TRAFFIC AND PARKING IMPACT ASSESSMENT
MIXED USE DEVELOPMENT
AT 27-35 EVERTON ROAD, STRATHFIELD NSW

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Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

16069.01DA - 5th May 2016

Development Type: **Mixed Use Development**

Site Address: **27-35 Everton Road, Strathfield NSW**

Prepared for: **arc Architects**

Document reference: **16069.01DA**

Status	Issue	Prepared By	Checked By	Date
Draft	A	MM	CM	5th May 2016
Final	A	CHM		27th June 2018

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1 INTRODUCTION

M^CLaren Traffic Engineering (MTE) was commissioned by *arc Architects* to provide a Traffic and Parking Impact Assessment of the proposed Mixed Use Development at 27-35 Everton Road, Strathfield NSW.

1.1 Description and Scale of Development

The proposed mixed use development (as depicted in **Annexure A**) will include the following:

- Existing Whelan's Strathfield Hotel with 26 accommodation rooms to be retained with a reduction in licensed area (changes to existing licensed areas are outlined in **Table 1** below)

TABLE 1: SCALE OF DEVELOPMENT

Licensed Area	Existing	Proposed
Internal	715m^2	500m^2
External	247m^2	270m^2
Bottle Shop	113m^2	-
Drive-Thru	370m^2	-

- Proposed residential units above the existing hotel comprising;
    - 2 x studio apartments
    - 20 x one bedroom apartments
    - 36 x two bedroom apartments
- Proposed 175m^2 retail GFA across two (2) tenancies on the ground floor
- Removal of the existing drive-thru bottle shop

The site layout includes a two level basement car park with a total of **76** car parking spaces including **8** disabled spaces. The existing parking provision for the hotel is 3 car parking spaces which will be retained in the proposed basement car park. Vehicular access to the car park is provided via a two-way driveway from Cowdrey Lane at the rear of the site.

1.2 State Environmental Planning Policy (Infrastructure) 2007

The proposed development does not qualify as a development with relevant size and/or capacity under Clause 104 of the SEPP (Infrastructure) 2007. Accordingly, formal referral to the Roads and Maritime Services (RMS) is not necessary and Burwood Council officers can determine this proposal accordingly.

1.3 Site Description

The subject site is currently occupied by Whelan's Strathfield Hotel, with frontages to Everton Road to the south and Cowdrey Lane to the north. All vehicular access to the site is via the existing one-way driveway from Everton Road to Cowdrey Lane which is used as a drive-thru bottle shop.

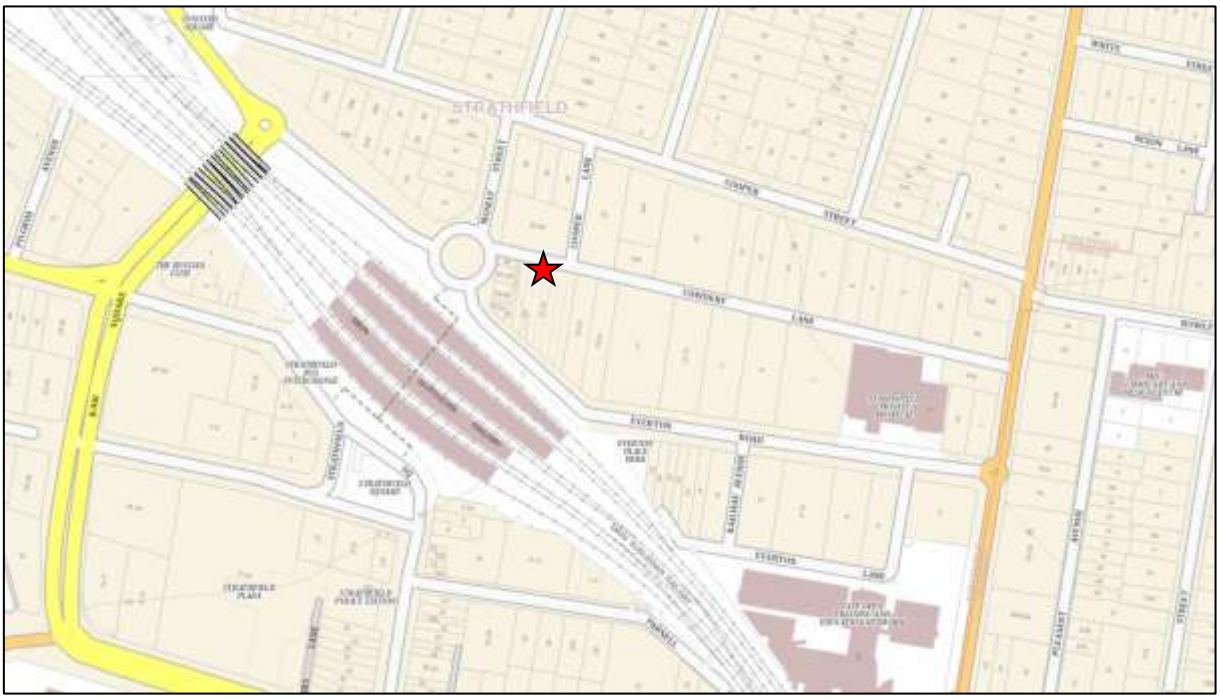
The site is surrounded by a mix of land uses including retail, low, medium and high density residential dwellings and Strathfield train station located directly opposite the site on the southern side of Everton Road.

1.4 Site Context

The site location is illustrated in **Figures 1 & 2** below.

★ Site Location

FIGURE 1: SITE CONTEXT – AERIAL PHOTO



★ Site Location

FIGURE 2**: SITE CONTEXT – STREET MAP**

2 EXISTING TRAFFIC AND PARKING CONDITIONS

2.1 Road Hierarchy

Everton Road has the following characteristics within close proximity to the site:

- Unclassified LOCAL road
- Approximately 11m in width facilitating two way passing and kerbside parking
- No speed limit signposted, 50km/h applies
- 2P time restricted parking along both sides of the road

Cowdery Lane has the following characteristics within close proximity to the site:

- Unclassified LOCAL road
- Approximately 6m in width facilitating two-way passing east of Cooper Lane, one-way westbound west of Cooper Lane
- No speed limit signposted - 50km/h applies
- Signposted No Stopping along both sides of the lane

Mosely Street has the following characteristics within close proximity to the site:

- Unclassified LOCAL road
- Approximately 14m in width facilitating two way passing and kerbside parking
- No speed limit signposted, 50km/h applies
- 1/2P time restricted parking along both sides of the road

2.2 Existing Traffic Management

- Roundabout controlled intersection of Everton Road / Cowdery Lane / Moseley Street
- One-way sign control on Cowdery Lane between Cooper Lane and Moseley Street

2.3 Public Transport

The subject site has access to existing bus routes 407, 408, 415, 450, 458, 459, 466, 483, 525, 526, X25, 913, 914 provided by Sydney Buses and Transdev which run from outside Strathfield train station and service Sydney's inner west.

Strathfield train station is located directly opposite the site within 50m walking distance. Strathfield train station is an interchange station for the North Shore Line, Northern Line, Western Line, Blue Mountains line and Central Coast and Newcastle Line. It has direct trains to central station in Sydney CBD leaving approximately every 3 minutes in peak commuter periods in the morning and afternoon on weekdays.

★ Site Location

2.4 Future Road and Infrastructure Upgrades

From Burwood Council's Development Application tracker and website, it appears that there are no future planned road or public transport changes that will affect traffic conditions within the immediate vicinity of the subject site.

3 PARKING ASSESSMENT

3.1 Council Parking Requirement

Reference is made to Burwood Council's *Development Control Plan Amendment No. 2 – Part 3 – Development in Centres and Corridors* which designates the following parking rates applicable to the proposed development:

Residential Flat Building
0.5 spaces per studio or bed-sitter unit
1 space per 1 and 2 bedroom unit
1.5 spaces per 3 bedroom unit
1 visitor space per 5 dwellings

Shops (On other land zoned B4 Mixed Use or in another business zone)
1 space per 40m^2 or part thereof

Table 1 below summarises Council's car parking requirements.

TABLE 1: DCP CAR PARKING REQUIREMENT

Land Use	Type	Scale	Rate	Spaces Required	Spaces Provided
Residential Flat Building	Studio	2	0.5 spaces per unit	1	1
	1 bedroom	20	1 space per unit	20	20
	2 bedroom	36	1 space per unit	36	36
	Visitor	58	1 space per 5 dwellings	11.6 (12)	12
Retail	-	175m^2	1 space per 40m^2	4.4 (4)	4
Pub	-	770m^2	Existing parking provision to be retained		3 (existing)
Total	**-**	**-**	**-**	**73**	**76**

As shown above, strict application of the DCP requires a total of **73** car parking spaces for the current development proposal, excluding the existing hotel.

The proposed design includes a provision of **76** car parking spaces including 57 resident spaces (6 disabled spaces), 12 residential visitor spaces (2 disabled spaces) and 4 retail spaces, with an additional 3 car spaces which will be allocated to the existing hotel. The existing hotel has a total of 3 car spaces, therefore no change to the parking provision of the hotel is proposed.

It should be noted that the existing hotel will be retained with a decrease in licensed area, (**Table 1**) meaning there will be no increase in the parking demand as a result of the proposed development.

3.2 Disabled Parking

Reference is made to Burwood Council's *Development Control Plan Amendment No. 2 – Part 3 – Development in Centres and Corridors* which denotes the following provisions for adaptable housing and disabled parking:

> *At least 10% of dwellings in a development must be provided as adaptable housing to Adaptable House Class A or B standard to cater for ageing in place and mobility impaired residents, in accordance with AS 4299: Adaptable Housing.*
>
> *At least one car parking space must be provided and allocated to each dwelling required to be provided as accessible or adaptable housing under this Section and the car parking space must be accessible in accordance with the provisions of AS 1428.2 to facilitate automatic vehicular wheelchair loading and unloading.*

Hence, based upon the proposed 58 dwellings, 5.8 (6) of these dwellings will be required to be accessible for disabled residents. This yields the required provision of **6** residential disabled spaces. The site provides 6 residential disabled spaces, which is in accordance with Burwood Council's DCP requirements.

In addition, Council's DCP requires the provision of **1** disabled space to be provided for visitors in accordance with AS 1428.2. A provision of **2** disabled visitor spaces has been shown on Basement 1, compliant with Council's requirements.

3.3 Bicycle & Motorcycle Parking Requirements

Council's DCP states that bicycle parking rates are to be taken from *AUSTROADS – Cycling Aspects of Austroads Guides* which denotes the following for the proposed residential units and retail shops:

> Residential Building
> *Resident – 1 per 4 lodging rooms*
> *Visitor – 1 per 16 lodging*
>
> Shop
> *Employee – 1 per 300m^2 GFA*
> *Visitor – 1 per 500m^2 over 1000m^2*

Therefore, based upon the proposed 58 units and 175m^2 of retail GFA, the proposed development requires the provision of **25** bicycle spaces including 19 resident spaces, 5 residential visitor spaces and 1 space for the retail component. A total of 26 bicycle spaces

have been proposed within the basement parking levels, compliant with AUSTROADS requirements.

Burwood Council's DCP does not provide motorcycle parking rates for mixed use developments, and as such, the DCP does not require a motorcycle parking provision. Therefore, no motorcycle parking has been provided on-site.

3.4 Servicing & Loading

In regards to servicing and loading, Burwood Council's DCP states:

> *"A loading dock and servicing facilities for developments must be provided as required by AS 2890.2 Part 2: Off-street commercial vehicle facilities, or in any case for all developments erected on land having an area greater than 1500 sq m."*

As such, a loading bay has been provided on-site to accommodate vehicles no larger than a Small Rigid Vehicle (SRV) used for deliveries to the mixed-use development. The site can accommodate courier deliveries on site, where these deliveries are low in frequency and can be managed easily.

Waste collection will be undertaken by Burwood Council's waste collection service where garbage trucks will collect garbage bins from the kerbside on the southern side of Cowdery lane (along the site frontage).

3.5 Car Park Design & Compliance

The car parking layout of the two level basement car park has been assessed against the relevant clauses of AS2890.1:2004, AS2890.2:2002 and AS2890.6:2009 and found to be compliant, subject to the recommendations in **Annexure B**. The design achieves:

- A total of 76 car parking spaces including:
    - 57 residential car spaces of minimum dimensions 2.4m x 5.4m (including 6 disabled)
    - 12 residential visitor car spaces of minimum dimensions 2.5m x 5.4m (including 2 disabled car spaces)
    - 4 retail car spaces of minimum dimensions 2.5m x 5.4m
    - 3 staff car spaces of minimum dimensions 2.4m x 5.4m for the existing hotel
    - All disabled spaces measure 2.4m x 5.4m with adjacent 2.4m x 5.4m shared space
    - Loading bay to accommodate vehicles no larger than an SRV

A number of swept path tests have been undertaken to demonstrate successful circulation within the basement parking levels and are reproduced in **Annexure C**.

It should be noted that while we have assessed the plans to be compliant with the relevant standards, it is usual that a design certification is conditioned at the Construction Certificate Stage.

4 TRAFFIC ASSESSMENT

The impact of the expected traffic generation levels associated with the subject proposal is discussed in the following sub-sections.

The assessment of traffic volumes generated by the proposed development has been conducted in accordance with the RMS *Guide to Traffic Generating Developments* (October 2002) and more recent supplements. In 2013, the RMS publicised updated traffic generation rates for high density residential dwellings within the RMS *Technical Direction TDT 2013/04*, which have been used in this assessment.

4.1 Traffic Generation

As outlined above, the traffic generation rates have been based upon those specified in the RMS *Guide to Traffic Generating Developments* (October 2002). Updated data from the RMS (RMS Technical Direction TDT 2013/04) outlines reduced trip rates for high density residential developments compared to those found in 2002. **Table 2** below outlines the reasonable worst case traffic generation for the proposed development scale.

TABLE 2**: ESTIMATED TRAFFIC GENERATION**

Use	Scale	Peak Hour Rate	Peak Hour Generation	Peak Hour Split*	
				AM	PM
High Density Residential	58 units	0.19 per unit(1)	11	2 in 9 out	9 in 2 out
Retail	175m^2	5.6 per 100m^2(2)	10	5 in 5 out	5 in 5 out
Total	**-**	**-**	**21**	**7 in 14 out**	**14 in 7 out**

Notes:

(1) Traffic generation for residential developments taken as 20% inbound & 80% outbound during AM peak. Vice versa for PM peak

(2) Assumes 50% inbound & 50%outbound during PM peak. AM is not the peak trade for retail, however has been assumed to be the same as the PM period.

The proposed development is expected to generate a total of **21** additional peak hourly vehicle trips during both the AM (7 in; 14 out) and PM (14 in; 7 out) peak periods, which equates to approximately 1 vehicle every 2-3 minutes. It should be noted that the existing vehicle trips associated with the drive-thru bottle shop (to be removed) have not been discounted from the future traffic generation of the proposed development, representing a worst case scenario.

This level of traffic will have no adverse effect on any nearby intersections and can be readily accommodated within the existing road network with minimal impact in terms of traffic flow efficiency and road safety considerations.

Indeed, the computer models that are available to assess these impacts are not sensitive to such small changes and it may be concluded that the road network will operate with no change in the existing levels of service. In this regard, the proposed development is supportable in terms of its traffic impacts.

5 CONCLUSION

In view of the foregoing, the subject proposal (as depicted in **Annexure A**) is fully supportable in terms of its traffic and parking impacts subject to the recommendations raised in **Annexure B**. The following outcomes of this traffic impact assessment are relevant to note:

- Provision of 76 car spaces including 57 residential spaces (6 disabled), 12 residential visitor spaces (2 disabled), 4 retail spaces and 3 spaces for the existing Whelan's Strathfield Hotel complies with the requirements of Burwood Council's DCP.

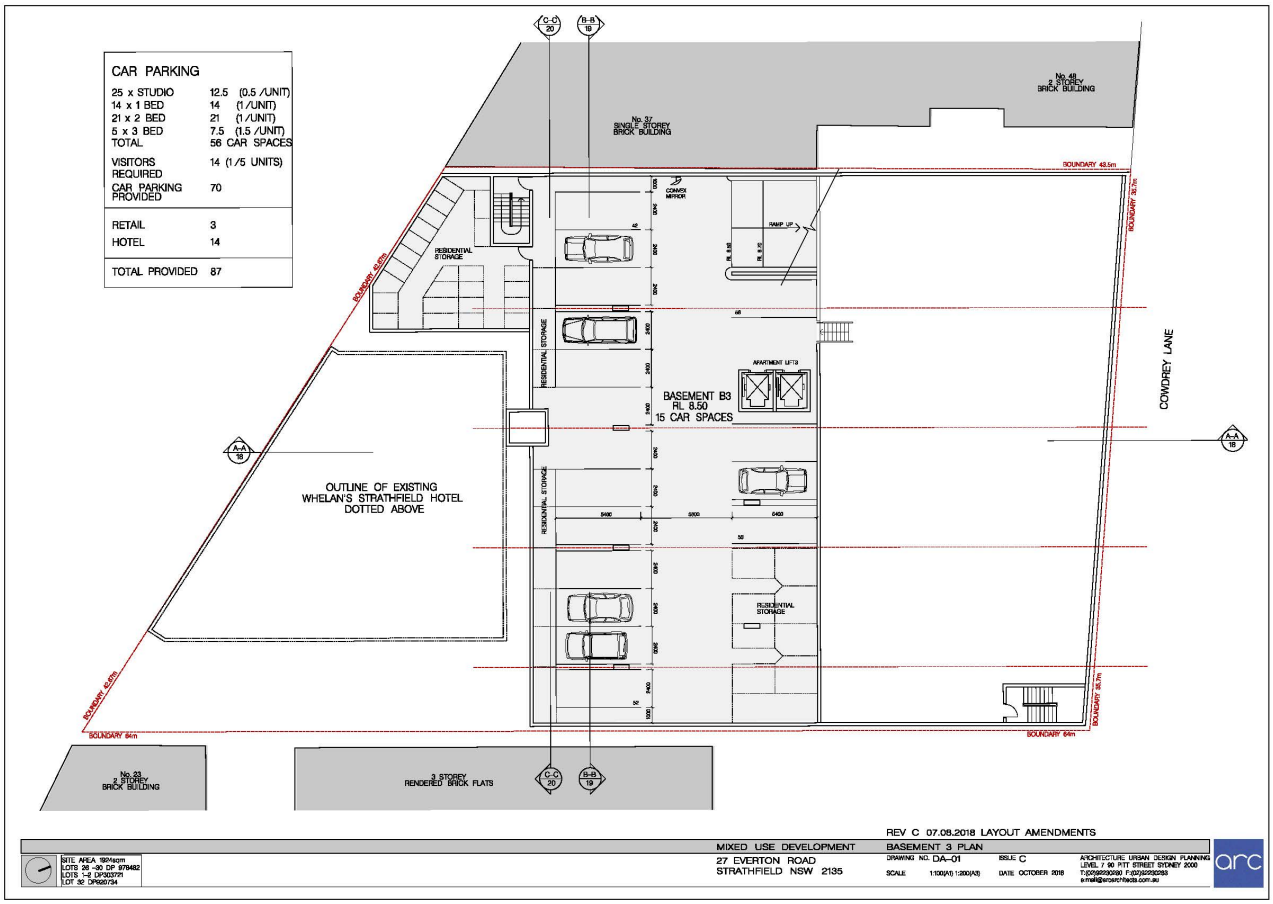
- The proposed basement car parking and access thereto has been designed in accordance with AS2890.1:2004, AS2890.2:2002 and AS2890.6:2009 where applicable, subject to the recommendations in **Annexure B**. Swept paths have also been undertaken and are reproduced in **Annexure C**.

- The traffic generated by the site is low and will have minimal impact to the surrounding road network in terms of intersection performance and residential amenity. Vehicle trips associated with the existing drive-thru bottle shop (to be removed) have not been discounted from the future traffic generation of the proposed development, representing a worst case scenario.

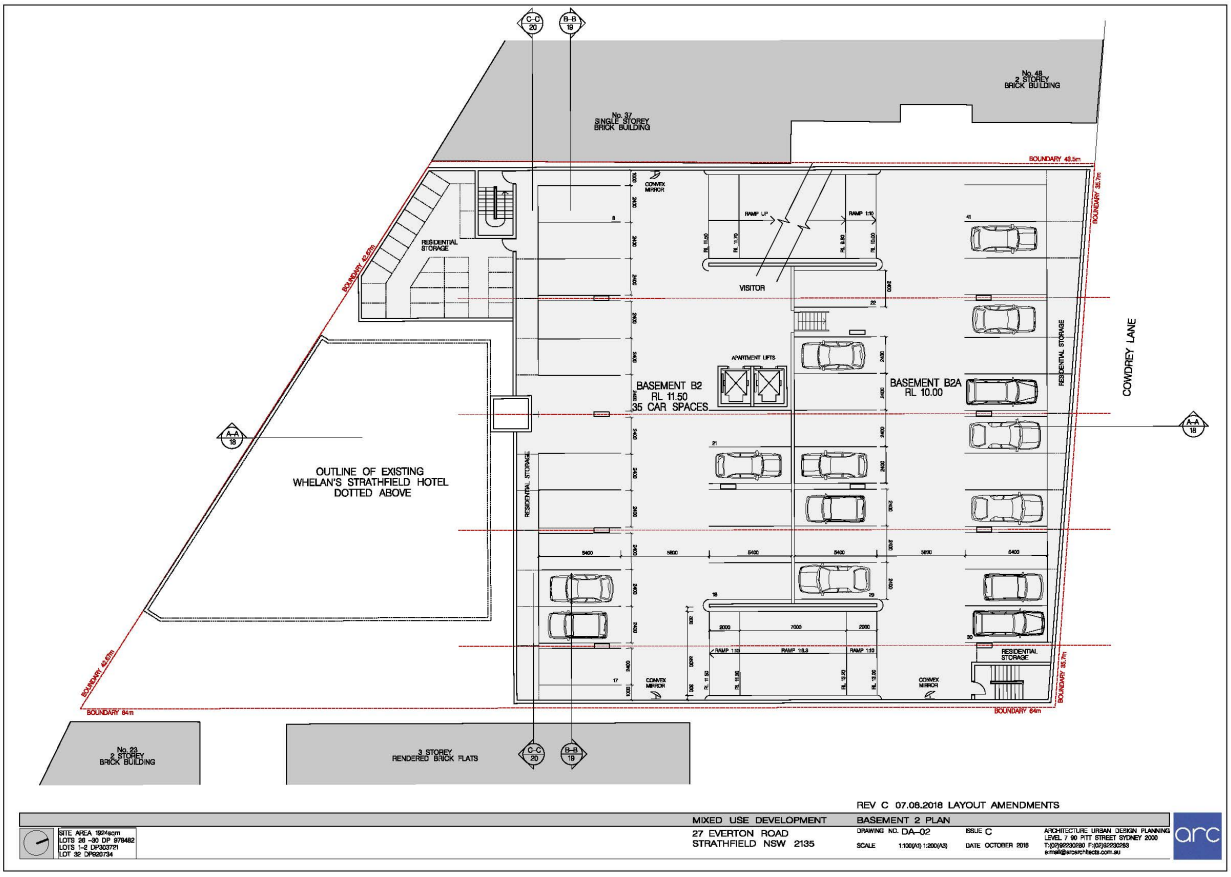
- A loading bay has been provided on-site to accommodate vehicles no larger than a Small Rigid Vehicle (SRV). This loading bay can be utilised for small deliveries to the existing hotel, proposed retail shops or residential units.

- Waste collection will be undertaken by Burwood Council's waste collection vehicles which will stop along the southern side of Cowdery Lane to collect garbage bins from the kerbside.

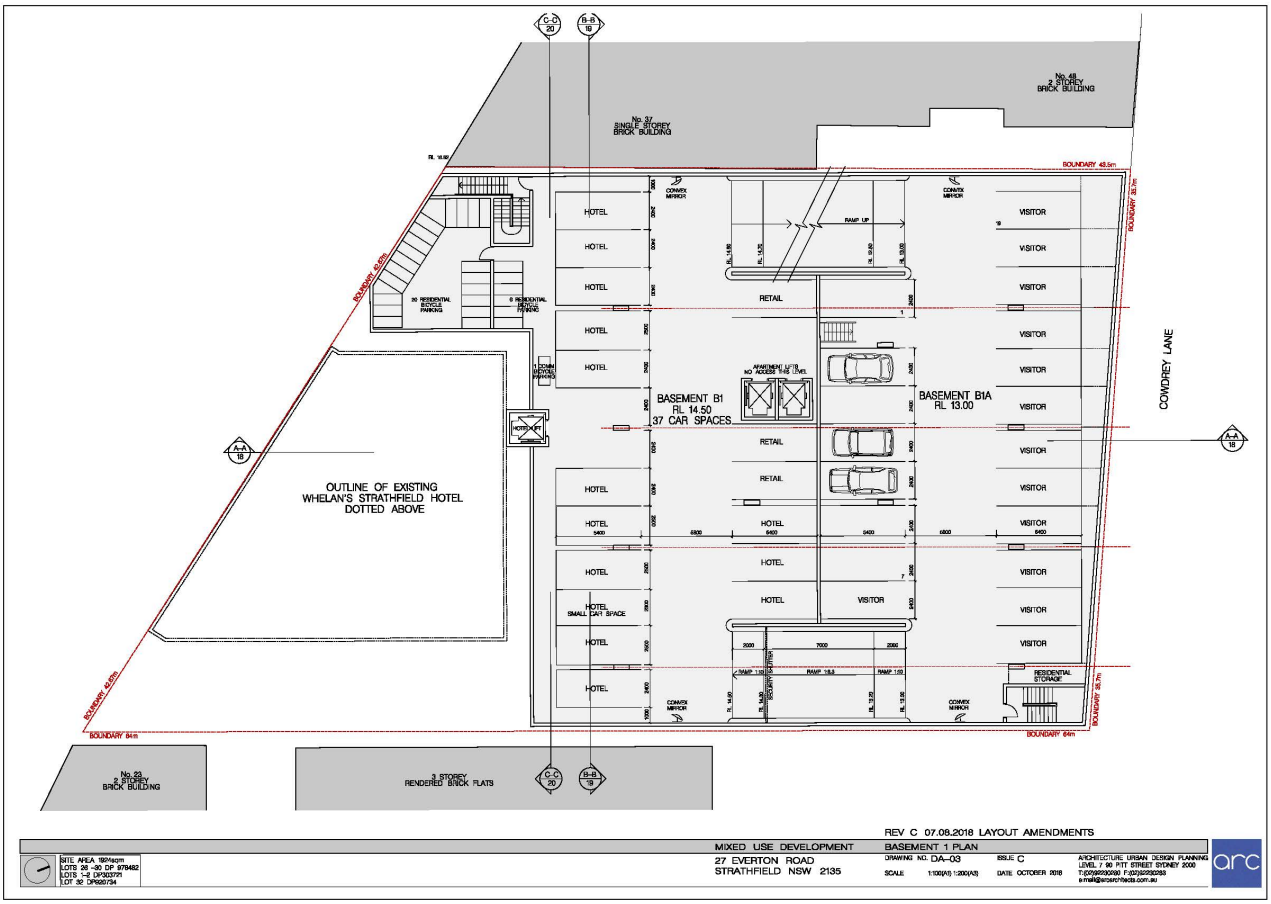
ANNEXURE A: PROPOSED PLAN


CAR PARKING
25 x STUDIO 12.5 (0.5 /UNIT)
14 x 1 BED 14 (1 /UNIT)
21 x 2 BED 21 (1 /UNIT)
5 x 3 BED 7.5 (1.5 /UNIT)
TOTAL 56 CAR SPACES
VISITORS REQUIRED 14 (1 /5 UNITS)
CAR PARKING PROVIDED 70
RETAIL 3
HOTEL 14
TOTAL PROVIDED 87
No. 37 SINGLE STOREY BRICK BUILDING
No. 48 2 STOREY BRICK BUILDING
BOUNDARY 48.5m
BOUNDARY 30.7m
BOUNDARY 42.67m
RESIDENTIAL STORAGE
CONVEX MIRROR
RAMP UP
APARTMENT LIFTS
BASEMENT B3
RL 8.50
15 CAR SPACES
COWDREY LANE
OUTLINE OF EXISTING
WHELAN'S STRATHFIELD HOTEL
DOTTED ABOVE
BOUNDARY 84m
No. 33 2 STOREY BRICK BUILDING
3 STOREY RENDERED BRICK FLATS
REV C 07.08.2018 LAYOUT AMENDMENTS
MIXED USE DEVELOPMENT
27 EVERTON ROAD
STRATHFIELD NSW 2135
BASEMENT 3 PLAN
DRAWING NO. DA--01
ISSUE C
SCALE 1:100(A1) 1:200(A3)
DATE OCTOBER 2018
arc

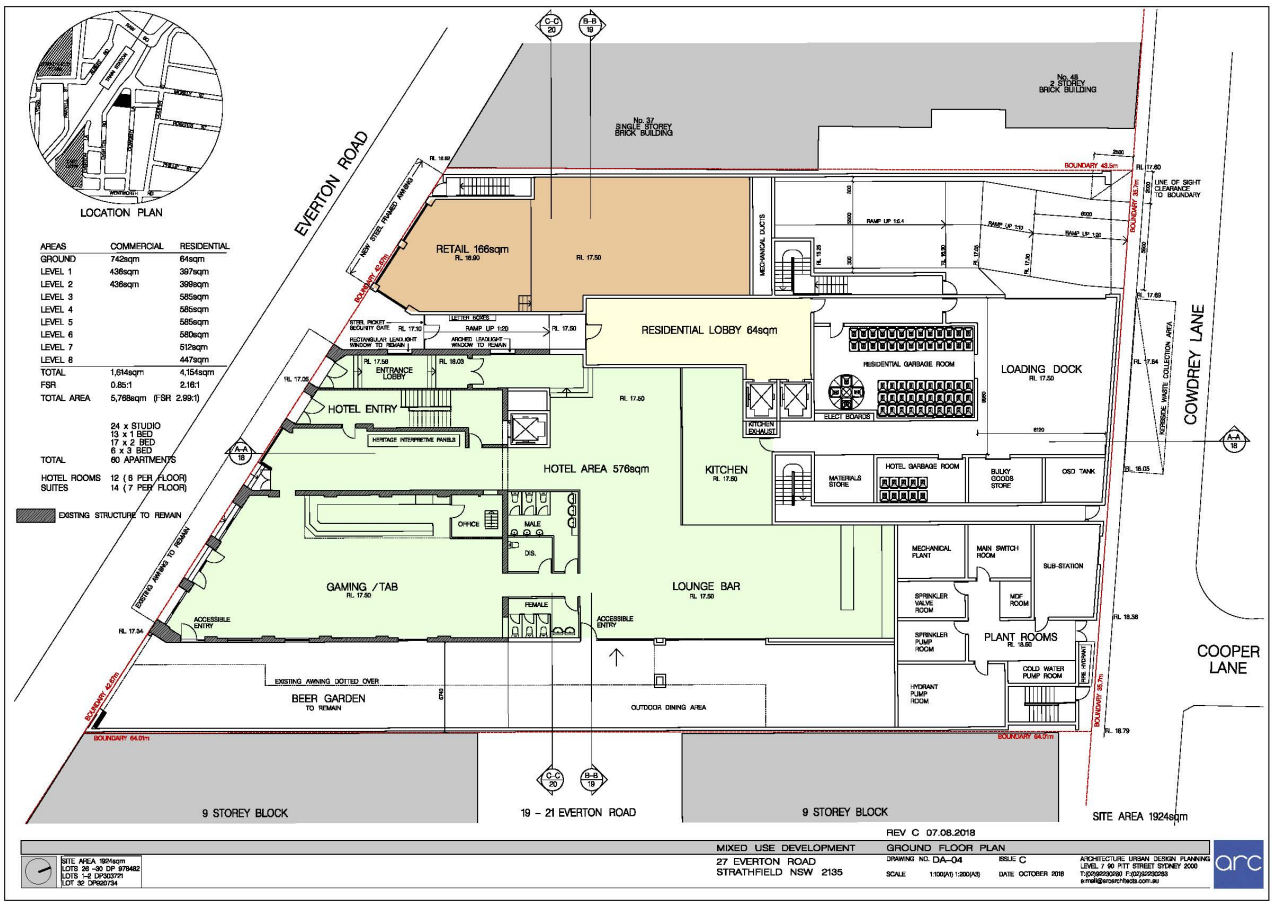
BASEMENT 3


No. 37
SINGLE STOREY
BRICK BUILDING
No. 41
2 STOREY
BRICK BUILDING
BOUNDARY 43.3m
BOUNDARY 45.7m
BOUNDARY 40.57m
RESIDENTIAL STORAGE
CONVEX MIRROR
RAMP UP
RAMP 1:10
VISITOR
APARTMENT LIFTS
BASEMENT B2
RL 11.50
35 CAR SPACES
BASEMENT B2A
RL 10.00
RESIDENTIAL STORAGE
COWDREY LANE
OUTLINE OF EXISTING
WHELAN'S STRATHFIELD HOTEL
DOTTED ABOVE
RAMP 1:20
RAMP 1:8.8
RAMP 1:20
RESIDENTIAL STORAGE
BOUNDARY 84m
BOUNDARY 45.7m
No. 23
2 STOREY
BRICK BUILDING
3 STOREY
RENDERED BRICK FLATS
REV C 07.06.2018 LAYOUT AMENDMENTS
MIXED USE DEVELOPMENT
27 EVERTON ROAD
STRATHFIELD NSW 2135
BASEMENT 2 PLAN
DRAWING NO. DA-02
ISSUE C
SCALE 1:100(A1) 1:200(A3)
DATE OCTOBER 2016
ARCHITECTURE URBAN DESIGN PLANNING
LEVEL 7 99 PITT STREET SYDNEY 2000
arc

BASEMENT 2


No. 37
SINGLE STOREY
BRICK BUILDING
No. 41
2 STOREY
BRICK BUILDING
BOUNDARY 43.5m
BOUNDARY 43.7m
BOUNDARY 43.67m
HOTEL
RETAIL
VISITOR
RAMP UP
BASEMENT B1
RL 14.50
37 CAR SPACES
BASEMENT B1A
RL 13.00
COWDREY LANE
OUTLINE OF EXISTING
WHELAN'S STRATHFIELD HOTEL
DOTTED ABOVE
BOUNDARY 84m
BOUNDARY 64m
BOUNDARY 45.7m
No. 33
2 STOREY
BRICK BUILDING
3 STOREY
RENDERED BRICK FLATS
REV C 07.06.2016 LAYOUT AMENDMENTS
MIXED USE DEVELOPMENT
27 EVERTON ROAD
STRATHFIELD NSW 2135
BASEMENT 1 PLAN
DRAWING NO. DA-03
ISSUE C
SCALE 1:100(A1) 1:200(A3)
DATE OCTOBER 2016

BASEMENT 1



GROUND FLOOR PLAN

ANNEXURE B: COMPLIANCE REVIEW
(Sheet 1 of 5)

AS2890.1:2004 COMPLIANCE TABLE		
CLAUSE	**COMPLIANCE**	**NOTES**
TABLE 1.1: USER CLASS (SPACES) 1 (0) 1A (51) 2 (17) 3 (0) 3A (0) 4 (8) TOTAL (**76**)	Yes	
Figure 2.2 Angle Parking Dimensions Applicable bay length, bay width, aisle width	Yes	Minor non-compliance reduced aisle width. See successful swept path tests.
Clause 2.4.1(a)(iii) Small Car Space 2.3m wide x 5.0m long	N/A	
Clause 2.4.1(b)(ii) 300mm clearance to high objects	Yes	
Clause 2.4.2(c) 1m blind aisle extension	Yes	
Figure 2.5 Parallel Parking Dimensions Applicable bay length, bay width, aisle width	N/A	
Clause 2.4.5.2(a) Kerb Height	N/A	Kerbs to be 150mm high
Clause 2.4.5.4 Wheel Stops Height, width, setback	N/A	Can be detailed prior to CC
Clause 2.4.6 Gradients within parking modules Minimum & maximum gradients	Yes	
Clause 2.4.7 Motorcycles Parking bay dimensions	N/A	
Clause 2.5.2(a) Straight ramp widths 3m between kerbs (1 way), 5.5m between kerbs (2 way)	Yes	
Kerb widths – standard 300mm	Yes	
Wall-to-wall width (on straight) SINGLE LANE – standard 3.6m TWO LANES – standard 6.1m	Yes	
Table 2.2 Curved ramp widths See table	N/A	
Figure 2.9 Curved ramp dimensions See table	N/A	
Clause 2.5.3(a) Ramp grades (public) >20m:16.7% max <20m: 20% max	Yes	
Clause 2.5.3(b) Ramp grades (private) >20m : 20% max <20m: 25% max	N/A	
Clause 2.5.3(d) Changes of grade Not in excess of 12.5% for summit 15% for sag	Yes	
Domestic Driveways		
Min 3m width	N/A	
Max grade 25%	N/A	
Max grade across property line or footpath: 5%	N/A	

ANNEXURE B: COMPLIANCE REVIEW
(Sheet 2 of 5)

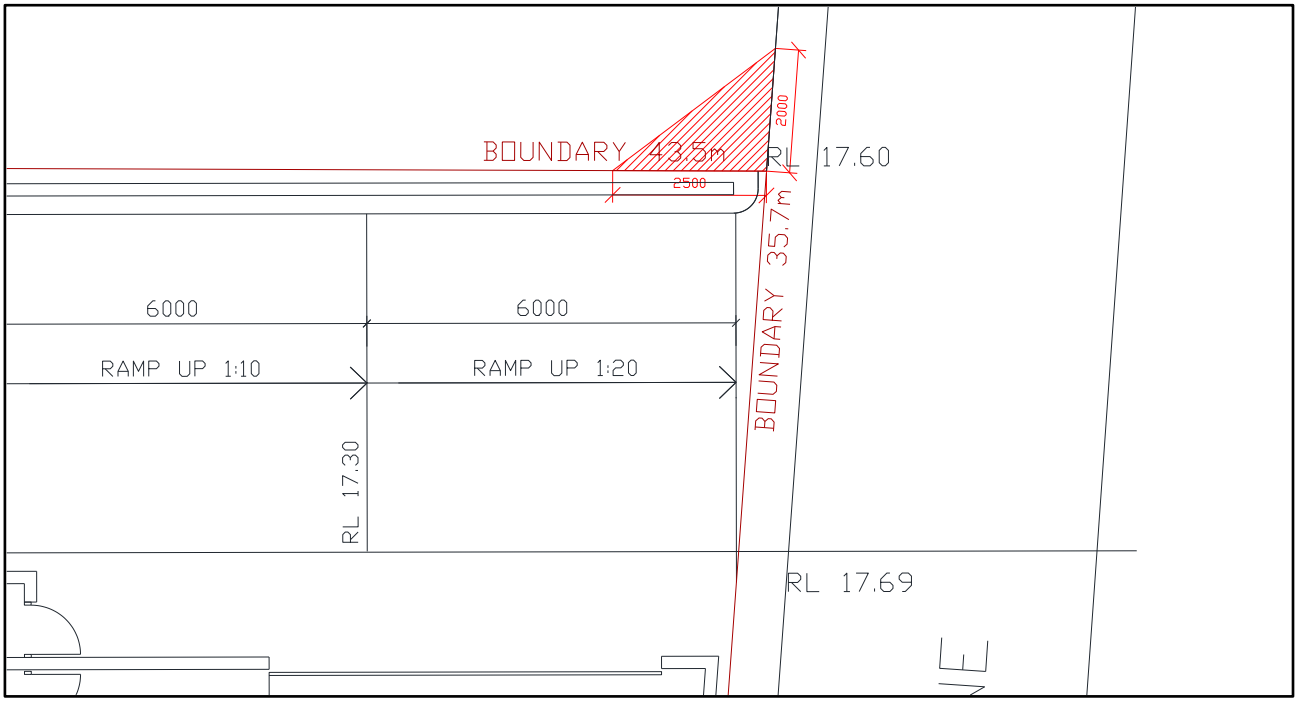
Select access facility category from Table 3.1	1	
Table 3.2 Access driveway widths 1: 3-5.5m combined 2: 6-9m combined 3: 6m entry, 4-6m exit, 1-3m separation 4: 6-8m entry, 6-8m exit, 1-3m separation 5: intersection to be provided.	Yes	
Clause 3.2.3 Driveway location compliance	Yes	
Figure 3.2 Car sight distances	Yes	
Figure 3.3 Pedestrian sight distances	***	STOP sign and holding line to be installed at driveway exit.
Clause 3.4 Queuing areas See table 3.3	Yes	
Clause 4.3.4 Low clearance signs Give way / stop signs Speed limit signs Other warning signs	N/A	Can be detailed prior to CC
Clause 4.4 Pavement markings Linemarking Pedestrian crossings arrows	N/A	Can be detailed prior to CC
Clause 5.2 Column location See figure 5.1 E.g. 90º: 750mm setback	Yes	
Clause 5.3.1 headroom At least 2.2m for cars	***	Architect to confirm
Clause 5.4 enclosed garages **Single**: 3m internal width 2.4m doorway min (see figure 5.4) **Multiple:** 2.4m wide each	N/A	
Circulation	Yes	See swept path tests. Convex mirrors to be installed at top and bottom of ramps.

AS2890.6:2009 COMPLIANCE TABLE		
CLAUSE	**COMPLIANCE**	**NOTES**
Parking Dimensions 2400x 5400mm 2400x 5400mm shared space Fig 2.2	Yes	
Bollard Located 800 ± 50 1200mm along shared space Fig 2.2	Yes	To be installed accordingly during construction
Min. 2500mm required directly above space (Fig 2.7) Min. 2200mm for general access (Cl 2.4)	***	Architect to confirm
Space Identification Fig 3.1 1200x 1200 min with 500 to 600mm from front of space	Yes	To be linemarked accordingly by a suitable contractor
Space Delineation Clause 3.2	Yes	To be linemarked accordingly by a suitable contractor

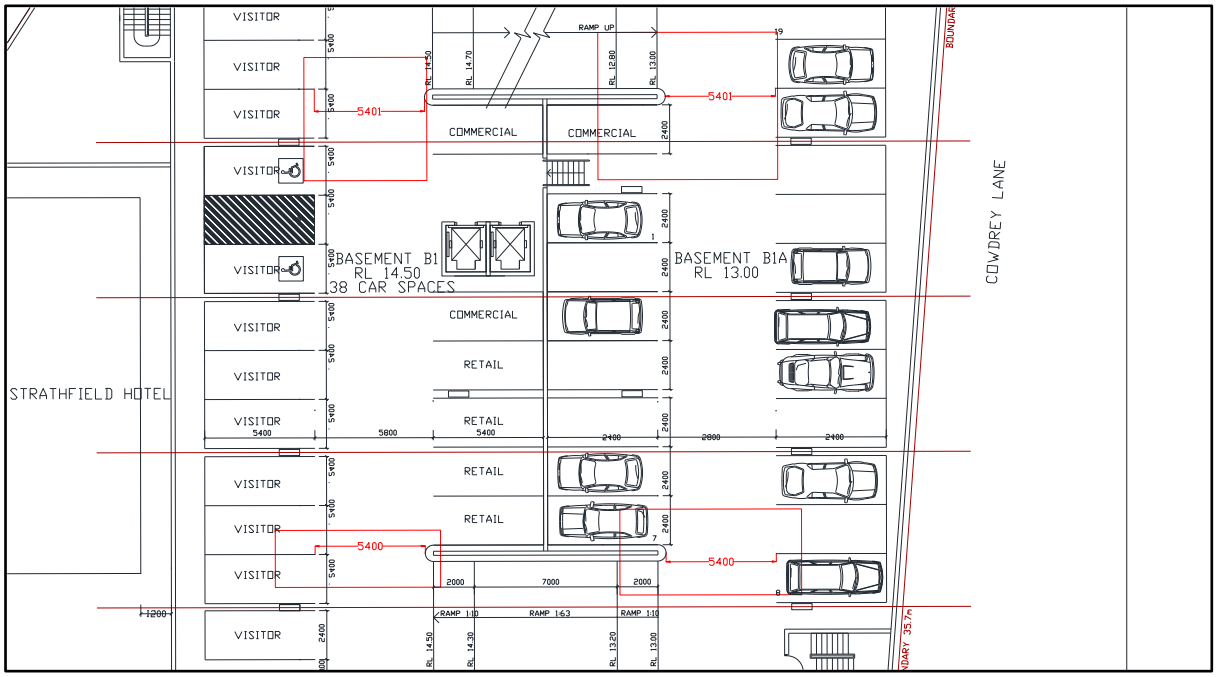
ANNEXURE B: COMPLIANCE REVIEW
(Sheet 3 of 5)

AS2890.2:2002 COMPLIANCE TABLE		
CLAUSE	**COMPLIANCE**	**REASON FOR DEPARTURE**
Select Service Vehicle from Table 2.1 or other special vehicle	Yes	6.4m SRV
Table 3.2 Roadway/Ramp Grades: 15.4% max for all service vehicles	Yes	
Table 3.2 Maximum grade changes SRV or smaller: 8.3% in 4m travel MRV, HRV: 6.25% in 7m of travel AV: 6.25% in 10m of travel	Yes	
Figure 3.3 Vehicle sight distances	Yes	
Figure 3.4 Pedestrian sightlines	***	STOP sign and holding line to be installed at driveway exit.
Table 4.1 Service Bay Dimensions SRV: 3.5m x 6.4m min. MRV: 3.5m x 8.8m min. HRV: 3.5m x 12.5m AV: 3.5m x 19.0m	Yes	
Table 4.1 Vertical clearance (headroom) 3.5m for SRV 4.5m for MRV, HRV & AV	***	Architect to confirm
Clause 4.3.1(d) Max gradient within service area 15.4% in any direction for forward movement 12.5% where reverse movements take place	Yes	
Section 5 Design Vehicle Swept Paths & Circulation	Yes	

ANNEXURE B: COMPLIANCE REVIEW
(Sheet 4 of 5)

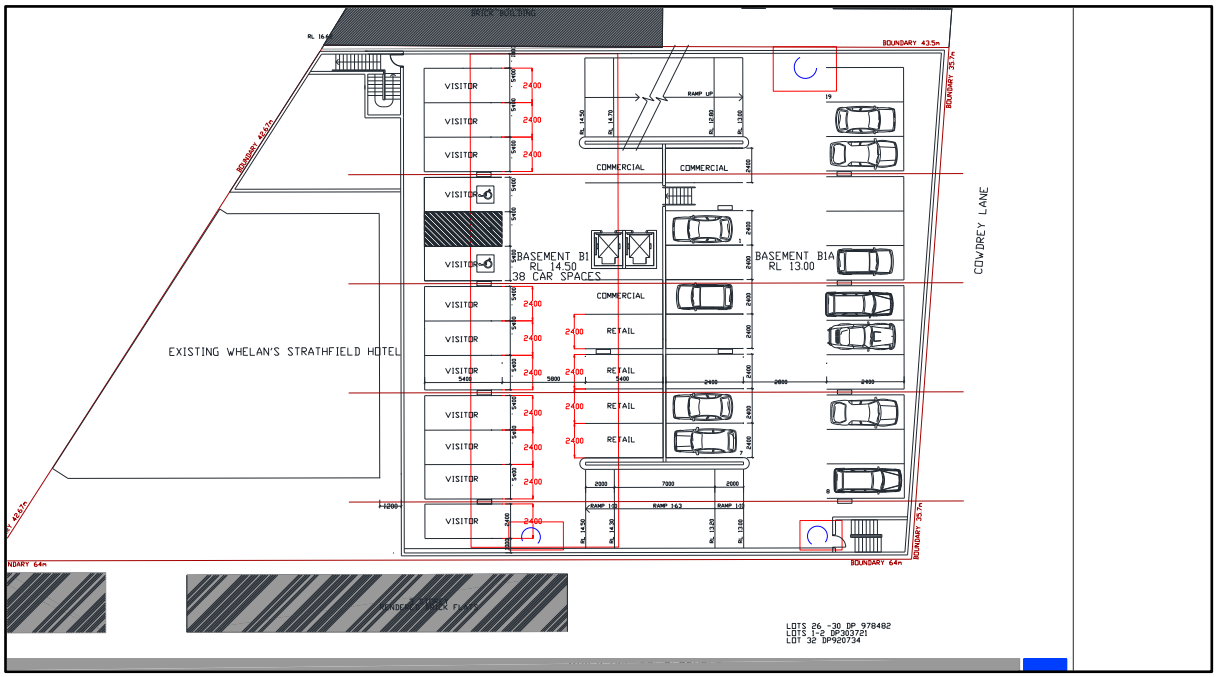


STOP sign and holding line to be installed as per AS1742 requiring all vehicles to stop before entering the public road since low level clearance cannot be guaranteed at driveway exit directly adjacent to neighbouring property. However, it should also be noted that there is no formalised pedestrian footpath within Cowdery Lane.



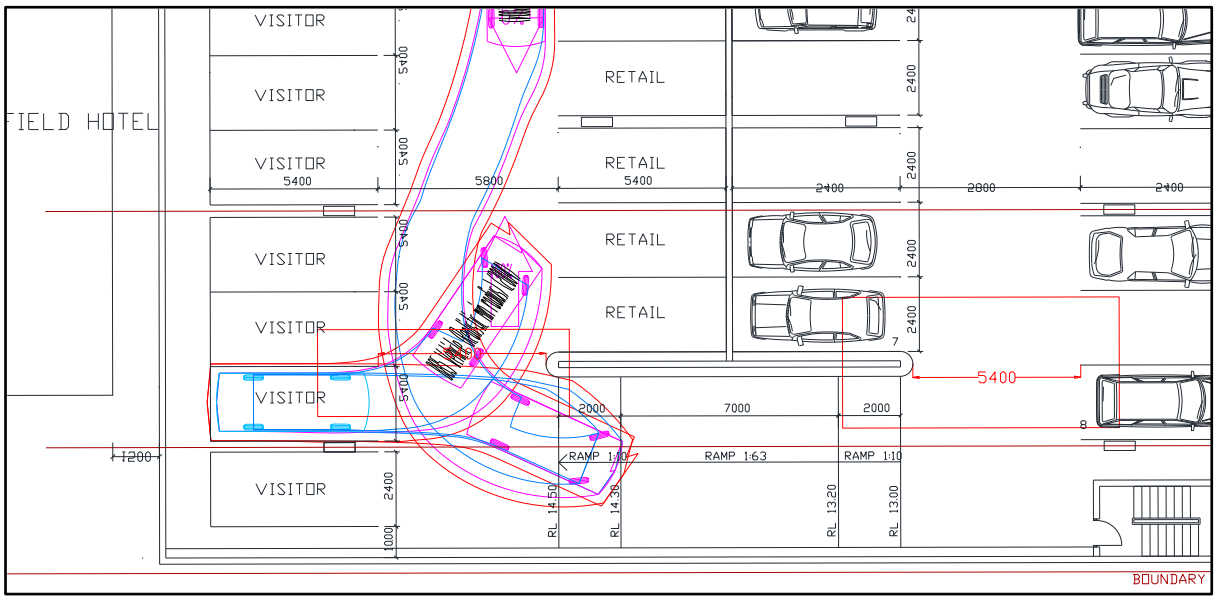
Minor non-compliance, see swept path tests for spaces opposite reduced aisle width (basement 1 & 2)

ANNEXURE B: COMPLIANCE REVIEW
(Sheet 5 of 5)

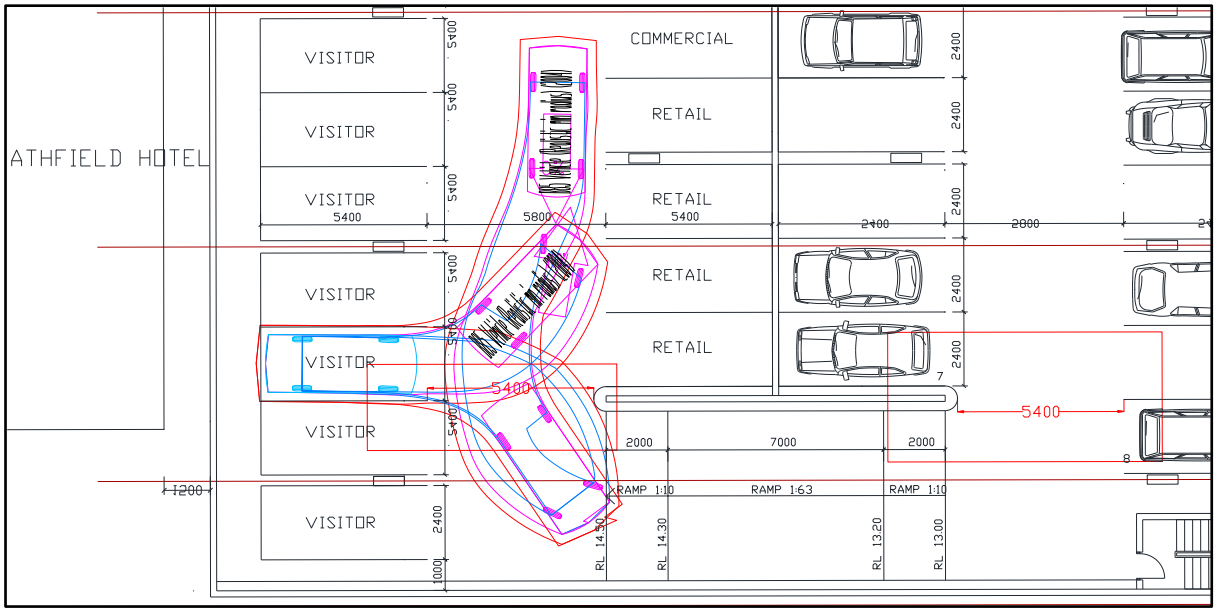


All residential visitor and retail spaces to be 2500mm wide (disabled spaces not included)

ANNEXURE C: SWEPT PATH TESTS
(Sheet 1 of 9)



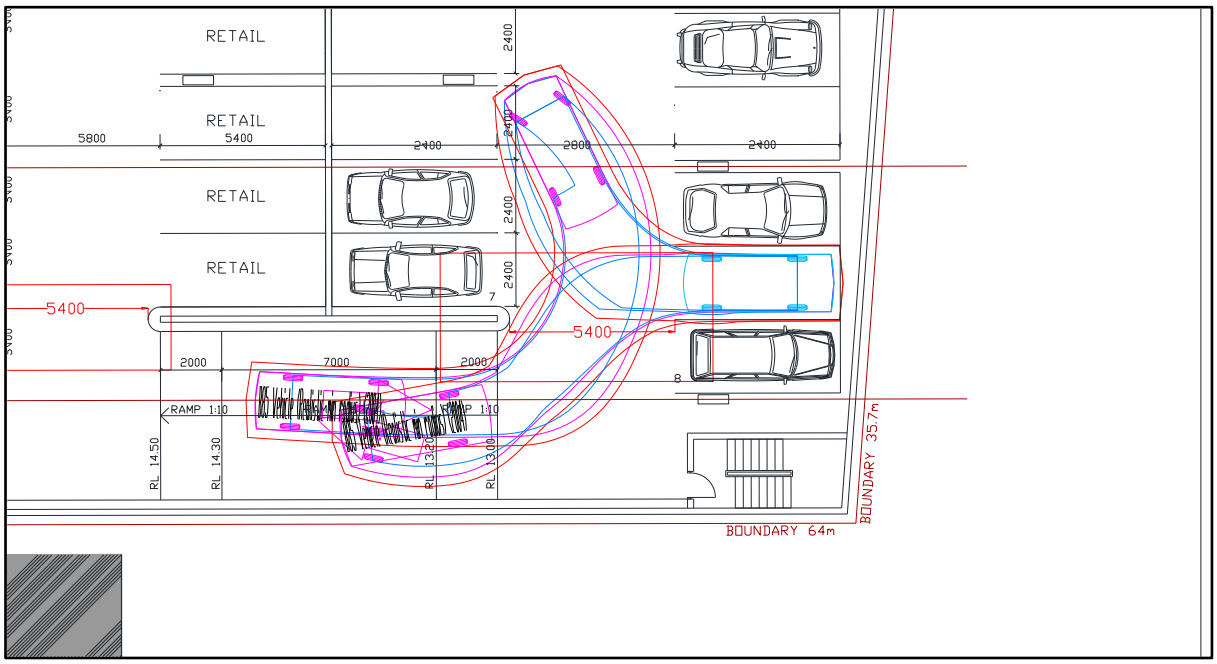
B85 reverse entry into car space, forward egress
5km/h
2 manoeuvers in, 1 out – successful



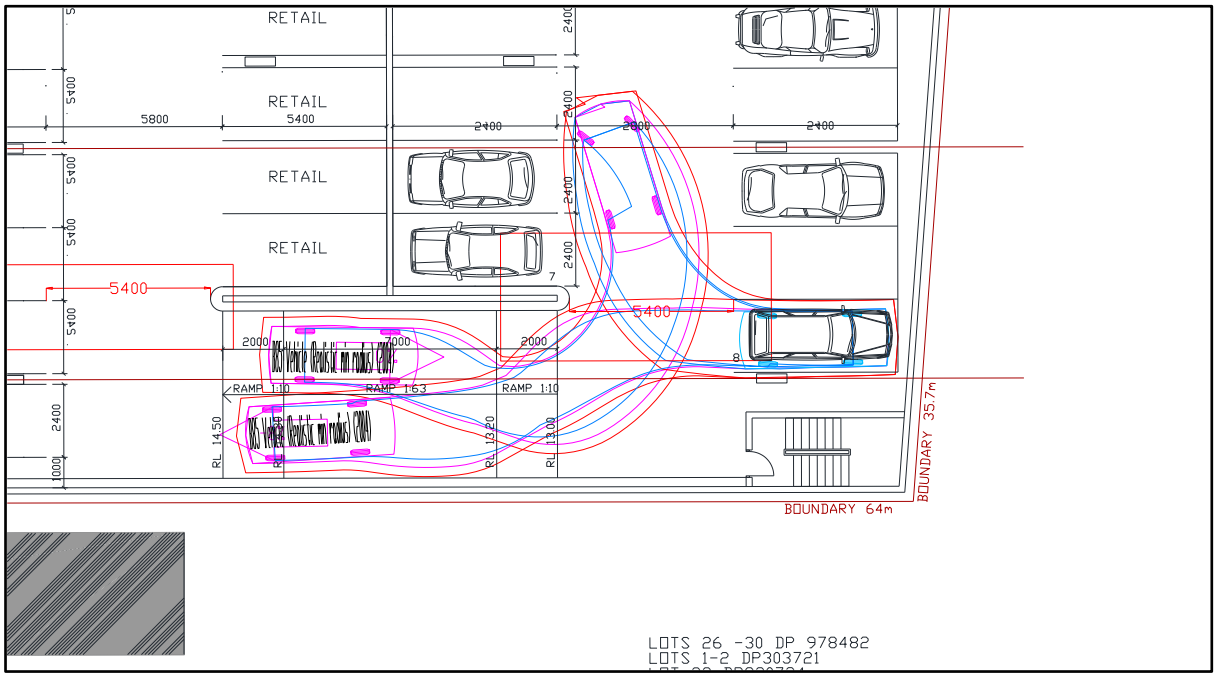
B85 reverse entry into car space, forward egress
5km/h
2 manoeuvers in, 1 out – successful

Purple – Vehicle Body
Blue – Vehicle Tyres
Red – 300mm clearance

ANNEXURE C: SWEPT PATH TESTS
(Sheet 2 of 9)



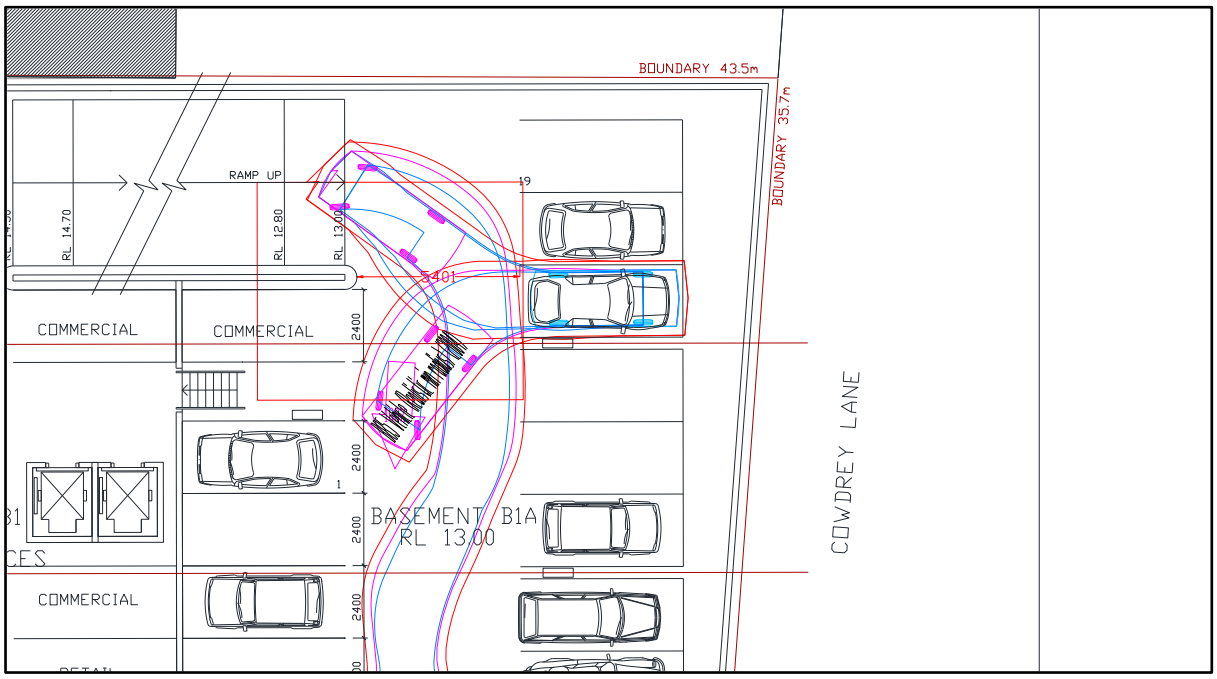
B85 reverse entry into car space, forward egress
5km/h
2 manoeuvers in, 1 out – successful



B85 reverse entry into car space, forward egress
5km/h
2 manoeuvers in, 1 out – successful

Purple – Vehicle Body
Blue – Vehicle Tyres
Red – 300mm clearance

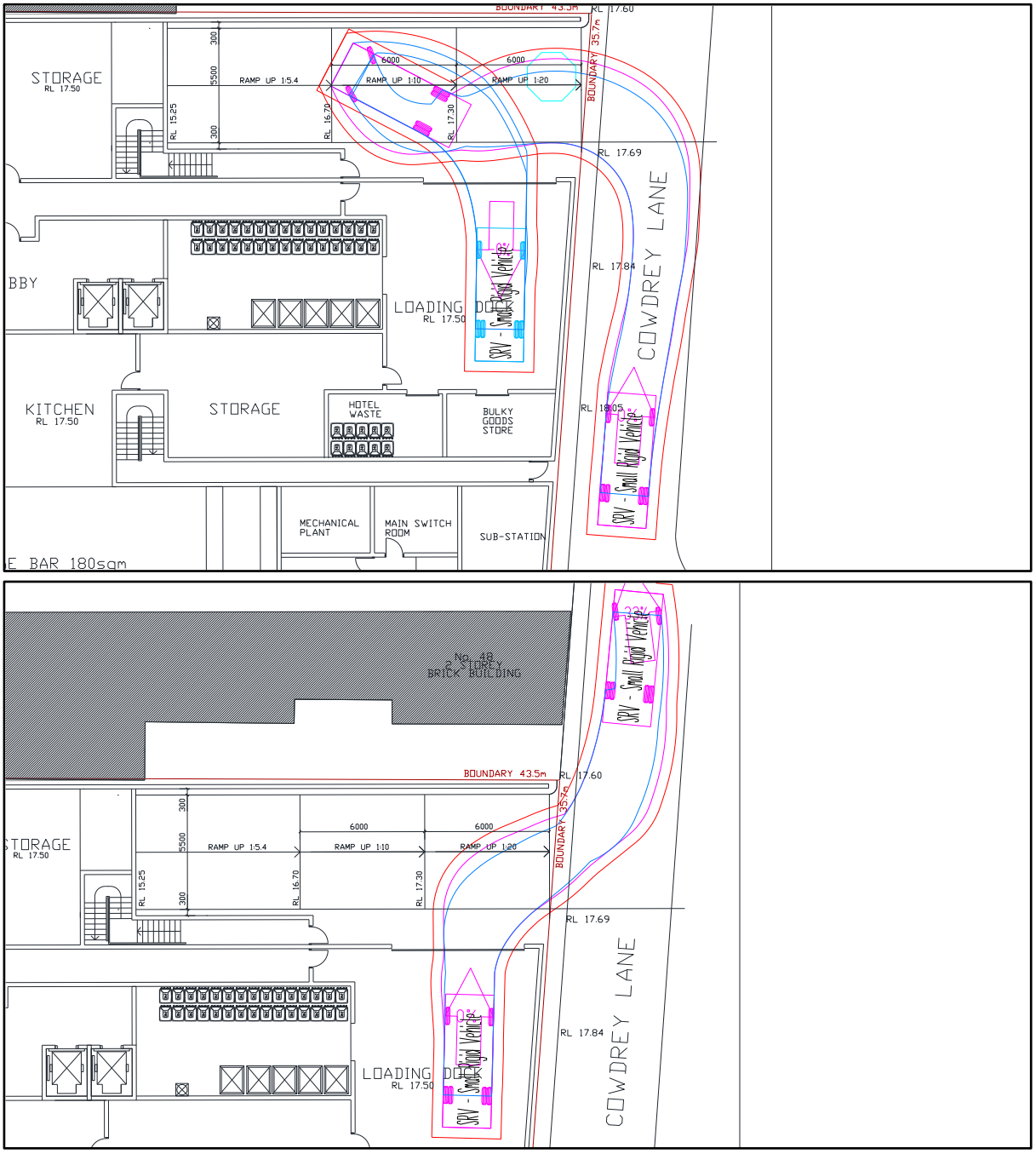
ANNEXURE C: SWEPT PATH TESTS
(Sheet 3 of 9)



B85 reverse entry into car space, forward egress
5km/h
2 manoeuvers in, 1 out – successful

Purple – Vehicle Body
Blue – Vehicle Tyres
Red – 300mm clearance

ANNEXURE C: SWEPT PATH TESTS
(Sheet 4 of 9)



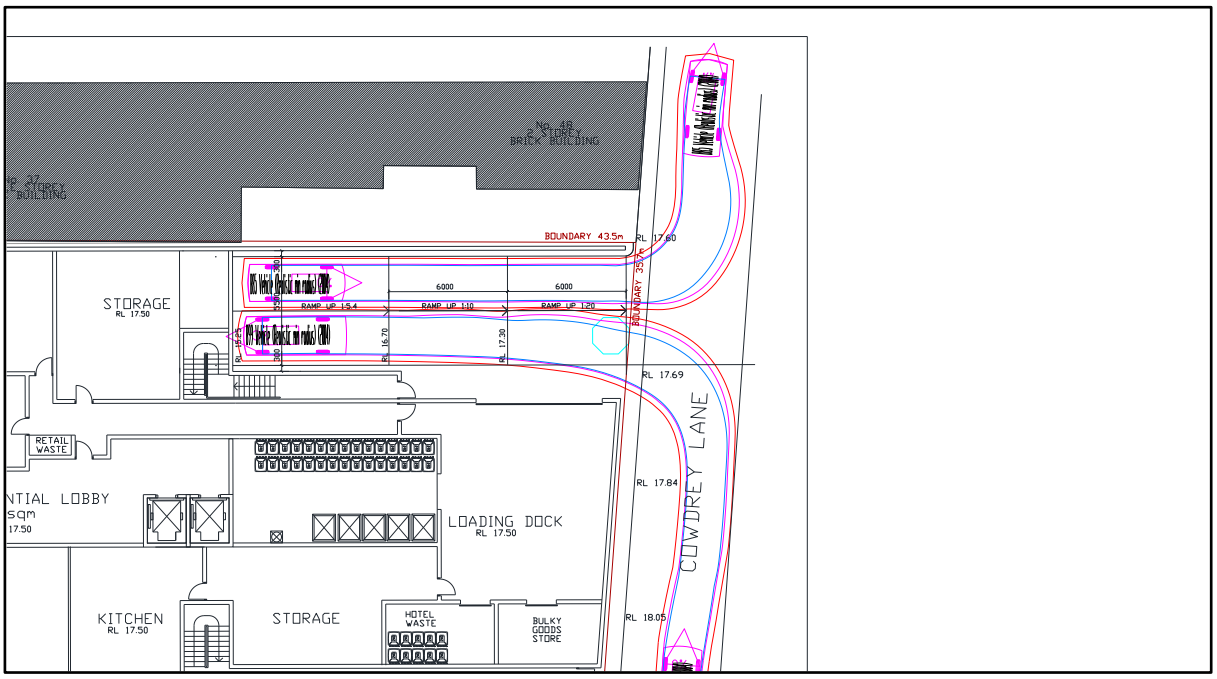
SRV Entry and Egress from Loading Bay

10km/h within laneway, 5km/h internally

Successful – 2 manoeuvers in, 1 out

Purple – Vehicle Body
Blue – Vehicle Tyres
Red – 500mm clearance

ANNEXURE C: SWEPT PATH TESTS
(Sheet 5 of 9)



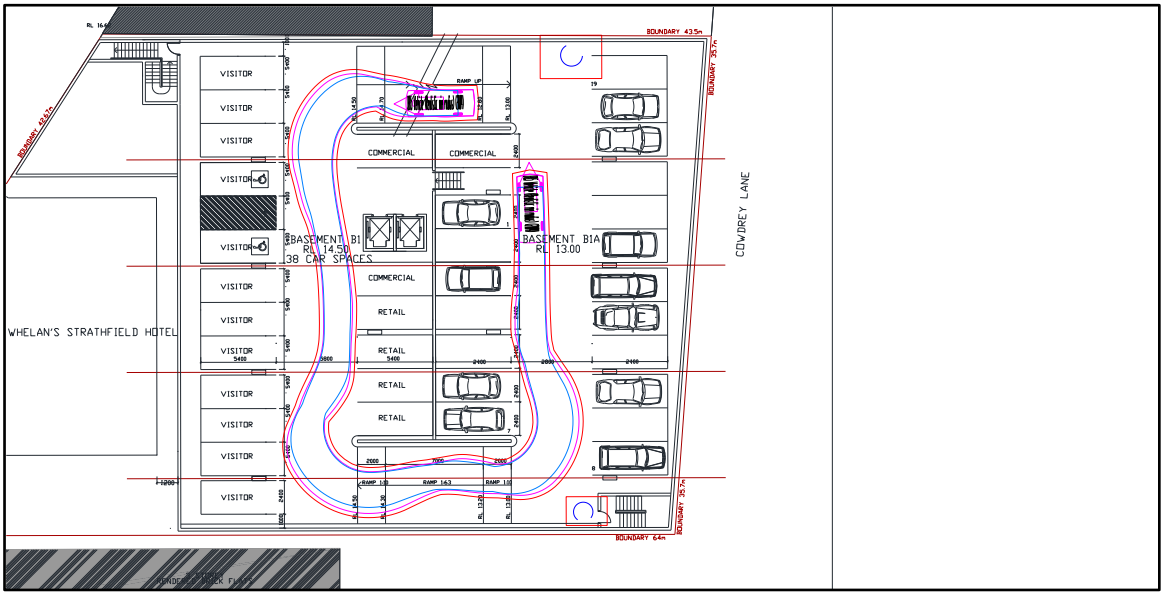
B85 and B99 passing on Entry

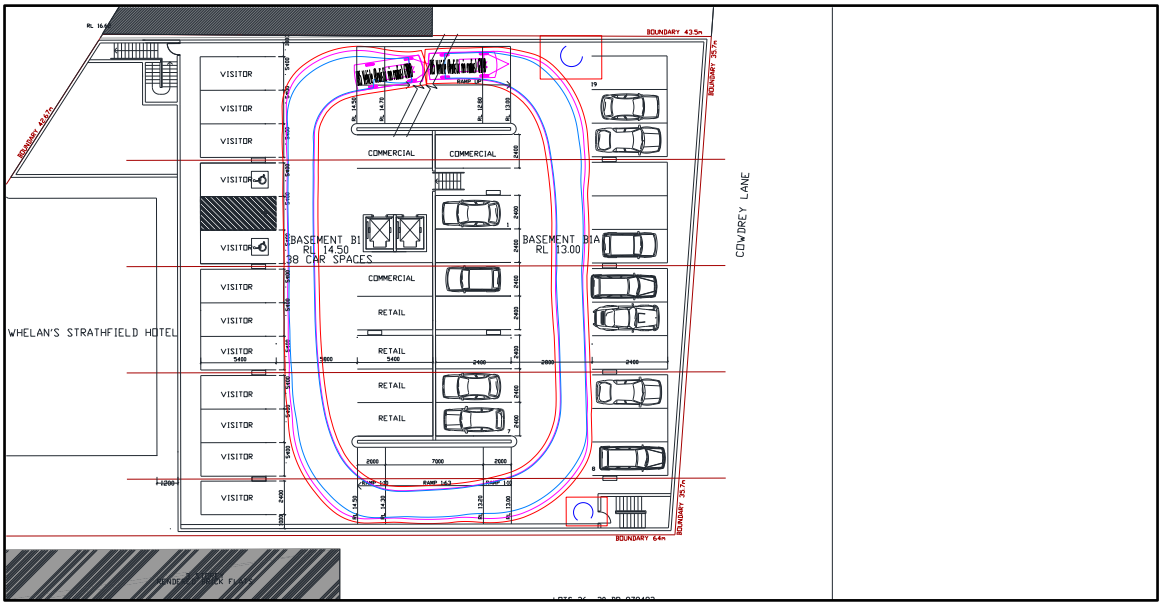
10km/h within laneway, 5km/h internally

Successful

Purple – Vehicle Body
Blue – Vehicle Tyres
Red – 300mm clearance

ANNEXURE C: SWEPT PATH TESTS
(Sheet 6 of 9)





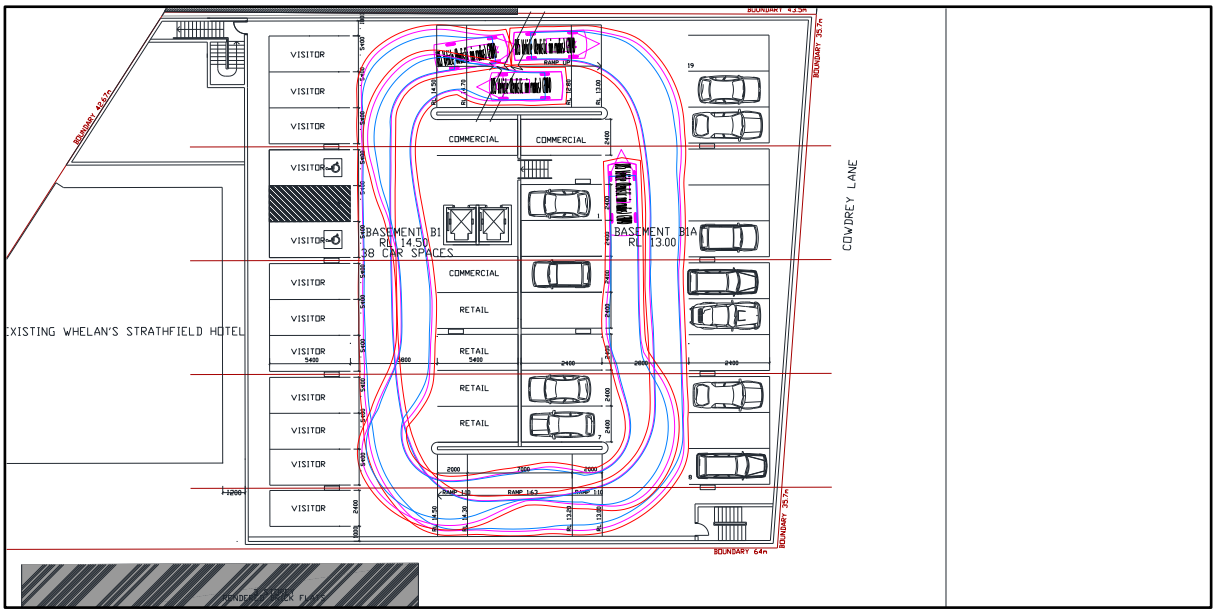
B85 circulation in basement 1

5km/h

Successful – subject to installation of convex mirrors at top and bottom of ramps

Purple – Vehicle Body
Blue – Vehicle Tyres
Red – 300mm clearance

ANNEXURE C: SWEPT PATH TESTS
(Sheet 7 of 9)



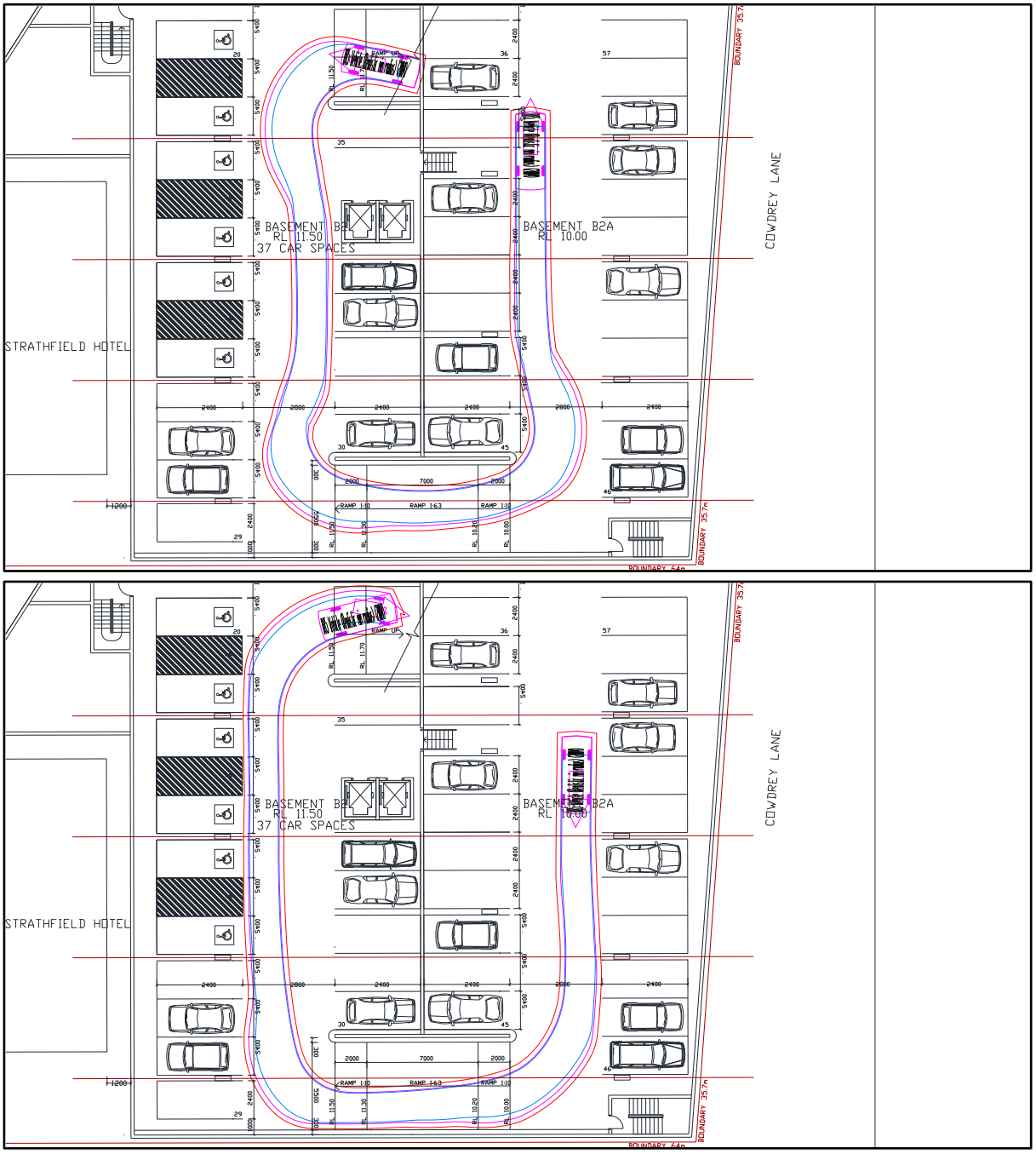
B85 passing B85 basement 1

5km/h

Successful – subject to installation of convex mirrors at top and bottom of ramps

Purple – Vehicle Body
Blue – Vehicle Tyres
Red – 300mm clearance

ANNEXURE C: SWEPT PATH TESTS
(Sheet 8 of 9)



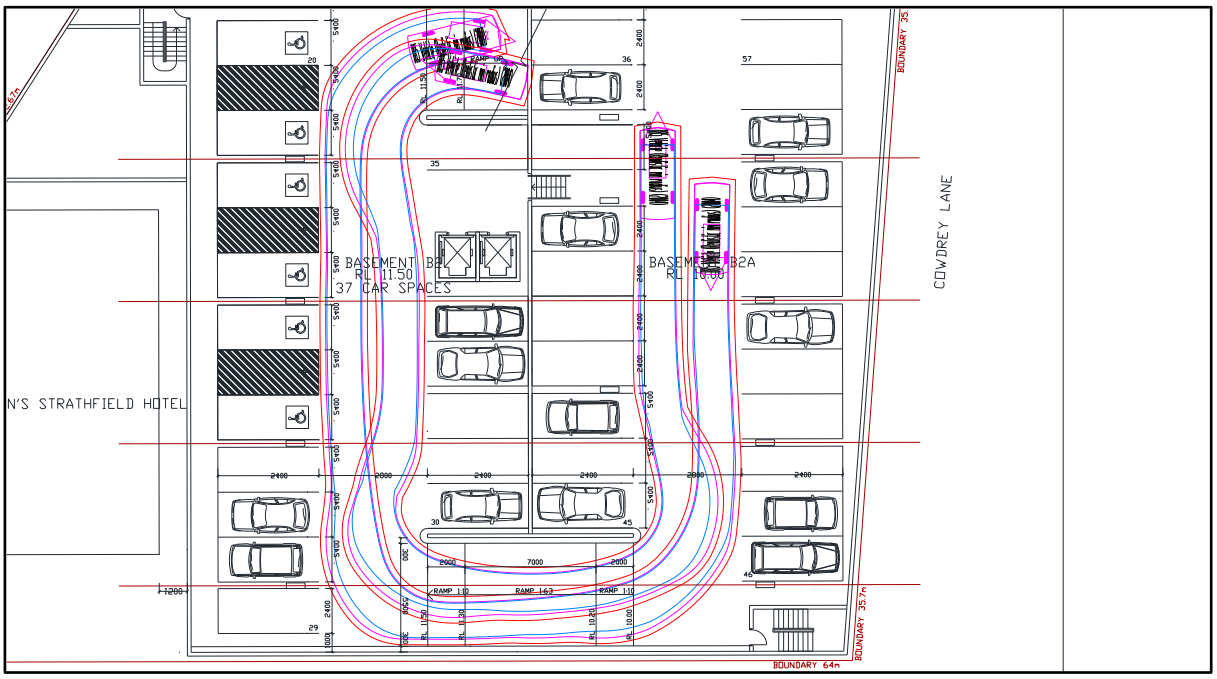
B85 circulation in basement 2

5km/h

Successful – subject to installation of convex mirrors at top and bottom of ramps

Purple – Vehicle Body
Blue – Vehicle Tyres
Red – 300mm clearance

ANNEXURE C: SWEPT PATH TESTS
(Sheet 9 of 9)



B85 passing B85 basement 2

5km/h

Successful – subject to installation of convex mirrors at top and bottom of ramps

Purple – Vehicle Body
Blue – Vehicle Tyres
Red – 300mm clearance