, 16th April 2017
 Weather : Fine
 Description : Classified Intersection Count
 : Intersection Diagram



Hour Starting Vehicle Type

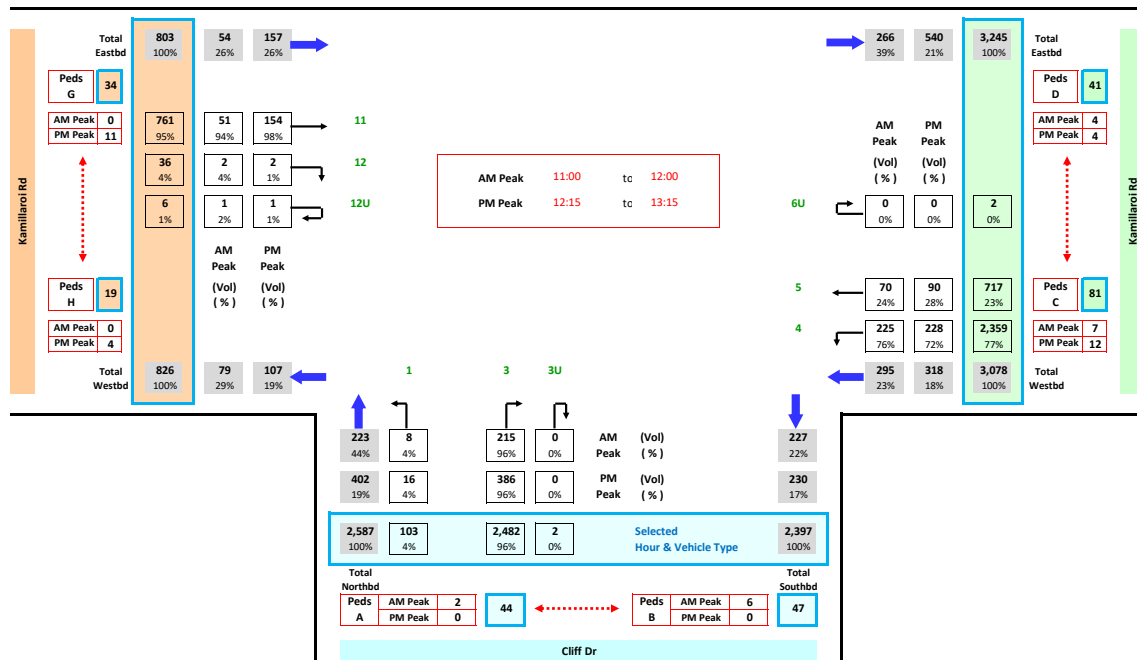


Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 3. Kamillaroi Rd / Cliff Dr

Day/Date : Sun, 16th April 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram



Hour Starting: 24hr Totals
Vehicle Type: All Vehicles



Day/Date : Sun, 16th April 2017
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 6. KCC Access

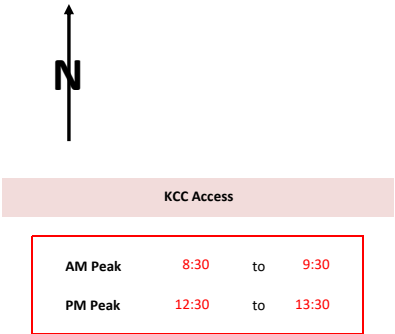
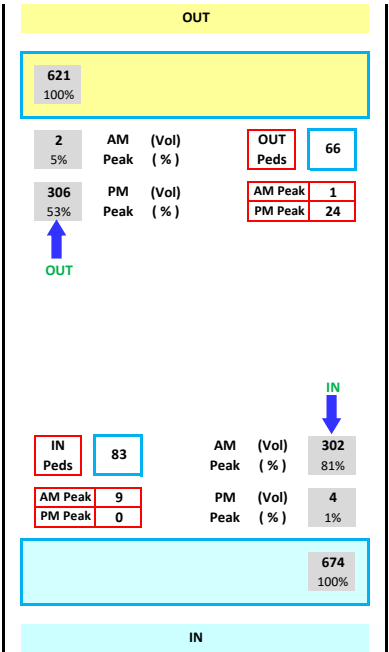
Day/Date : Sun, 16th April 2017
Weather : Fine
Description : IN & OUT Count
Intersection Diagram

Hour Starting

Vehicle Type

24hr Totals

All Vehicles



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 7. Scenic World Access 1



Day/Date : Sun, 16th April 2017
Weather : Fine
Description : IN & OUT Count
Intersection Diagram

Hour Starting

Vehicle Type

24hr Totals

All Vehicles

Scenic World Access 1

AM Peak 9:45 to 10:45
PM Peak 12:00 to 13:00



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 8. Scenic World Access 2

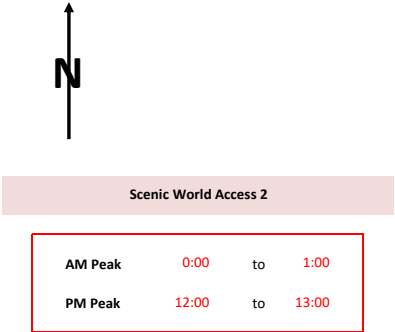
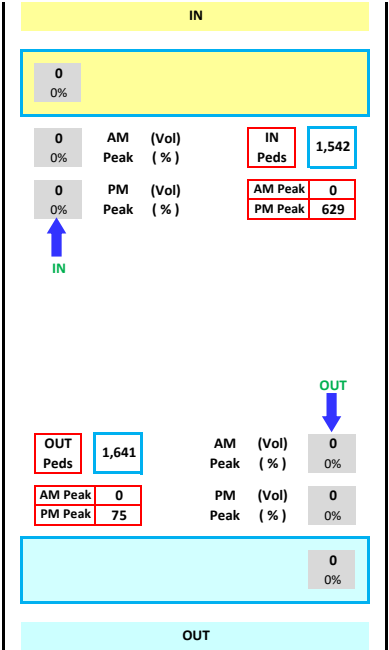
Day/Date : Sun, 16th April 2017
Weather : Fine
Description : IN & OUT Count
Intersection Diagram

Hour Starting

Vehicle Type

24hr Totals

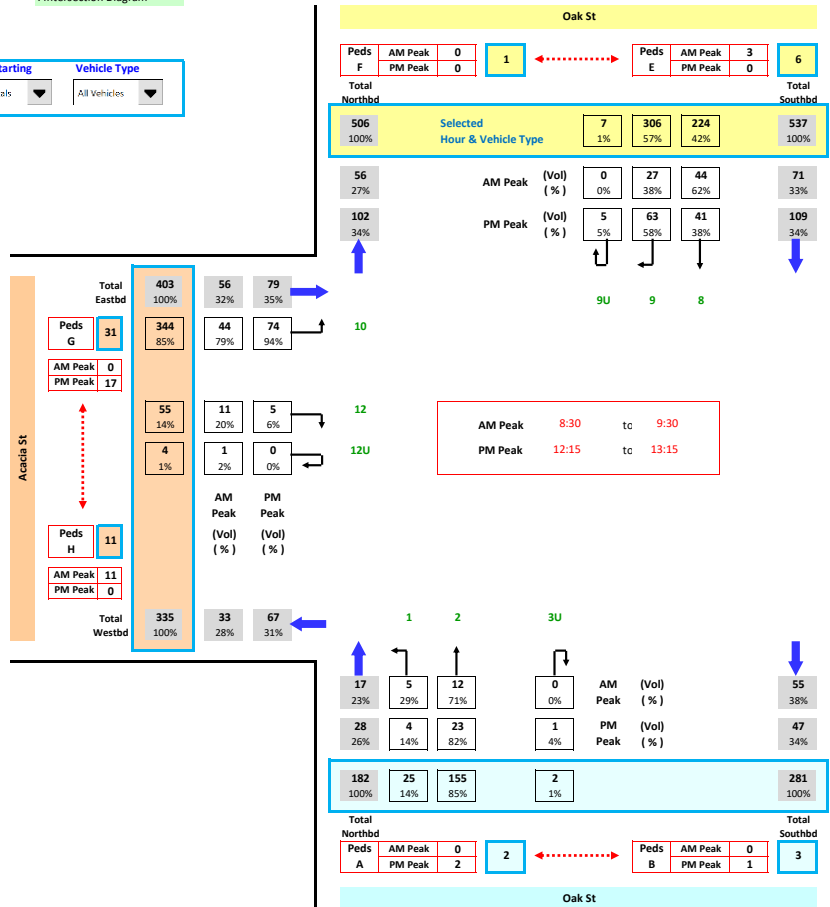
All Vehicles



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 1. Acacia St / Oak St

Day/Date : Mon, 17th April 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram

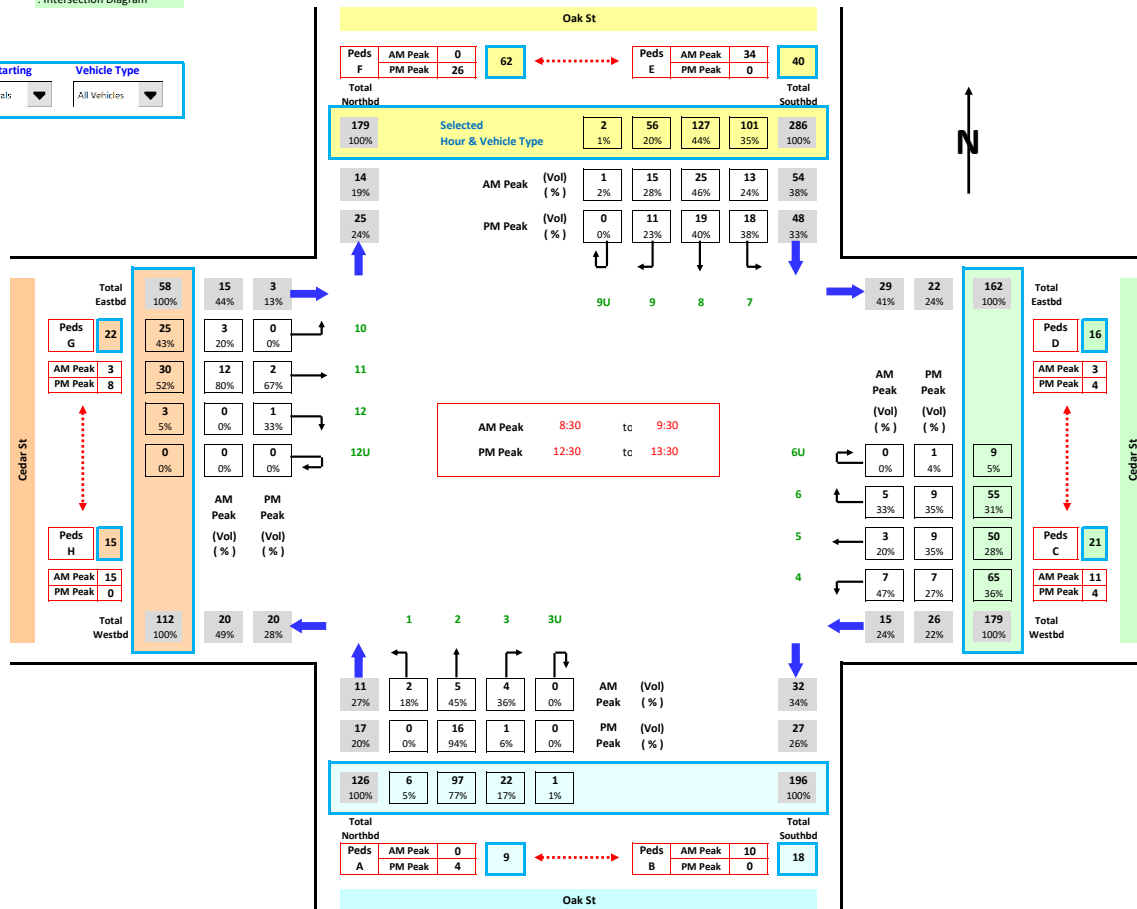
Hour Starting 24hr Totals Vehicle Type All Vehicles



Job No. : N3172
 Client : TTPP
 Suburb : Katoomba Easter
 Location : 2. Cedar St / Oak St
 Day/Date : Mon, 17th April 2017
 Weather : Fine
 Description : Classified Intersection Count
 : Intersection Diagram



Hour Starting 24hr Totals
 Vehicle Type All Vehicles



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 3. Kamillaroi Rd / Cliff Dr

Day/Date : Mon, 17th April 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram

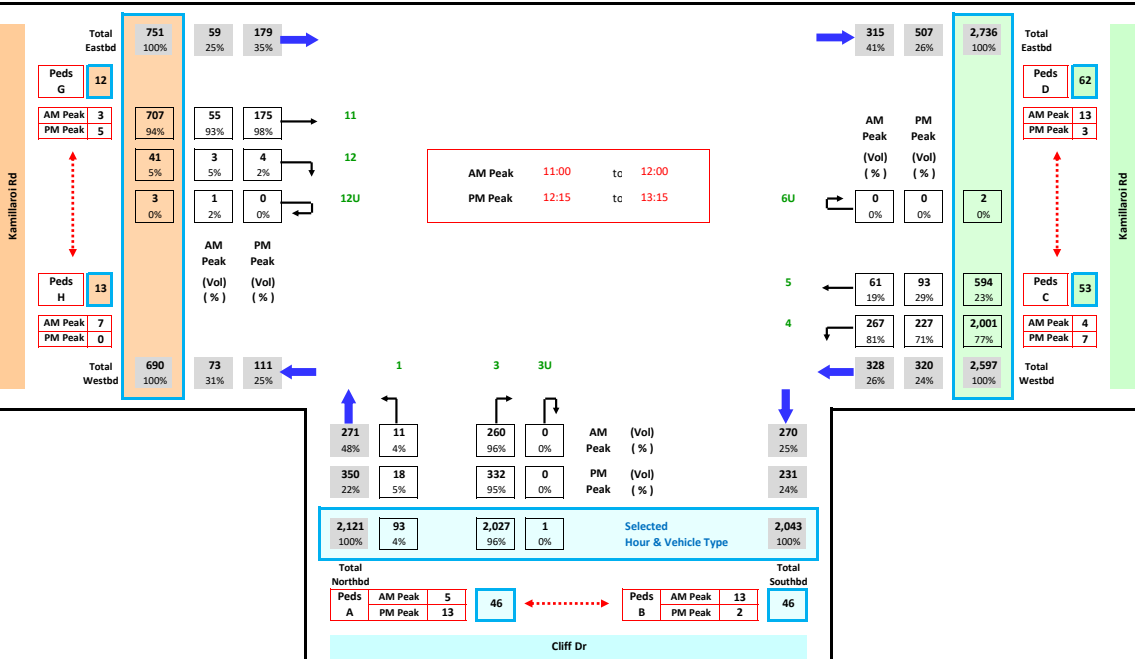


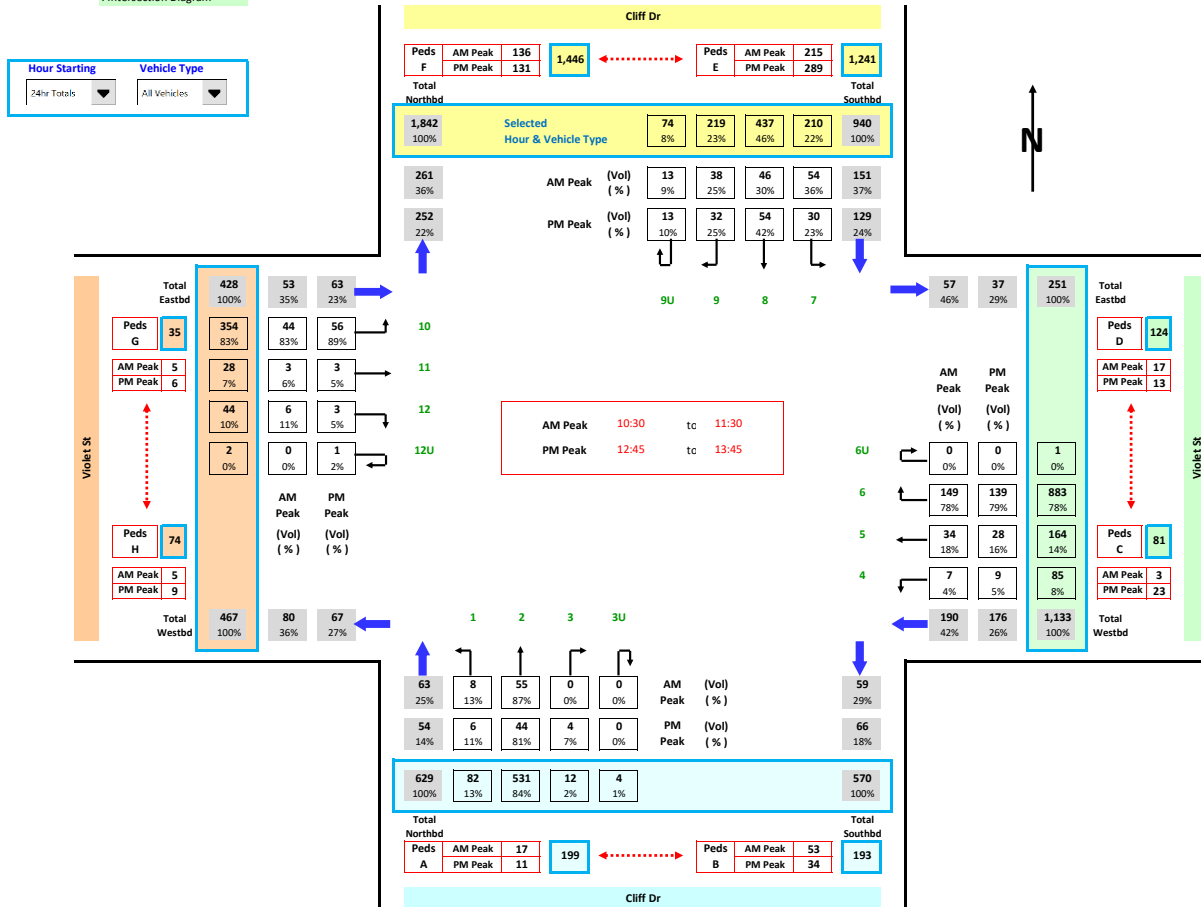
Hour Starting

Vehicle Type

24hr Totals

All Vehicles





Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 6. KCC Access

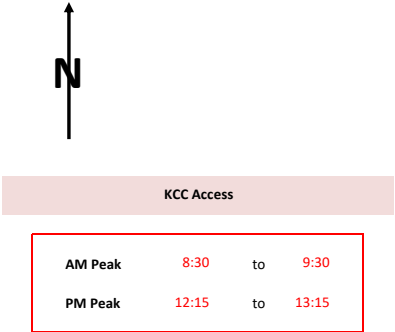
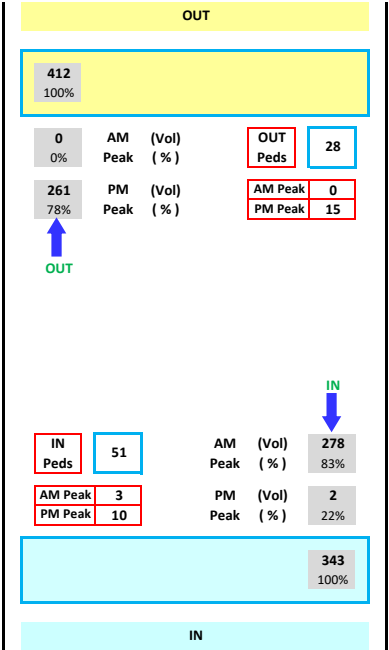
Day/Date : Mon, 17th April 2017
Weather : Fine
Description : IN & OUT Count
Intersection Diagram

Hour Starting

Vehicle Type

24hr Totals

All Vehicles



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 7. Scenic World Access 1



Day/Date : Mon, 17th April 2017
Weather : Fine
Description : IN & OUT Count
: Intersection Diagram

Hour Starting

Vehicle Type

24hr Totals

All Vehicles

Scenic World Access 1

AM Peak 10:30 to 11:30
PM Peak 12:45 to 13:45



Job No. : N3172
Client : TTPP
Suburb : Katoomba Easter
Location : 8. Scenic World Access 2

Day/Date : Mon, 17th April 2017
Weather : Fine
Description : IN & OUT Count
Intersection Diagram

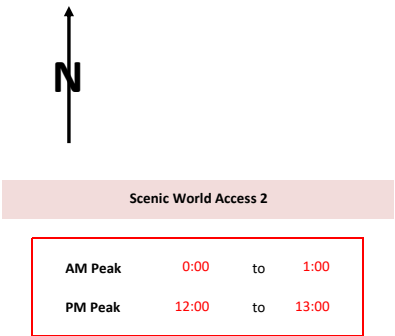
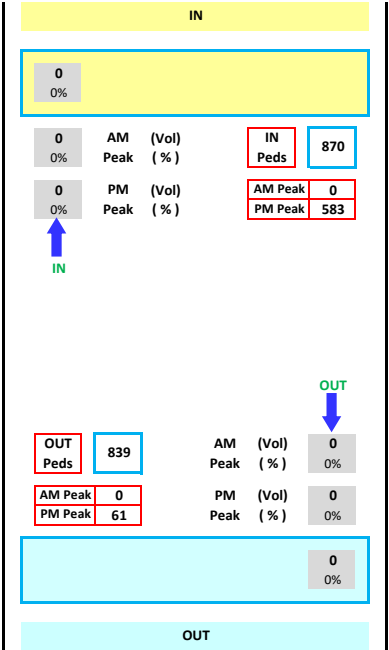


Hour Starting

Vehicle Type

24hr Totals

All Vehicles



Client	TTPP
Location	Katoomba Easter
Date	Fri, 14th Apr 2017 - Mon, 17th Apr 2017 (00:00-24:00)
Description	Katoomba Easter Bus Survey



[Survey Date]

Day 1. Fri, 14th Apr 2017 (00:00-24:00)
Day 2. Sat, 15th Apr 2017 (00:00-24:00)
Day 3. Sun, 16th Apr 2017 (00:00-24:00)
Day 4. Mon, 17th Apr 2017 (00:00-24:00)

Client TTPP
Location Katoomba Easter
Date Day 1. Fri, 14th Apr 2017 (00:00-24:00)
Description Katoomba Easter Bus Survey



ID	Bus Arrival Time (Hr:Min:Sec)	Passengers Alighting	Passengers Boarding	Bus Departure Time (Hr:Min:Sec)	Duration of Stay (Hr:Min:Sec)
1	8:35:30	8	43	8:39:42	0:04:12
2	8:40:20	4	6	8:42:47	0:02:27
3	8:46:21	33	18	8:52:25	0:06:04
4	8:51:53	48	14	8:58:30	0:06:37
5	8:58:15	50	0	9:02:06	0:03:51
6	8:59:20	28	2	9:02:00	0:02:40
7	9:03:40	42	2	9:06:30	0:02:50
8	9:09:06	36	0	9:11:25	0:02:19
9	9:14:35	10	1	9:18:25	0:03:50
10	9:19:12	18	0	9:22:30	0:03:18
11	9:25:55	11	4	9:26:45	0:00:50
12	9:34:12	0	0	9:35:14	0:01:02
13	9:35:20	2	0	9:36:00	0:00:40
14	11:58:30	0	56	12:25:08	0:26:38
15	12:14:05	0	44	12:30:28	0:16:23
16	12:16:59	0	46	12:31:22	0:14:23
17	12:17:19	0	35	12:37:10	0:19:51
18	12:30:31	0	54	12:38:40	0:08:09
19	12:45:15	29	12	12:48:10	0:02:55
20	12:49:22	4	2	12:51:15	0:01:53
21	12:50:27	2	0	13:05:55	0:15:28
22	12:58:31	3	0	13:00:55	0:02:24
23	13:01:21	24	0	13:03:30	0:02:09
24	13:12:48	5	0	13:13:35	0:00:47

Client TTPP
Location Katoomba Easter
Date Day 2. Sat, 15th Apr 2017 (00:00-24:00)
Description Katoomba Easter Bus Survey



ID	Bus Arrival Time (Hr:Min:Sec)	Passengers Alighting	Passengers Boarding	Bus Departure Time (Hr:Min:Sec)	Duration of Stay (Hr:Min:Sec)
1	8:29:45	10	33	8:37:35	0:07:50
2	8:37:52	5	29	8:40:55	0:03:03
3	8:39:58	1	9	8:44:50	0:04:52
4	8:46:48	64	6	8:51:17	0:04:29
5	8:51:02	54	3	8:56:01	0:04:59
6	8:59:03	39	4	9:04:31	0:05:28
7	9:00:30	45	0	9:12:27	0:11:57
8	9:06:55	51	0	9:17:29	0:10:34
9	9:10:46	30	0	9:14:26	0:03:40
10	9:15:45	25	0	9:18:26	0:02:41
11	9:27:00	13	0	9:29:16	0:02:16
12	12:07:24	0	56	12:29:23	0:21:59
13	12:11:04	0	50	12:31:56	0:20:52
14	12:17:50	0	54	12:36:38	0:18:48
15	12:22:33	0	68	12:37:25	0:14:52
16	12:39:58	7	61	12:43:54	0:03:56
17	12:49:52	3	13	12:50:57	0:01:05
18	12:56:46	14	0	13:00:00	0:03:14
19	13:00:19	7	0	13:06:16	0:05:57
20	13:07:34	34	0	13:08:44	0:01:10
21	13:12:51	4	0	13:13:39	0:00:48

Client TTPP
Location Katoomba Easter
Date Day 3. Sun, 16th Apr 2017 (00:00-24:00)
Description Katoomba Easter Bus Survey



ID	Bus Arrival Time (Hr:Min:Sec)	Passengers Alighting	Passengers Boarding	Bus Departure Time (Hr:Min:Sec)	Duration of Stay (Hr:Min:Sec)
1	8:25:14	7	27	8:34:49	0:09:35
2	8:34:48	0	35	8:40:44	0:05:56
3	8:40:27	9	17	8:46:13	0:05:46
4	8:46:26	66	9	8:50:36	0:04:10
5	8:48:22	17	9	8:53:37	0:05:15
6	8:53:54	44	3	9:02:18	0:08:24
7	8:59:32	57	5	9:07:24	0:07:52
8	9:03:18	37	0	9:10:03	0:06:45
9	9:06:18	26	0	9:07:22	0:01:04
10	9:15:01	62	3	9:20:01	0:05:00
11	9:20:59	9	0	9:34:33	0:13:34
12	9:29:37	2	0	9:34:45	0:05:08
13	12:05:37	0	14	12:32:49	0:27:12
14	12:09:38	0	52	12:44:50	0:35:12
15	12:17:45	0	60	12:43:49	0:26:04
16	12:27:47	0	45	12:47:38	0:19:51
17	12:48:04	18	47	12:52:53	0:04:49
18	12:55:23	0	89	12:59:42	0:04:19
19	13:05:12	24	18	13:07:37	0:02:25
20	13:07:02	9	0	13:08:24	0:01:22
21	13:12:44	5	0	13:15:10	0:02:26
22	13:23:18	0	0	13:23:28	0:00:10
23	13:26:03	4	0	13:26:51	0:00:48
24	13:30:26	2	0	13:31:21	0:00:55

Client TTPP
Location Katoomba Easter
Date Day 4. Mon, 17th Apr 2017 (00:00-24:00)
Description Katoomba Easter Bus Survey



ID	Bus Arrival Time (Hr:Min:Sec)	Passengers Alighting	Passengers Boarding	Bus Departure Time (Hr:Min:Sec)	Duration of Stay (Hr:Min:Sec)
1	8:26:46	0	0	8:34:33	0:07:47
2	8:26:57	0	0	8:43:21	0:16:24
3	8:37:34	0	0	8:48:46	0:11:12
4	8:45:38	37	9	8:51:32	0:05:54
5	8:49:35	46	2	9:00:15	0:10:40
6	8:56:46	49	0	9:05:24	0:08:38
7	9:01:15	24	0	9:11:14	0:09:59
8	9:04:55	32	0	9:17:05	0:12:10
9	9:09:58	33	0	9:11:19	0:01:21
10	9:16:15	7	0	9:25:10	0:08:55
11	9:22:40	2	0	9:28:00	0:05:20
12	11:55:04	0	12	12:18:41	0:23:37
13	12:10:44	0	37	12:25:02	0:14:18
14	12:13:00	0	51	12:27:22	0:14:22
15	12:16:00	0	0	12:32:52	0:16:52
16	12:35:39	0	0	12:43:13	0:07:34
17	12:42:20	0	16	12:48:57	0:06:37
18	12:48:54	28	0	13:07:15	0:18:21
19	12:57:38	16	0	13:00:50	0:03:12
20	13:05:46	4	0	13:06:31	0:00:45
21	13:12:23	0	0	13:13:04	0:00:41



DRAWING LIST

Sheet Number Sheet Name

000	COVER SHEET
001	LOCALITY PLAN
002	SITE ANALYSIS
003	ENVIRONMENTAL CONSTRAINTS LEP 2015
004	EXISTING CONDITIONS
005	EXISTING CONDITIONS PHOTOS
006	MASTER PLAN

Sheet Number Sheet Name

007	MASTER PLAN - STAGING PLAN
008	ZONES 1, 2 & 3 PLAN
009	ZONE 1 - AUDITORIUM + PLAZA GROUND PLAN
010	ZONE 1 - AUDITORIUM + PLAZA LEVEL 1 PLAN
011	ZONE 1 - AUDITORIUM + PLAZA ROOF PLAN
012	AUDITORIUM ELEVATIONS, SECTIONS + 3D
013	ZONE 2 - ECO LODGE 4, 5 & 6 LOWER GROUND

Sheet Number Sheet Name

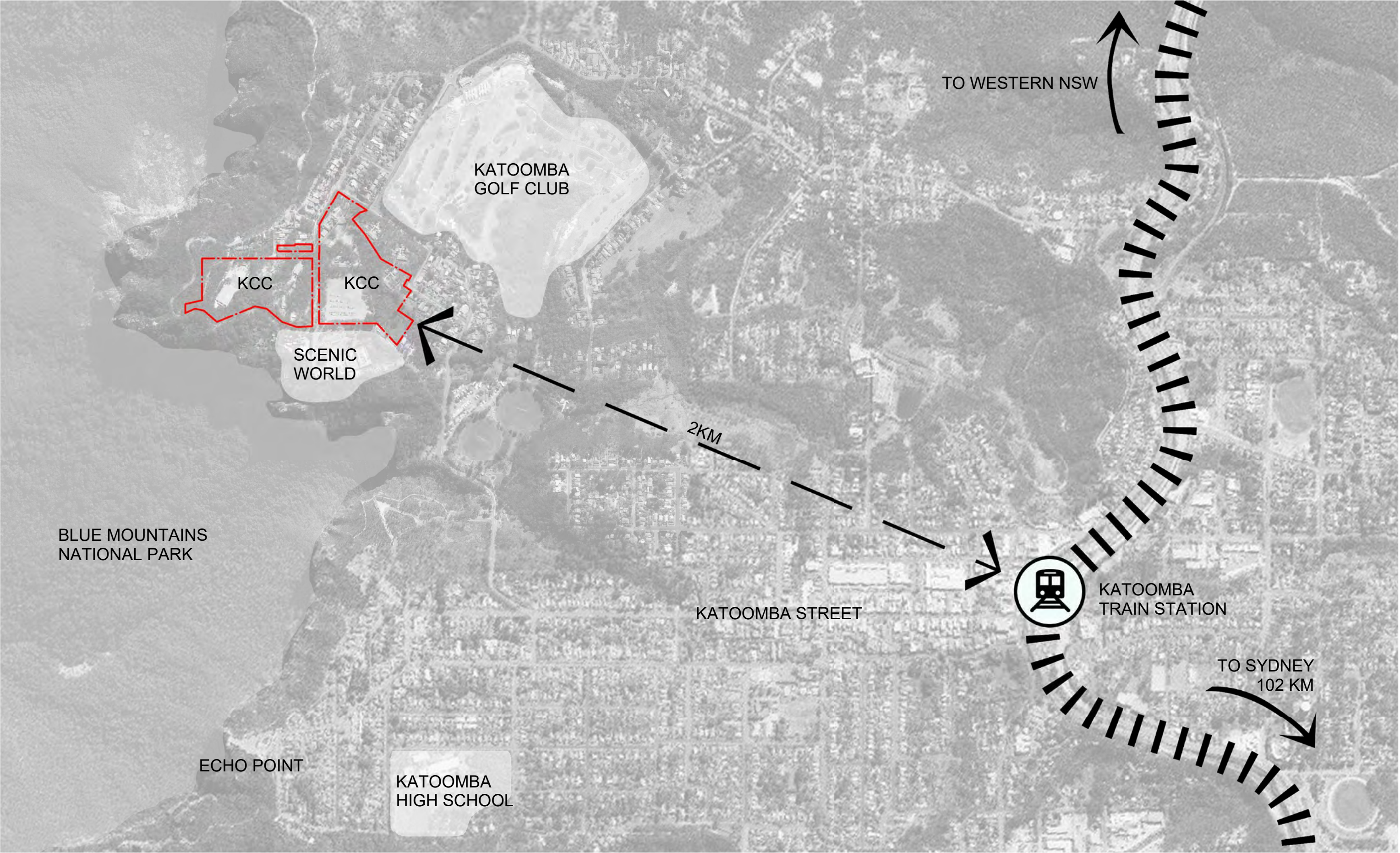
014	ZONE 2 - ECO LODGE 4, 5 & 6 GROUND PLAN
015	ZONE 2 - ECO LODGE 1, 2 & 3 GROUND PLAN
016	ZONE 3 - ADMIN + CAFE GROUND PLAN
017	ZONE 3 - DINING FLOOR PLAN
018	ZONE 3 - ECO CHALET 1, 2 & 3 GROUND PLAN
019	ZONE 3 - ECO CHALET 1, 2 & 3 ROOF PLAN
020	ADMIN & DINING ELEVATION, SECTIONS + 3D

Sheet Number Sheet Name

021	SITE SECTION + ELEVATION
022	MATERIAL SCHEDULE
023	VIOLET STREET VIEW STUDY - ORIGINAL PHOTO
024	VIOLET STREET VIEW STUDY - PHOTOMONTAGE
025	PLAZA VIEW STUDY
C100	ECO CHALET - FLOOR PLANS + ELEVATIONS
D100	ECO LODGE- FLOOR PLANS + ELEVATIONS

Katoomba Christian Convention

Development Application
February 2018



Key Plan

Issue		Date	Description	Child
No.	A			
	A	15/02/2018	DA SUBMISSION	AT

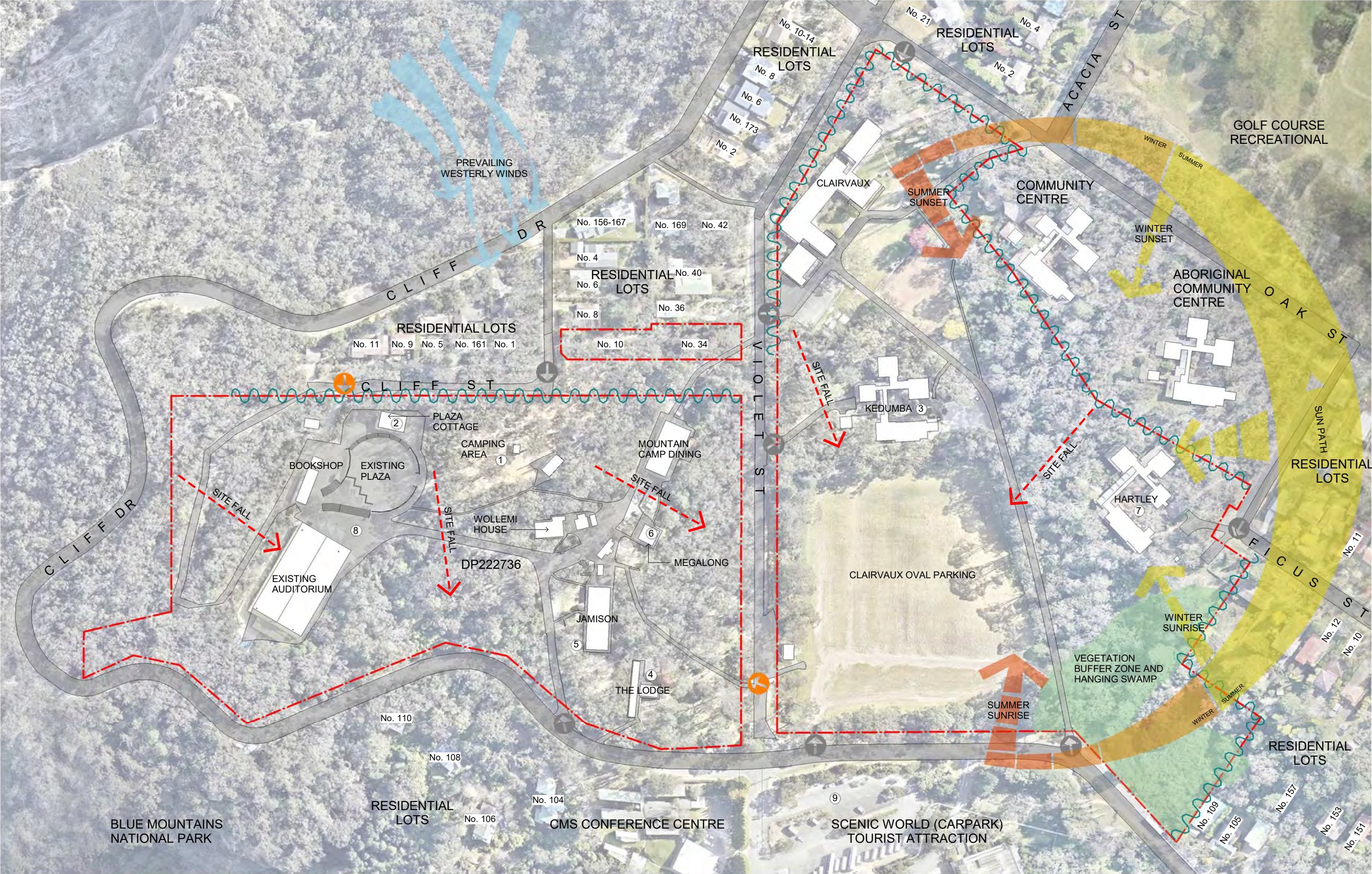
Building

Drawing Title
LOCALITY PLAN

Project & Client
Katoomba Christian Convention
at
Cliff Dr & Violet St, Katoomba NSW 2780
for
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0 50m 100m 150m 200m 250m 300m
Drawing Reference 14289 - 001
Revision A



Key Plan

Issue	Date	Description
No. A	15/02/2018	DA SUBMISSION

Child
AT

- VEHICULAR
- PEDESTRIAN
- PRIVACY
- BOUNDARY

SITE PHOTOS: REFER TO SHEET 005

- | | | |
|-----------------|-------------|-----------------------|
| 1 CAMPING AREA | 4 THE LODGE | 7 HARTLEY |
| 2 PLAZA COTTAGE | 5 JAMISON | 8 PLAZA & AUDITORIUM |
| 3 KEDUMBA | 6 MEGALONG | 9 SCENIC RAILWAY SITE |

Building
Drawing Title
SITE ANALYSIS

Project & Client
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0 10m 20m 30m 40m 50m 60m
Drawing Reference
14289 - 002
Revision
A



1 BUSHFIRE PRONE AREAS
1 : 2500

BUSHFIRE CATEGORY 1 BUSHFIRE CATEGORY 2 BUSHFIRE BUFFER



2 ENVIRONMENT BIODIVERSITY
1 : 2500

VEGETATION CONSTRAINT ECOLOGICAL BUFFER



3 ESCARPMENT AREA
1 : 2500

ESCARPMENT



4 SLOPE CONSTRAINT AREA
1 : 2500

SLOPE CONSTRAINT

Key Plan

Issue		Description	Child
No.	Date		
A	15/02/2018	DA SUBMISSION	AT

Building

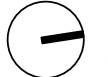
Drawing Title
ENVIRONMENTAL CONSTRAINTS
LEP 2015

Project & Client

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Drawing Reference
14289 - 003

Revision
A



Key Plan

Issue	Date	Description
No. A	15/02/2018	DA SUBMISSION

Child

AT

- * St Bernard's Old Boys Association School Records
- Vehicular Access
- Pedestrian Access
- Site Boundary

- 🛏 Beds
- 🚗 Parking
- 🚻 WC
- 🎪 Auditorium

- 🍴 Dining
- 📅 Meeting
- 🏕 Camping

Building

Drawing Title
EXISTING CONDITIONS

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0 10m 20m 30m 40m 50m 60m
Drawing Reference
14289 - 004
Revision
A



1 Camping Area



2 Plaza Cottage



3 Kedumba



4 The Lodge



5 Jamison



6 Megalong



7 Hartley



8 Plaza + Auditorium



9 Scenic Railway Site

Issue		Description	Child
No.	Date		
A	15/02/2018	DA SUBMISSION	AT

SITE PHOTOS: REFER TO SHEET 005			
1	CAMPING AREA	4	THE LODGE
2	PLAZA COTTAGE	5	JAMISON
3	KEDUMBA	6	MEGALONG
7	HARTLEY	8	PLAZA & AUDITORIUM
9	SCENIC RAILWAY SITE		

Building
Drawing Title
EXISTING CONDITIONS PHOTOS

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Revision A



Key Plan

Issue	Date	Description
No. A	15/02/2018	DA SUBMISSION

Child
AT



Accessible Accommodation



Vehicular Access



Pedestrian Access



Removed Buildings



Carparking Spaces



Site Boundary

Building

Drawing Title
MASTER PLAN - STAGING PLAN

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Drawing Reference
14289 - 007
Revision
A

ZONE 1	
BEDS	112
BREAKOUT	1620
DINING	0
PARKING	50
AUDITORIUM	3500

ZONE 2	
BEDS	224
BREAKOUT	280
DINING	0
PARKING	20

ZONE 3	
BEDS	54
BREAKOUT	0
DINING	550
PARKING	5



Key Plan



Issue	Date	Description
No. A	15/02/2018	DA SUBMISSION

CHD	ACCESSIBLE ACCOMMODATION	DINING/ADMIN
AT	REMOVED BUILDINGS	ECO CHALET
	VEHICULAR ACCESS	ECO LODGE
	PEDESTRIAN ACCESS	LIFT
	SITE BOUNDARY	

Surface Treatment	
PAVING	EXISTING VEHICULAR ACCESS PATH
GRAVEL PATHS	PERMEABLE CARPARK PAVING
ACCESSIBLE PATH	
NEW BITUMEN	

Building
Drawing Title
ZONES 1, 2 & 3 PLAN

Project & Client
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0 1m 2m 3m 4m 5m 6m
Drawing Reference
14289 - 008
Revision
A



Key Plan



Issue		
No.	Date	Description
A	15/02/2018	DA SUBMISSION

Chld	Legend
AT	A/C COMMUNICATION BOARD
	DB DOWNPIPE
	EXH KITCHEN / TOILET EXHAUST
	FH FIRE HYDRANT
	FHR FIRE HOSE REEL
	FIP FIRE INDICATOR PANEL
	MSB MAIN SWITCHBOARD
	PIT STORMWATER PIT

Surface Treatment		
	PAVING	EXISTING VEHICULAR ACCESS PATH
	GRAVEL PATHS	PEARMEABLE CARPARK PAVING
	ACCESSIBLE PATH	
	NEW BITUMEN	REMOVED BUILDINGS & TREES

Building
Drawing Title
ZONE 1 - AUDITORIUM + PLAZA GROUND PLAN

Project & Client
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at
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Date 15/02/2018 4:52:22 PM
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0 3m 6m 9m 12m 15m 18m
Drawing Reference
14289 - 009
Revision
A



Key Plan



Issue		Description
No.	Date	
A	15/02/2018	DA SUBMISSION

Legend	
AC	AIR CONDITIONING PLANT
COMMS	COMMUNICATION BOARD
DB	DISTRIBUTION BOARD
DP	DOWNPIPE
EXH	KITCHEN / TOILET EXHAUST
FH	FIRE HYDRANT
FHR	FIRE HOSE REEL
FIP	FIRE INDICATOR PANEL
MSB	MAIN SWITCHBOARD
PIT	STORMWATER PIT

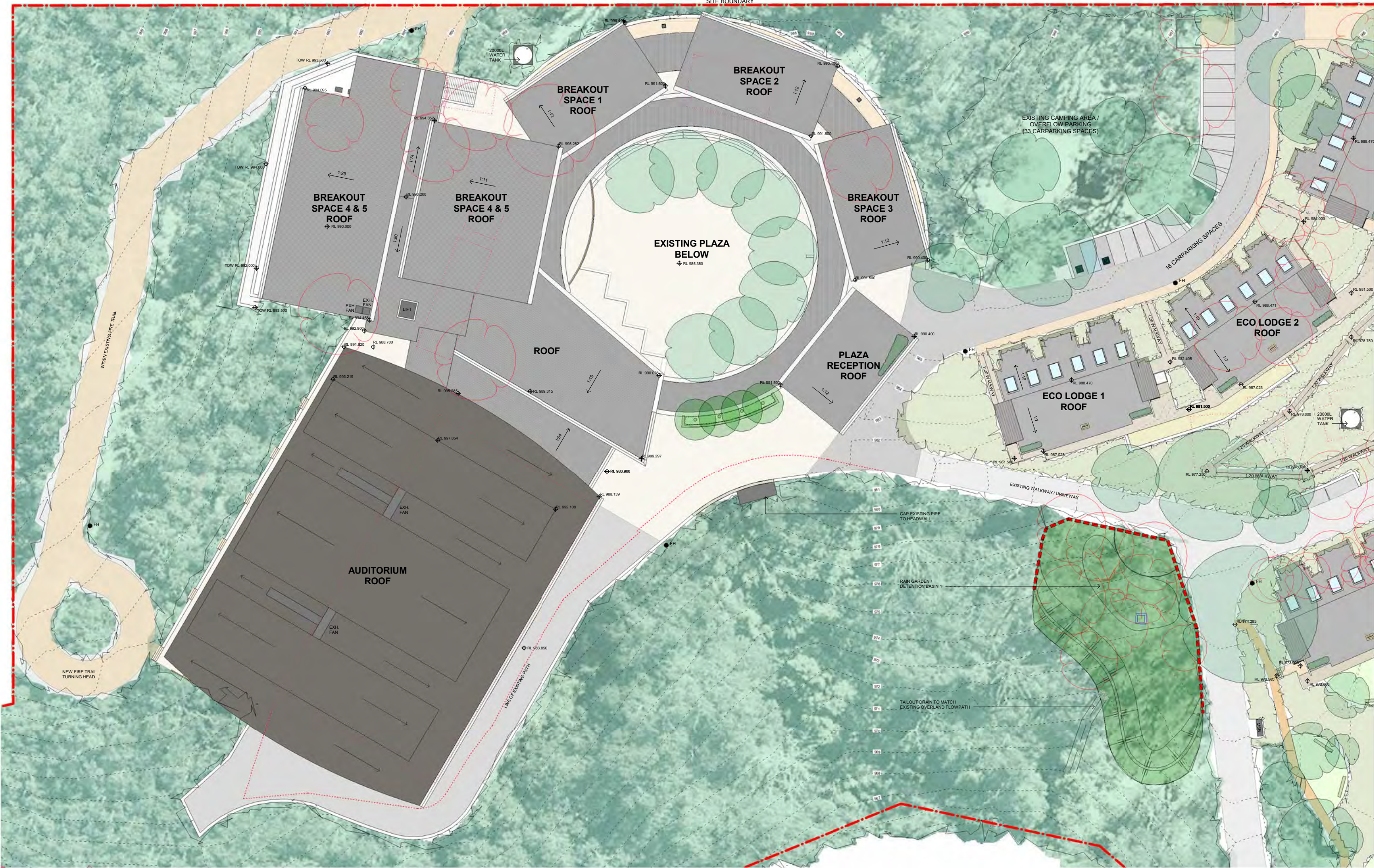
Surface Treatment		Legend
PAVING	EXISTING VEHICULAR ACCESS PATH	REMOVED BUILDINGS & TREES
GRAVEL PATHS	PERMEABLE CARPARK PAVING	
ACCESSIBLE PATH		
NEW BITUMEN		

Building
Drawing Title
**ZONE 1 - AUDITORIUM + PLAZA
LEVEL 1 PLAN**

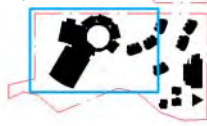
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0 3m 6m 9m 12m 15m 18m
Drawing Reference
14289 - 010
Revision
A



Key Plan



Issue
No. Date Description
A 15/02/2018 DA SUBMISSION

Child
AT

Legend
A/C AIR CONDITIONING PLANT
C/C COMMUNICATIONS CABINET
DB DISTRIBUTION BOARD
DP DOWNPIPE
EXH EXHAUST
FH FIRE HYDRANT
FHR FIRE HOSE REEL
FIP FIRE INDICATOR PANEL
MSB MAIN SWITCHBOARD
PIT STORMWATER PIT

Surface Treatment
PAVING
GRAVEL PATHS
ACCESSIBLE PATH
NEW BITUMEN

EXISTING VEHICULAR ACCESS PATH
PEARMEABLE CARPARK PAVING
REMOVED BUILDINGS & TREES

Building

Drawing Title
ZONE 1 - AUDITORIUM + PLAZA
ROOF PLAN

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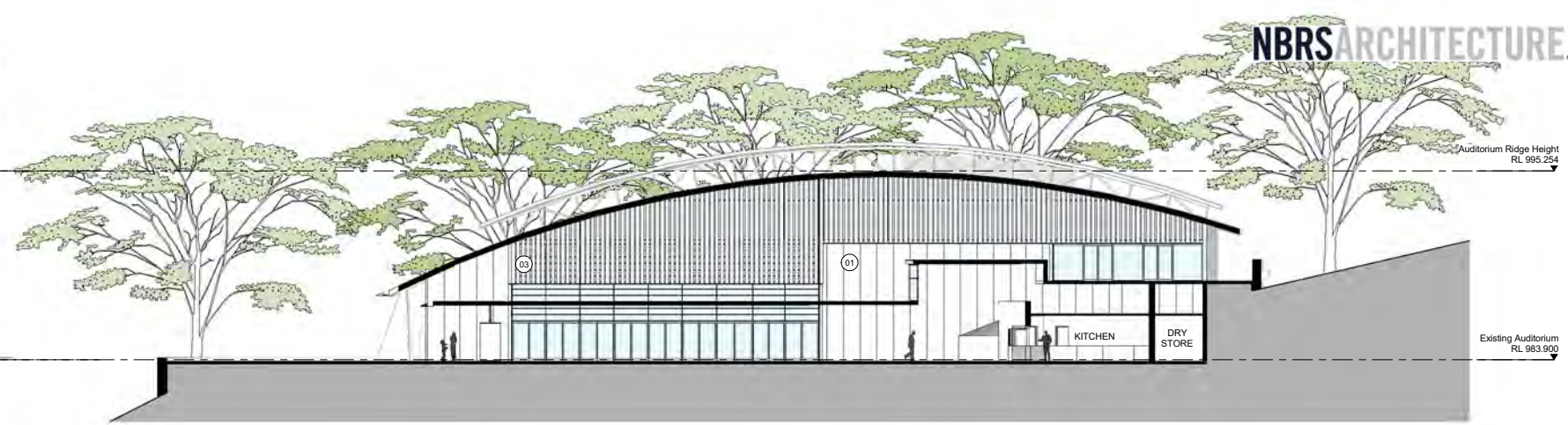
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Drawing Reference
14289 - 011

Revision
A



1 Auditorium - East Elevation
1 : 200



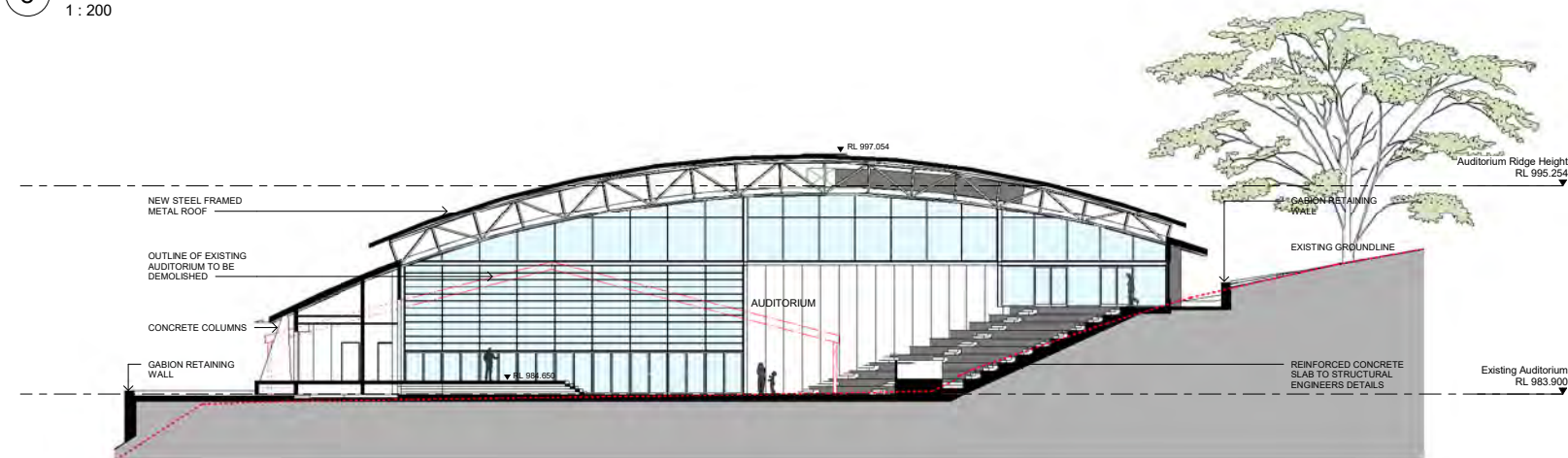
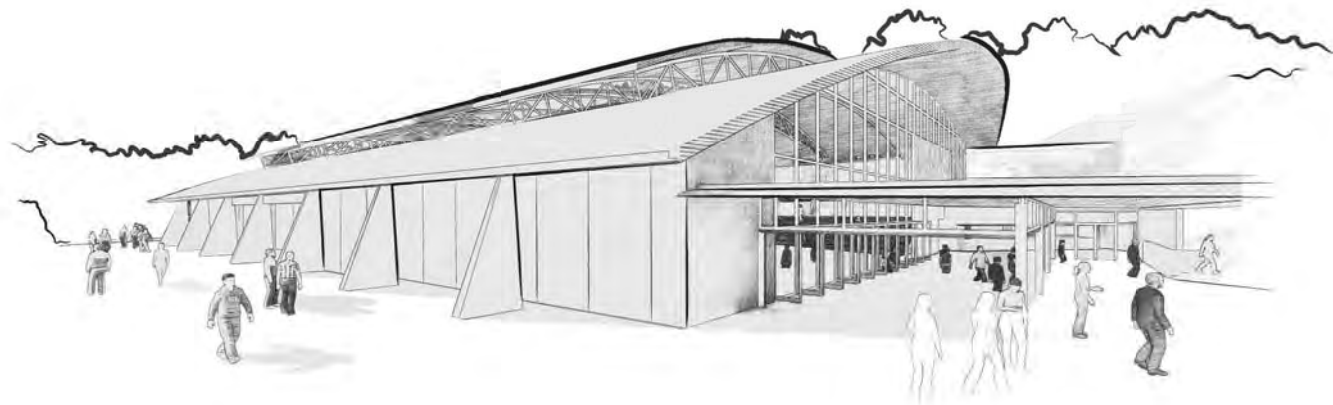
2 Auditorium - West Elevation
1 : 200



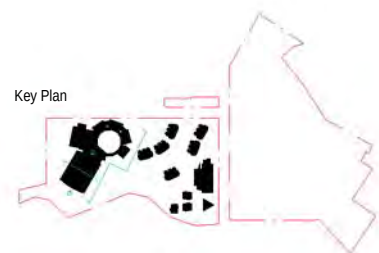
3 Auditorium - North Elevation
1 : 200



8 Auditorium - South Elevation
1 : 200



6 Auditorium Section
1 : 200



Issue
No. A
Date 15/02/2018
Description DA SUBMISSION

Chkd
AT

--- REMOVED BUILDINGS & TREES

- | | |
|-----------------------|---------------------|
| 1 CONCRETE PANEL | 10 GABION BOXES |
| 2 GLASS | 11 RENDER |
| 3 LOUVRE - TYPE 1 | 12 TIMBER BATTENS |
| 4 METAL ROOF SHEETING | 13 STONE CLADDING |
| 5 LOUVRE - TYPE 2 | 14 METAL CLADDING |
| 6 CORTEN STEEL | 15 PLYWOOD CLADDING |
| 7 OFF FORM CONCRETE | 16 FC SHEET |

17 BLOCK WALL

Building

Drawing Title
AUDITORIUM ELEVATIONS,
SECTIONS + 3D

Project & Client
Katoomba Christian Convention
at
Cliff Dr & Violet St, Katoomba NSW 2780
for
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Drawing Reference 14289 - 012
Revision A



Key Plan



Issue		
No.	Date	Description
A	15/02/2018	DA SUBMISSION

Chld	Legend
AT	A/C COMM DB
	EXH. FHR. FIP. MSB. PIT.
	DOWNPIPE. KITCHEN/TOILET EXHAUST. FIRE HYDRANT. FIRE HOSE REEL. FIRE INDICATOR PANEL. MAIN SWITCHBOARD. STORMWATER PIT.

Surface Treatment	EXISTING VEHICULAR ACCESS PATH
PAVING	PEARMEABLE CARPARK PAVING
GRAVEL PATHS	
ACCESSIBLE PATH	
NEW BITUMEN	

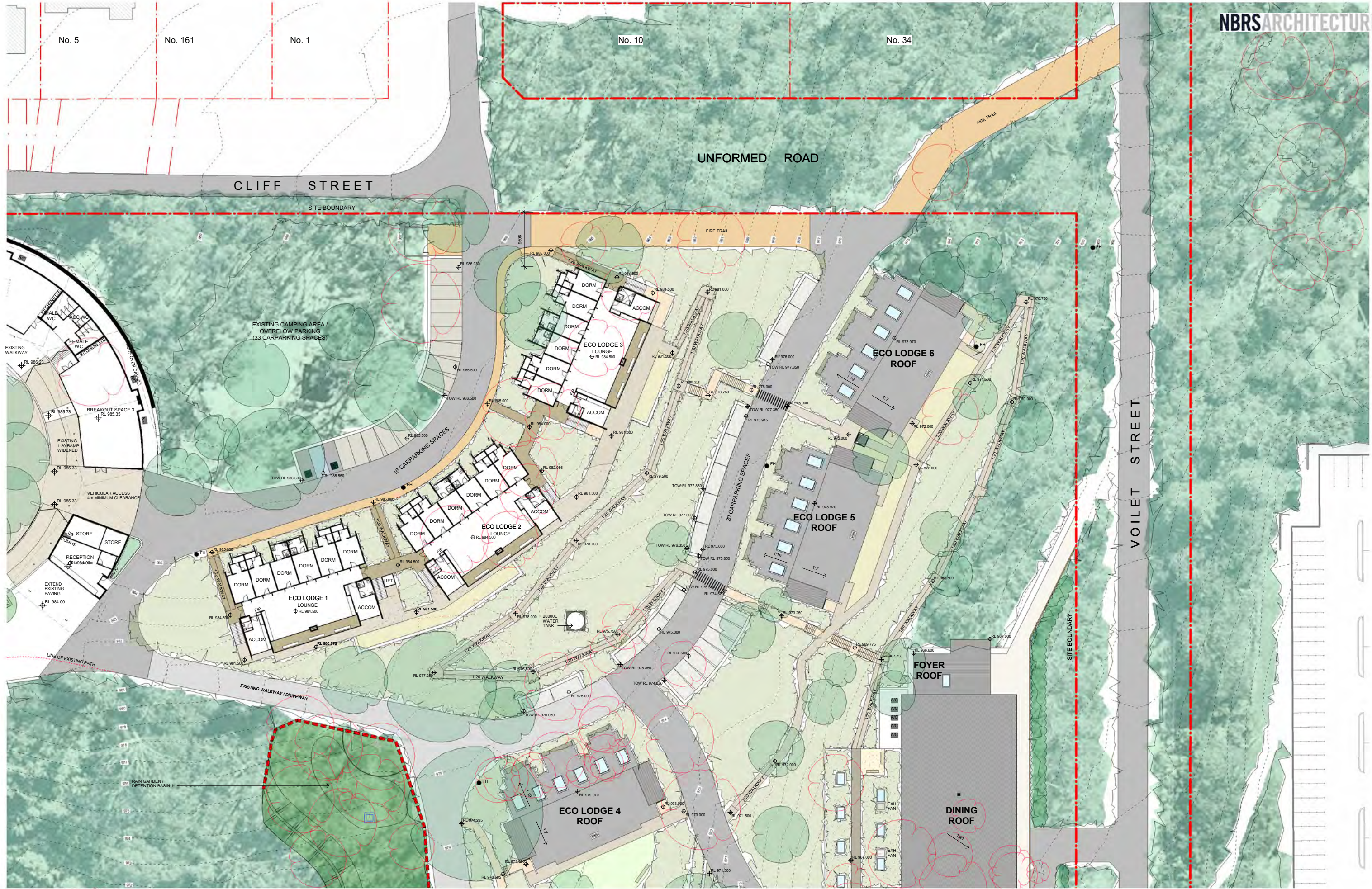
REMOVED BUILDINGS & TREES

Building
Drawing Title
ZONE 2 - ECO LODGE 4, 5 & 6
GROUND PLAN

Project & Client
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at
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Drawing Reference 14289 - 014
Revision A



Key Plan



Issue	No.	Date	Description
A	1	15/02/2018	DA SUBMISSION

Legend	Chld
A/C	AT
COMMS	
DB	
DP	
EXH	
FH	
FHR	
FIP	
MSB	
PIT	

Surface Treatment	EXISTING VEHICULAR ACCESS PATH	REMOVED BUILDINGS & TREES
PAVING	PEARMEABLE CARPARK PAVING	
GRAVEL PATHS		
ACCESSIBLE PATH		
NEW BITUMEN		

Building
Drawing Title
ZONE 2 - ECO LODGE 1, 2 & 3 GROUND PLAN

Project & Client
Katoomba Christian Convention
at
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Drawing Reference
14289 - 015
Revision
A



Key Plan



Issue		Description
No.	Date	
A	15/02/2018	DA SUBMISSION

Legend	
A/C	AIR CONDITIONING PLANT
COMMS	COMMUNICATION BOARD
DB	DISTRIBUTION BOARD
DP	DOWNPIPE
EXH	KITCHEN / TOILET EXHAUST
FH	FIRE HYDRANT
FHR	FIRE HOSE REEL
FIP	FIRE INDICATOR PANEL
MSB	MAIN SWITCHBOARD
PIT	STORMWATER PIT

Surface Treatment	
PAVING	EXISTING VEHICULAR ACCESS PATH
GRAVEL PATHS	PERMEABLE CARPARK PAVING
ACCESSIBLE PATH	
NEW BITUMEN	REMOVED BUILDINGS & TREES

Building	
Drawing Title	ZONE 3 - ADMIN + CAFE GROUND PLAN

Project & Client	Katoomba Christian Convention
at	Cliff Dr & Violet St, Katoomba NSW 2780
for	KCC

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Date 15/02/2018 4:54:25 PM
Scale: 300@A1 or 600@A3
0 3m 6m 9m 12m 15m 18m
Drawing Reference 14289 - 016
Revision A



Key Plan



Issue
No. A
Date 15/02/2018
Description DA SUBMISSION

Child
AT
Legend
A/C AIR CONDITIONING PLANT
COMMS COMMUNICATION BOARD
DB DISTRIBUTION BOARD
DP DOWNPIPE
EXH KITCHEN / TOILET EXHAUST
FH FIRE HYDRANT
FHR FIRE HOSE REEL
FIP FIRE INDICATOR PANEL
MSB MAIN SWITCHBOARD
PIT STORMWATER PIT

Surface Treatment
PAVING
GRAVEL PATHS
ACCESSIBLE PATH
NEW BITUMEN
EXISTING VEHICULAR ACCESS PATH
PERMEABLE CARPARK PAVING
REMOVED BUILDINGS & TREES

Building
Drawing Title
ZONE 3 - DINING FLOOR PLAN

Project & Client
Katoomba Christian Convention
at
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Scale: 300@A1 or 600@A3
0 3m 6m 9m 12m 15m 18m
Drawing Reference
14289 - 017
Revision
A



Issue		
No.	Date	Description
A	15/02/2018	DA SUBMISSION

Legend	
AC	AIR CONDITIONING PLANT
COMMS	COMMUNICATION BOARD
DB	DISTRIBUTION BOARD
DP	DOWNPIPE
EXH	KITCHEN / TOILET EXHAUST
FH	FIRE HYDRANT
FHR	FIRE HOSE REEL
FIP	FIRE INDICATOR PANEL
MSB	MAIN SWITCHBOARD
PIT	STORMWATER PIT

Surface Treatment	
PAVING	EXISTING VEHICULAR ACCESS PATH
GRAVEL PATHS	PERMEABLE CARPARK PAVING
ACCESSIBLE PATH	REMOVED BUILDINGS & TREES
NEW BITUMEN	

Building

Drawing Title

ZONE 3 - ECO CHALET 1, 2 & 3

GROUND PLAN

Project & Client

Katoomba Christian Convention

at

Cliff Dr & Violet St, Katoomba NSW 2780

for

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Scale: 300@A1 or 600@A3

0 3m 6m 9m 12m 15m 18m

Drawing Reference

14289 - 018

Revision

A



Issue		
No.	Date	Description
1	01/08/2017	CONSULTANT ISSUE

Chkd	Legend	
AT	A/C	AIR CONDITIONING PLANT
	COMMS	COMMUNICATION BOARD
	DB	DISTRIBUTION BOARD
	DP	DOWPIPE
	EXH.	KITCHEN / TOILET EXHAUST
	FH	FIRE HYDRANT
	FHR	FIRE HOSE REEL
	FIP	FIRE INDICATOR PANEL
	MSB	MAIN SWITCHBOARD
	PIT	STORMWATER PIT

Surface Treatment
PAVING
GRAVEL PATHS
ACCESSIBLE PATH
NEW BITUMEN
EXISTING VEHICULAR ACCESS PATH
PERMEABLE CARPARK PAVING

REMOVED BUILDINGS & TREES

Building
Drawing Title
ZONE 3 - ECO CHALET 1, 2 & 3
ROOF PLAN

Project & Client
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at
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Drawing Reference 14289 - 019
Revision 1



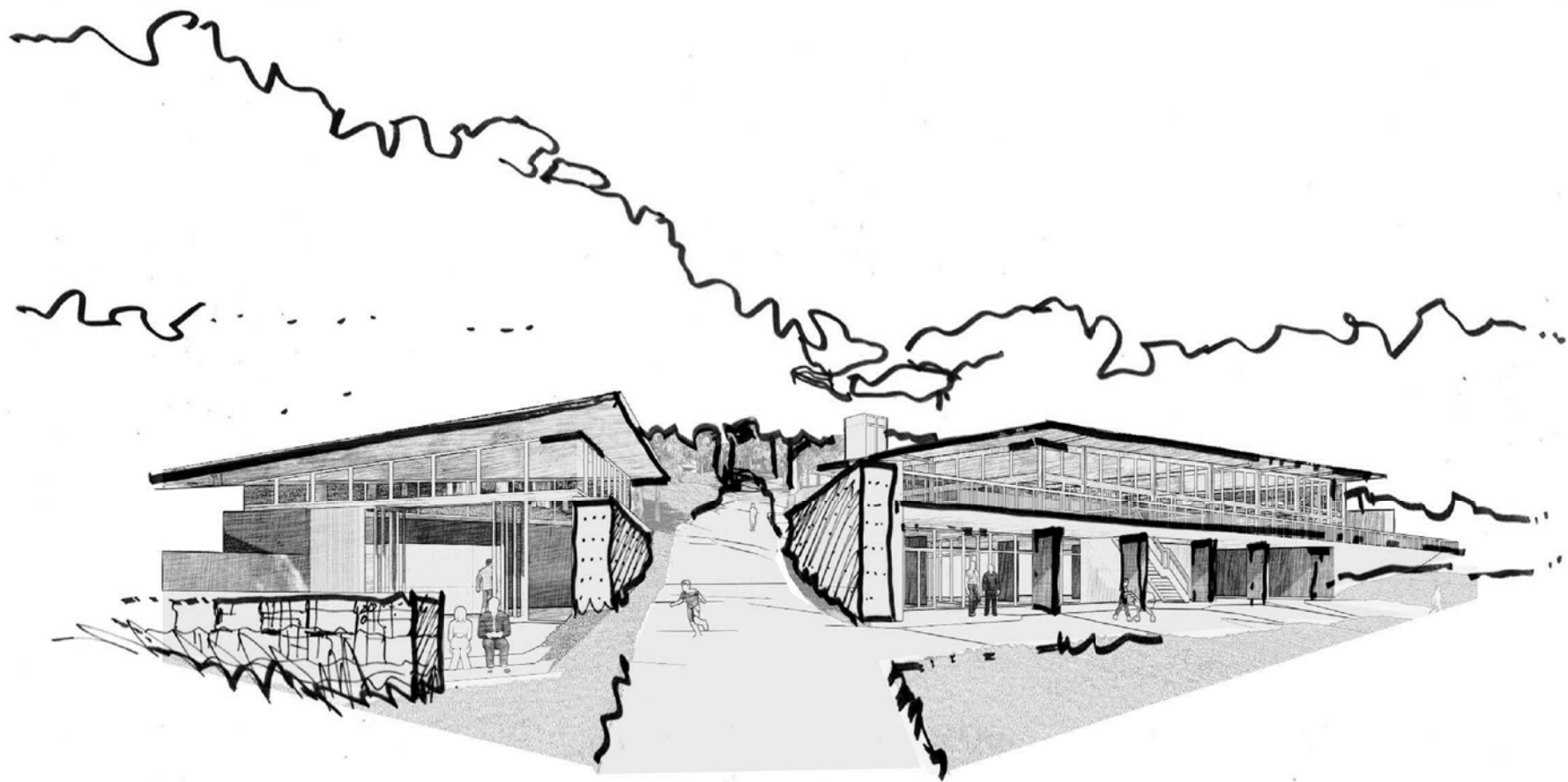
1 Dining - North Elevation
1 : 200



2 Dining Section
1 : 200



3 Cafe Section
1 : 200



Key Plan



Issue
No. Date Description
A 15/02/2018 DA SUBMISSION

Child
AT

- | | | | | | |
|---|---------------------|----|------------------|----|------------|
| 1 | CONCRETE PANEL | 8 | GABION BOXES | 15 | BLOCK WALL |
| 2 | GLASS | 9 | RENDER | | |
| 3 | LOUVRE - TYPE 1 | 10 | TIMBER BATTENS | | |
| 4 | METAL ROOF SHEETING | 11 | STONE CLADDING | | |
| 5 | LOUVRE - TYPE 2 | 12 | METAL CLADDING | | |
| 6 | CORTEN STEEL | 13 | PLYWOOD CLADDING | | |
| 7 | OFF FORM CONCRETE | 14 | FC SHEET | | |

Building

Drawing Title
ADMIN & DINING ELEVATION,
SECTIONS + 3D

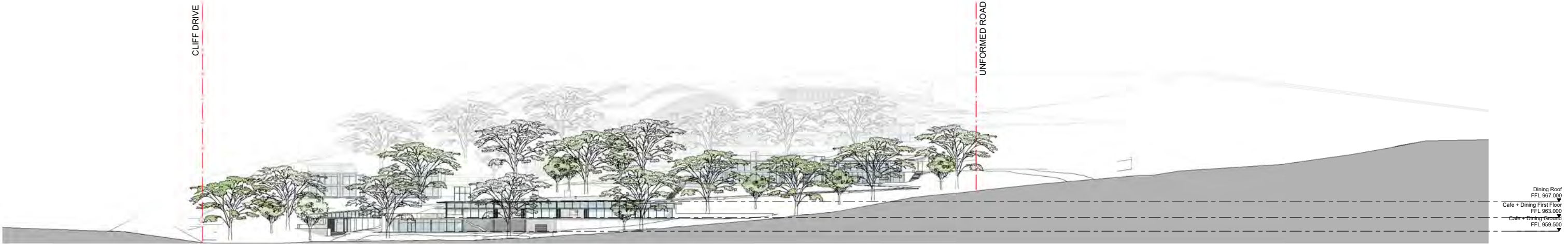
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Scale: 200@A1 or 400@A3
0 2m 4m 6m 8m 10m 12m
Drawing Reference 14289 - 020
Revision A



1 Site Section - Plaza
1 : 500



2 Site Elevation - Violet Street
1 : 500



Issue		Description	Child
No.	Date		
A	15/02/2018	DA SUBMISSION	AT

Building
Drawing Title
SITE SECTION + ELEVATION

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Scale: 500@A1 or 1000@A3
0 5m 10m 15m 20m 25m 30m
Drawing Reference 14289 - 021
Revision A



1. PRECAST CONCRETE PANEL



2. ALUMINIUM FRAMED GLASS



3. METAL LOUVRE



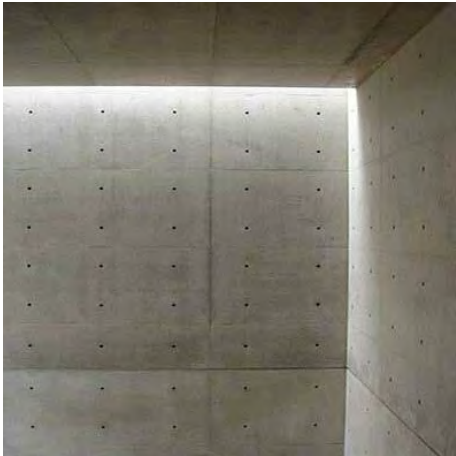
4. ROOF SHEETING - WALLABY COLORBOND



5. TIMBER LOUVRE



6. METAL CLADDING



7. OFF FORM CONCRETE



8. GABION BOXES



9. RENDER



10. TIMBER BATTENS



11. STONE CLADDING



12. METAL CLADDING



13. PLYWOOD CLADDING



14. FIBRE CEMENT SHEET



15. RENDERED BLOCK WALL



Issue		Description	Chld
No.	Date		
A	15/02/2018	DA SUBMISSION	AT

Building

Drawing Title
VIOLET STREET VIEW STUDY - ORIGINAL PHOTO

Project & Client
Katoomba Christian Convention
at
Cliff Dr & Violet St, Katoomba NSW 2780
for
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Issue		Description	Chld
No.	Date		
A	15/02/2018	DA SUBMISSION	AT

Building

Drawing Title
VIOLET STREET VIEW STUDY -
PHOTOMONTAGE

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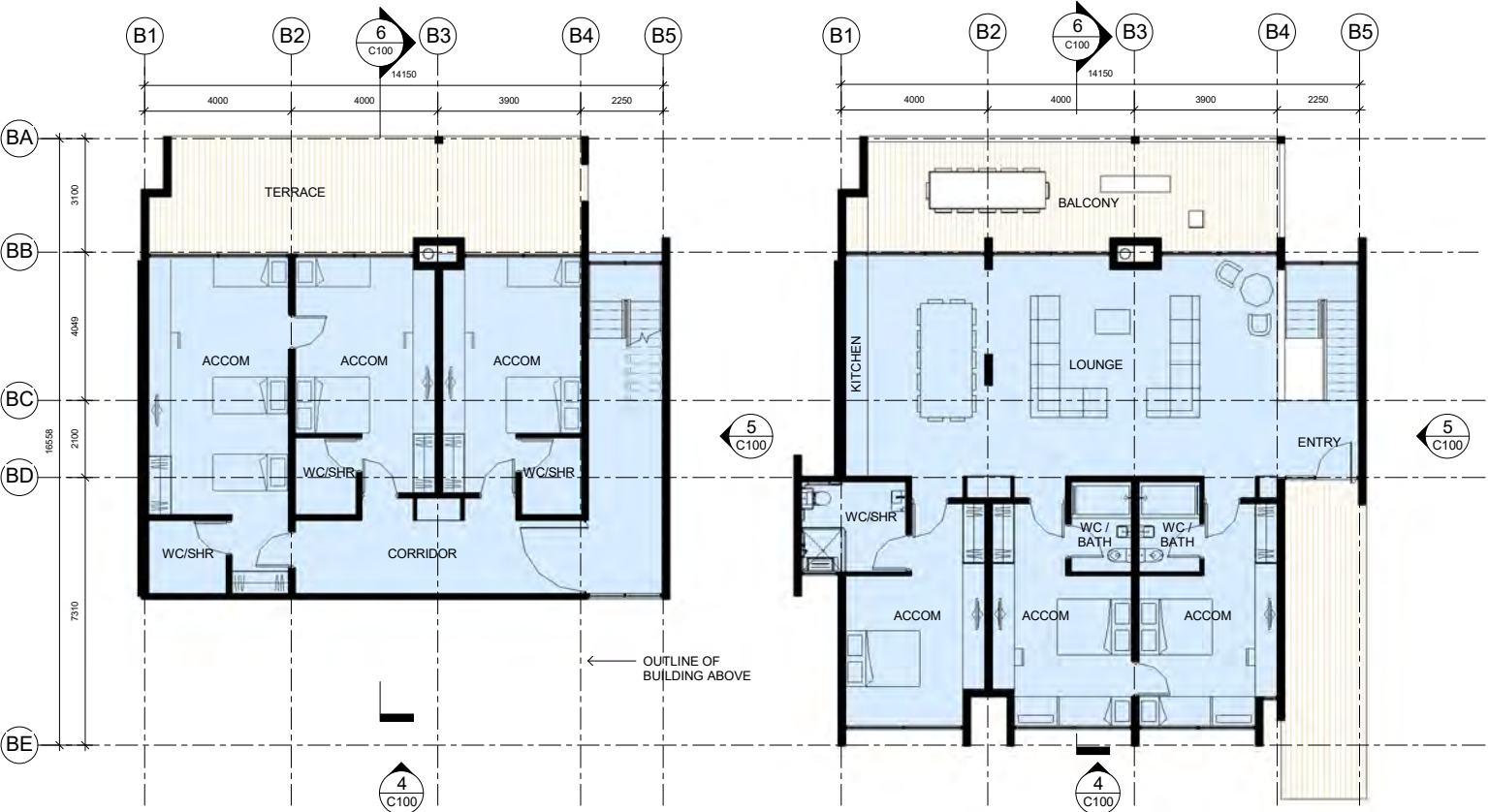
Issue		Description	Child
No.	Date		
A	15/02/2018	DA SUBMISSION	AT

Building

Drawing Title
PLAZA VIEW STUDY

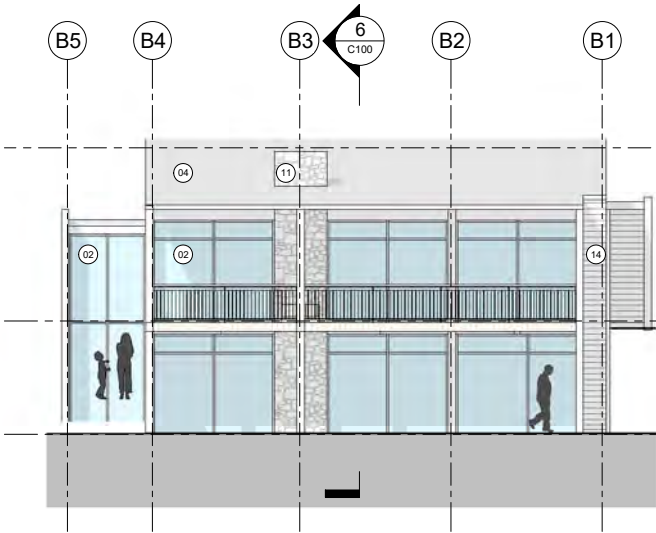
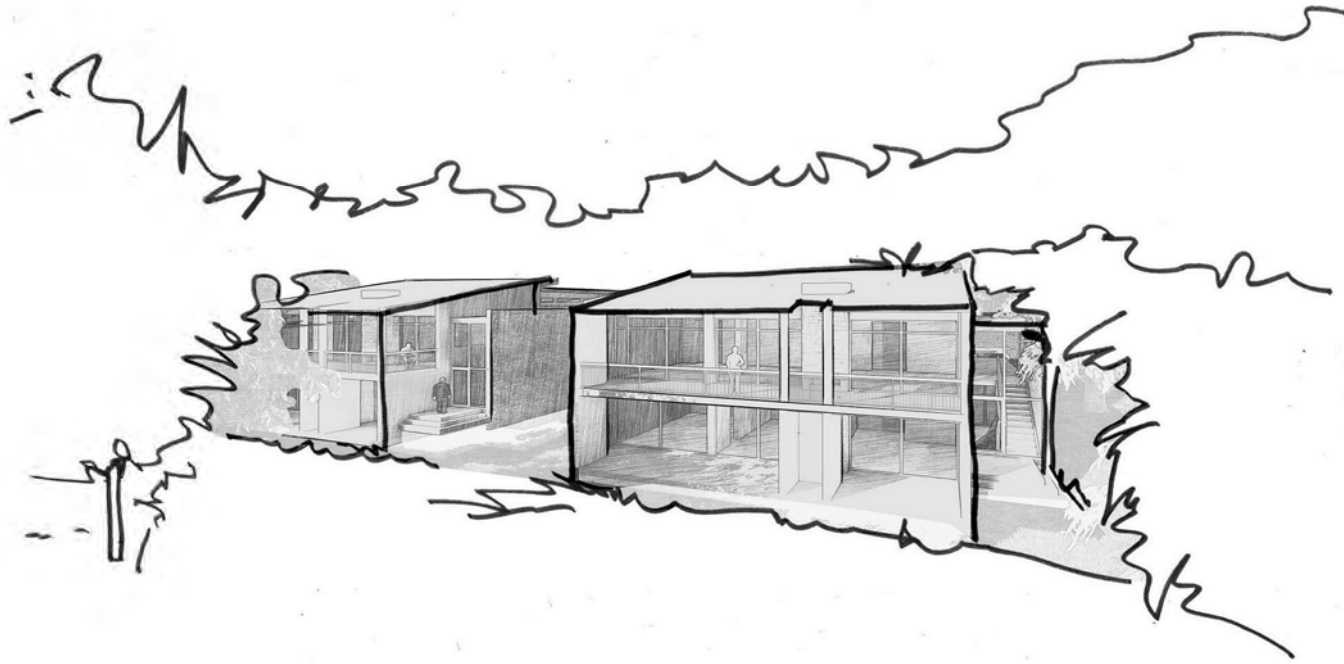
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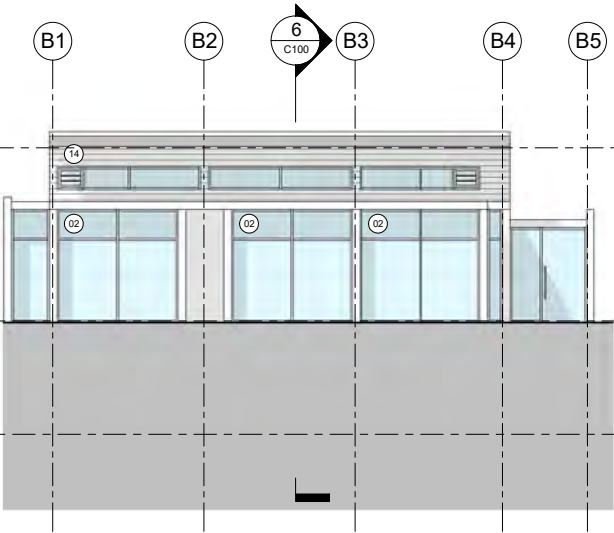


1 Lower Ground Plan
1 : 100

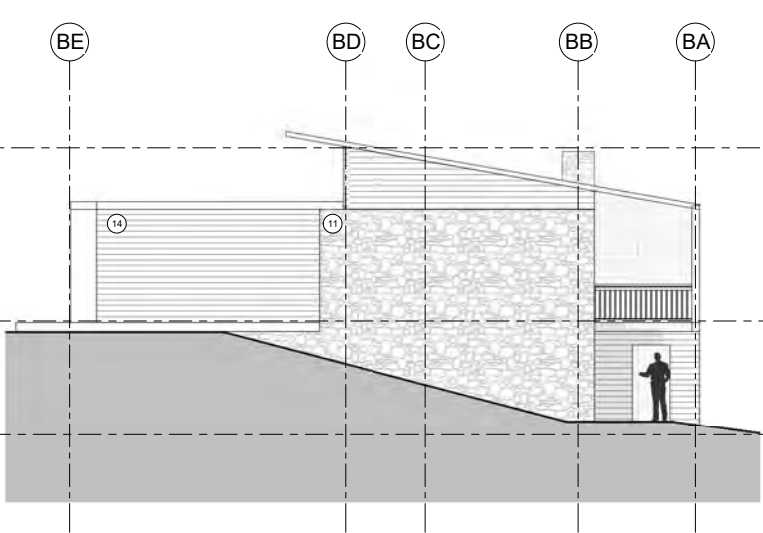
2 Ground Floor Plan
1 : 100



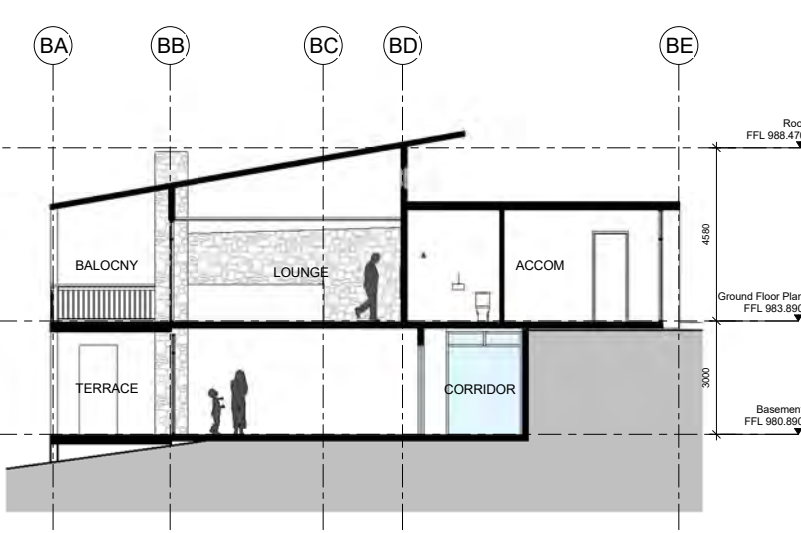
3 Elevation 1
1 : 100



4 Elevation 2
1 : 100



5 Elevation 3
1 : 100



6 Short Section
1 : 100

ECO CHALET

Issue		
No.	Date	Description
A	15/02/2018	DA ISSUE

Child
AT

1	CONCRETE PANEL	8	GABION BOXES	15	BLOCK WALL
2	GLASS	9	RENDER		
3	LOUVRE - TYPE 1	10	TIMBER BATTENS		
4	ROOF SHEETING	11	STONE CLADDING		
5	LOUVRE - TYPE 2	12	METAL CLADDING		
6	CORTEN STEEL	13	PLYWOOD CLADDING		
7	OFF FORM CONCRETE	14	FC SHEET		

Building

Drawing Title
ECO CHALET - PLANS AND
ELEVATIONS

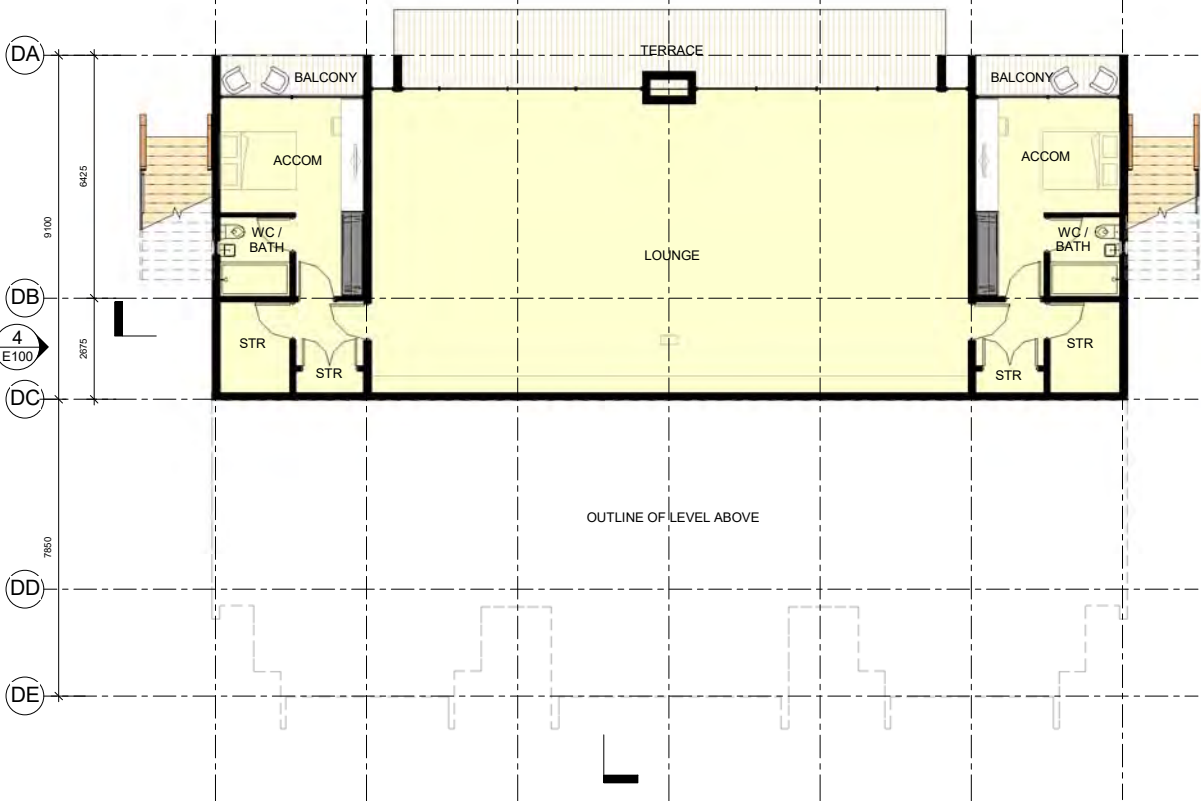
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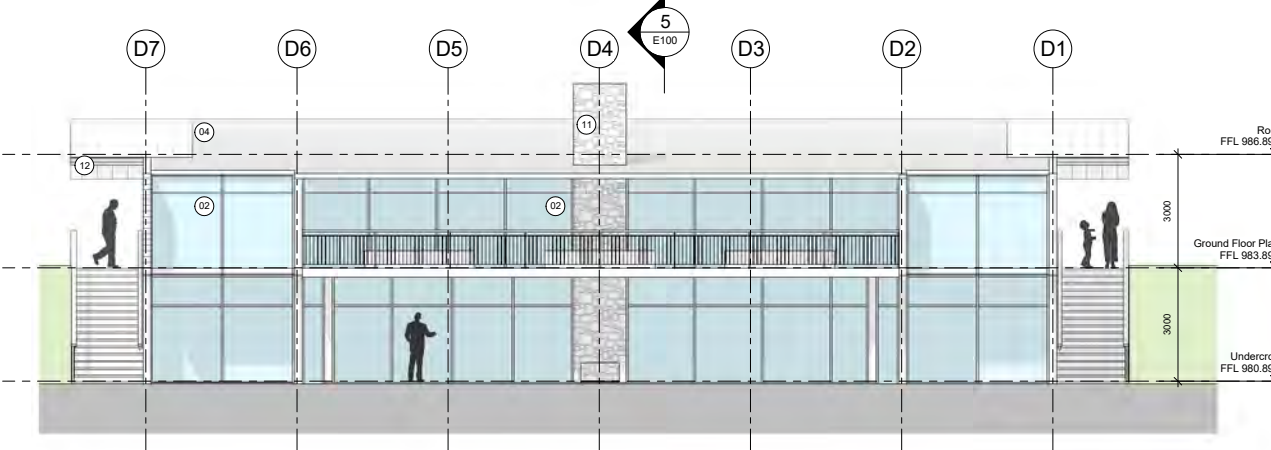
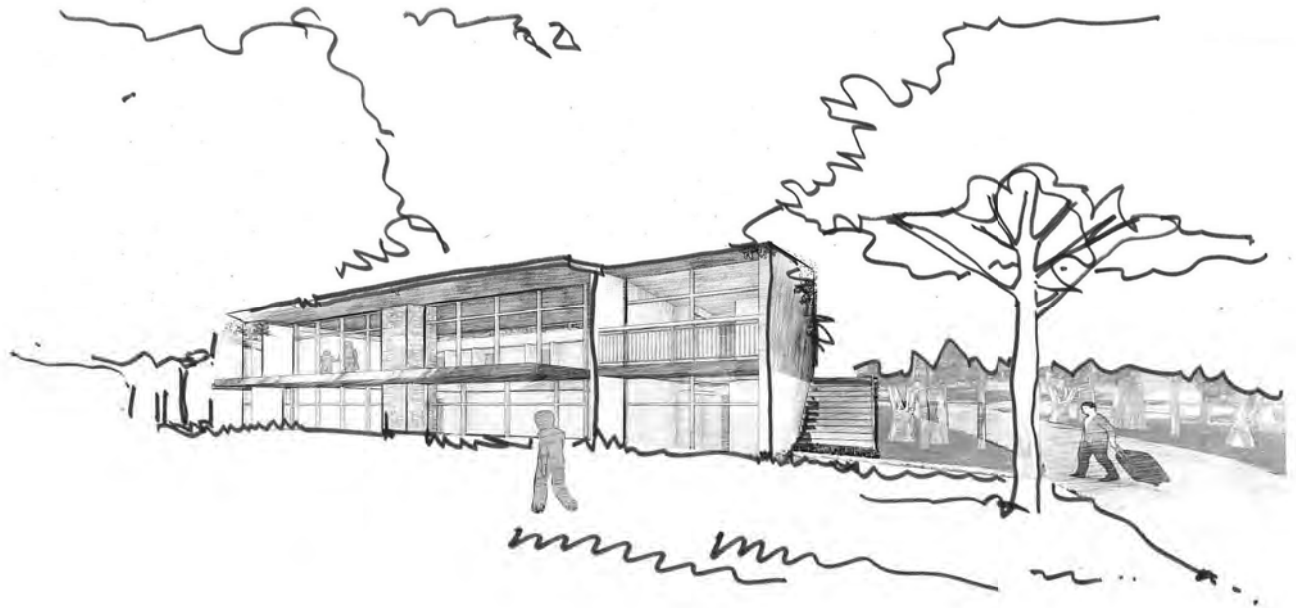
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Drawing Reference 14289 - C100
Revision A



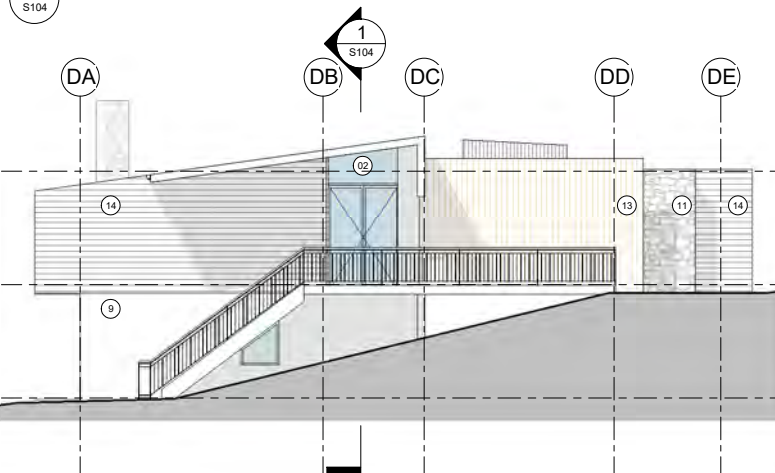
1 Ground Floor Plan
1 : 100



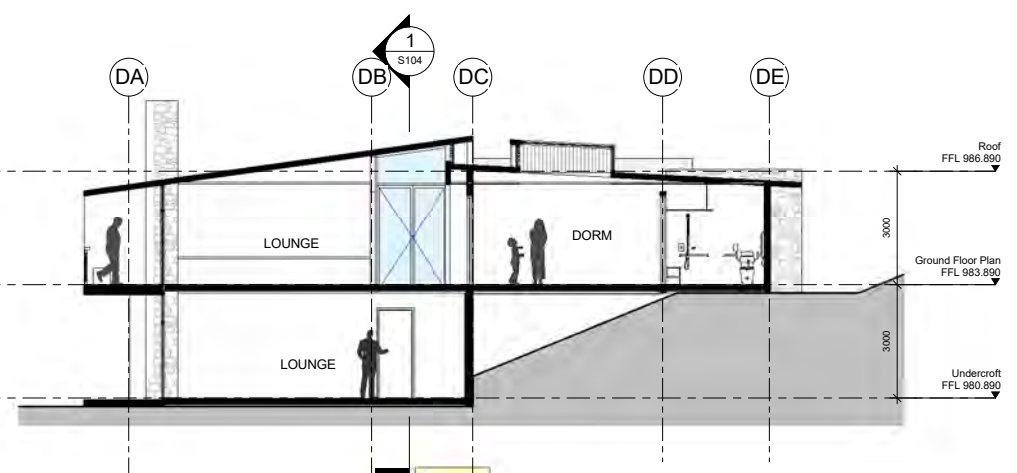
2 Lower Ground Floor Plan
1 : 100



3 Elevation 1
1 : 100



4 Elevation 4
1 : 100



5 Section 3
1 : 100

ECO LODGE

Issue	No.	Date	Description	Chld
A	15/02/2017	DA ISSUE	AT	

1	CONCRETE PANEL	8	GABION BOXES	15	BLOCK WALL
2	GLASS	9	RENDER		
3	LOUVRE - TYPE 1	10	TIMBER BATTENS		
4	ROOF SHEETING	11	METAL CLADDING		
5	LOUVRE - TYPE 2	12	PLYWOOD CLADDING		
6	CORTEN STEEL	13	FC SHEET		
7	OFF FORM CONCRETE				

Building
Katoomba Christian Convention
at
Cliff Dr & Violet St, Katoomba NSW 2780
for
KCC

Drawing Title
ECO LODGE PLANS + ELEVATIONS

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Drawing Reference 14289 - E100
Revision A

No. 1

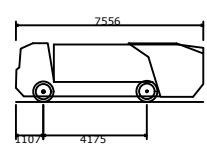
No. 10

E REGRADED TO REDIRECT
CHED - REFER TO HYDRAULIC

R E E T

NEW FIRE TRAI

ND DRAINED TO
US MATERIAL, COVED
S AND PROVIDED WITH
HE WATER SUPPLY.



7.5m Rear Loader
Overall Length 7556mm
Overall Width 2400mm
Overall Body Height 2365mm
Min Body Ground Clearance 204mm
Max Track Width 2400mm
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 7650mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	LM	DL	JR	18/01/18

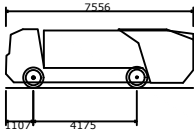
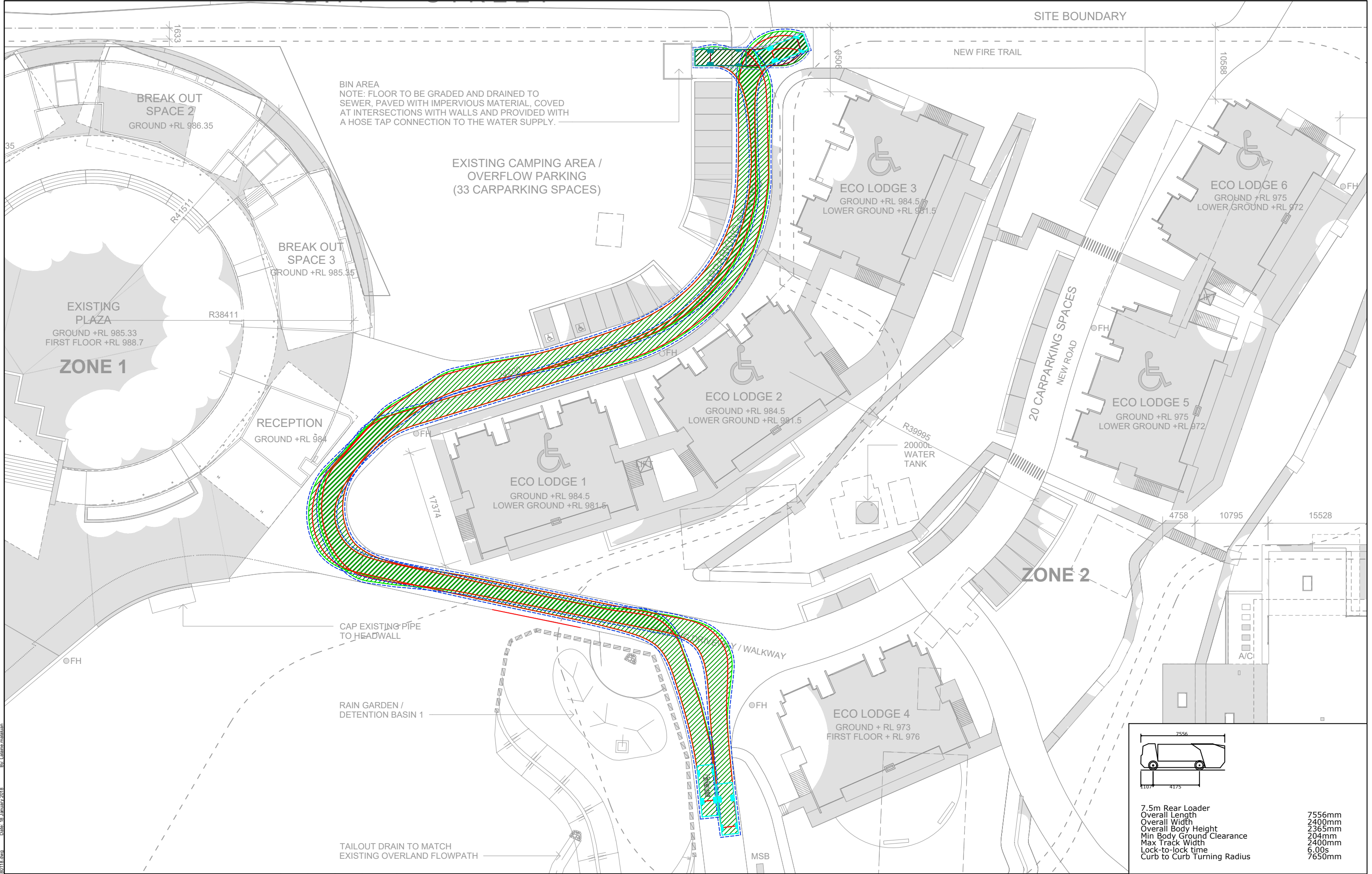
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St. Leonards NSW 2065
Tel: 02 9437 7800
Email: info@tpp.net.au

PROJECT	KATOOMBA CHRISTIAN CONVENTION
TITLE	7.5m REAR LOADING WASTE TRUCK SWEPT PATH ANALYSIS - COLLECTION AREA A (ACCESS FROM LAUREL STREET)

DWG No.	FIGURE 1		
DATE STAMP	18 JANUARY 2018		
PROJECT No.	SCALE	REV.	
15024	1:200 @A3	A	

Filename: 15024.DWG, SWEPT PATH-180118.dwg Date: 18 January 2018 By: Lalaine.malan



7.5m Rear Loader
Overall Length 7556mm
Overall Width 2400mm
Overall Body Height 2365mm
Min Body Ground Clearance 204mm
Max Track Width 2400mm
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 7650mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	LM	DL	JR	18/01/18

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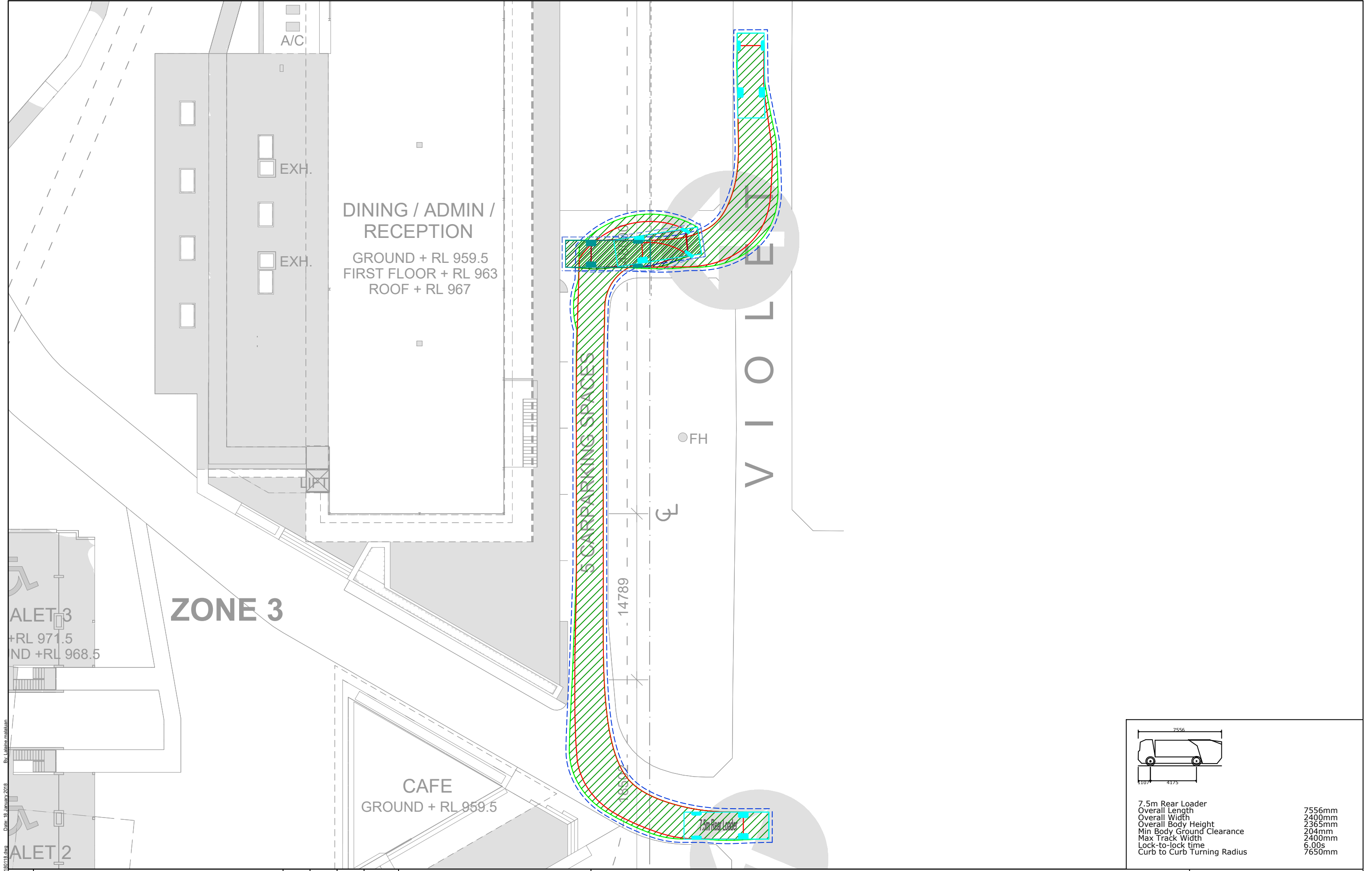
PROJECT

KATOOMBA CHRISTIAN CONVENTION

TITLE

7.5m REAR LOADING WASTE TRUCK
SWEPT PATH ANALYSIS - COLLECTION AREA A (ACCESS FROM CLIFF DRIVE)

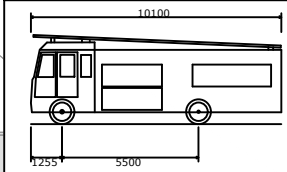
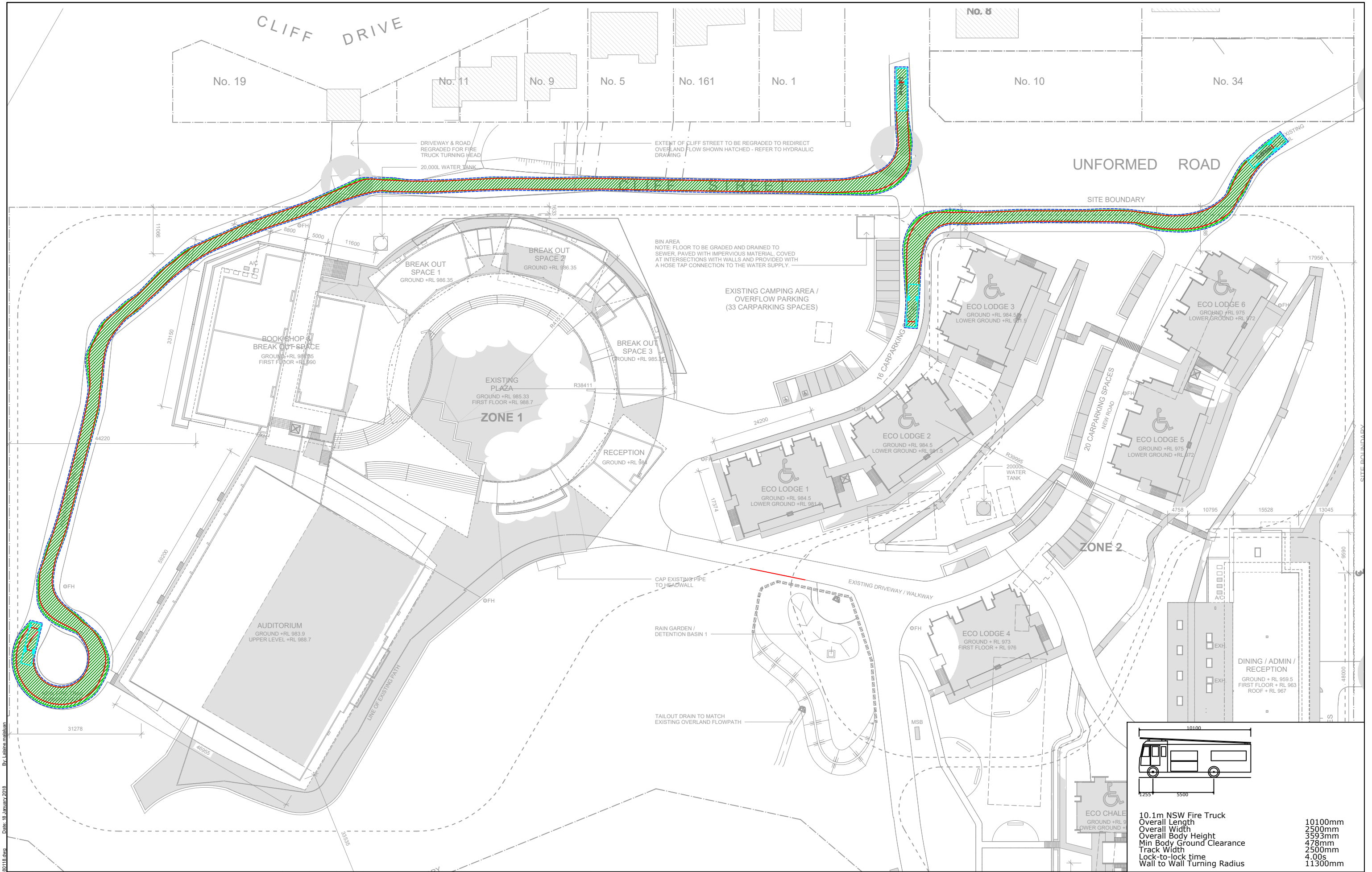
DWG No. FIGURE 2	
DATE STAMP 18 JANUARY 2018	
PROJECT No. 15024	SCALE 1:500 @A3
REV. A	



7.5m Rear Loader
Overall Length 7556mm
Overall Width 2400mm
Overall Body Height 2365mm
Min Body Ground Clearance 204mm
Max Track Width 2400mm
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 7650mm

REV.		DESCRIPTION	DRAWN	CHECK	APP'D	DATE	The Transport Planning Partnership Suite 402, 22 Alchison Street St. Leonards NSW 2065 Tel: 02 8437 7800 Email: info@tpp.net.au	PROJECT		KATOOMBA CHRISTIAN CONVENTION		DWG No.		FIGURE 3			
A		ISSUE FOR DISCUSSION	LM	DL	JR	18/01/18		TITLE		7.5m REAR LOADING WASTE TRUCK SWEPT PATH ANALYSIS - COLLECTION AREA B		DATE STAMP		18 JANUARY 2018			
												PROJECT No.		SCALE		REV.	
												15024		1:300 @A3		A	

Filename: 15024\DWG\SWEPT PATH-180118.dwg
Date: 18 January 2018
By: Lalaine Malalan



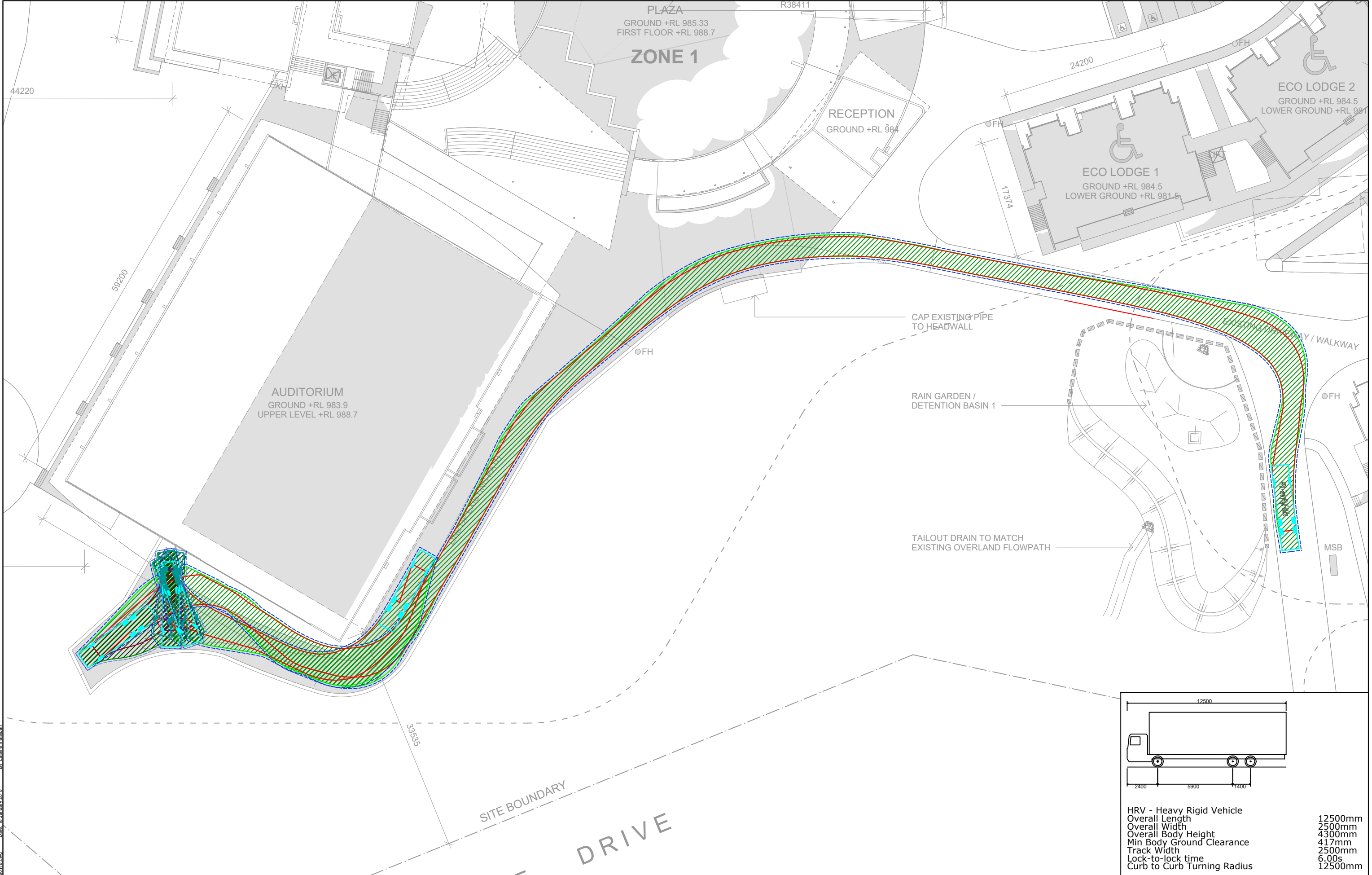
10.1m NSW Fire Truck
Overall Length 10100mm
Overall Width 2500mm
Overall Body Height 3593mm
Min Body Ground Clearance 478mm
Track Width 2500mm
Lock-to-lock time 4.00s
Wall to Wall Turning Radius 11300mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	LM	DL	JR	18/01/18

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PROJECT	KATOOMBA CHRISTIAN CONVENTION			DWG No.	FIGURE 4	
TITLE	10.1m NSW FIRE TRUCK SWEEP PATH ANALYSIS			DATE STAMP	18 JANUARY 2018	
	PROJECT No.	15024	SCALE	1:800 @A3	REV.	A



Filename: 15024.DWG, SWEEP PATH: 180118.dwg Date: 18 January 2018 By: Lalana.malan

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	LM	DL	JR	18/01/18

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PROJECT
KATOOMBA CHRISTIAN CONVENTION

TITLE
**AS2890.2 12.5m HEAVY RIGID VEHICLE
SWEEP PATH ANALYSIS**

DWG No.
FIGURE 6

DATE STAMP
18 JANUARY 2018

PROJECT No.
15024

SCALE
1:500 @A3

REV.
A