STANBURY
TRAFFIC PLANNING
TRAFFIC, PARKING & TRANSPORT CONSULTANTS

PARKING & TRAFFIC IMPACT ASSESSMENT

PROPOSED MIXED USE DEVELOPMENT
1 BILAMBEE AVENUE
BILGOLA PLATEAU, NSW

PREPARED FOR DREAM BUILD
OUR REF: 20-072-2

OCTOBER 2020

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APPENDICES

1. INTRODUCTION

1.1 Scope of Assessment

Stanbury Traffic Planning has been commissioned by Dream Build to prepare a Parking & Traffic Impact Assessment to accompany a Development Application to be lodged with Northern Beaches Council. The Development Application seeks consent for the demolition of existing site structures (accommodating a disused auto mechanical business, previously utilised as a service station) and the construction of a three storey mixed-use development at 1 Bilambee Avenue, Bilgola Plateau.

The mixed-use development is to contain two retail tenancies at ground floor level below two storeys of eight residential apartments. The development is to be serviced by two levels of underground car parking containing 30 parking spaces. Vehicular connectivity to the on-site basement parking area is proposed via an access driveway connecting with Bilambee Lane in the northern corner of the site.

Some public domain modifications are also proposed facilitating the provision of an additional indented parking space situated within Bilambee Avenue and two indented parking spaces within Bilkurra Avenue (one of which is to double as a time limited loading bay).

The aim of this assessment is to investigate and report upon the potential parking and traffic consequences of the development application and to recommend appropriate ameliorative measures where required. This report provides the following scope of assessment:

- Section 1 provides a summary of the site location, details, existing and surrounding land-uses;
- Section 2 describes the proposed development;
- Section 3 assesses the adequacy of the proposed site access arrangements, parking provision, internal circulation and servicing arrangements with reference to relevant Council, Transport for New South Wales (TfNSW, formally Roads & Maritime Services) and Australian Standard specifications;
- Section 4 assesses the existing traffic, parking and transport conditions surrounding and servicing the subject development site including a description of the surrounding road network, traffic demands, operational performance and available public transport infrastructure;
- Section 5 estimates the projected traffic generating ability of the proposed development and assesses the ability or otherwise of the surrounding road network to be capable of accommodating the altered demand in a safe and efficient manner; and

- Section 6 provides an indicative assessment of the traffic and pedestrian management measures likely to be implemented during the construction phases of the development.

The report has been prepared pursuant to State Environmental Planning Policy (Infrastructure) 2007. The application is not of sufficient scale to be referred to TfNSW under this Instrument.

1.2 Reference Documents

Reference is made to the following documents throughout this report:

- TfNSW's *Guide to Traffic Generating Developments*;
- Australian Standard for *Parking Facilities Part 1: Off-Street Car Parking* (AS2890.1:2004);
- Australian Standard for *Parking Facilities Part 3: Bicycle Parking Facilities* (AS2890.3:2015);
- Australian Standard for *Parking Facilities Part 6: Off-Street Parking for People with Disabilities* (AS2890.6:2009); and
- Northern Beaches Council's *Pittwater 21 Development Control Plan 2003 Section B6* (PDCP 2003).

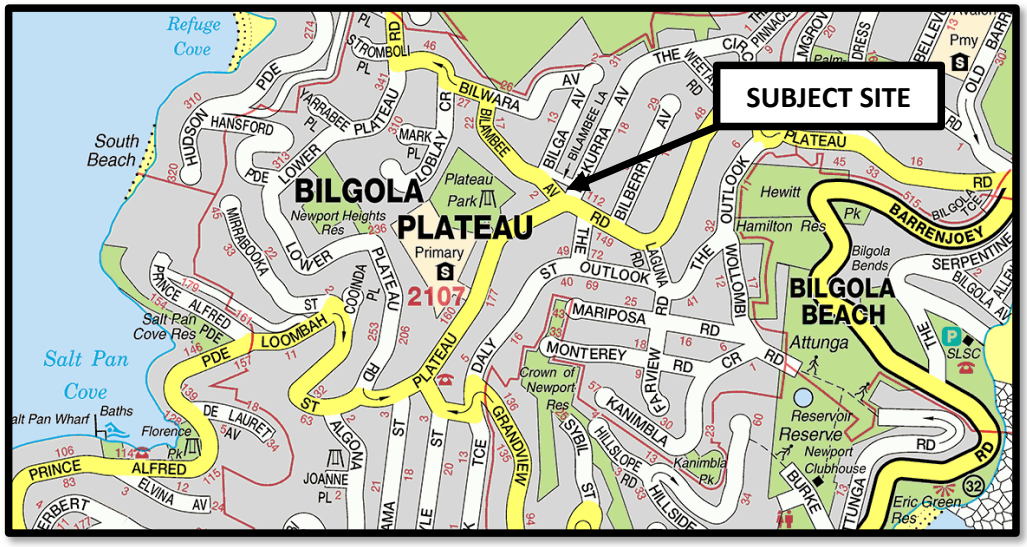
Architectural plans have been prepared by Benson McCormack Architecture and should be read in conjunction with this report, reduced copies of a selection of which (ground and basement plans only) are included as **Appendix 1** for reference.

1.3 Site Details

1.3.1 Site Location

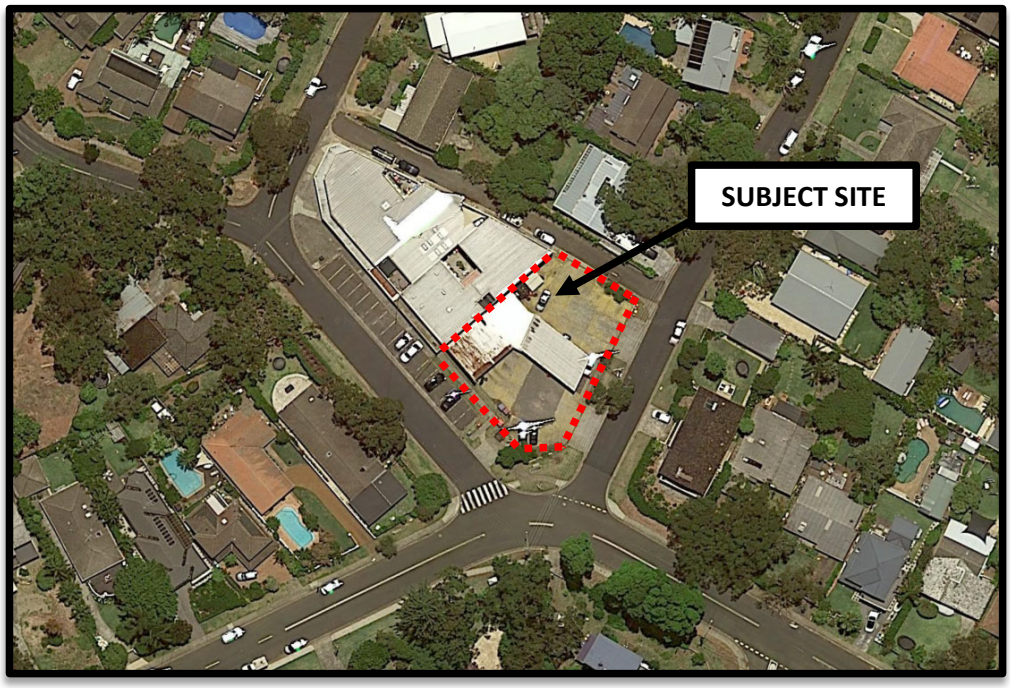
The subject site is situated on the northern corner of the Plateau Road junctions with Bilkurra Avenue and Bilambee Avenue, also providing a frontage to Bilambee Lane, Bilgola Plateau. The site location is illustrated overleaf within a local and aerial context by **Figure 1** and **Figure 2**, respectively.

FIGURE 1
SITE LOCATION WITHIN A LOCAL CONTEXT



Source: UBD's Australian City Streets – Version 4

FIGURE 2
SITE LOCATION WITHIN AN AERIAL CONTEXT



Source: Google Earth (accessed 06/08/20)

1.3.2 Site Description

The subject site provides a real property description of Lot 5 within DP 229309 and a street address of 1 Bilambee Avenue, Bilgola Plateau. The site forms an irregularly shaped parcel of land, providing approximate frontages if 35m to Bilkurra Avenue, 30m to Bilambee Avenue 20m to Bilambee Lane of 20m. The total site area is approximately 930m^2.

1.3.3 Existing Site Use

The subject site currently accommodates a disused auto mechanical centre, which is understood to previously have operated as a service station.

The subject site is serviced by four driveways as follows:

- A 9m wide driveway connecting with Bilambee Lane in the northern portion of the site;
- Two 9m wide driveways connecting with Bilkurra Avenue along the eastern boundary of the site; and
- A 5m wide driveway providing access to Bilambee Avenue in the southern portion of the site.

1.3.4 Surrounding Uses

The subject site is surrounded by:

- A series of commercial and shop top housing buildings are situated to the north-west, being bound by Bilambee Avenue to the south-west, Bilga Avenue to west and Bilambee Lane to the north, primarily containing five retail tenancies fronting Bilambee Avenue;
- Detached residential dwellings occupy land to the north, east, south and west fronting and being serviced by Bilkurra Avenue, Plateau Road and Bilambee Avenue;
- Plateau Park situated approximately 170m west of the site; and
- Bilgola Plateau Public School is situated approximately 300m to the south-west of the site.

2. PROPOSED DEVELOPMENT

2.1 Built Form

The subject application seeks Council's approval to demolish existing site structures and the construction of a mixed-use development. The mixed-use development is proposed to comprise the following:

- Two retail tenancies on the ground floor comprising 119.1m^2 and 317.7m^2 of floor space; and

- Two storeys of residential apartments, comprising the following:

  - 5 two-bedroom dwellings; and
  - 3 three-bedroom dwellings.

The development is proposed to be serviced by two levels of underground parking containing 30 parking spaces (including two accessible spaces).

Vehicular access to the two levels of basement parking is proposed via a single combined ingress / egress driveway connecting with Bilambee Lane adjacent to the northern corner of the site.

Pedestrian access to the development is proposed via a footpath connecting Bilambee Avenue and Bilkurra Avenue adjoining the eastern, southern and south-western facades of the proposed building.

Some public domain modifications are also proposed facilitating the provision of an additional indented parking space situated within Bilambee Avenue and two indented parking spaces within Bilkurra Avenue (one of which is to double as a time limited loading bay).

3. SITE ACCESS & INTERNAL CIRCULATION

3.1 Access Arrangements

3.1.1 Vehicular Access

Vehicular access between the development site and Bilambee Lane is proposed to be provided via a single 6.5m combined ingress / egress driveway situated adjacent to the northern corner of the site.

AS2890.1:2004 provides driveway design specifications based on the proposed primary land use, the functional order of the access road and the number of spaces the driveway is to serve. Tables 3.1 and 3.2 of AS2890.1:2004 specify that a Category 2 type driveway is required, providing a minimum combined ingress / egress driveway width of between 6m and 9m based on the local (non-arterial) nature of Bilambee Lane, the presence of retail space and the on-site passenger vehicle parking provision of between 25 and 100 spaces. The proposed 6.5m wide combined ingress / egress driveway therefore complies with the minimum AS2890.1-2004 specifications.

Swept path plans have been prepared in order to demonstrate the ability of passenger vehicles to enter and exit the site via the driveway, copies of which are included as **Appendix 2**.

The safety and efficiency of access / egress movements are also proposed to be assisted by the following:

- The provision of a level grade between within the access roadway on immediate approximate to the boundary; and

- The provision of triangle measuring 2.0m x 2.5m adjacent to the western side of the driveway clear of obstructions to visibility in accordance with AS2890.1:2004.

3.1.2 Pedestrian Access

Pedestrian connectivity is proposed via adjoining footpaths along the site frontages to Bilkurra Avenue and Bilambee Avenue, connecting with doors which link directly to the retail tenancies in conjunction with a separate residential access lobby situated in the north-eastern corner of the site.

3.2 Parking Provision

3.2.1 Passenger Vehicular Parking

The development is proposed to be serviced by a total of 30 on-site passenger vehicle parking spaces, provided within two basement parking levels, as follows:

- Basement Level 1 is proposed to provide:
  - 11 retail spaces (including two disabled spaces); and
  - 1 residential visitor space.
- Basement Level 2 is proposed to provide:
  - 16 resident spaces; and
  - 2 residential visitor spaces.

The subject site also has the benefit of a total of 6 indented 90-greee angled parking spaces along the north-eastern kerb alignment of Bilambee Avenue directly adjacent to the subject site. Pre-lodgement discussions with Council officers indicated that these spaces could be assigned to the retail component of the subject development.

Further to the above, some public domain modifications are also proposed facilitating the provision of an additional 90-degree indented parking space situated within Bilambee Avenue and two indented parking spaces within Bilkurra Avenue (one of which is to double as a time limited loading bay).

In consideration of the above, for the purposes of this assessment, the subject development is accordingly proposed to be allocated a total of 38 parking spaces, as follows:

- 19 retail parking spaces (comprising 11 spaces within Basement Level 1, 7 spaces within Bilambee Avenue and 1 space within Bilkurra Avenue);
- 16 resident spaces within Basement Level 2; and
- 3 residential visitor spaces across Basement Levels 1 and 2.

It is further noted that an additional indented parking space is proposed within Bilkurra Avenue. This space is however proposed to double as a time limited loading bay. In order to assess a worst case scenario, it is assumed this space will not be available for passenger vehicle parking.

3.2.1.1 Residential Parking Provision

Northern Beaches Council relies on locally sensitive controls for off-street vehicle parking requirements. According to Section B6 schedule 6 of PDCP 2003, the following off-street parking rates are provided for flat residential buildings:

2 resident parking spaces for each dwelling with two or more bedrooms, and
1 visitor parking space per three dwellings, rounded up.

Application of the abovementioned parking rates to the proposed development comprising 8 residential dwellings of two or more bedrooms results in a minimum of 16 resident passenger vehicle parking spaces and 3 visitor parking spaces.

The proposed provision of 16 residential and 3 visitor parking spaces therefore complies with the PDCP 2003 and is accordingly satisfactory.

3.2.1.2 Retail Parking Provision

According to PDCP 2003, the off-street parking rates for commercial premises are:

1 parking space for every 30m^2 of gross floor area.

Application of the abovementioned vehicle off-street parking rates to the proposed 436.8m^2 of total retail space results in a requirement of 15 retail parking spaces. Therefore, the provision of 19 retail parking spaces (11 of which are provided on-site) exceeds the minimum requirement of the PDCP 2003 and is accordingly considered satisfactory.

It is acknowledged that the development will rely on the surrounding public parking infrastructure to accommodate up to 4 parked vehicles associated with the retail floor space. Whilst pre-DA discussions with Council officers indicated that public domain parking directly adjacent to the site could be assigned to development retail floor space, the ability or otherwise of the adjoining public parking infrastructure to accommodate this demand is discussed in subsequent sections of this report.

3.2.2 Bicycle Parking

The proposed development provides 4 at-grade bicycle parking spaces within the Bilambee Avenue public domain, 6 parking spaces within Basement Level 1 and 6 bicycle parking spaces within Basement Level 2, totalling 16 bicycle parking spaces.

The PDCP 2003 provides the following bicycle parking requirements relevant to the subject proposal:

For a residential development, secure bicycle storage facilities must be provided within the building at the rate of 1 bicycle rack per 3 dwellings.

For Business/Industrial development or additions, comprising of 200m² GFA or more, secure enclosed bicycle storage facilities must be provided within the building at the rate of 1 bicycle rack per 1000m² GFA, or a minimum of 4 bicycle racks, whichever is the greater.

Based on these requirements, the proposed eight residential dwellings and the 436.8m^2 of retail space generates a total required provision of 7 bicycle spaces.

The provision of 16 bicycle parking spaces (12 of which are provided on-site) exceed the minimum requirement of PDCP 2003 and is accordingly considered to be satisfactory.

3.2.3 Motorcycle Parking

The proposed development provides a total of 4 motorcycle parking spaces, with 2 spaces each being provided within Basement Levels 1 and 2.

The PDCP 2003 provides the following motorcycle parking requirements relevant to the subject proposal:

For Business/Industrial development or additions, comprising of 200m² GFA or more, provision is to be made for motorcycle parking at a rate of 1 motorcycle parking space per 100 motor vehicle spaces.

A single motorcycle parking space is accordingly required to be provided on the basis of less than 100 motor vehicle spaces being provided.

The proposed motorcycle parking provision of 4 spaces therefore readily exceeds the minimum specification of PDCP 2003 and is accordingly considered satisfactory.

3.2.4 Service Vehicle Parking

The limited scale of the development and size of the retail tenancies is such that servicing requirements are expected to be minimal, and capable of being undertaken by passenger vehicles such as vans and the like. Such servicing activities are to be accommodated within the time limited indented at-grade loading bay proposed to be provided as part of the application within Bilkurra Avenue.

Refuse collection activities associated with the development are also to be undertaken via this on-street loading bay, whereby waste bins are to be wheeled to the road frontage for collection.

3.3 Internal Circulation and Manoeuvrability

3.3.1 Internal Access Ramp Management

Upon entry to the site via Bilambee Lane, vehicles are to proceed in a forward direction to access Basement Level 1 via a ramp running along the north-western boundary. This ramp is proposed to provide a two-way traffic function, connecting directly with a parking circulation aisle within Basement Level 1.

Connectivity between Basement Level 1 and Basement Level 2 is proposed via another ramp, also running along the north-western site boundary. This ramp is however proposed to accommodate a single traffic lane, whereby an internal traffic signal system is to be implemented to limit the direction of traffic flow within the ramp to one-way at any given time. The traffic signal system is to utilise red / green traffic lanterns located at the top and bottom of the ramp. The

lanterns are to be supplemented with 'Stop Here on Red' signage and stop lines located clear of the ramp thereby allowing vehicles to safely manoeuvre to / from the ramp clear of queued vehicles.

The default position will display a green to the movement for vehicles travelling from Basement Level 1 to Basement Level 2. Under this arrangement, when vehicles approach from Basement Level 1, they will be provided with a green display and move towards the ramp and Basement Level 2 in an unimpeded fashion. An input is to be received by the operating system from a radar direction unit as the vehicle travels towards Basement Level 2.

When an exiting vehicle stops at the stop line within Basement Level 2, it will activate a direction sensitive vehicle loop detector. The operating system will then display a red to the entry lantern within Basement Level 1 while the vehicle/s wishing to exit Basement Level 2 will remain red. The operating system will have recorded any vehicles already in the ramp via radar detection units and commenced a timer to allow a vehicle to complete its journey. The display for the activated loop detector within Basement Level 2 will then change from red to green thereby allowing vehicles to exit the lower parking level. When a directional sensitive radar unit located at the top of the ramp is activated by the exiting vehicle/s, the system returns to the default position.

Vehicle detector loops within the parking areas will be fitted with presence timer technology to ensure that they are not unduly impacted by the manoeuvring of vehicles to and from nearby passenger vehicle parking spaces.

The indicative location of stop lines, vehicle detectors and lanterns are illustrated on the architectural plans.

Traffic signal systems such as that described above are typically fitted with a battery powered back up system to ensure that they continue to operate during power black outs.

The specific details of the internal traffic signal system are typically specified by traffic signal contractors at construction certificate stage, the requirement for which could reasonably be imposed by Council as a condition of development consent. Incorporating such an internal traffic signal system, the proposed single lane ramp connecting Basement Levels 1 and 2 are envisaged to be satisfactory.

3.3.2 Basement Access Ramp Grade

The internal ramps provide the following grade characteristics in accordance with the relevant requirements of AS2890.1:2004:

- Maximum ramp grade servicing residential parking spaces = 1:4;
- Maximum ramp grades servicing retail parking spaces = 1:5;
- Maximum change in grade = 1:4; and
- Minimum length of transitional grade = 2m.

3.3.3 Basement Parking Design

The basement passenger vehicle parking areas are proposed to comprise 90-degree angled parking spaces, being serviced by an adjoining circulation aisle. The parking areas have been designed with the following minimum dimensions in accordance with AS2890.1:2004 and AS2890.6:2009:

- Standard retail parking space width = 2.6m;
- Disabled retail parking space width = 2.4 (plus adjacent 2.4m wide shared area);
- Standard Residential parking space width = 2.4m;
- Small car bay width = 2.3m;
- Additional vehicular space width where parking spaces adjoins an obstruction = 0.3m;
- Standard parking space length = 5.4m;
- Small car bay length = 5.0m;
- Aisle width servicing 90-degree angled parking spaces = 5.8m; and
- Minimum clearance throughout off-street parking area and access thereto = 2.2m.

Safe and efficient internal manoeuvring and parking space accessibility is anticipated to result, taking into consideration the above compliance with the relevant AS2890.1:2004 and AS2890.6:2009 specifications.

In order to demonstrate the internal passenger vehicle manoeuvrability within the basement parking areas, this Practice has prepared a number of swept path plans which are included as **Appendix 2**. The swept path plans illustrate that passenger vehicles can manoeuvre to / from all passenger vehicle parking spaces with a reasonable level of safety and efficiency.

Further to the above passenger vehicle manoeuvring, four motorcycle parking spaces are proposed, providing the following dimensions in accordance with AS2890.1:2004:

- Motorcycle parking space width = 1.2m; and
- Motorcycle parking space length = 2.5m.

In addition, doubled sided horizontal bicycle racks are proposed to provide the following minimum design specifications: in accordance with AS2890.3:2015:

- Storage rack width = 0.5m;

- Storage rack depth / length = 1.8m; and
- Aisle and access path width servicing the spaces = 1.5m.

4. EXISTING TRAFFIC CONDITIONS

4.1 Surrounding Road Network

The following provides a description of the road network surrounding the subject site:

- **Bilambee Lane** performs a rear service lane providing connectivity between Bilkurra Avenue in the south-east and Bilga Avenue in the north-west.

  Adjacent to the site, Bilambee Lane provides a 5m wide pavement. The prevalence of unrestricted parallel parking provided along the south-western kerb alignment results in two-way traffic flow occurring under curtesy conditions.

  Traffic flow within Bilambee Lane is governed by a speed limit of 50km/h, although vehicles are required to travel at significantly lower speeds to safely negotiate the narrow pavement.

  Bilambee Lane forms a T-junction with Bilkurra Avenue adjacent to the north-eastern corner of the site, operating under major / minor priority control with Bilkurra Avenue performing the priority route.

  Bilambee Lane forms a T-junction with Bilga Avenue approximately 50m to the north-west of the subject site, also operating under major / minor priority control with Bilga Avenue performing the priority route.

- **Bilambee Avenue** performs a collector road function in conjunction with Bilwara Avenue, Lower Plateau Road, Wandeen Road and Hudson Parade providing access from Plateau Road to Avalon Parade. Notwithstanding this collector function, Bilambee Avenue is primarily constructed to a local access standard, primarily providing a 7.5m wide pavement facilitating one through lane of traffic in each direction in conjunction with parallel parking along both kerb alignments (with the exception of localised areas where parking is prohibited by virtue of double barrier centres lines).

  Notwithstanding the above, in the immediate vicinity of the site, Bilambee Avenue provides 90-degree indented parking along the north-eastern kerb. These 90-degree parking spaces are provided with sign posted one-hour time limitations between 8:30am – 6pm on weekdays and 8:30am – 12:30pm on Saturdays.

  Traffic flow within Bilambee Avenue is governed by a speed limit of 50km/h.

  Bilambee Avenue intersects with Plateau Road to the south, under major/minor priority control with Plateau Road performing the major route. A pedestrian crossing is provided over Bilambee Avenue immediately to the north of Plateau Road.

Bilambee Avenue forms a T-junction with Bilwara Avenue some 50m to the north of the site, under major/minor priority control, with Bilambee Avenue performing the major route.

- **Bilkurra Avenue** performs a local access road function facilitating access between Plateau Road in the south and The Circle in the north.

  Bilkurra Avenue provides a 7.5m wide pavement, facilitating the provision of one lane of traffic in each direction in conjunction with untimed parallel parking along both kerb alignments. Traffic flow is governed by a speed limit of 50km/h.

  Bilkurra Avenue forms a T junction with Plateau Road adjacent to the southern corner of the site under a 'Give Way' signage control, with Plateau Road forming the priority route.

- **Bilga Avenue** performs a local access road function providing access between Bilambee Avenue in the south and Bilwara Avenue in the north.

  Bilga Avenue provides a 7.5m wide pavement, facilitating the provision of one lane of traffic in each direction in conjunction with untimed parallel parking along both kerb alignments.

  Traffic flow is governed by a speed limit of 50km/h.

- **Plateau Road** performs a collector road function providing an east / west alignment providing connectivity between Barrenjoey Road in the east, with which it intersects under roundabout control and Loombah Street / Lower Plateau Road in the west.

  Plateau Road provides a 9.5m wide pavement, facilitating the provision of one through lane of traffic in conjunction with unrestricted parallel parking along both kerb alignments.

  Traffic flow is governed by a speed limit of 50km/h.

4.2 Existing Traffic Volumes

This Practice has commissioned peak hour traffic surveys of the Plateau Road junctions with Bilambee Avenue and Bilkurra Avenue adjacent to the site to be completed in order to accurately ascertain existing traffic demands within the immediate precinct.

Surveys were undertaken between 7:00am – 9:00am and 2:30pm – 6:00pm on Friday the 14th of August 2020.

Figure 3 overleaf provides a summary of the surveyed peak hour traffic flows at the junction of Plateau Road and Bilambee Avenue including a morning peak hour which has been identified as 8:00am — 9:00 am (AM Peak) and an afternoon peak hour of 4:00pm – 5:00pm (PM Peak), whilst full details are available upon request.

FIGURE 3
EXISTING WEEKDAY COMMUTER PEAK HOUR TRAFFIC VOLUMES
JUNCTION OF PLATEAU ROAD AND BILAMBEE AVENUE

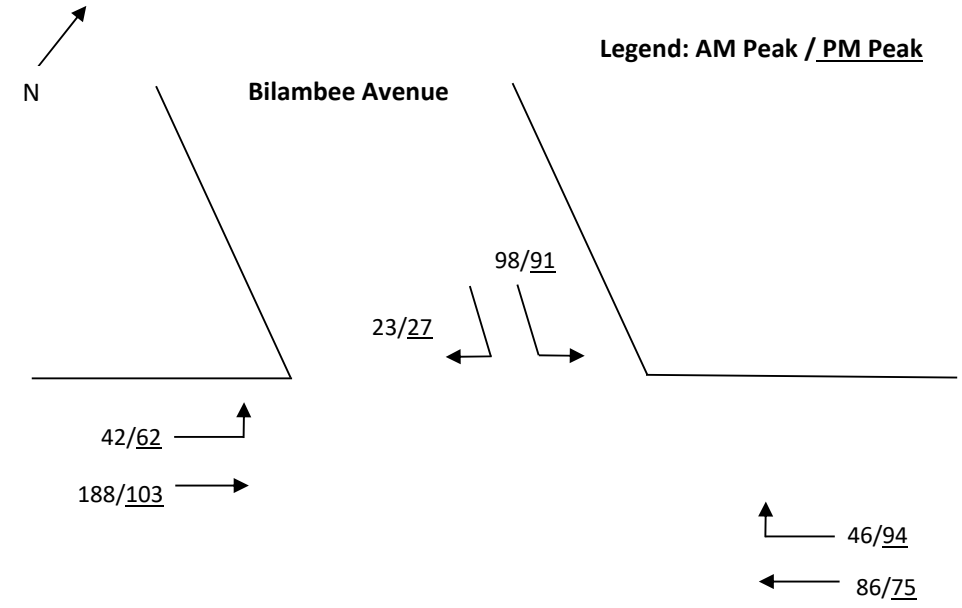


Figure 3 indicates the following weekday commuter peak hour traffic demands:

- Plateau Road accommodates eastbound traffic demands of approximately 300 and 200 vehicles during weekday morning and evening peak hours;
- Plateau Road accommodates westbound traffic demands of approximately 100 – 200 vehicles during both weekday morning and evening peak hours; and
- Bilambee Avenue accommodates directional traffic demands of between 100 – 150 vehicles during weekday peak hours.

Figure 4 overleaf provides a summary of peak hour traffic flows at the junction of Plateau Road and Bilkurra Avenue including a morning peak hour which has been identified as 8:00am — 9:00 am (AM Peak) and an afternoon peak hour of 4:00pm – 5:00pm (PM Peak), whilst full details are available upon request.

FIGURE 4
EXISTING WEEKDAY COMMUTER PEAK HOUR TRAFFIC VOLUMES
JUNCTION OF PLATEAU ROAD AND BILKURRA AVENUE

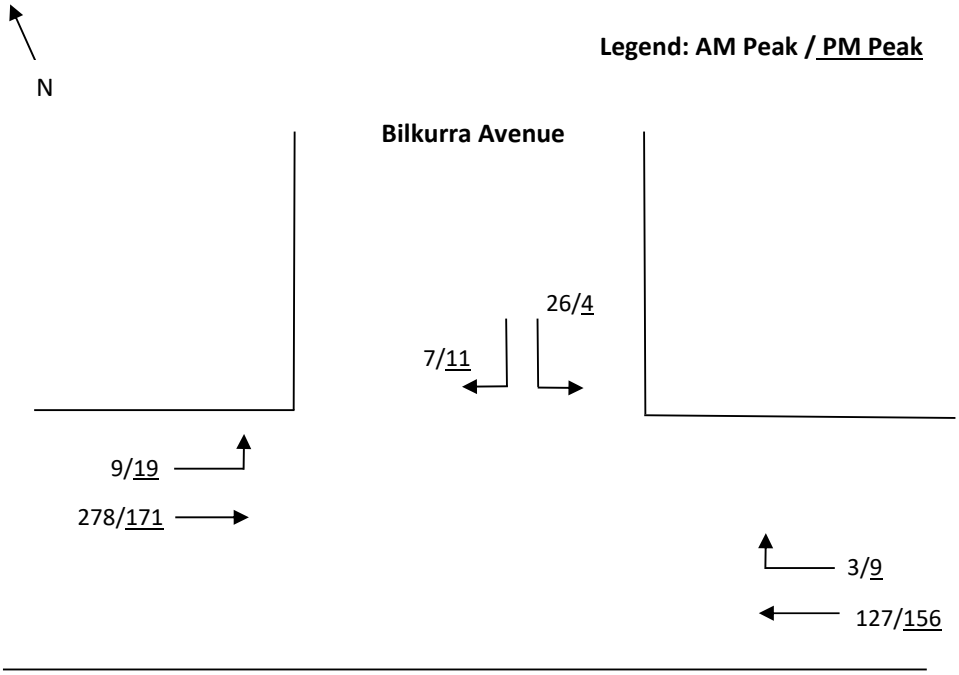


Figure 4 indicates that Bilkurra Avenue accommodates a directional traffic demands of between approximately 10 – 30 vehicles per hour during weekday peak periods.

4.2.1 Existing Pedestrian Volumes

Table 1 below provides hourly volumes of pedestrians crossing Bilkurra Avenue and Bilambee Avenue at their junctions with Plateau Road during the weekday morning and afternoon peak hours. It should be noted that a formalised pedestrian crossing facilitates pedestrian movements across Bilambee Avenue, while the only pedestrian infrastructure available to aid pedestrians across Bilkurra Avenue is a pram ramp and footpaths on both sides of Bilkurra Avenue.

TABLE 1
HOURLY WEEKDAY PEDESTRIAN VOLUMES

Time	Bilkurra Avenue	Bilambee Avenue
7:00 – 8:00	13	17
8:00 – 9:00	60	109
15:00 – 16:00	63	152
16:00 – 17:00	20	42
17:00 – 18:00	10	6

Table 1 indicates the following:

- The highest surveyed pedestrian volume occurred between 3:00 pm- 4:00pm during which 152 pedestrians crossed Bilambee Avenue; and

- During the above hour, 63 pedestrians crossed Bilkurra Avenue.

4.3 Existing Road Network Operation

4.3.1 Junction of Plateau Road and Bilambee Avenue

The surveyed junction of Plateau Road and Bilambee Avenue has been analysed utilising the SIDRA computer intersection analysis program in order to objectively assess the operation of the nearby public road network.

SIDRA is a computerised traffic arrangement program which, when volume and geometrical configurations of an intersection are imputed, provides an objective assessment of the operation efficiency under varying types of control (i.e. signs, signal and roundabouts). Key indicators of SIDRA include level of service where results are placed on a continuum from A to F, with A providing the greatest intersection efficiency and therefore being the most desirable by TfNSW.

SIDRA uses detailed analytical traffic models coupled with an iterative approximation method to provide estimates of the abovementioned key indicators of capacity and performance statistics. Other key indicators provided by SIDRA are average vehicle delay, the number of stops per hour and the degree of saturation. Degree of saturation is the ratio of the arrival rate of vehicles to the capacity of the approach. Degree of saturation is a useful and professionally accepted measure of intersection performance.

SIDRA provides analysis of the operating conditions that can be compared to the performance criteria set out in **Table 2** below (being the RMS NSW method of calculation of Level of Service).

TABLE 2
LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS
PRIORITY CONTROLLED INTERSECTIONS

Level of Service	Average Delay per Vehicle (secs/veh)	Expected Delay
A	Less than 14	Good
B	15 to 28	Acceptable delays and spare capacity
C	29 to 42	Satisfactory
D	43 to 56	Near capacity
E	57 to 70	At capacity and requires other control mode
F	> 70	Unsatisfactory and requires other control mode

The existing conditions have been modelled utilising the peak hour traffic volumes presented within **Figure 3**.

Table 3 below provides a summary of the SIDRA output data whilst more detailed summaries are included as **Appendix 3**.

TABLE 3 SIDRA OUTPUT – EXISTING WEEKDAY PEAK HOUR PERFORMANCE JUNCTION OF PLATEAU ROAD AND BILAMBEE AVENUE		
	AM	**PM**
Bilambee Avenue Approach		
Delay	7.0	6.8
Degree of Saturation	0.10	0.09
Level of Service	A	A
Plateau Road West Approach		
Delay	5.6	5.6
Degree of Saturation	0.12	0.09
Level of Service	A	A
Plateau Road East Approach		
Delay	6.3	5.6
Degree of Saturation	0.08	0.10
Level of Service	A	A
Total Intersection		
Delay	7.0	6.8
Degree of Saturation	0.12	0.10
Level of Service	A	A

Table 3 indicates that the junction of Plateau Road and Bilambee Avenue provides a level of service of 'A' during peak commuter periods, representing good operation with spare capacity.

4.3.2 Intersection of Plateau Road and Bilkurra Avenue Performance

Table 4 below provides a summary of the SIDRA output data whilst more detailed summaries are included as **Appendix 3**.

TABLE 4 SIDRA OUTPUT – EXISTING WEEKDAY PEAK HOUR PERFORMANCE JUNCTION OF PLATEAU ROAD AND BILKURRA AVENUE		
	AM	**PM**
Bilkurra Avenue Approach		
Delay	7.3	6.9
Degree of Saturation	0.03	0.02
Level of Service	A	A
Plateau Road West Approach		
Delay	5.6	5.6
Degree of Saturation	0.15	0.10
Level of Service	A	A
Plateau Road East Approach		
Delay	6.6	6.2
Degree of Saturation	0.07	0.09
Level of Service	A	A
Total Intersection		
Delay	7.3	6.9
Degree of Saturation	0.15	0.10
Level of Service	A	A

Table 4 indicates that the junction of Plateau Road and Bilkurra Avenue provides a level of service of 'A' during peak commuter periods, representing good operation with spare capacity.

4.3.3 Pedestrians

Pedestrians are provided with the following infrastructure in the vicinity of the subject site assisting pedestrian access and mobility:

- A footpath is provided along the south-eastern side of Bilga Avenue;
- Footpaths are provided along both sides of Plateau Road;
- A footpath is provided along the north-eastern side of Bilambee Avenue; and
- A pedestrian crossing across Bilambee Avenue to the north of Plateau Road.

4.4 Public Transport

4.4.1 Buses

Sydney Buses operate the following routes along Plateau Road, Bilwara Avenue and Bilambee Avenue in the immediate vicinity of the subject site:

- Route 189X Avalon Beach to City Wynyard (Express Service); and
- Route 191 Avalon Beach to Taylors Point (Loop Service).

The closest stops are located approximately 90m walking distance to the north-west of the site and service both Routes 189X and 191.

Route 189X provides service only on weekdays during peak morning and afternoon hours at a frequency of 20 minutes.

Route 191 always provides a frequency of 30 minutes during weekdays, weekends and public holidays.

4.5 Parking Provision and Demand

In order to determine the on-street parking demand and capacity within the immediate precinct, a parking demand survey has been commissioned of the parking within Bilambee Avenue and Bilkurra Avenue within the immediate vicinity of the site. The survey was completed during the following periods:

- Between and 4:00pm – 6:00pm on Friday the 11th of September 2020; and
- Between 11:00am – 1:00pm on Saturday the 12th of September 2020.

The parking survey was performed by dividing the precinct into five areas that are defined as follows:

- Area 1 – comprises the indented 90-degree angled parking spaces situated on the north-eastern side of Bilambee Avenue, directly adjacent to the subject site, comprising 6 spaces;

- Area 2 – comprises the remainder of the indented 90-degree angled parking along the north-eastern side of Bilambee Avenue to the north of the site, comprising 11 spaces;

- Area 3 – comprises the parallel parking spaces along the south-western kerb alignment of Bilambee Avenue between Bilga Avenue and Plateau Road, comprising 6 spaces;

- Area 4 – comprises the single parallel parking space along the northern-western kerb alignment of Bilkurra Avenue between Plateau Road and Bilambee Lane;

- Area 5 – comprises the parallel parking spaces along the south-eastern kerb alignment of Bilkurra Avenue between Bilambee Lane and Plateau Road, comprising 4 spaces.

Table 5 below displays the results from the parking survey for each abovementioned area at a half-hourly time increment.

TABLE 5
PARKING DEMAND HOURLY SURVEY RESULTS

Time	Area 1 Capacity: 6	Area 2 Capacity: 11	Area 3 Capacity: 6	Area 4 Capacity: 1	Area 5 Capacity: 4	TOTAL Capacity: 28
SATURDAY MIDDAY PERIOD SURVEY						
11:00am	1	3	0	2	1	7
11:30am	2	5	0	1	1	9
12:00pm	1	4	0	1	1	7
12:30pm	2	6	0	1	1	10
1:00pm	2	4	0	1	1	8
FRIDAY AFTERNOON PERIOD SURVEY						
4:00pm	2	7	1	1	1	12
4:30pm	4	6	0	1	1	12
5:00pm	3	11	0	1	1	16
5:30pm	4	9	0	1	1	15
6:00pm	2	9	0	1	1	13

Table 5 indicates the following:

- The on-street parking demand in the immediate precinct significantly below the legal capacity during all survey periods; and

- A minimum of 12 parking spaces were available during the survey periods, occurring at 5:00pm on the Friday evening survey.

5. PROJECTED TRAFFIC CONDITIONS

5.1 Traffic Generation

Traffic generation rates for various land-uses have been established through extensive surveys undertaken throughout NSW and published within TfNSW's *Guide to Traffic Generating Developments* and *Technical Direction TDT 2013/04a*. The following sub-sections provide a summary of the traffic generating potential of the previous, existing and proposed site uses with respect to those rates established by TfNSW.

5.1.1 Previous Site Use

Section 1.3.3 of this report presented that the subject site previously operated as a service station.

TfNSW provide the following average traffic generation rates for service stations:

0.04 x A(S) + 0.3 x A(F)
or
0.66 x A(F)

Where: *A(S) = Site Area*
A(F) = Convenience Store Floor Area

On the basis of a total site area of 930m^2 and an estimated convenience store area of 153m^2, the following calculations are made:

(0.04 x 930) + (0.3 x 63) = 56.1 (adopt 56 trips)
or
(0.66 x 63) = 42 trips

The most conservative assessment indicates that the previous service station use of the site could generate in the order of 42 peak hour vehicle trips to and from the site.

5.1.2 Approved Site Use

Section 1.3.3 of this report presented that the subject site currently contains one disused auto mechanical centre.

The most applicable land use assessed by TfNSW is a car tyre retail outlet, for which the following average traffic generation rate is provided:

1 trip per 100m^2 site area

Application of this rate to the existing site area of 930m^2 results in an estimated peak hour traffic generation rate of 9.3 (adopt 9) vehicle trips.

5.1.3 Proposed Development

TfNSW's *Guide to Traffic Generating Developments* specifies the following weekday peak hour traffic generation rates for retail floor space and medium density residential dwellings:

Retail Floor Space
4.6 peak hour trips per 100m^2 GFA

Residential Apartments
0.5 trips per small dwelling (up to two bedrooms)
0.65 trips per large dwelling (three bedrooms and over)

On the basis of the development providing 436.8m^2 retail floor space, 5 two bedroom dwellings and 3 three bedroom dwellings, the following calculation are provided:

4.6(436.8 / 100) = 20 retail trips
(5 x 0.5) + (3 x 0.65) = 5 residential trips

The subject development is therefore projected to generate in the order of 25 peak hour vehicle trips to and from the site. On this basis, it is assumed that this generation will be allocated as follows:

- 1 ingress and 4 egress residential associated movements during the morning peak hour;
- 4 ingress and 1 egress residential associated movements during the evening peak hour;
- 10 ingress and 10 egress retail associated movements during the morning peak hour; and
- 10 ingress and 10 egress retail associated movements during the morning peak hour.

5.2 Trip Assignment and Projected Traffic Volumes

As previously mentioned, peak hour vehicle trips are attributed to inbound and outbound movements associated with the retail and residential uses of the development and is therefore projected to generate a maximum of 25 peak hour vehicle movements.

For the purposes of this assessment, the egress and ingress trips have been assigned based on the user type of the development as this accordingly affects the on-site location by which the user will park and access the site.

As previously mentioned in Section 3.2.1 of this report, retail users of the development are proposed to have three possible on-site parking options:

- 11 parking spaces located in the first level of the basement parking area;

- Seven at-grade spaces along the frontage of Bilambee Avenue; and
- A single parallel parking space on the frontage of Bilkurra Avenue.

Therefore, the retail-generated peak hour vehicle trips have been assigned approximately proportional to the total amount of retail parking available. On this basis, the retail-generated trips are assigned as follows:

- 50% allocated to the underground basement parking, therefore utilising the Bilambee Lane access and travelling on Bilkurra Avenue;
- 40% allocated to park in the at-grade spaces, therefore utilising Bilambee Avenue to access the site; and
- 10% allocated to park in the single at-grade parallel parking space on Bilkurra Avenue.

After determining the various percentage of retail trips for each possible access point, the trips were evenly distributed between the route options corresponding to each access point.

While it is acknowledged that a portion of trips travelling to and from the site will utilise various routes including travel from the north via Bilambee Avenue, for the purposes of this trip assignment and to provide a worst case scenario, it has been assumed that all residential-generated trips access the site via Plateau Road and accordingly enter the parking basement area via Bilambee Lane. Based on this assumption, the trips were then evenly distributed between westbound and eastbound travel onto and from Plateau Road.

Based on the abovementioned trip assignment, the projected peak hour traffic volumes at the Plateau Road junctions with Bilambee Avenue and Bilkurra Avenue, have been formulated by adding the abovementioned traffic generation to the existing demands presented within **Figure 3** and **Figure 4. Figure 5** and **Figure 6** are provided overleaf and display an estimation of the future traffic demands at the nearby public road intersections.

FIGURE 5
PROJECTED WEEKDAY COMMUTER PEAK HOUR TRAFFIC VOLUMES
JUNCTION OF PLATEAU ROAD AND BILAMBEE AVENUE

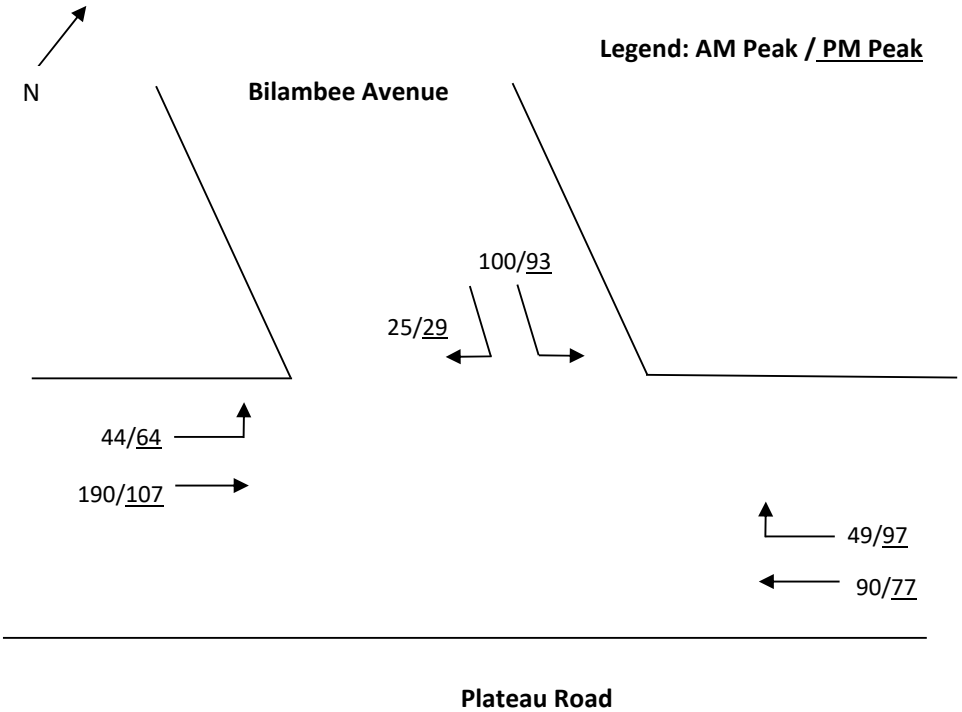
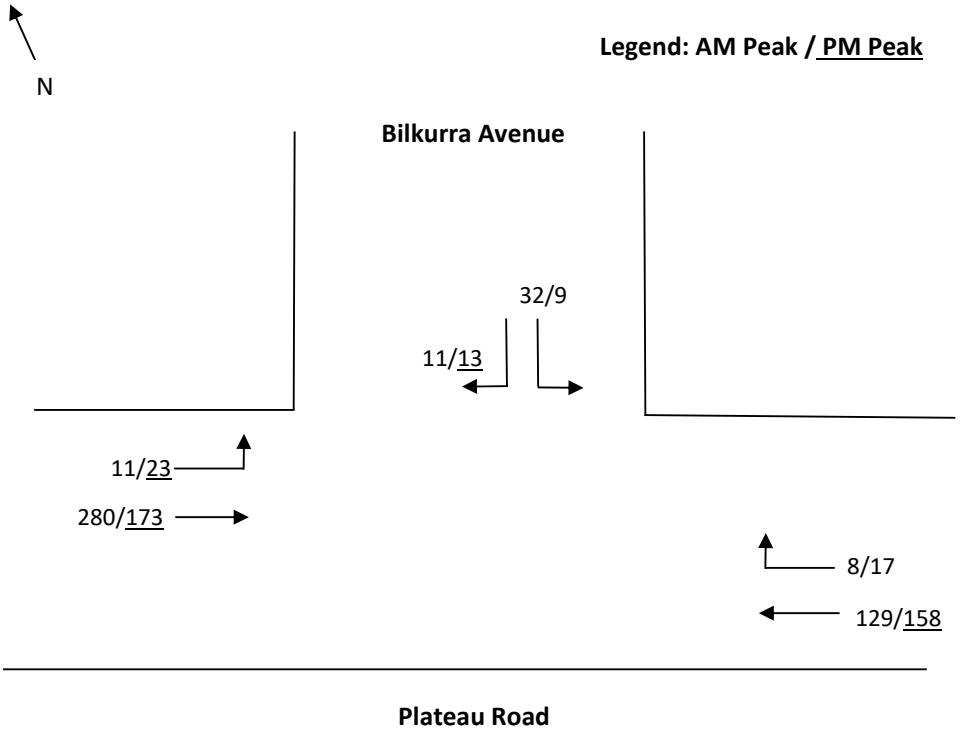


FIGURE 6
PROJECTED WEEKDAY COMMUTER PEAK HOUR TRAFFIC VOLUMES
JUNCTION OF PLATEAU ROAD AND BILKURRA AVENUE



5.3 Traffic Impacts

Section 5.1 of this report presents the following:

- The previous service station use of the site is estimated to have been capable of generating 42 peak hour vehicle trips to and from the site;
- The approved site use (auto mechanical business) has been surveyed to generate up to 9 vehicle trips to and from the site during weekday peak hours; and
- The proposed development is projected to generate in the order of 25 vehicle trips to and from the site during peak hours.

The junctions of Bilambee Avenue and Plateau Road and Bilkurra Avenue and Plateau Road have been modelled in order to estimate the likely impact on traffic safety and efficiency utilising the projected traffic volumes illustrated within **Figures 5** and **6**. A summary of the most pertinent results are indicated within **Table 3** and **Table 4**, whilst more detailed summaries are provided within **Appendix 4**.

TABLE 5
SIDRA OUTPUT – PROJECTED WEEKDAY PEAK HOUR PERFORMANCE
JUNCTION OF PLATEAU ROAD AND BILAMBEE AVENUE

	AM	PM
Bilambee Avenue Approach		
Delay	7.1	6.9
Degree of Saturation	0.10	0.09
Level of Service	A	A
Plateau Road West Approach		
Delay	5.6	5.6
Degree of Saturation	0.13	0.09
Level of Service	A	A
Plateau Road East Approach		
Delay	6.4	6.1
Degree of Saturation	0.08	0.11
Level of Service	A	A
Total Intersection		
Delay	7.1	6.9
Degree of Saturation	0.13	0.11
Level of Service	A	A

TABLE 6 SIDRA OUTPUT – PROJECTED WEEKDAY PEAK HOUR PERFORMANCE JUNCTION OF PLATEAU ROAD AND BILKURRA AVENUE		
	AM	**PM**
Bilkurra Avenue Approach		
Delay	7.4	7.0
Degree of Saturation	0.04	0.02
Level of Service	A	A
Plateau Road West Approach		
Delay	5.6	5.6
Degree of Saturation	0.15	0.10
Level of Service	A	A
Plateau Road East Approach		
Delay	6.6	6.2
Degree of Saturation	0.08	0.10
Level of Service	A	A
Total Intersection		
Delay	7.4	7.0
Degree of Saturation	0.15	0.10
Level of Service	A	A

Tables 5 and **6** indicate that the additional traffic projected to be generated by the proposed development is not anticipated to result in significant impacts on the existing operational performance of the junctions of Bilambee Avenue and Plateau Road, and Bilkurra Avenue and Plateau Road. In this regard, whilst it is expected that the additional traffic will result in extremely minor increases to the average vehicle delay and the degree of saturation, the prevailing level of service 'A' of both of the intersections is projected to remain. The subject development is therefore not expected to result in any noticeable impacts on the overall safety and efficiency afforded by the surrounding road network.

It should further be reiterated that the traffic generating capacity of the subject development is also estimated to be notably less than the previous service station uses.

The impact of the development is therefore more accurately assessed with respect to the efficiency with which vehicles can enter and exit the site via Bilambee Lane. Section 3.1 of this report concludes that vehicles are expected to be able to enter and exit the site in a safe and efficient manner, given the compliance of the proposed driveway design with AS2890.1:2004 and the prevailing traffic demands within Bilambee Lane.

5.4 Parking Impacts

Section 3.2.1.2 of this report presents that retail component of the development will rely on the surrounding public parking infrastructure to accommodate up to 4 parked vehicles in accordance with the relevant Council requirements. Some public domain modifications are proposed in association with the development facilitating the provision of an additional indented parking space situated within Bilambee Avenue and two indented parking spaces within Bilkurra Avenue (one of which is to double as a time limited loading bay).

Whilst pre-DA discussions with Council officers indicated that public domain parking directly adjacent to the site could be assigned to development retail floor space, parking demand surveys presented within Section 4.5 of this report have indicated that the surrounding precinct provides ready available capacity to accommodate the minor level of additional parking demand that may be generated by the development.

5.5 Pedestrian and Vehicle Safety

Section 3.1 of this report presents that the development provides appropriate internal pedestrian infrastructure, facilitating the safe and efficient movement of pedestrians between the development, the frontage roads and the on-site parking areas.

Further to the above, Section 4.3.3 of this report presents that there is notable public pedestrian access and mobility infrastructure within the general vicinity of the site.

Notwithstanding the above, Council officers indicated during pre-DA discussions that an analysis should be undertaken with respect to the warrant for the provision of a pedestrian refuge within Bilkurra Avenue at its junction with Plateau Road. Whilst pedestrian crossing activity over Bilkurra Avenue is, at times notable (and some level of additional pedestrian demand may be generated by the subject development), the limited pavement width of Bilkurra Avenue and good sight distance conditions are such that it is not considered that there is a warrant to provide additional pedestrian crossing infrastructure.

5.6 Transport Impacts

The subject site is located within easy walking distance of bus services along Bilambee Avenue and Plateau Road. It is accordingly expected that a proportion of the future site occupants / users of the development will utilise the surrounding public transport infrastructure to access destinations throughout the greater Sydney metropolitan area. The capacity of the existing public transport system is however not envisaged to be measurably affected by any additional demand associated with the proposed building, given its limited scale.

6. PRELIMINARY CONSTRUCTION MANAGEMENT PLAN

6.1 Introductory Statement

This Section of the report constitutes a preliminary Construction Traffic Management Plan (CTMP) addressing the traffic access and safety issues associated with demolition and construction works associated with the proposal. CTMPs are generally prepared at Construction Certificate stage following the commissioning of a builder thereby allowing a greater appreciation of the likely construction methodology and therefore the required traffic management measures to be implemented.

The terms of the initiatives contained within the following subsections of this report are therefore somewhat generic and some modifications may be needed by or on behalf of the successful builder / civil contractor at Construction Certificate stage depending on their feasibility taking into consideration all project requirements.

6.2 Traffic Management During On-Site Works

The demolition and construction works are likely to be undertaken within four separate stages as follows:

- Stage 1 – demolition of existing site structures;
- Stage 2 – Excavation and shoring;
- Stage 3 – construction of new site structures; and
- Stage 4 – public domain works.

It is anticipated that during the demolition and early excavation stages of the development, construction vehicles up to and including Medium Rigid Vehicles (MRVs) will be wholly accommodated within the site, accessing and exiting in a forward direction via the existing site access driveways connecting with Bilkurra Avenue.

The scale of the development is however such that the construction works during the later excavation and development construction phases will encompass a significant majority of the site. During these phases, construction vehicles larger than passenger vehicles are therefore most unlikely to be able to be wholly accommodated on-site. Construction vehicles servicing the site during these construction phases of the development will therefore need to be accommodated within the adjoining public road.

It is accordingly proposed that a Works Zone be implemented along the western Bilkurra Avenue kerb alignment adjacent to the site frontage in place of the one existing parallel passenger vehicle parking space between two existing driveways servicing the previous site use. A crane located approximately central to the site

will transport construction materials between the construction vehicles within the abovementioned Works Zone and the site.

Parallel parking along the eastern Bilkurra Avenue kerb alignment is likely to be required to be prohibited during the operational periods of the Works Zone to ensure unobstructed two-way traffic flow past the Works Zone.

Class B Hoarding will be required to be implemented within the western Bilkurra Avenue footway immediately adjacent to the Works Zone to protect pedestrians associated with this loading and unloading of materials.

Site sheds are proposed to be located on top of the Class B Hoarding within the western Bilkurra Avenue verge.

Class A Hoarding is proposed to define the northern and southern site boundaries adjoining Bilambee Lane and Bilambee Avenue, respectively. Construction fencing is proposed to define the western site boundary abutting the adjoining development.

An application to Council will be made in relation to the Works Zone, hoarding and use of a crane, including the payment of appropriate fees.

6.3 Traffic Management during Public Domain Works

Following the undertaking of the previously presented on-site works, the development will involve the following public domain works:

- The removal of existing driveways connecting with Bilambee Avenue, Bilkurra Avenue and Bilambee Lane;
- The reconstruction of the northern Bilambee Avenue footway adjacent to the site, including the provision of an additional 90 degree indented parking bay;
- The reconstruction of the western Bilkurra Avenue footway adjacent to the site, including the provision of two new parallel indented parking bays; and
- The construction of the development access driveway connection to Bilambee Lane.

The abovementioned public domain works will require the staged temporary closures of the northern footpath within Bilambee Avenue, the western footway within Bilkurra Avenue and the southern portion of the Bilambee Lane roadway pavement. Traffic Control Plans associated with this public road occupation will be prepared and submitted to Council for assessment. The traffic and pedestrian management measures to be implemented are to be certified on the Traffic Control Plans as being in accordance with the Australian Standard for *Manual of Uniform Traffic Control Devices* (AS1742) and TfNSW's *Traffic Control at Work Sites* manual.

Appropriate road use permits, including the payment of fees, will be sought and obtained from Northern Beaches Council associated with the abovementioned construction activities requiring public road occupation. Further, adjoining property owners are to be advised of the implementation of any temporary traffic control measures as required by Council.

Any other unforeseen works which may necessitate the temporary occupation of the public roadway associated with the construction works will require separate formal approval from Council, via the preparation of a Traffic Control Plan in accordance with AS1742 and TfNSW's manual.

6.4 Safe Ingress and Egress of Construction Traffic

It has previously been presented that:

- During the demolition and early excavation works, construction vehicles up to and including MRVs will enter and exit the site in a forward direction via the existing driveways connecting with Bilkurra Avenue; and

- During the later excavation and following site construction phases, construction vehicles larger than passenger vehicles are most unlikely to access the subject site, rather all construction vehicles up will service the site via Works Zone/s within Bilkurra Avenue.

Vehicles accessing the site will do so via a simple forward left turn movement from Bilkurra Avenue. Vehicles exiting the site will do so via simple forward right turn movement back to Bilkurra Avenue. These vehicles will then undertake a three point turn at the junction of Bilkurra Avenue and Bilambee Lane in order to access the southbound Bilkurra Avenue travel lane.

All site and Works Zone/s access and egress movements in conjunction with the abovementioned three point movements at the junction of Bilkurra Avenue and Bilambee Avenue are to be strictly controlled by appropriately qualified traffic controllers. Where practicable, traffic controllers are not to stop traffic on the public street/s to allow for trucks manoeuvring. They must wait until a suitable gap in traffic flows allows them to assist construction vehicle manoeuvring.

No queuing / marshalling of construction vehicles is to occur in any public road.

Further to the large construction vehicles described above, construction employee / tradesperson passenger vehicles are to be accommodated within the basement parking area when constructed. Access / egress associated with this passenger vehicle parking function is to occur via the site access driveway connecting with Bilambee Lane in the north-western corner of the site. These movements are to occur in a forward direction at all times.

6.5 Construction Vehicle Transport Routes

Construction vehicles are to access and vacate the subject site utilising Barrenjoey Road as the main approach route and departure route.

Inbound Route

Barrenjoey Road, left turn to Plateau Road, right turn to Bilkurra Avenue and thence a left turn movement to the site or a forward movement to the Works Zone.

Outbound Route (from Site)

Forward right turn movement from the site to Bilkurra Avenue, left turn to Plateau Road and thence a right turn to Barrenjoey Road.

Outbound Route (from Works Zone)

Forward movement from Works Zone to Bilkurra Avenue, three-point turn at the junction of Bilkurra Avenue and Bilambee Lane to access the southbound Bilkurra Avenue travel lane, left turn to Plateau Road and thence a right turn to Barrenjoey Road.

All transit routes (with the exception of Bilkurra Avenue) are existing bus routes and accordingly are capable of accommodating construction vehicles. Notwithstanding this, construction vehicle sizes will be restricted MRVs, unless specific one-off approval is obtained from Council for the use of larger vehicles.

Plateau Road provides good connectivity to the surrounding state road network in Barrenjoey Road, intersecting under single lane circulating roundabout control. Further, the proximity of the site to Barrenjoey Road facilitates an ability to access and depart the site creating minimal disturbance to surrounding local road traffic flow.

6.6 Parking Control

Prior to the construction of the basement parking area, all construction employee / tradesperson passenger vehicle parking is to be accommodated off-site, either within the Works Zone or within the surrounding public road network. Construction workers / tradespersons will however be encouraged to do either of the following when travelling to the site in order to minimise the extent of parking demand:

- Utilise public transport to the site (the site is serviced by previously presented bus services operating within the subject vicinity); and / or
- Car pool with other construction workers.

The above transport options will form part of the conditions of commissioning when engaging the relevant site workers and as such form part of any site induction process.

6.7 Construction Traffic Generation

The construction works are likely to generate a maximum of four heavy vehicles servicing the site per hour during peak periods, such as concrete pours.

In general the construction activities are projected to generate less traffic than the previous and proposed future site use, thereby suggesting that impacts will be minimal. During periods of more heavy construction vehicle generation, drivers are to be instructed by radio when to arrive at the site to ensure that there is no vehicle queuing or parking within the adjoining road network. This is to be strictly adhered to.

6.8 Traffic Impact

The recent traffic investigations of the adjoining road network and the analysis contained within previous sections of this report have indicated that motorists are provided with a good level of service within the immediately adjoining public road network. It is therefore considered that the limited traffic generation associated with the construction activities can be accommodated without any unreasonable impacts on adjoining vehicle movements considering the previously mentioned maximum hourly traffic generation. Notwithstanding this, it is recommended that construction vehicle traffic be minimised during school start and finish periods in order to ensure minimal interaction with school related traffic associated with the nearby Bilgola Plateau Public School.

6.9 Impacts on Pedestrians

Pedestrian demands along Bilambee Avenue are notable, whilst demands within Bilkurra Avenue and Bilambee Lane are low. Notwithstanding this, pedestrian movements adjacent to the site are to occur in an unimpeded fashion during all periods of construction. This is to be achieved through the provision of Class B Hoarding associated with the western Bilkurra Avenue Works Zone.

Whilst the public domain works associated with the development involve the temporary staged closure of the northern Bilambee Avenue and the western Bilkurra Avenue footpaths immediately adjoining the site, pedestrian accessibility and mobility is to be maintained at all times through the staging of works or diversion of pedestrian movements and appropriate ancillary measures, which will be governed by the preparation and implementation of appropriate Traffic Control Plans. The temporary partial or full closures of the footpaths adjoining site are therefore most unlikely to result in any unreasonable impacts on the amenity of pedestrian movements.

Unimpeded pedestrian access to adjoining developments and indeed, nearby bus stops, will be maintained at all times.

Boundary hoarding will protect pedestrians from dust and debris.
No unreasonable impacts on the safety or mobility of pedestrians are therefore anticipated during the construction works associated with the subject development.

7. CONCLUSION

This report assesses the potential parking and traffic implications associated with a mixed-use development containing two retail tenancies and eight residential apartments at 1 Bilambee Avenue, Bilgola Plateau. Based on this assessment, the following conclusions are now made:

- The proposed site access arrangements are projected to result in motorists being capable of entering and exiting the subject site in a safe and efficient manner;

- The proposed off-street residential vehicular parking provision complies with the relevant requirements of PDCP 2003;

- The proposed off-street retail vehicular parking provision relies on the surrounding public parking infrastructure to accommodate up to 4 parked vehicles in accordance with PDCP 2003;

- Some public domain modifications are however proposed in association with the development facilitating the provision of an additional indented parking space situated within Bilambee Avenue and two indented parking spaces within Bilkurra Avenue (one of which is to double as a time limited loading bay);

- Whilst pre-DA discussions with Council officers indicated that public domain parking directly adjacent to the site could be assigned to development retail floor space, parking demand surveys presented within Section 4.5 of this report have indicated that the surrounding precinct provides ready available capacity to accommodate the minor level of additional parking demand that may be generated by the development;

- The motorcycle and bicycle parking provision exceeds the minimum provisions required by PDCP 2033

- The internal passenger vehicle circulation arrangements are capable of providing for safe and efficient internal manoeuvring;

- The surrounding road network operates with a good level of service during peak periods;

- The subject development has been projected to generate 25 peak hour vehicle movements, being notably less than that capable of being generated by the previous service station use;

- It is accordingly not envisaged that the subject development will result in any unreasonable impacts on the surrounding road network; and

- The impacts of construction activities on adjoining traffic and pedestrian traffic is not anticipated to be unreasonable or exceed that which could be expected associated with the future operation of the proposed development.

It is considered, based on the contents of this report and the conclusions contained herein, there are no parking or traffic related issues that should prevent approval of the subject application. This action is therefore recommended to Council.

APPENDIX 1

Rev	Date	Description
A	May 20	Pre-DA
B	Sep 20	DA

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DRY	Dryer	GFA	Gross Floor Area	SCR	Screen
B	Basement	DP	Down Pipe	GM	Gas Meter	SW	Sewer
BAL	Balustrade	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BALC	Balcony	F	Fridge	LY	Laundry	SD	Study
BED	Bedroom	FEX	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
BT	Bathroom	FFL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
COL	Column	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		FSR	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

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PROJECT DETAILS
1 BIL
1 Bilambee Avenue
Bilgola Plateau
NSW 2107

DRAWING TITLE
GENERAL ARRANGEMENT - LEVEL B2 PLAN

SCALE
1:200
STATUS
CONCEPT
PROJECT No
2012A

APPROVED
DB
CHECKED
JSN
DRAWING No
DA-0100

NORTH

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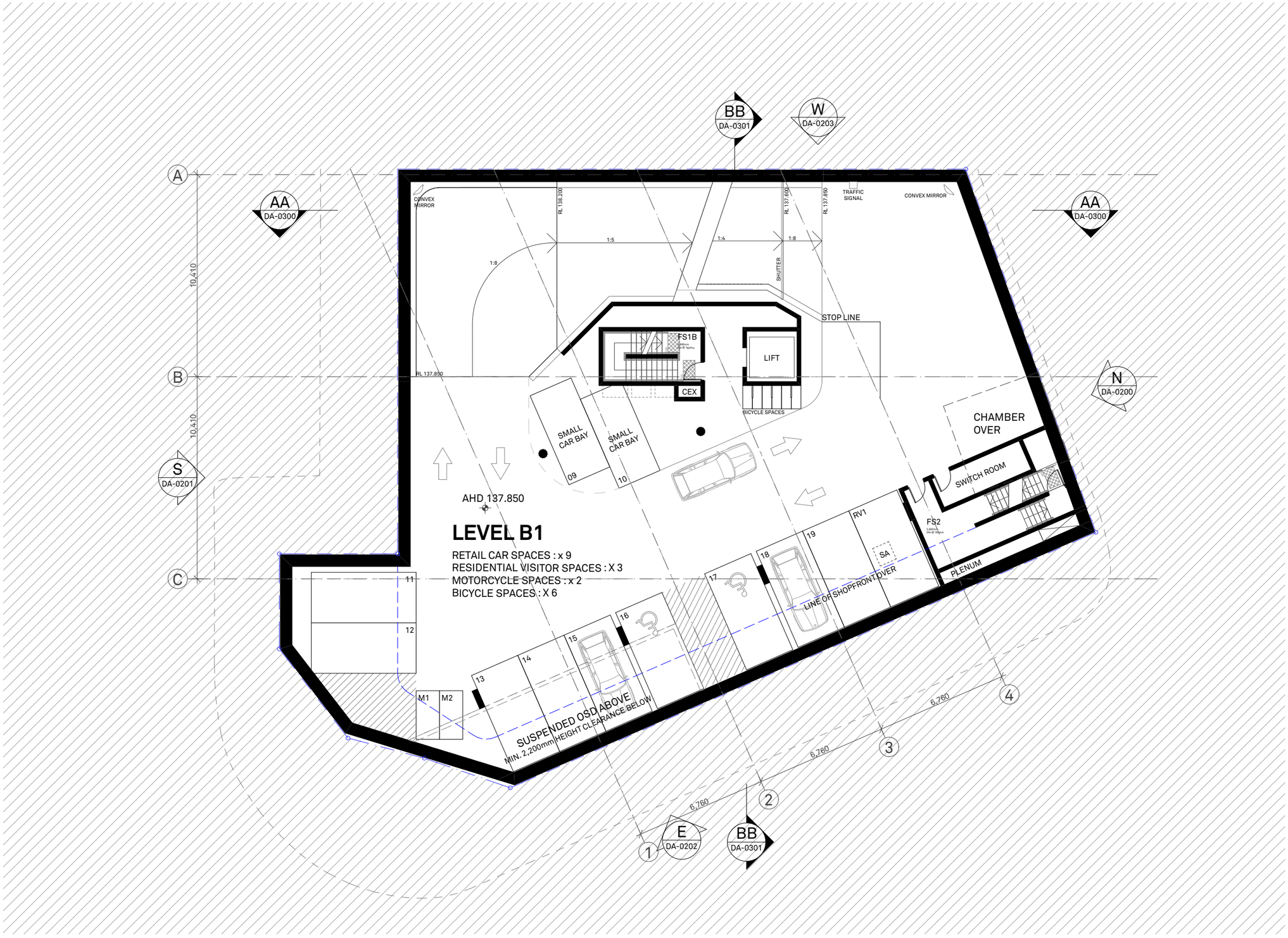
BENSON McCORMACK ARCHITECTURE



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B	Basement	DP	Down Pipe	GM	Gas Meter	SW	Sewer
BAL	Balustrade	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BALC	Balcony	F	Fridge	LY	Laundry	SD	Study
BED	Bedroom	FEX	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
BT	Bathroom	FFL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
COL	Column	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		FSR	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

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1 BIL
1 Bilambee Avenue
Bilgola Plateau
NSW 2107

DRAWING TITLE
GENERAL ARRANGEMENT - LEVEL B1 PLAN

SCALE
1:200
STATUS
CONCEPT
PROJECT No
2012A

APPROVED
DB
CHECKED
JSN
DRAWING No
DA-0101

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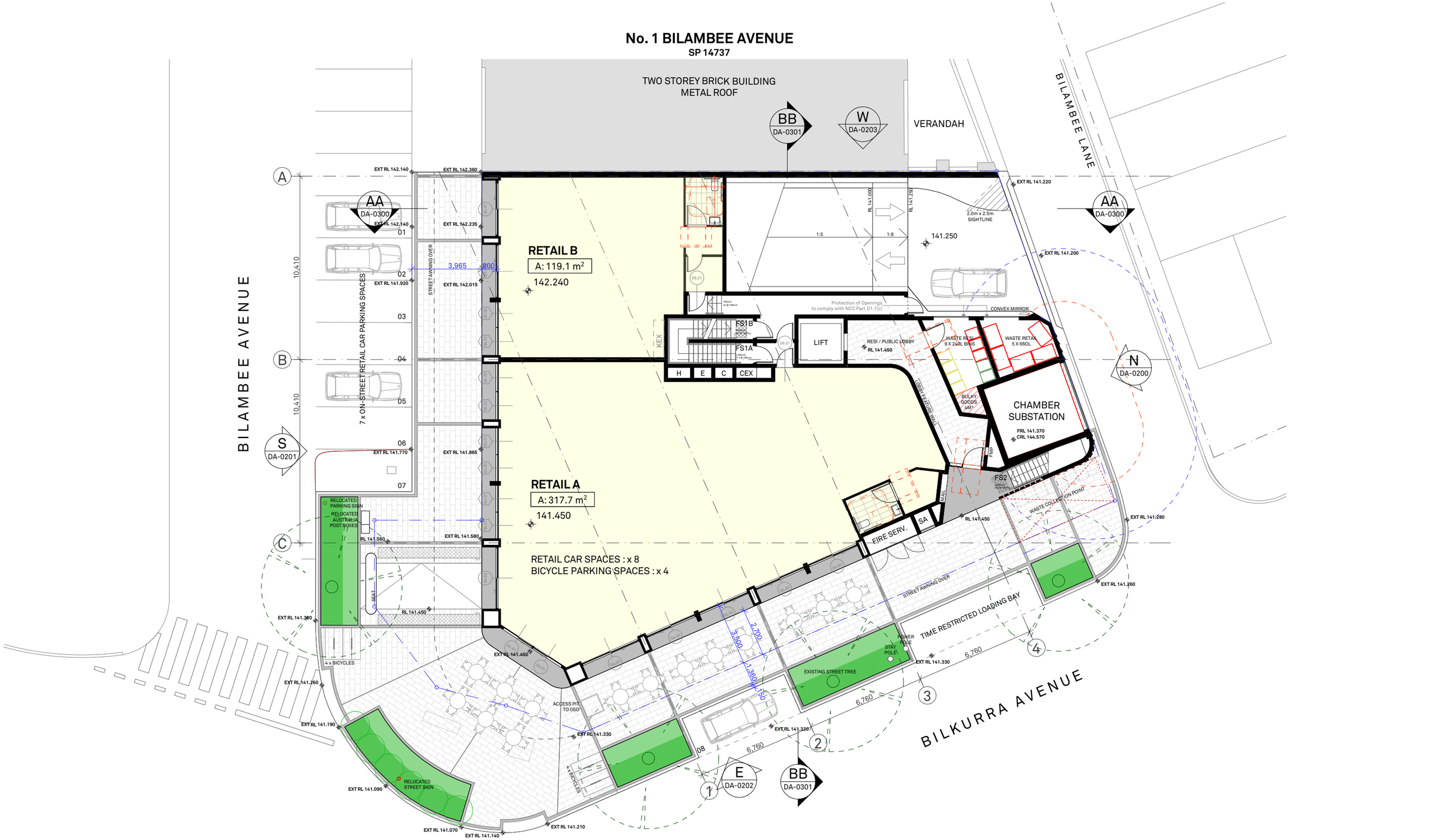

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ADP	Adaptable	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DRY	Dryer	GFA	Gross Floor Area	SCR	Screen
B	Basement	DP	Down Pipe	GM	Gas Meter	SW	Sewer
BAL	Balustrade	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BALC	Balcony	F	Fridge	LY	Laundry	SD	Study
BED	Bedroom	FEX	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
BT	Bathroom	FFL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
COL	Column	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		FSR	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

CLIENT
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PROJECT DETAILS
1 BIL
1 Bilambee Avenue
Bilgola Plateau
NSW 2107

DRAWING TITLE
GENERAL ARRANGEMENT - GROUND FLOOR

SCALE	APPROVED	NORTH
1:200	DB	
STATUS	CHECKED	
CONCEPT	JSN	
PROJECT No	DRAWING No	REV
2012A	DA-0102	B

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BENSON McCORMACK ARCHITECTURE

No. 1 BILAMBEE AVENUE

SP 14737

Rev	Date	Description
A	May 20	Pre-DA
B	Sep 20	DA

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DRY	Dryer	GFA	Gross Floor Area	SCR	Screen
B	Basement	DP	Down Pipe	GM	Gas Meter	SW	Sewer
BAL	Balustrade	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BALC	Balcony	F	Fridge	LY	Laundry	SD	Study
BED	Bedroom	FEX	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
BT	Bathroom	FFL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
COL	Column	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		FSR	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

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PROJECT DETAILS
1 BIL
1 Bilambee Avenue
Bilgola Plateau
NSW 2107

DRAWING TITLE
GENERAL ARRANGEMENT - LEVEL 1 PLAN

SCALE **1:200**
STATUS **CONCEPT**
PROJECT No **2012A**
APPROVED **DB**
CHECKED **JSN**
DRAWING No **DA-0103**
REV **B**
NORTH

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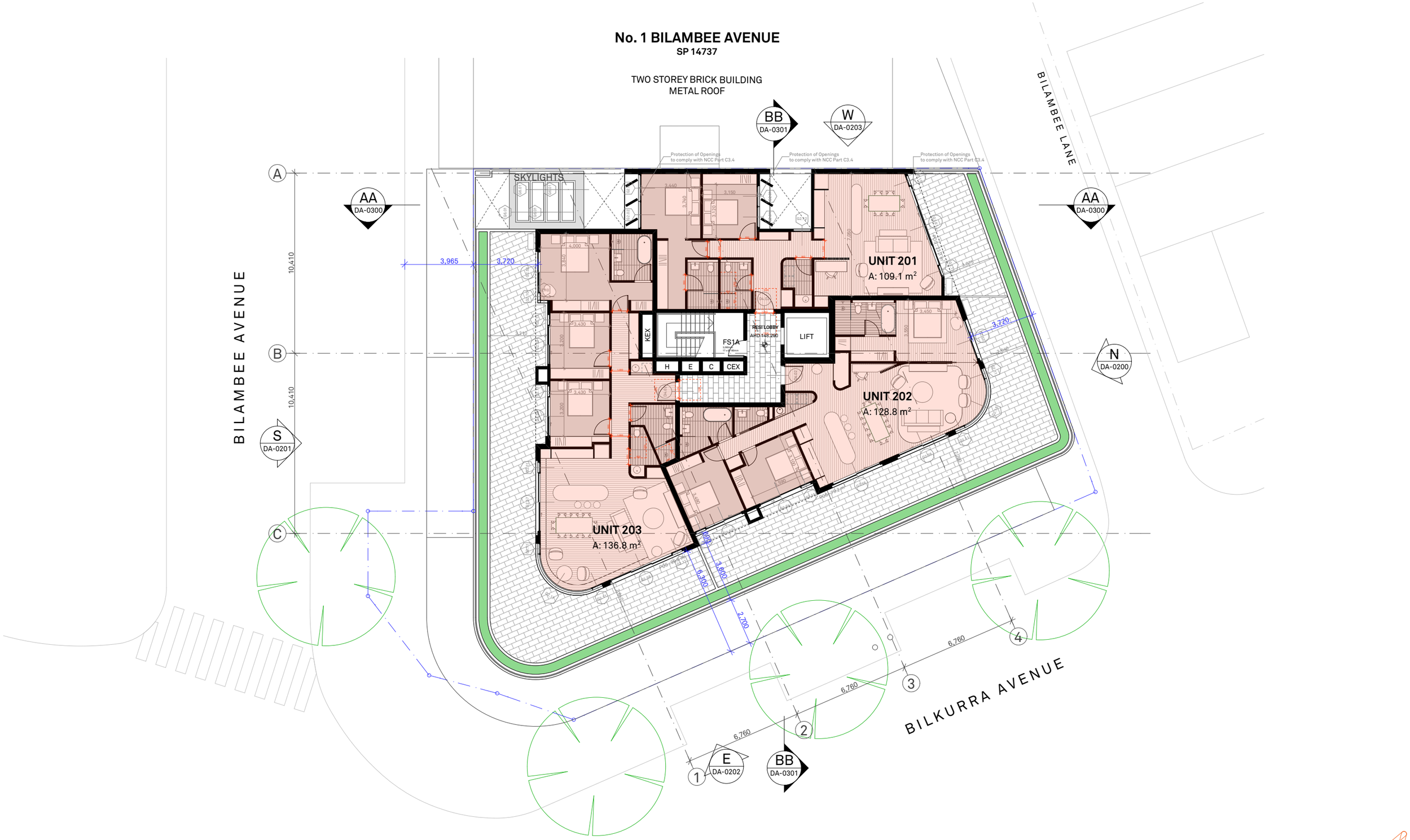
BENSON McCORMACK ARCHITECTURE

No. 1 BILAMBEE AVENUE
SP 14737

TWO STOREY BRICK BUILDING
METAL ROOF



Rev	Date	Description
A	May 20	Pre-DA
B	Sep 20	DA

LEGEND

A/C	Air Conditioning Unit
ACC	Accessible
ADP	Adaptable
AHD	Aust. Height Datum
B	Basement
BAL	Balustrade
BALC	Balcony
BED	Bedroom
BT	Bathroom
COL	Column
COMM	Comms Room
COS	Communal Open Space
CEX	Carpark Exhaust
D	Dining
DRY	Dryer
DP	Down Pipe
DW	Dishwasher
F	Fridge
FEX	Fire Extinguisher
FFL	Finish floor level
FN	Fence
FS	Fire Stairs
FSR	Floor Space Ratio
GBA	Gross Building Area
GBC	Garbage Chute
GBR	Garbage Room
GBX	Garbage Exhaust
GFA	Gross Floor Area
GM	Gas Meter
H	Hydraulic Services
LY	Laundry
M	Meter Room
MC	Motorcycle Parking
MSB	Main Switch Board
NGL	Natural Ground Level
OSD	Onsite Detention Tank
P	Pantry
POS	Private Open Space
R	Robe
RWT	Rainwater Tank
SCR	Screen
SW	Sewer
ST	Storage
SD	Study
STP	Stormwater Pit
STW	Stormwater
SFL	Structural floor level
TOF	Top of Fence
TOW	Top of Wall
VIS	Visitor Parking

CLIENT
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PROJECT DETAILS
1 BIL
1 Bilambee Avenue
Bilgola Plateau
NSW 2107

DRAWING TITLE
GENERAL ARRANGEMENT - LEVEL 2 PLAN

SCALE
1:200
STATUS
CONCEPT
PROJECT No
2012A

APPROVED
DB
CHECKED
JSN
DRAWING No
DA-0104

NORTH
REV
B

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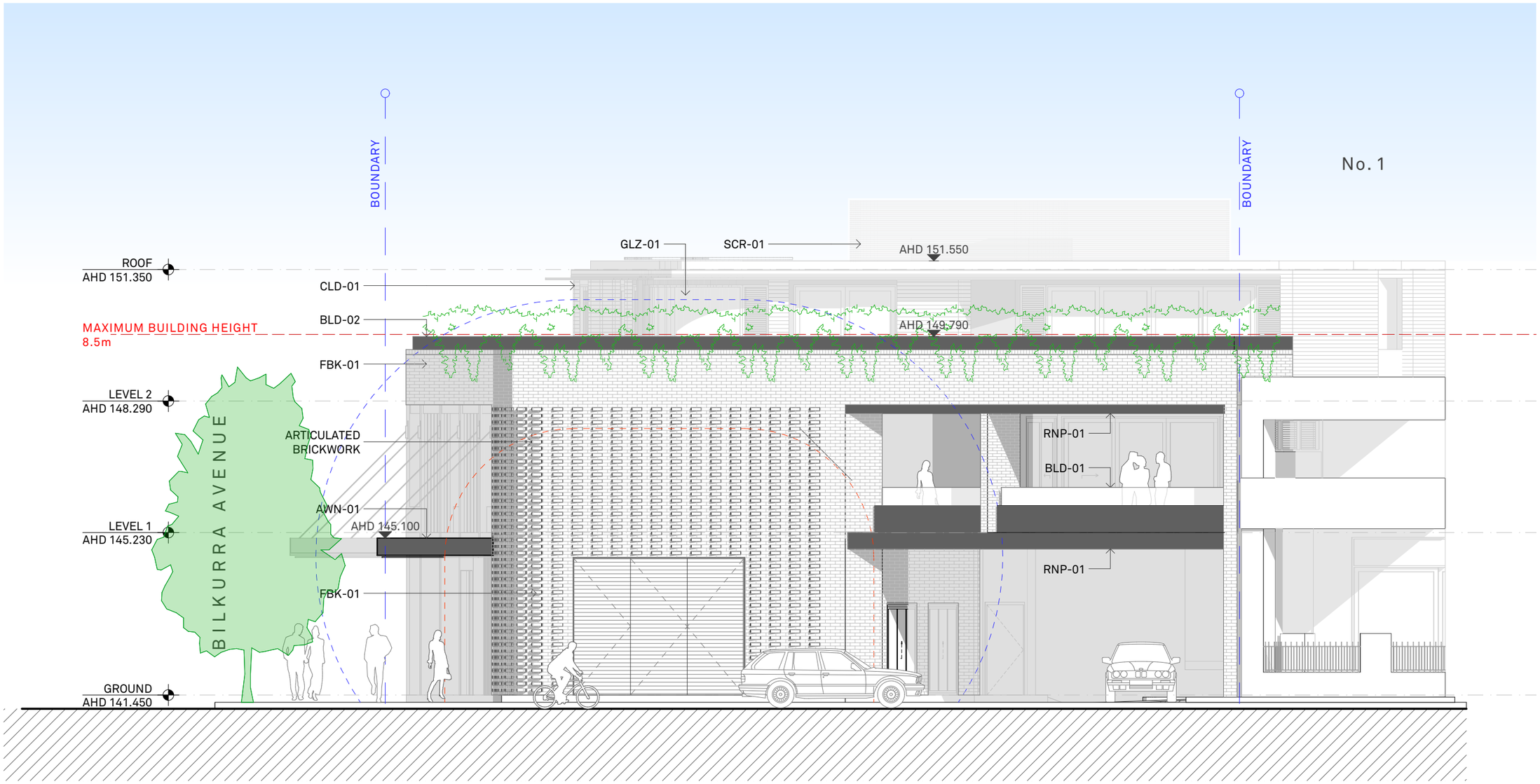
BENSON McCORMACK ARCHITECTURE



N

NORTH ELEVATION
1:100

Rev	Date	Description
A	May 20	Pre-DA
B	Sep 20	DA

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DRY	Dryer	GFA	Gross Floor Area	SCR	Screen
B	Basement	DP	Down Pipe	GM	Gas Meter	SW	Sewer
BAL	Balustrade	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BALC	Balcony	F	Fridge	LY	Laundry	SD	Study
BED	Bedroom	FEX	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
BT	Bathroom	FFL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
COL	Column	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		FSR	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

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PROJECT DETAILS
1 BIL
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Bilgola Plateau
NSW 2107

DRAWING TITLE
ELEVATIONS - NORTH ELEVATION

SCALE
1:100
STATUS
CONCEPT
PROJECT No
2012A

APPROVED
DB
CHECKED
JSN
DRAWING No
DA-0200

NORTH
REV
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BENSON McCORMACK ARCHITECTURE

S SOUTH ELEVATION
1:100

Rev	Date	Description
A	May 20	Pre-DA
B	Sep 20	DA

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DRY	Dryer	GFA	Gross Floor Area	SCR	Screen
B	Basement	DP	Down Pipe	GM	Gas Meter	SW	Sewer
BAL	Balustrade	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BALC	Balcony	F	Fridge	LY	Laundry	SD	Study
BED	Bedroom	FEX	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
BT	Bathroom	FFL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
COL	Column	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		FSR	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

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PROJECT DETAILS
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Bilgola Plateau
NSW 2107

DRAWING TITLE
ELEVATIONS - SOUTH ELEVATION

SCALE
1:100
STATUS
CONCEPT
PROJECT No
2012A

APPROVED
DB
CHECKED
JSN
DRAWING No
DA-0201

NORTH
REV
B

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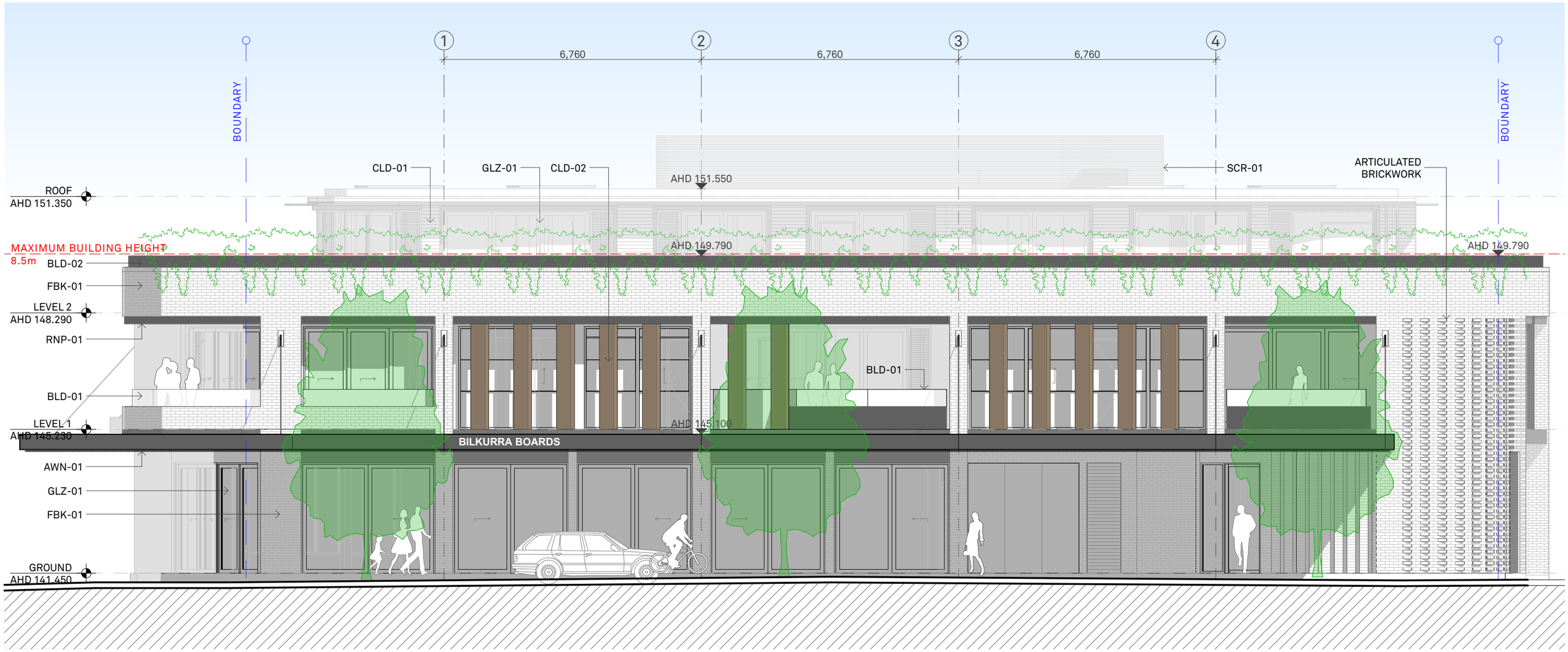
BENSON McCORMACK ARCHITECTURE



E EAST ELEVATION
1:100

Rev	Date	Description
A	May 20	Pre-DA
B	Sep 20	DA

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DRY	Dryer	GFA	Gross Floor Area	SCR	Screen
B	Basement	DP	Down Pipe	GM	Gas Meter	SW	Sewer
BAL	Balustrade	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BALC	Balcony	F	Fridge	LY	Laundry	SD	Study
BED	Bedroom	FEX	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
BT	Bathroom	FFL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
COL	Column	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		FSR	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

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PROJECT DETAILS
1 BIL
1 Bilambee Avenue
Bilgola Plateau
NSW 2107

DRAWING TITLE
ELEVATIONS - EAST ELEVATION

SCALE
1:100
STATUS
CONCEPT
PROJECT No
2012A

APPROVED
DB
CHECKED
JSN
DRAWING No
DA-0202

NORTH
REV
B

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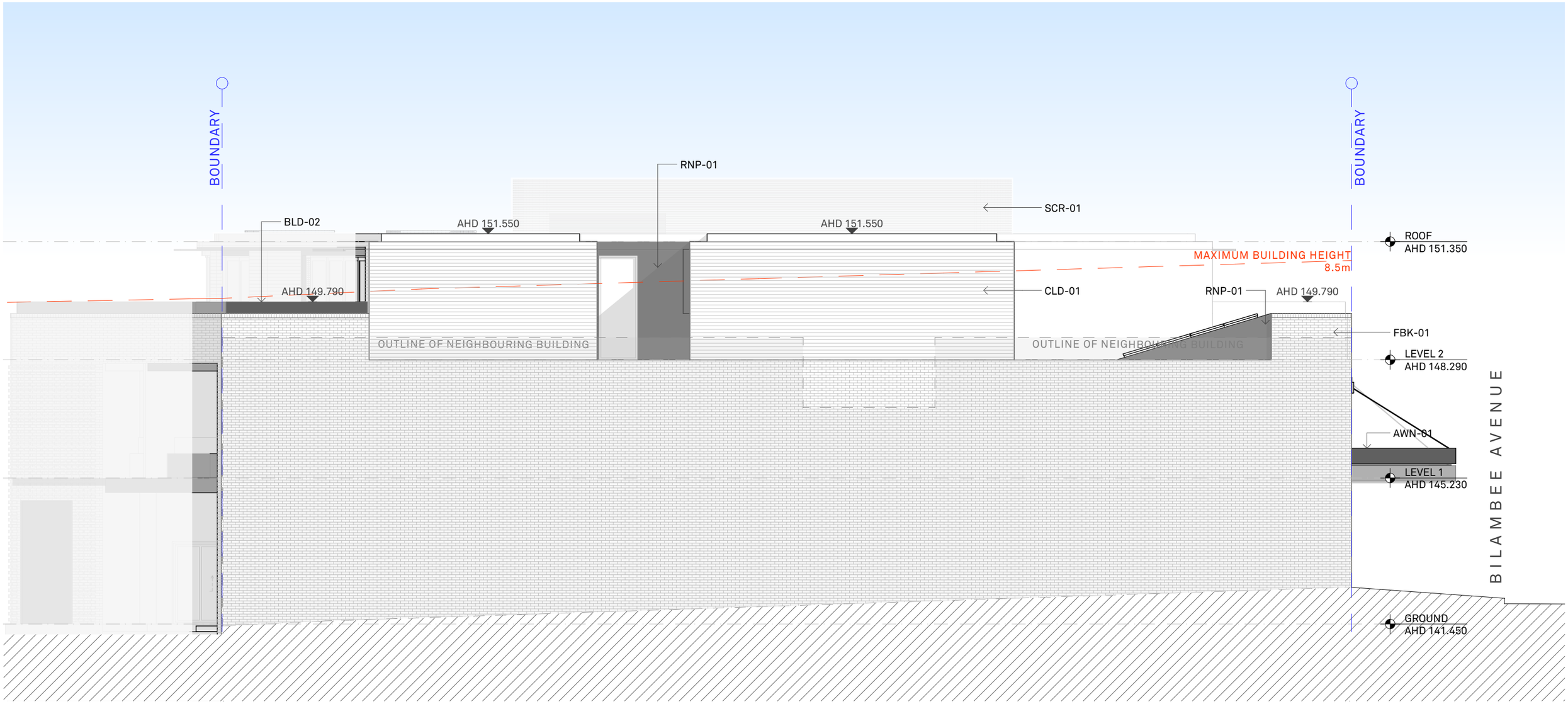
BENSON McCORMACK ARCHITECTURE



W

WEST ELEVATION
1:100

Rev	Date	Description
A	May 20	Pre-DA
B	Sep 20	DA

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DRY	Dryer	GFA	Gross Floor Area	SCR	Screen
B	Basement	DP	Down Pipe	GM	Gas Meter	SW	Sewer
BAL	Balustrade	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BALC	Balcony	F	Fridge	LY	Laundry	SD	Study
BED	Bedroom	FEX	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
BT	Bathroom	FFL	Finish floor level	MC	Motorcycle Parking	STW	Stormwater
COL	Column	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		FSR	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

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PROJECT DETAILS
1 BIL
1 Bilambee Avenue
Bilgola Plateau
NSW 2107

DRAWING TITLE
ELEVATIONS - WEST ELEVATION

SCALE
1:100
STATUS
CONCEPT
PROJECT No
2012A

APPROVED
DB
CHECKED
JSN
DRAWING No
DA-0203

NORTH
REV
B

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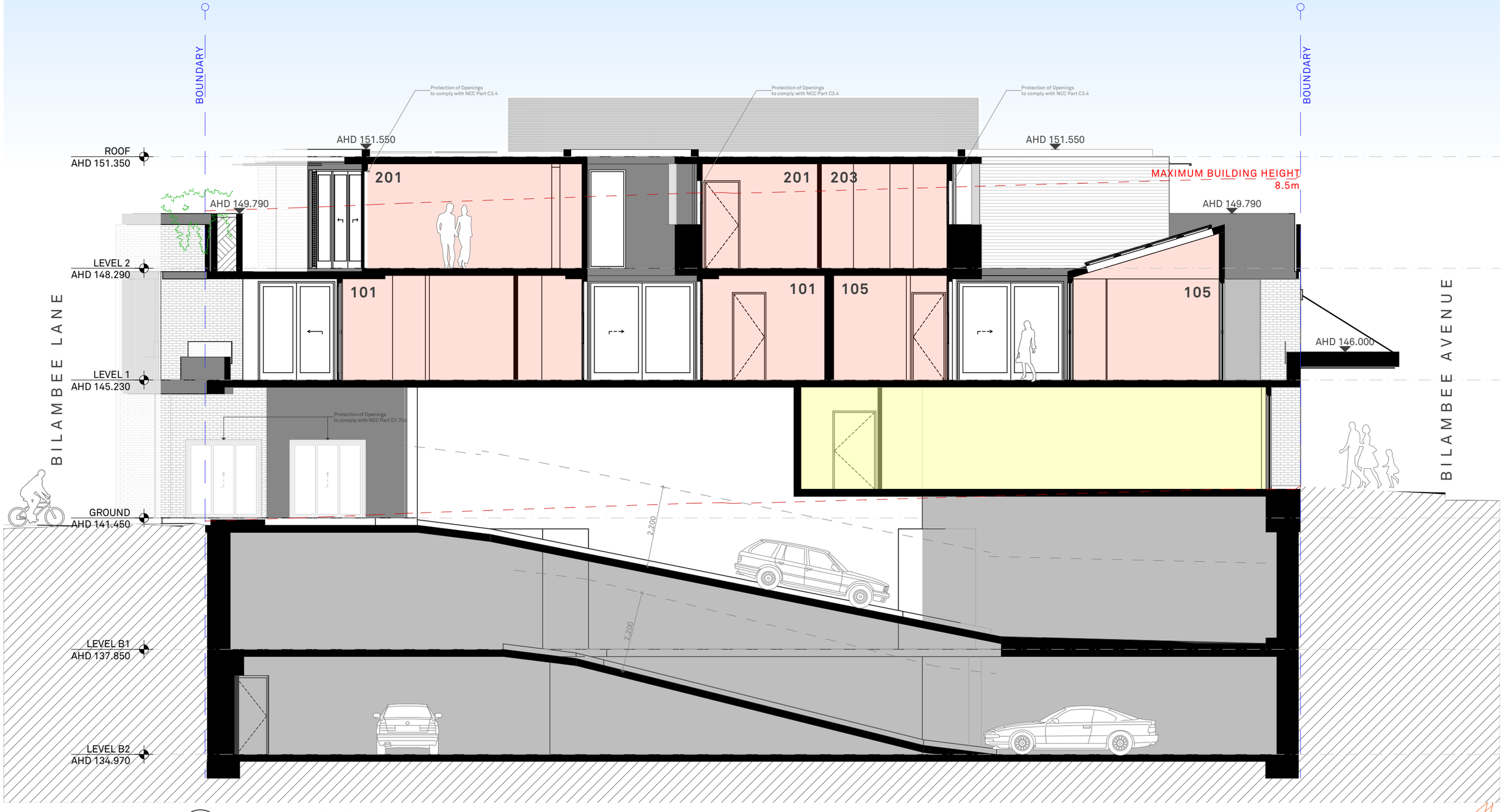
BENSON McCORMACK ARCHITECTURE



AA — SECTION AA
1:100

Rev	Date	Description
A	May 20	Pre-DA
B	Sep 20	DA

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DRY	Dryer	GFA	Gross Floor Area	SCR	Screen
B	Basement	DP	Down Pipe	GM	Gas Meter	SW	Sewer
BAL	Balustrade	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BALC	Balcony	F	Fridge	LY	Laundry	SD	Study
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COL	Column	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		FSR	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

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PROJECT DETAILS
1 BIL
1 Bilambee Avenue
Bilgola Plateau
NSW 2107

DRAWING TITLE
SECTIONS - SECTION AA

SCALE
1:100
STATUS
CONCEPT
PROJECT No
2012A

APPROVED
DB
CHECKED
JSN
DRAWING No
DA-0300
REV
B
NORTH

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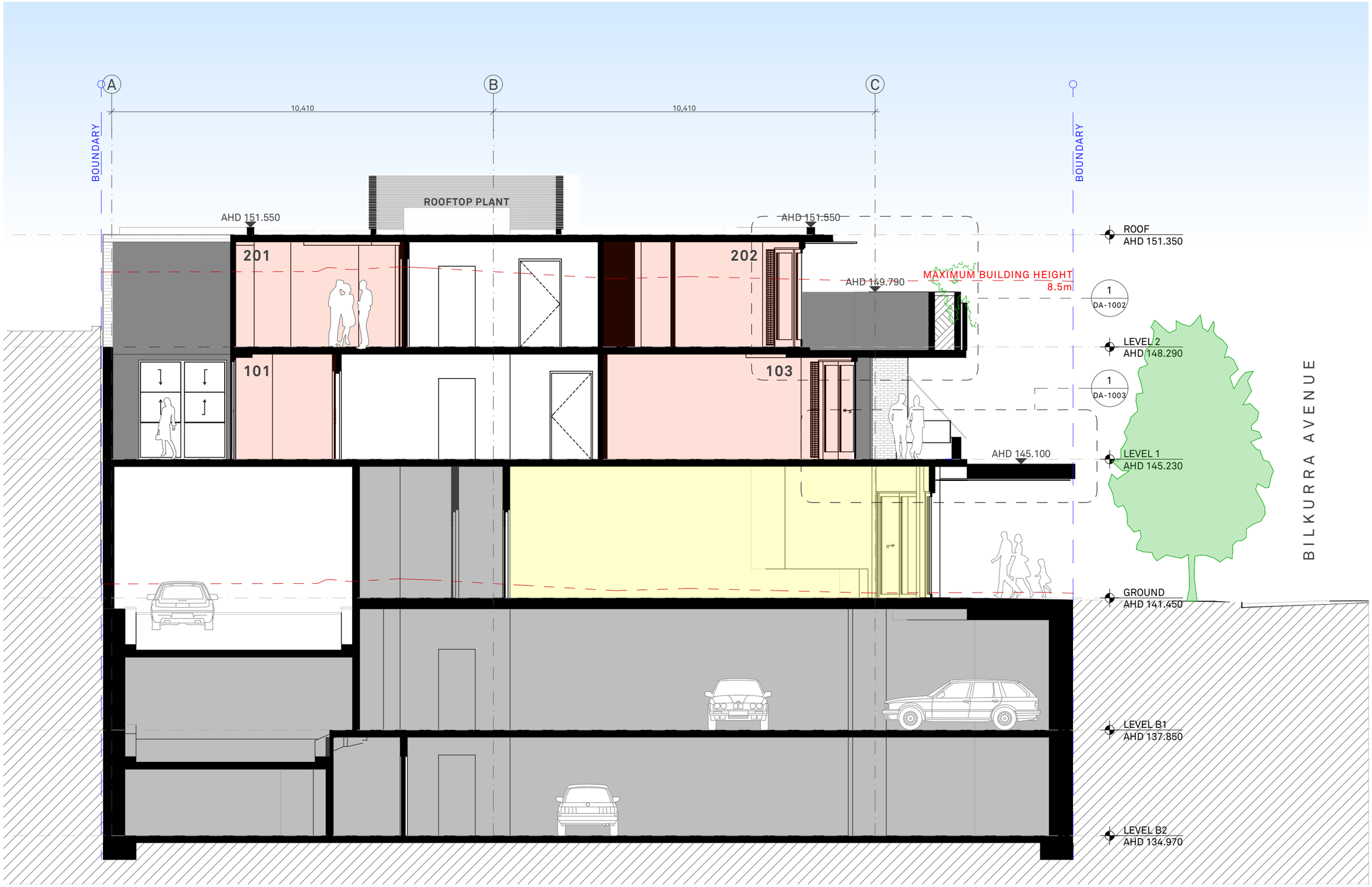
BENSON McCORMACK ARCHITECTURE



BB SECTION BB
1:100

Rev	Date	Description
A	May 20	Pre-DA
B	Sep 20	DA

LEGEND

A/C	Air Conditioning Unit	COS	Communal Open Space	GBC	Garbage Chute	POS	Private Open Space
ACC	Accessible	CEX	Carpark Exhaust	GBR	Garbage Room	R	Robe
ADP	Adaptable	D	Dining	GBX	Garbage Exhaust	RWT	Rainwater Tank
AHD	Aust. Height Datum	DRY	Dryer	GFA	Gross Floor Area	SCR	Screen
B	Basement	DP	Down Pipe	GM	Gas Meter	SW	Sewer
BAL	Balustrade	DW	Dishwasher	H	Hydraulic Services	ST	Storage
BALC	Balcony	F	Fridge	LY	Laundry	SD	Study
BED	Bedroom	FEX	Fire Extinguisher	M	Meter Room	STP	Stormwater Pit
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COL	Column	FN	Fence	MSB	Main Switch Board	SFL	Structural floor level
COMM	Comms Room	FS	Fire Stairs	NGL	Natural Ground Level	TOF	Top of Fence
		FSR	Floor Space Ratio	OSD	Onsite Detention Tank	TOW	Top of Wall
		GBA	Gross Building Area	P	Pantry	VIS	Visitor Parking

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DREAM BUILD
6/37A King Road
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PROJECT DETAILS
1 BIL
1 Bilambee Avenue
Bilgola Plateau
NSW 2107

DRAWING TITLE
SECTIONS - SECTION BB

SCALE
1:100
STATUS
CONCEPT
PROJECT No
2012A

APPROVED
DB
CHECKED
JSN
DRAWING No
DA-0301

NORTH
REV
B

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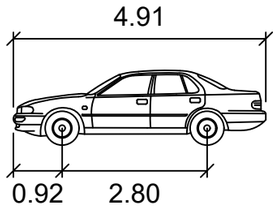
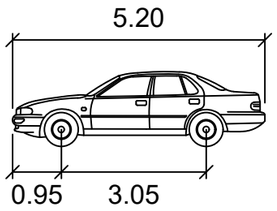
BENSON McCORMACK ARCHITECTURE

APPENDIX 2



B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



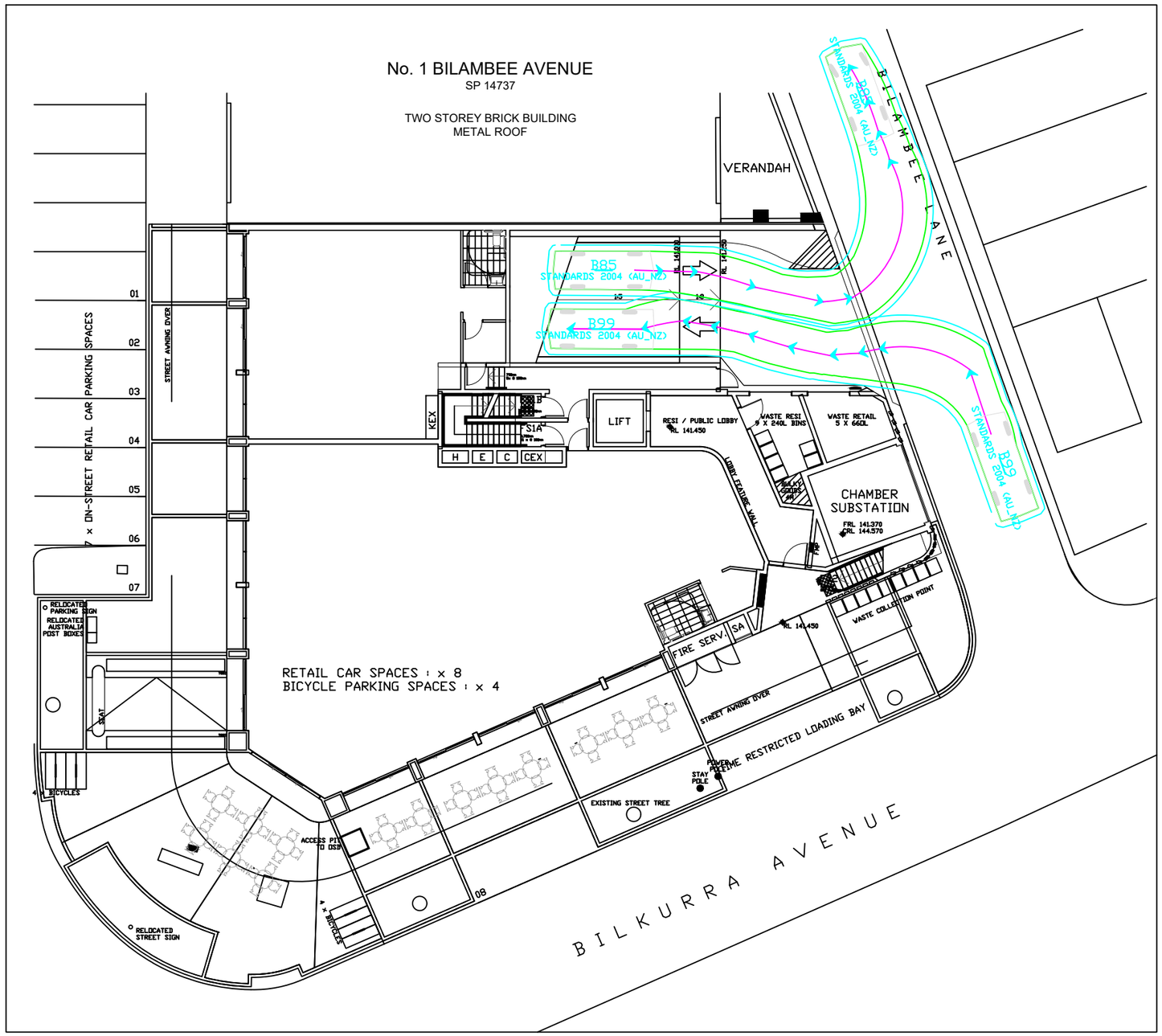
B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)



STANBURY TRAFFIC PLANNING
TRAFFIC, PARKING & TRANSPORT CONSULTANTS

STANBURY TRAFFIC PLANNING
ADDRESS: 302/166 GLEBE POINT RD, GLEBE
PH: (02) 8971 8314
MOB: 0410 561 848
EMAIL: info@stanburytraffic.com.au
WEBSITE: www.stanburytraffic.com.au

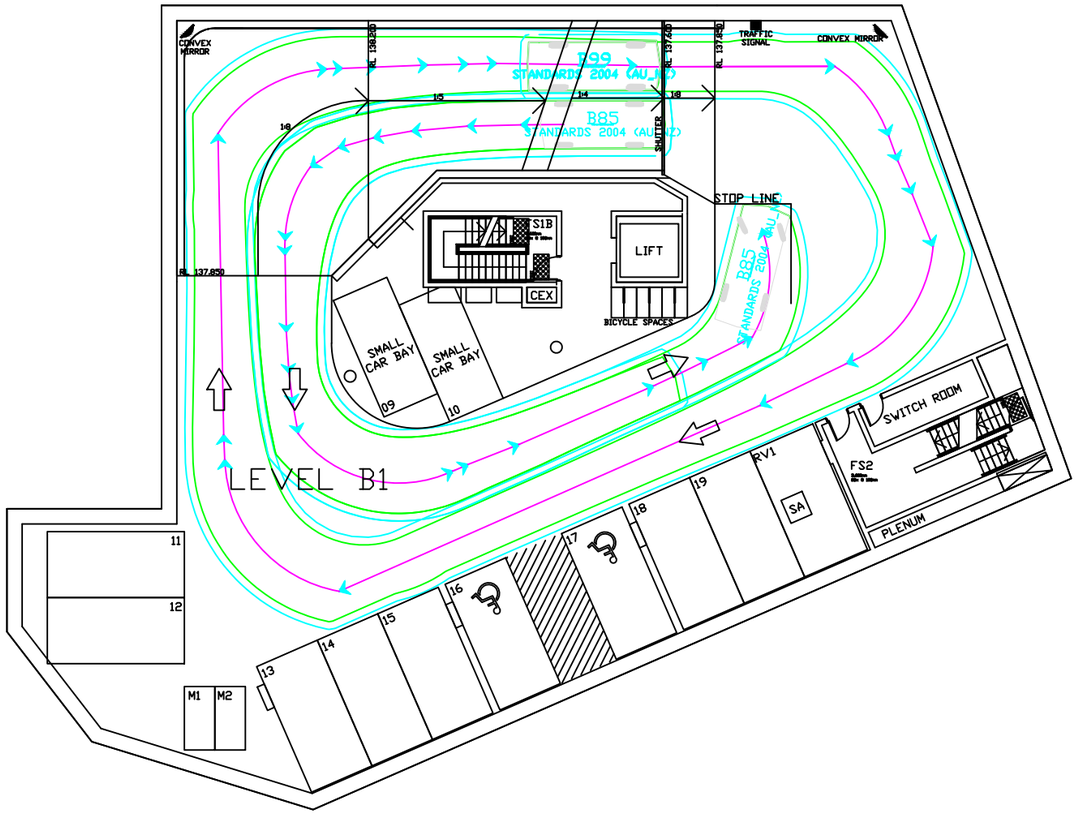
NOTES:

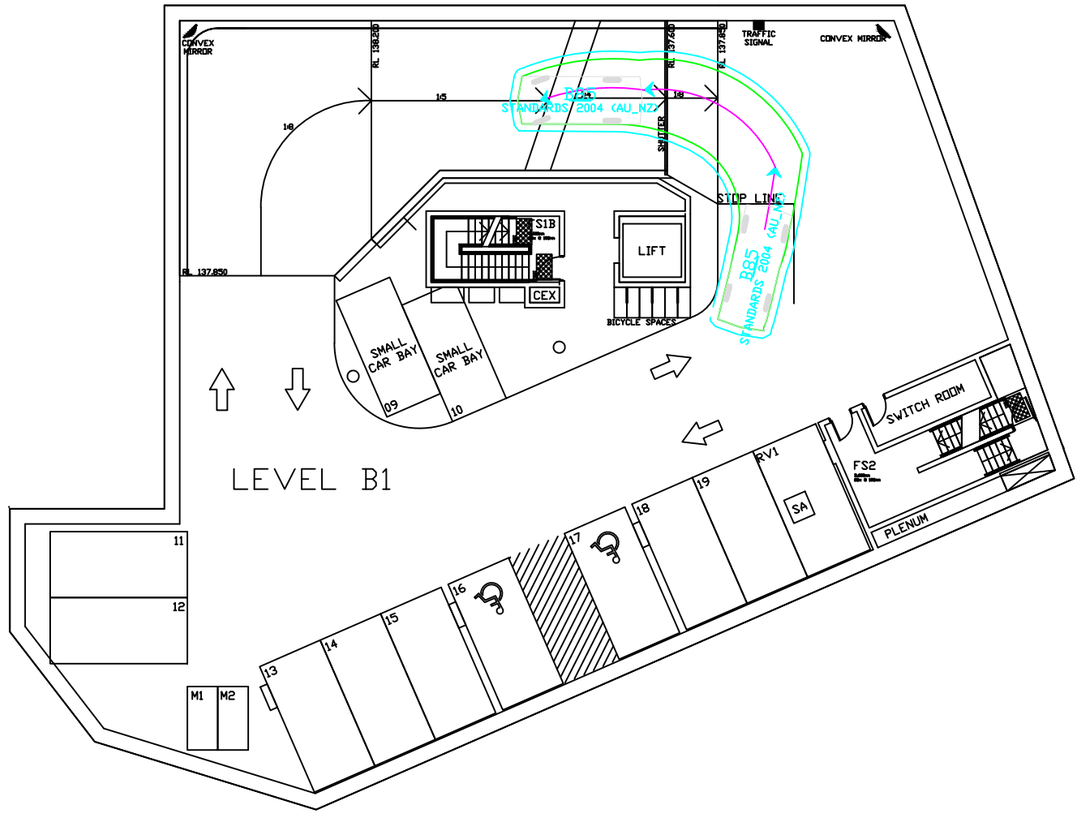
1. THIS PLAN IS BASED ON ARCHITECTURAL PLANS PREPARED BY BENSON McCORMACK ARCHITECTURE.
2. THE SWEPT PATHS PROVIDED ON THIS PLAN HAVE BEEN GENERATED UTILISING AUTOTURN PRO VERSION 11 IN CONJUNCTION WITH B99 & B85 PASSENGER VEHICLE MANOEUVRING SPECIFICATIONS IN ACCORDANCE WITH THE AUSTRALIAN STANDARD FOR PARKING FACILITIES PART 1:OFF-STREET CAR PARKING (AS2890.1:2004).

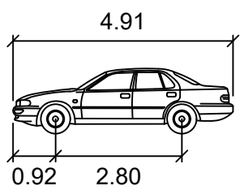
STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS
SITE INGRESS / EGRESS MOVEMENTS
PROPOSED MIXED USE DEVELOPMENT
1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3
ISSUE: A
FILE: 20-072
SUPERSEDES SHEET/ISSUE: -
DATE: 28/09/2020
SHEET: 1

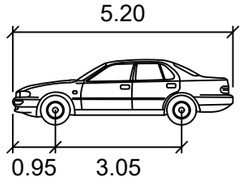






B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

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TRAFFIC, PARKING & TRANSPORT CONSULTANTS

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 1 MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3

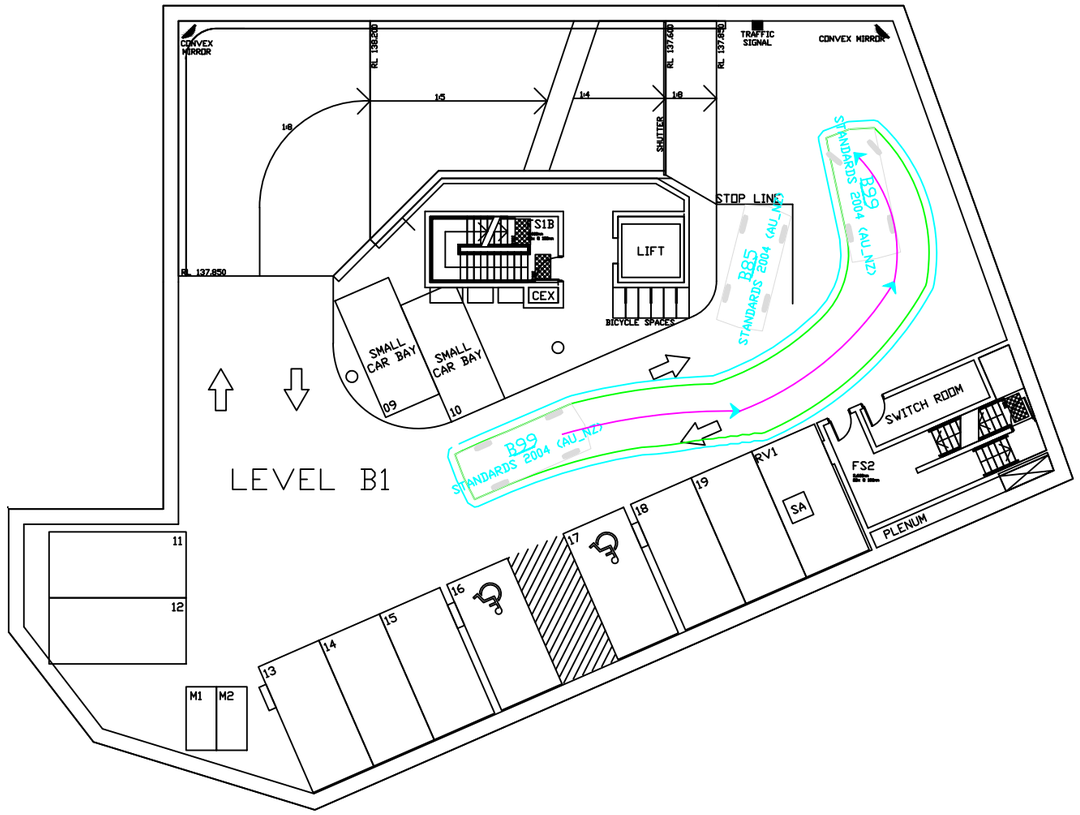
FILE: 20-072

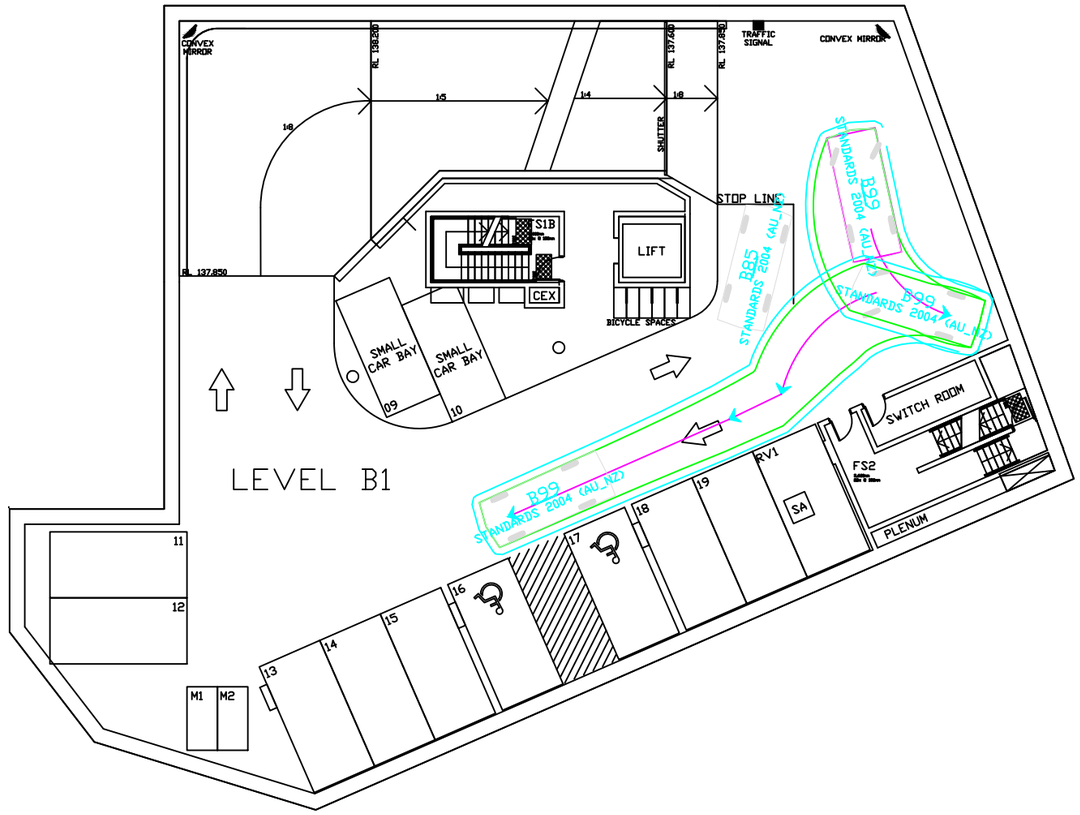
SUPERSEDES SHEET/ISSUE -

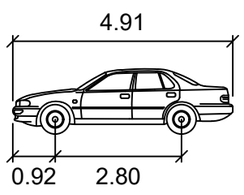
DATE: 28/09/2020

ISSUE A

SHEET 2

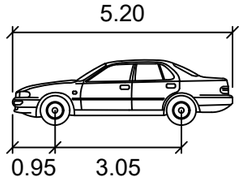






B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

STANBURY TRAFFIC PLANNING
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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 1 INTERNAL TURNAROUND MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3

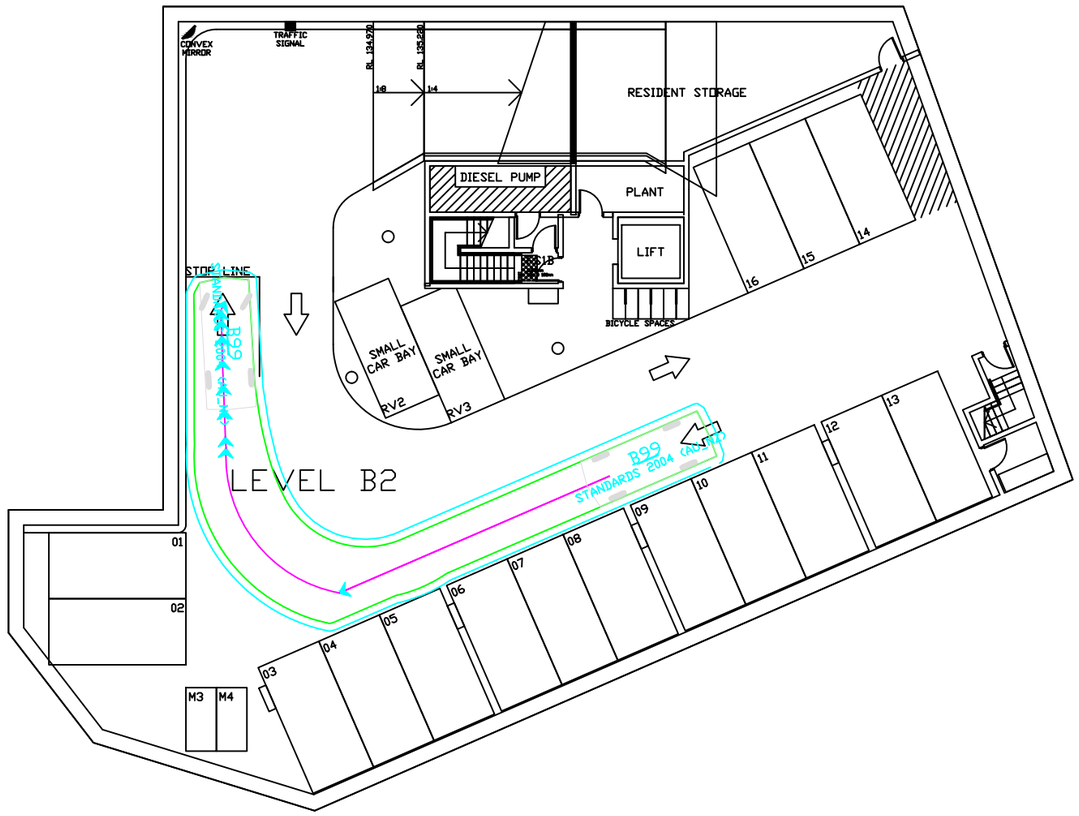
FILE: 20-072

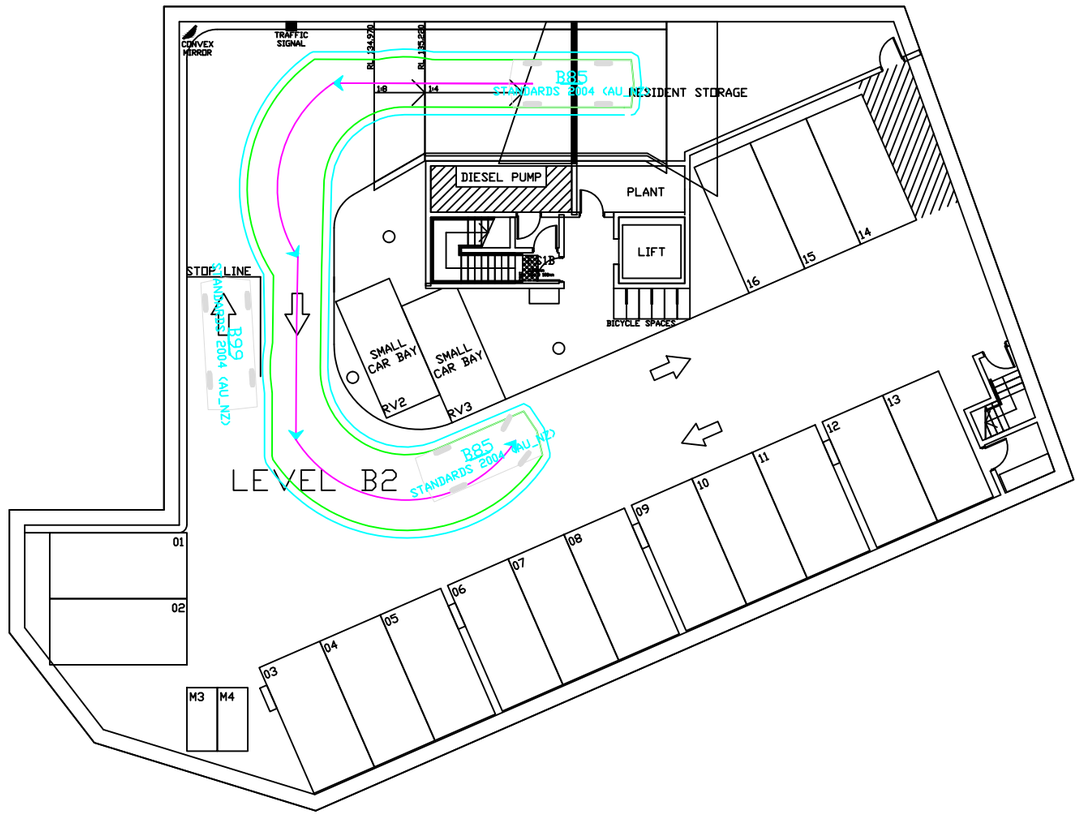
SUPERSEDES SHEET/ISSUE -

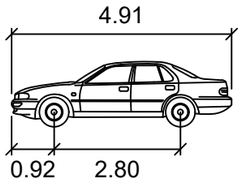
DATE: 28/09/2020

ISSUE A

SHEET 3

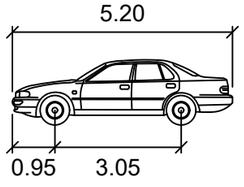






B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1



B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 2 MANOEUVRING

PROPOSED MIXED USE DEVELOPMENT

1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3

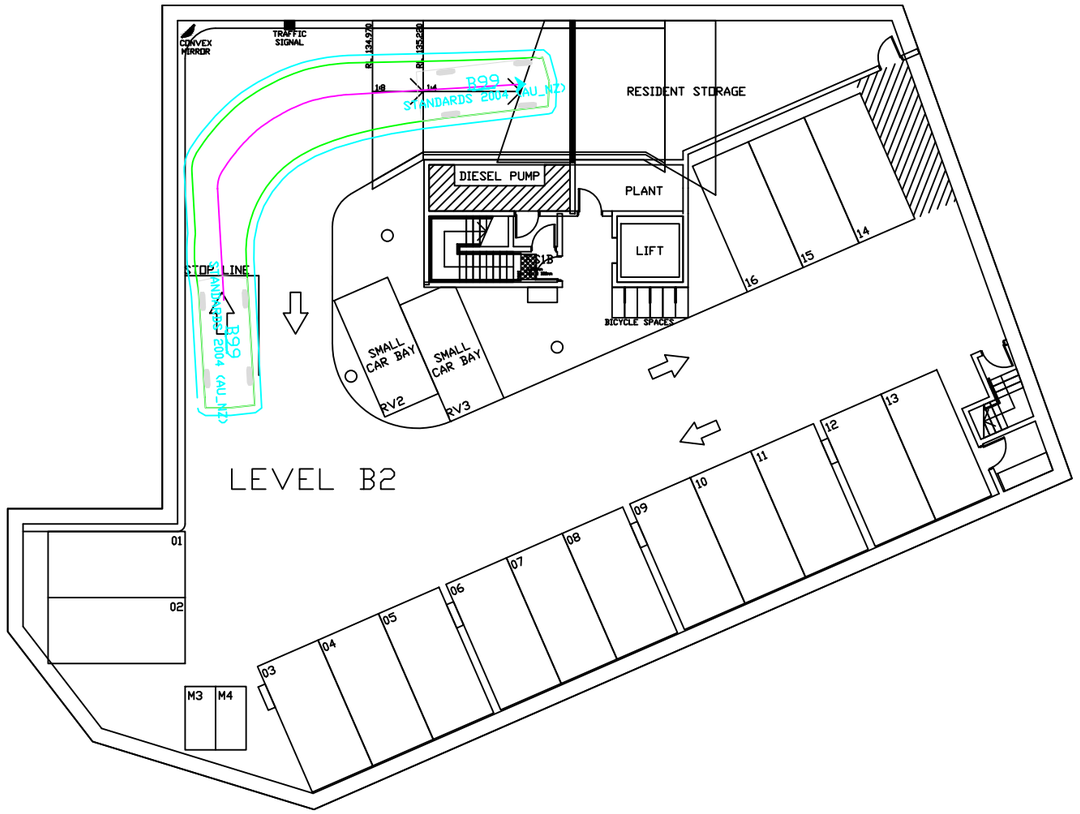
FILE: 20-072

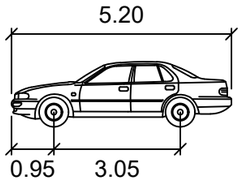
SUPERSEDES SHEET/ISSUE -

DATE: 28/09/2020

ISSUE A

SHEET 4





B99

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.9

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

MANOEUVRING CLEARANCE (300mm)

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 2 EGRESS MOVEMENT FROM WAITING BAY

PROPOSED MIXED USE DEVELOPMENT

1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3

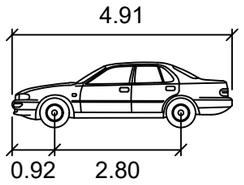
FILE: 20-072

SUPERSEDES SHEET/ISSUE -

DATE: 28/09/2020

ISSUE A

SHEET 5



B85

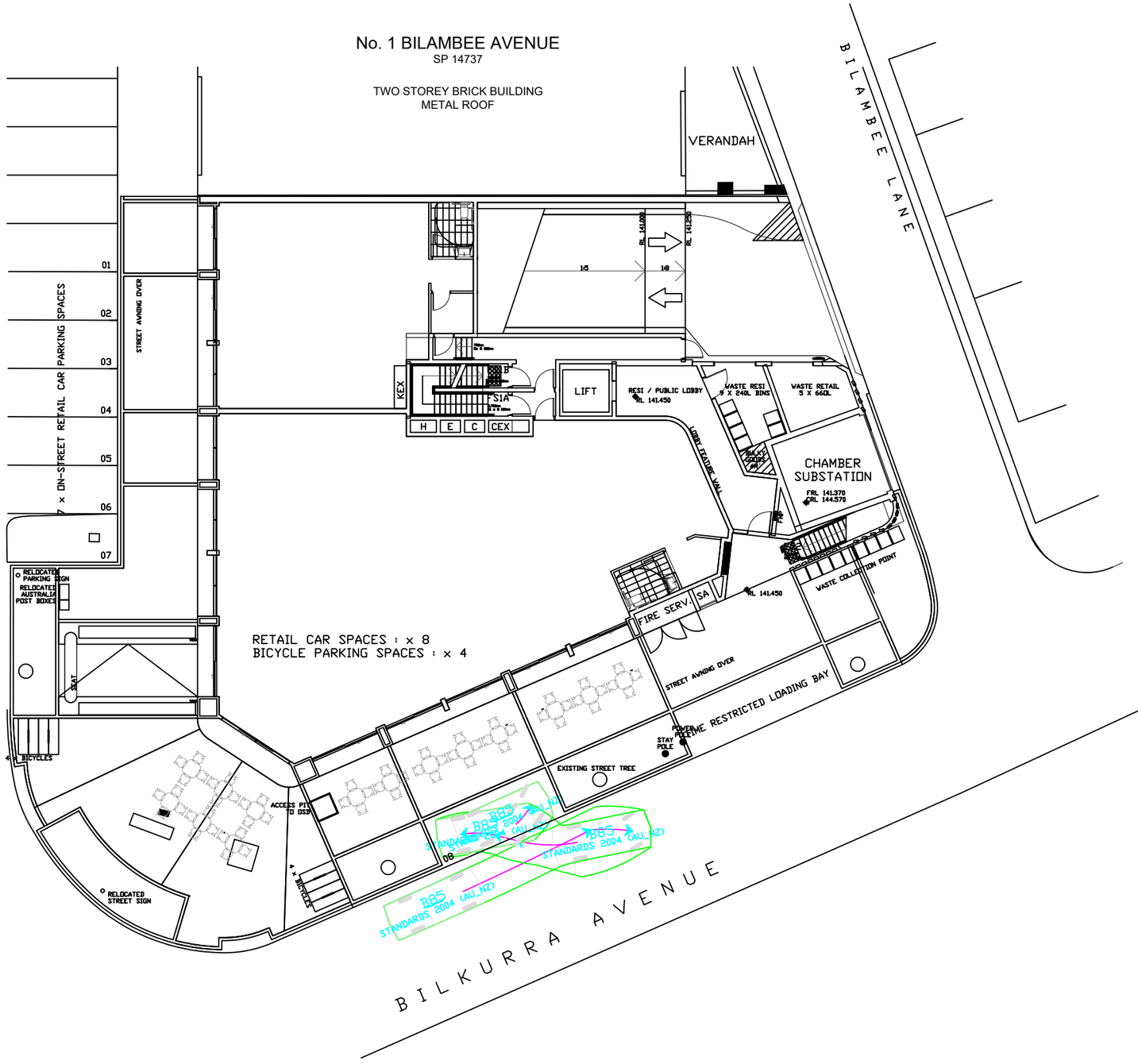
	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

No. 1 BILAMBEE AVENUE
SP 14737

TWO STOREY BRICK BUILDING
METAL ROOF



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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

GROUND FLOOR PARALLEL PARKING SPACE INGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3

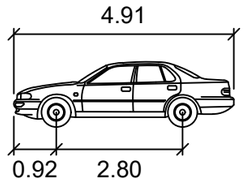
FILE: 20-072

SUPERSEDES SHEET/ISSUE -

DATE: 28/09/2020

ISSUE A

SHEET 6



B85

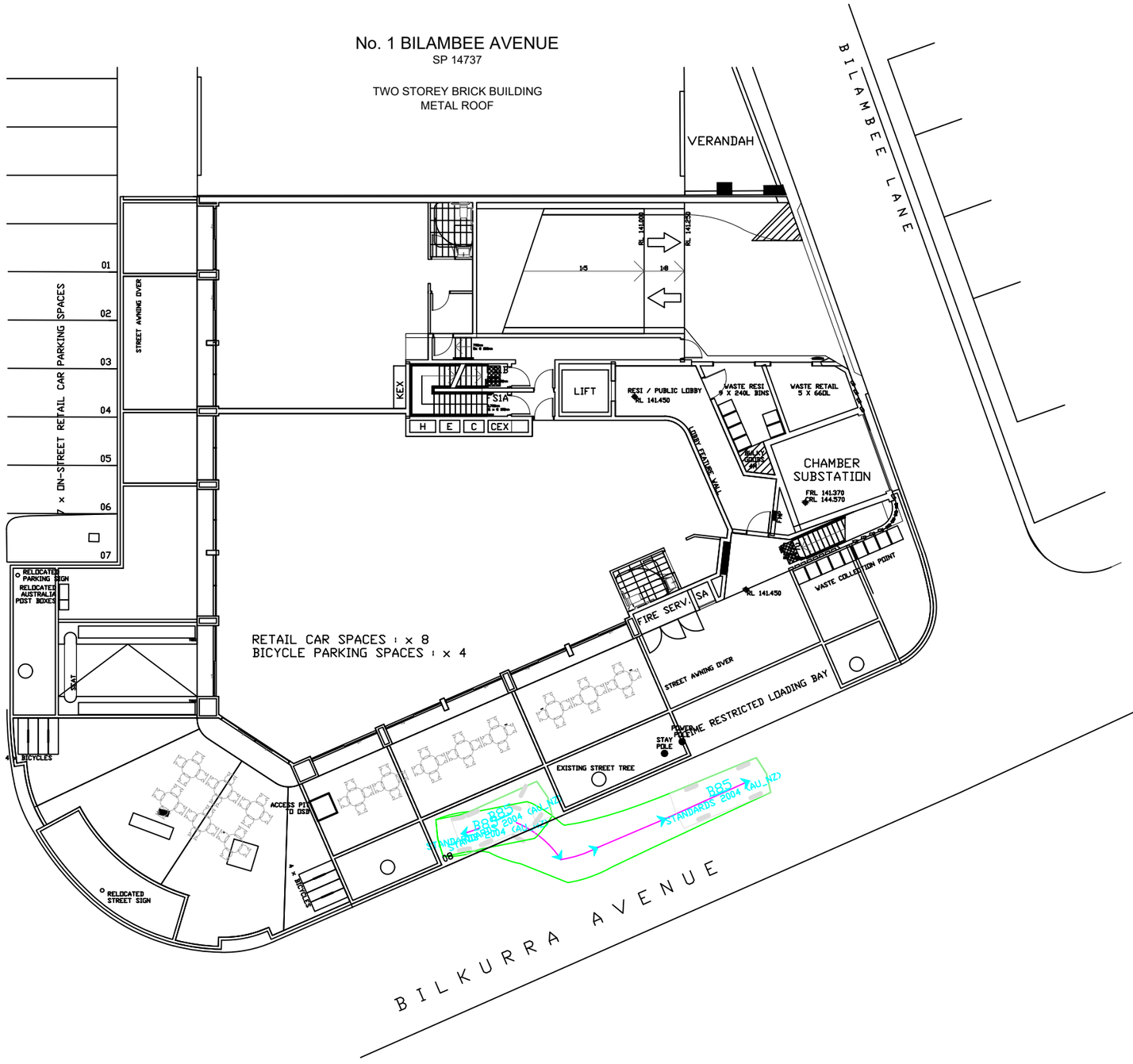
	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

No. 1 BILAMBEE AVENUE
SP 14737

TWO STOREY BRICK BUILDING
METAL ROOF



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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

GROUND FLOOR PARALLEL PARKING SPACE EGRESS MOVEMENT

PROPOSED MIXED USE DEVELOPMENT

1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3

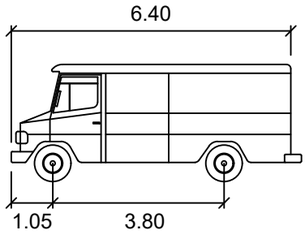
FILE: 20-072

SUPERSEDES SHEET/ISSUE -

DATE: 28/09/2020

ISSUE A

SHEET 7



SRV

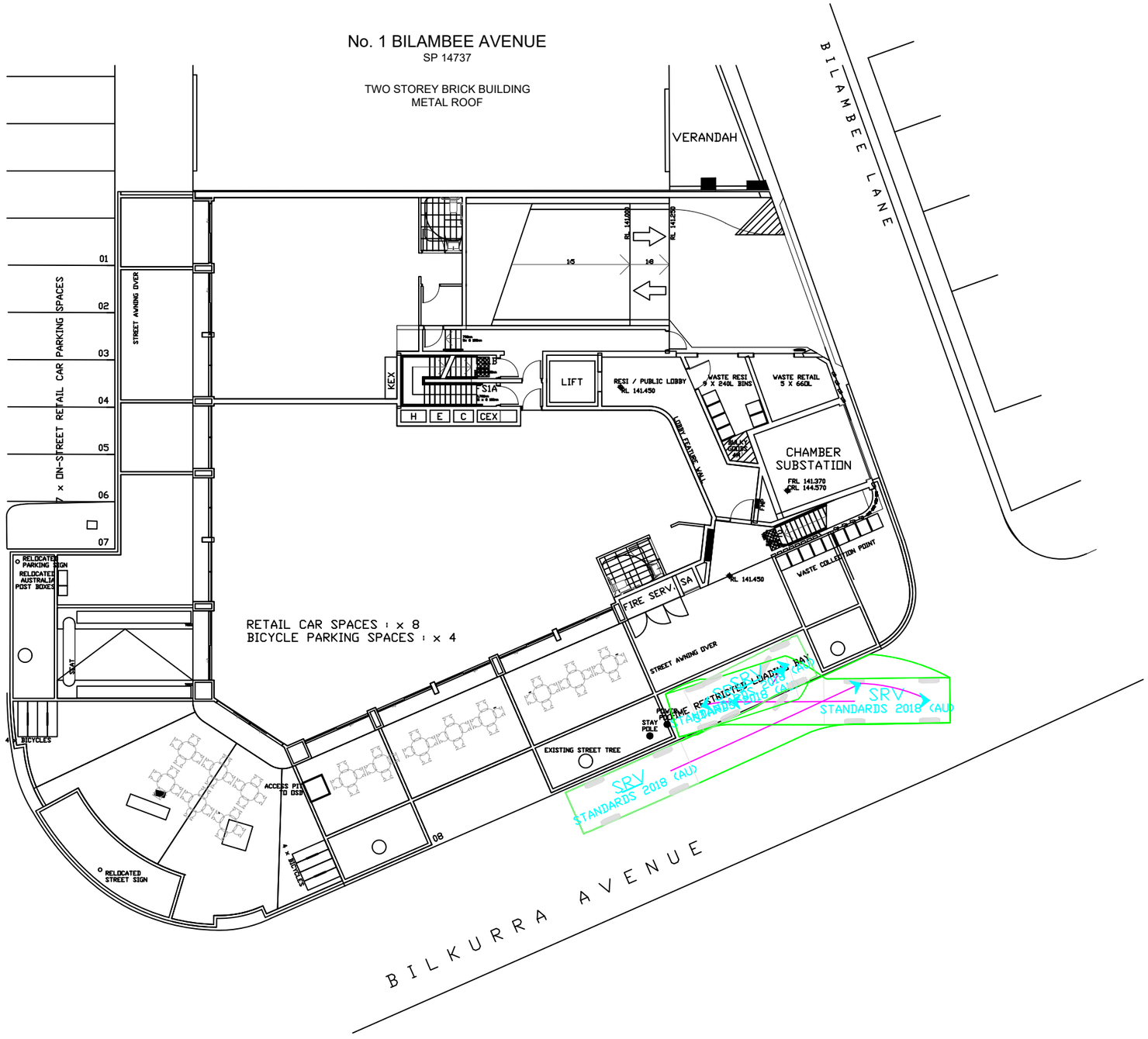
	meters
Width	: 2.30
Track	: 2.30
Lock to Lock Time	: 6.0
Steering Angle	: 38.1

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

No. 1 BILAMBEE AVENUE
SP 14737

TWO STOREY BRICK BUILDING
METAL ROOF



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STANBURY TRAFFIC PLANNING

SMALL RIGID VEHICLE SWEPT PATHS

GROUND FLOOR LOADING BAY INGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3

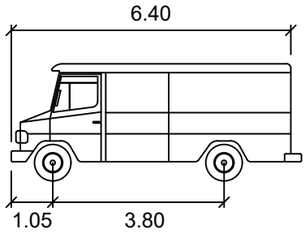
FILE: 20-072

SUPERSEDES SHEET/ISSUE -

DATE: 28/09/2020

ISSUE A

SHEET 8



SRV

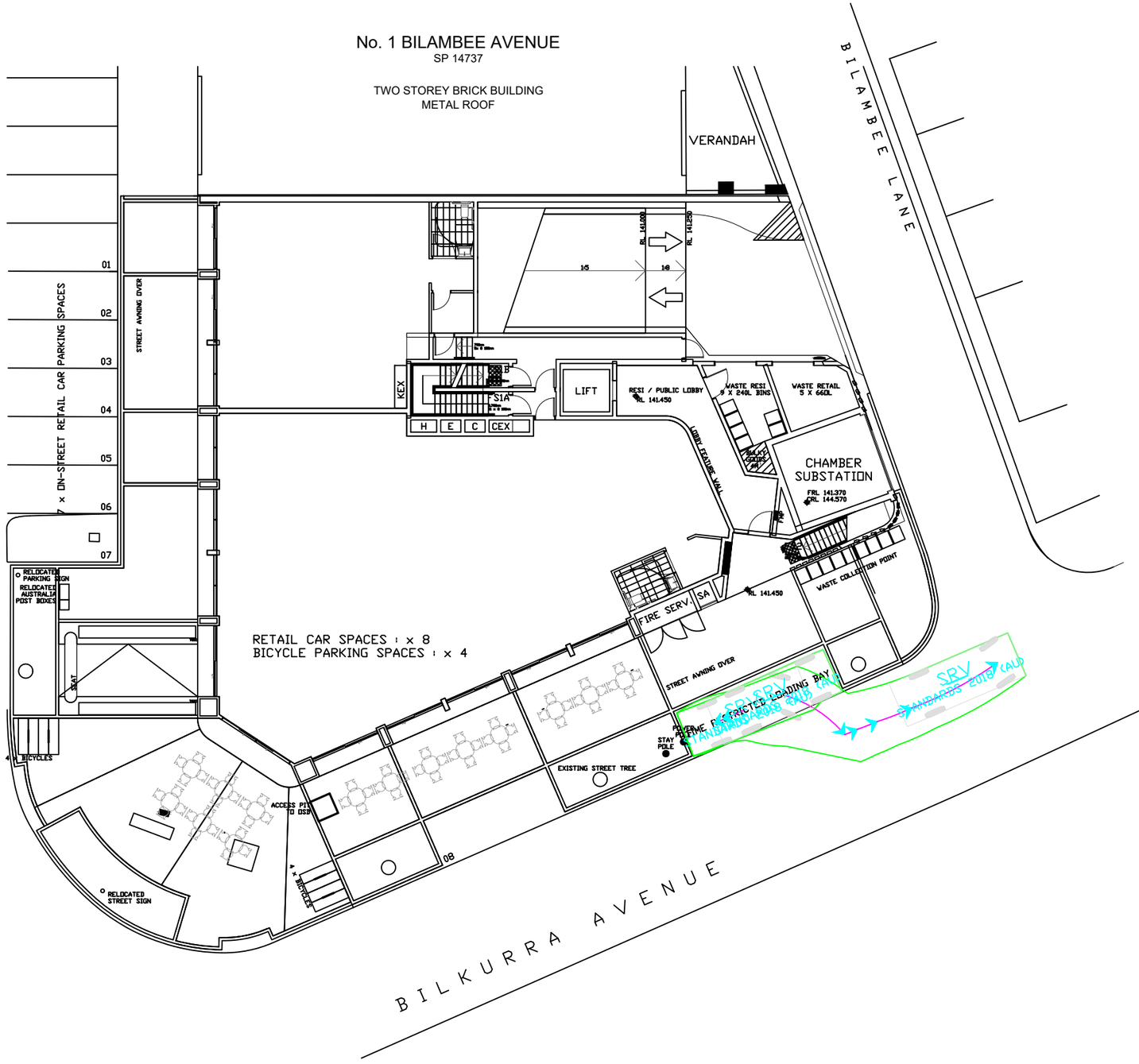
	meters
Width	: 2.30
Track	: 2.30
Lock to Lock Time	: 6.0
Steering Angle	: 38.1

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

No. 1 BILAMBEE AVENUE
SP 14737

TWO STOREY BRICK BUILDING
METAL ROOF



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STANBURY TRAFFIC PLANNING

SMALL RIGID VEHICLE SWEPT PATHS

GROUND FLOOR LOADING BAY INGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3

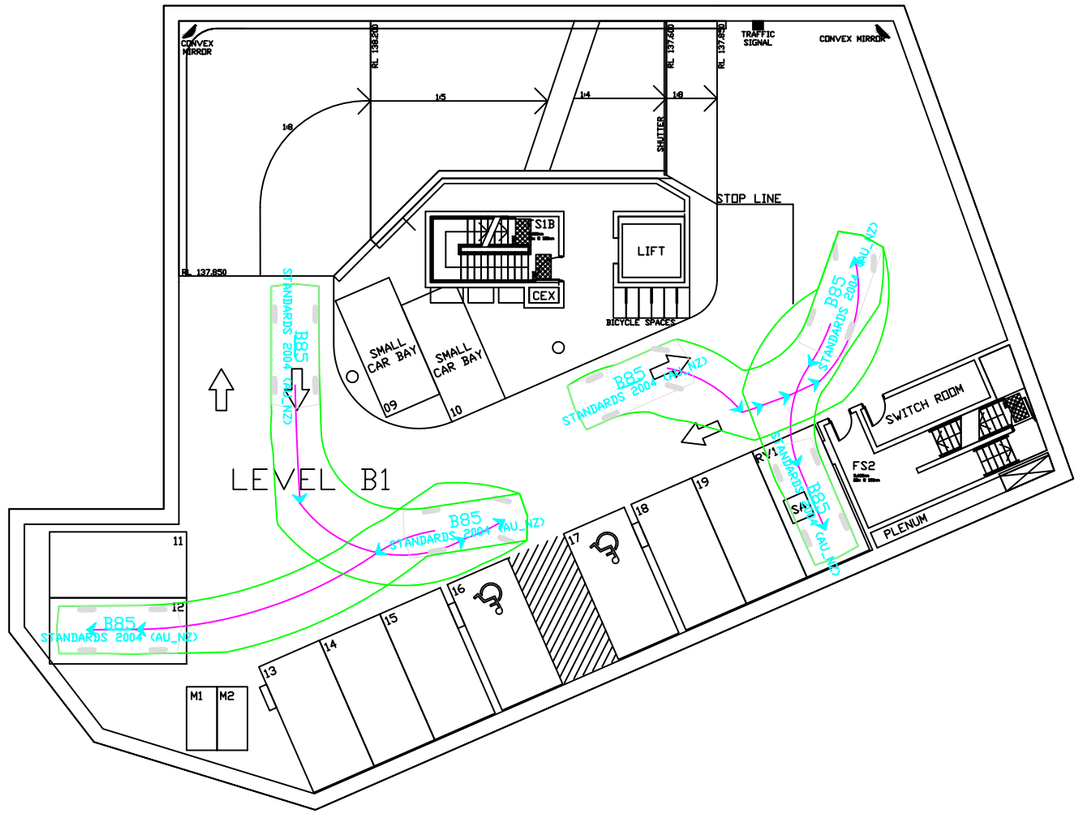
FILE: 20-072

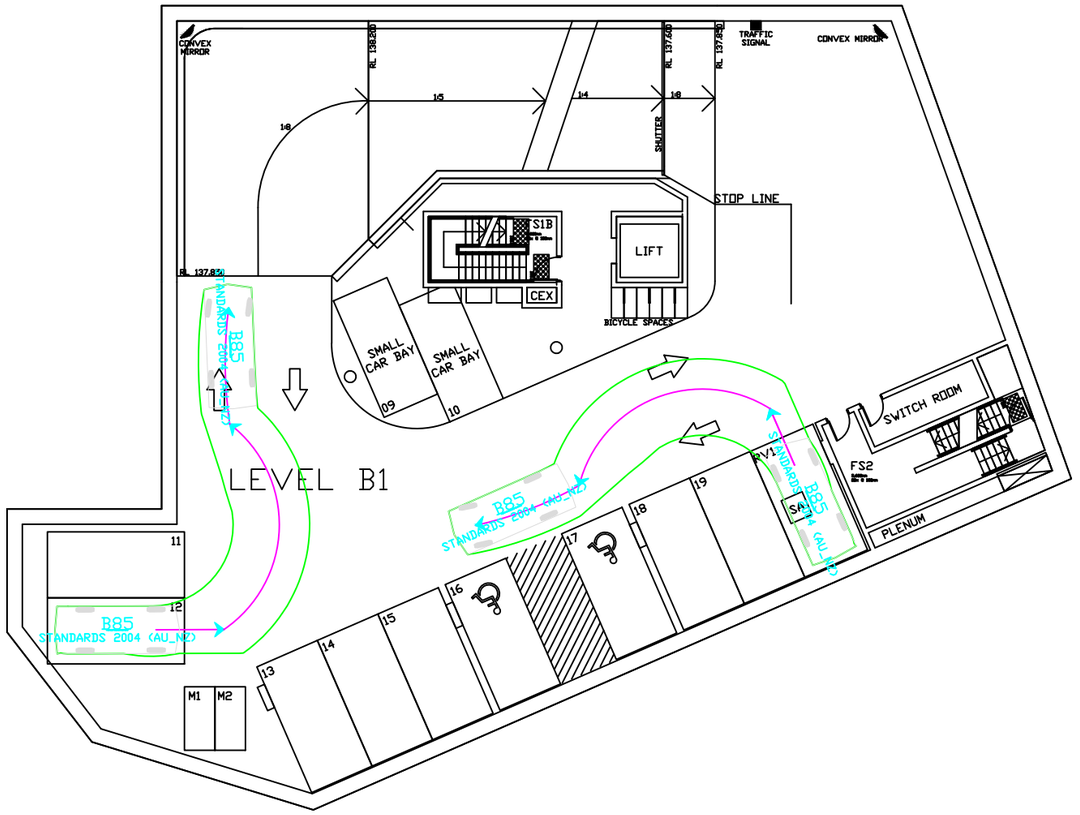
SUPERSEDES SHEET/ISSUE -

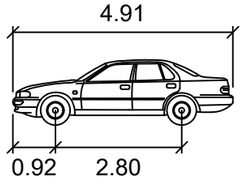
DATE: 28/09/2020

ISSUE A

SHEET 9







B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 1 PARKING SPACE INGRESS / EGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3

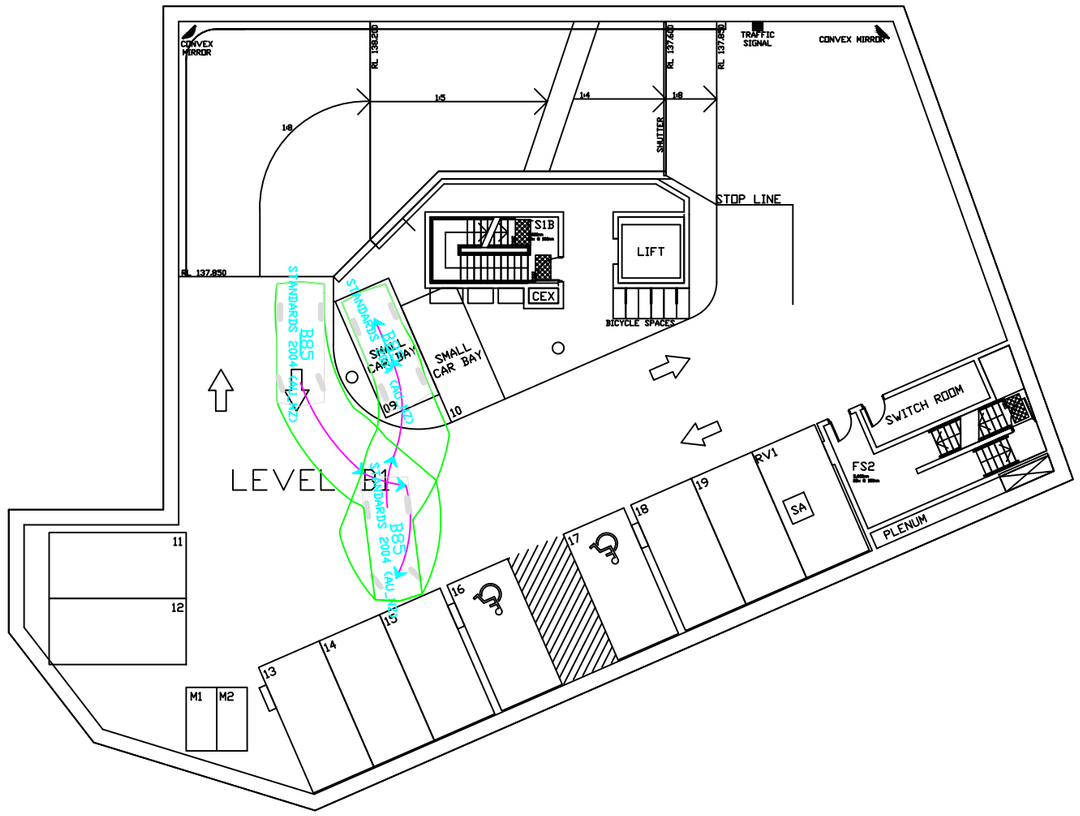
FILE: 20-072

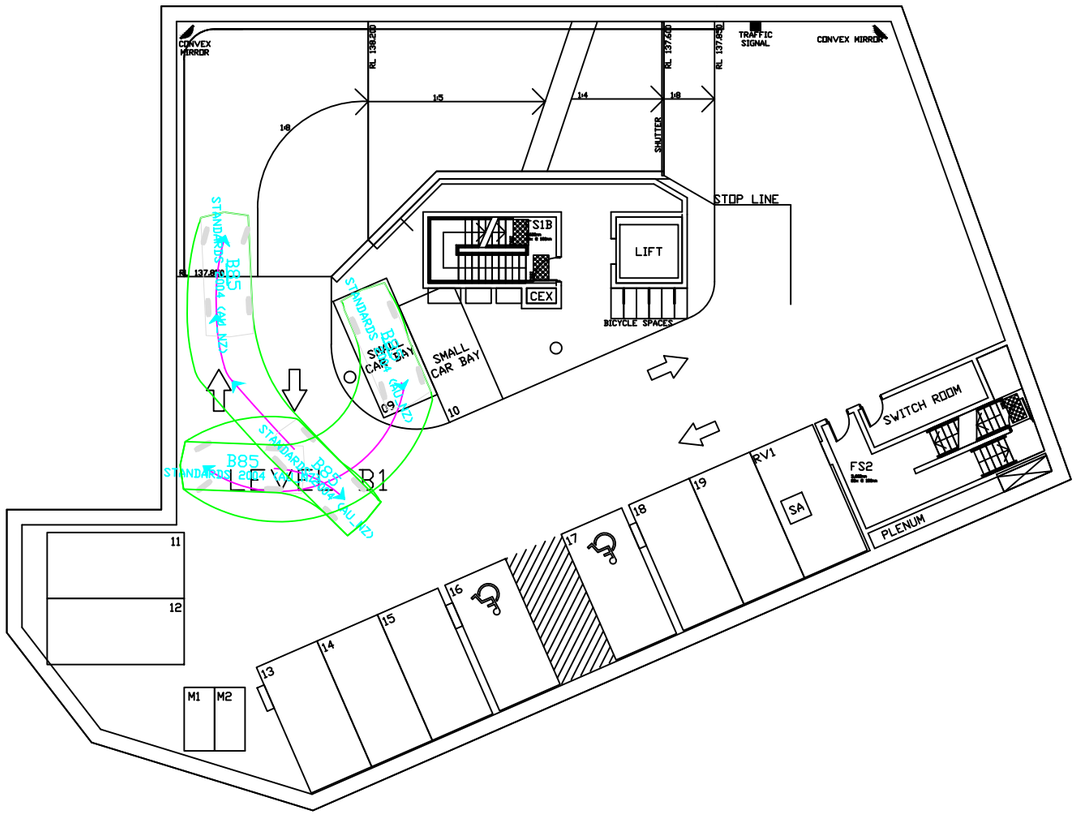
SUPERSEDES SHEET/ISSUE -

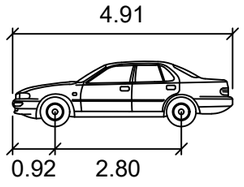
ISSUE A

DATE: 28/09/2020

SHEET 10







B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

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STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 1 PARKING SPACE INGRESS / EGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3

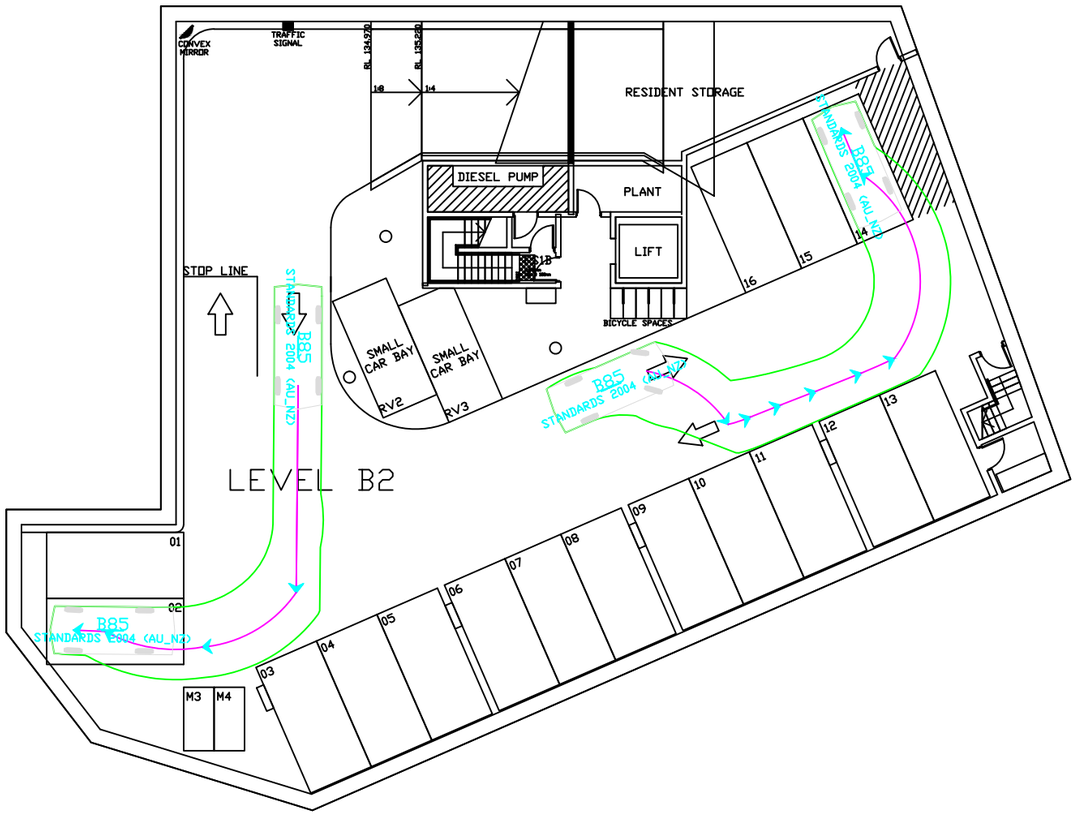
FILE: 20-072

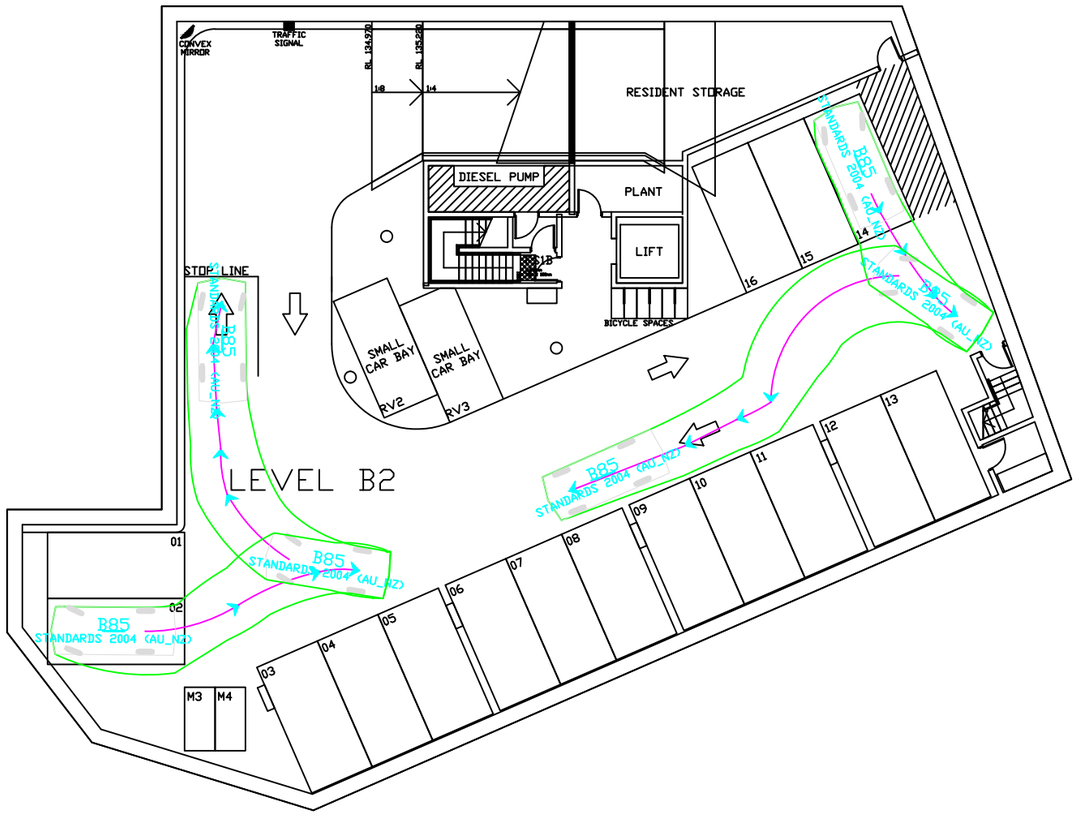
SUPERSEDES SHEET/ISSUE -

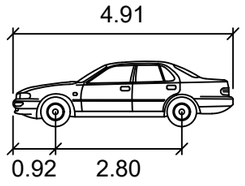
ISSUE A

DATE: 28/09/2020

SHEET 11







B85

	meters
Width	: 1.87
Track	: 1.77
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

LEGEND

VEHICLE BODY PATH (INCLUDING OVERHANG)

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WEBSITE: www.stanburytraffic.com.au

NOTES:

1. THIS PLAN IS BASED ON ARCHITECTURAL PLANS PREPARED BY BENSON McCORMACK ARCHITECTURE.
2. THE SWEPT PATHS PROVIDED ON THIS PLAN HAVE BEEN GENERATED UTILISING AUTOTURN PRO VERSION 11 IN CONJUNCTION WITH B85 PASSENGER VEHICLE MANOEUVRING SPECIFICATIONS IN ACCORDANCE WITH THE AUSTRALIAN STANDARD FOR PARKING FACILITIES PART 1: OFF-STREET CAR PARKING (AS2890.1:2004).

STANBURY TRAFFIC PLANNING

PASSENGER VEHICLE SWEPT PATHS

BASEMENT LEVEL 2 PARKING SPACE INGRESS / EGRESS MOVEMENTS

PROPOSED MIXED USE DEVELOPMENT

1 BILAMBEE AVENUE, BILGOLA PLATEAU

SCALE: 1:250 AT A3

FILE: 20-072

SUPERSEDES SHEET/ISSUE -

ISSUE A

DATE: 28/09/2020

SHEET 12

APPENDIX 3

MOVEMENT SUMMARY

Site: 101 [Site1]

Existing AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Plateau Road East												
5	T1	127	5.0	0.070	0.0	LOS A	0.0	0.2	0.02	0.01	0.02	59.9
6	R2	3	5.0	0.070	6.6	LOS A	0.0	0.2	0.02	0.01	0.02	58.2
Approach		130	5.0	0.070	0.2	NA	0.0	0.2	0.02	0.01	0.02	59.8
North: Bilkurra Avenue												
7	L2	26	5.0	0.030	6.5	LOS A	0.1	0.8	0.36	0.59	0.36	54.9
9	R2	7	5.0	0.030	7.3	LOS A	0.1	0.8	0.36	0.59	0.36	53.9
Approach		33	5.0	0.030	6.7	LOS A	0.1	0.8	0.36	0.59	0.36	54.7
West: Plateau Road West												
10	L2	9	5.0	0.152	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	58.5
11	T1	278	5.0	0.152	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.9
Approach		287	5.0	0.152	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.8
All Vehicles		450	5.0	0.152	0.7	NA	0.1	0.8	0.03	0.06	0.03	59.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Site1]

Existing PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Plateau Road East												
5	T1	156	5.0	0.089	0.1	LOS A	0.1	0.5	0.04	0.03	0.04	59.7
6	R2	9	5.0	0.089	6.2	LOS A	0.1	0.5	0.04	0.03	0.04	58.1
Approach		165	5.0	0.089	0.4	NA	0.1	0.5	0.04	0.03	0.04	59.7
North: Bilkurra Avenue												
7	L2	4	5.0	0.015	6.1	LOS A	0.0	0.4	0.31	0.59	0.31	55.1
9	R2	11	5.0	0.015	6.9	LOS A	0.0	0.4	0.31	0.59	0.31	54.0
Approach		15	5.0	0.015	6.7	LOS A	0.0	0.4	0.31	0.59	0.31	54.3
West: Plateau Road West												
10	L2	19	5.0	0.101	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	58.2
11	T1	171	5.0	0.101	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	59.7
Approach		190	5.0	0.101	0.6	NA	0.0	0.0	0.00	0.06	0.00	59.6
All Vehicles		370	5.0	0.101	0.7	NA	0.1	0.5	0.03	0.07	0.03	59.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [1 Bilambee Avenue]

Existing AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Plateau Road East												
5	T1	86	5.0	0.079	0.4	LOS A	0.3	2.2	0.24	0.21	0.24	58.6
6	R2	46	5.0	0.079	6.3	LOS A	0.3	2.2	0.24	0.21	0.24	56.0
Approach		132	5.0	0.079	2.5	NA	0.3	2.2	0.24	0.21	0.24	57.9
North: Bilambee Avenue												
7	L2	98	5.0	0.098	6.3	LOS A	0.4	2.8	0.30	0.59	0.30	54.0
9	R2	23	5.0	0.098	7.0	LOS A	0.4	2.8	0.30	0.59	0.30	53.6
Approach		121	5.0	0.098	6.4	LOS A	0.4	2.8	0.30	0.59	0.30	54.0
West: Plateau Road West												
10	L2	42	5.0	0.123	5.6	LOS A	0.0	0.0	0.00	0.11	0.00	57.8
11	T1	188	5.0	0.123	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	59.5
Approach		230	5.0	0.123	1.0	NA	0.0	0.0	0.00	0.11	0.00	59.3
All Vehicles		483	5.0	0.123	2.8	NA	0.4	2.8	0.14	0.26	0.14	57.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [1 Bilambee Avenue]

Existing PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Plateau Road East												
5	T1	75	5.0	0.103	0.5	LOS A	0.5	3.5	0.27	0.33	0.27	58.0
6	R2	94	5.0	0.103	6.1	LOS A	0.5	3.5	0.27	0.33	0.27	55.3
Approach		169	5.0	0.103	3.6	NA	0.5	3.5	0.27	0.33	0.27	56.7
North: Bilambee Avenue												
7	L2	91	5.0	0.091	5.9	LOS A	0.4	2.6	0.21	0.57	0.21	54.3
9	R2	27	5.0	0.091	6.8	LOS A	0.4	2.6	0.21	0.57	0.21	53.8
Approach		118	5.0	0.091	6.1	LOS A	0.4	2.6	0.21	0.57	0.21	54.2
West: Plateau Road West												
10	L2	62	5.0	0.089	5.6	LOS A	0.0	0.0	0.00	0.22	0.00	57.0
11	T1	103	5.0	0.089	0.0	LOS A	0.0	0.0	0.00	0.22	0.00	59.0
Approach		165	5.0	0.089	2.1	NA	0.0	0.0	0.00	0.22	0.00	58.4
All Vehicles		452	5.0	0.103	3.7	NA	0.5	3.5	0.15	0.35	0.15	56.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

APPENDIX 4

MOVEMENT SUMMARY

Site: 101 [Site1]

Projected AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Plateau Road East												
5	T1	129	5.0	0.075	0.1	LOS A	0.1	0.5	0.06	0.04	0.06	59.7
6	R2	8	5.0	0.075	6.6	LOS A	0.1	0.5	0.06	0.04	0.06	58.0
Approach		137	5.0	0.075	0.5	NA	0.1	0.5	0.06	0.04	0.06	59.6
North: Bilkurra Avenue												
7	L2	32	5.0	0.039	6.6	LOS A	0.1	1.0	0.36	0.61	0.36	54.9
9	R2	11	5.0	0.039	7.4	LOS A	0.1	1.0	0.36	0.61	0.36	53.9
Approach		43	5.0	0.039	6.8	LOS A	0.1	1.0	0.36	0.61	0.36	54.7
West: Plateau Road West												
10	L2	11	5.0	0.154	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	58.5
11	T1	280	5.0	0.154	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.9
Approach		291	5.0	0.154	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.8
All Vehicles		471	5.0	0.154	0.9	NA	0.1	1.0	0.05	0.08	0.05	59.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Site1]

Projected PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Plateau Road East												
5	T1	158	5.0	0.096	0.1	LOS A	0.1	0.9	0.07	0.06	0.07	59.5
6	R2	17	5.0	0.096	6.2	LOS A	0.1	0.9	0.07	0.06	0.07	57.9
Approach		175	5.0	0.096	0.7	NA	0.1	0.9	0.07	0.06	0.07	59.4
North: Bilkurra Avenue												
7	L2	9	5.0	0.021	6.1	LOS A	0.1	0.5	0.30	0.59	0.30	55.1
9	R2	13	5.0	0.021	7.0	LOS A	0.1	0.5	0.30	0.59	0.30	54.0
Approach		22	5.0	0.021	6.6	LOS A	0.1	0.5	0.30	0.59	0.30	54.5
West: Plateau Road West												
10	L2	23	5.0	0.104	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	58.2
11	T1	173	5.0	0.104	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	59.6
Approach		196	5.0	0.104	0.7	NA	0.0	0.0	0.00	0.07	0.00	59.5
All Vehicles		393	5.0	0.104	1.0	NA	0.1	0.9	0.05	0.09	0.05	59.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
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NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [1 Bilambee Avenue]

Projected AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Plateau Road East												
5	T1	90	5.0	0.083	0.5	LOS A	0.3	2.3	0.25	0.21	0.25	58.6
6	R2	49	5.0	0.083	6.4	LOS A	0.3	2.3	0.25	0.21	0.25	56.0
Approach		139	5.0	0.083	2.5	NA	0.3	2.3	0.25	0.21	0.25	57.9
North: Bilambee Avenue												
7	L2	100	5.0	0.102	6.3	LOS A	0.4	2.9	0.30	0.59	0.30	54.0
9	R2	25	5.0	0.102	7.1	LOS A	0.4	2.9	0.30	0.59	0.30	53.6
Approach		125	5.0	0.102	6.4	LOS A	0.4	2.9	0.30	0.59	0.30	54.0
West: Plateau Road West												
10	L2	44	5.0	0.125	5.6	LOS A	0.0	0.0	0.00	0.11	0.00	57.8
11	T1	190	5.0	0.125	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	59.5
Approach		234	5.0	0.125	1.1	NA	0.0	0.0	0.00	0.11	0.00	59.2
All Vehicles		498	5.0	0.125	2.8	NA	0.4	2.9	0.15	0.26	0.15	57.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [1 Bilambee Avenue]

Projected PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Plateau Road East												
5	T1	77	5.0	0.107	0.5	LOS A	0.5	3.7	0.28	0.33	0.28	58.0
6	R2	97	5.0	0.107	6.1	LOS A	0.5	3.7	0.28	0.33	0.28	55.2
Approach		174	5.0	0.107	3.6	NA	0.5	3.7	0.28	0.33	0.28	56.7
North: Bilambee Avenue												
7	L2	93	5.0	0.095	6.0	LOS A	0.4	2.7	0.21	0.57	0.21	54.3
9	R2	29	5.0	0.095	6.9	LOS A	0.4	2.7	0.21	0.57	0.21	53.8
Approach		122	5.0	0.095	6.2	LOS A	0.4	2.7	0.21	0.57	0.21	54.2
West: Plateau Road West												
10	L2	64	5.0	0.092	5.6	LOS A	0.0	0.0	0.00	0.22	0.00	57.1
11	T1	107	5.0	0.092	0.0	LOS A	0.0	0.0	0.00	0.22	0.00	59.0
Approach		171	5.0	0.092	2.1	NA	0.0	0.0	0.00	0.22	0.00	58.4
All Vehicles		467	5.0	0.107	3.7	NA	0.5	3.7	0.16	0.35	0.16	56.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.