



1 November 2019

Our Ref: 19BRT0363

Your Ref:

Attention: Waimana Kingi

Wolter Consulting Group
1 Breakfast Creek Road
NEWSTEAD QLD 4006

Via email: wkingi@wolterconsulting.com.au

Dear Waimana,

RE: Omega Apartments, 61 Brookes Street, Bowen Hills

Car Parking Area Layout Design Compliance Assessment

TTM has been engaged by Hutchinson Builders to undertake a compliance assessment of the car parking area layout design of the above-mentioned development. It is understood that this compliance assessment report is to be submitted to the *Department of State Development, Manufacturing, Infrastructure and Planning* as part of the PDA amendment application dated 11 October 2019.

This assessment is based on the following architectural car parking area drawings prepared by Cottee Parker architects (copies of which are included as Attachment A):

- Site Plan (drawing no. SD1002 issue 01)
- Floor Plan – Ground Floor (drawing no. SD2001 issue 02)
- Floor Plan – Level 01 (drawing no. SD2003 issue 02)
- Floor Plan – Level 02 (drawing no. SD2004 issue 02)
- Floor Plan – Level 03 (drawing no. SD2005 issue 02)
- Floor Plan – Level 04 (drawing no. SD2006 issue 02)

This design assessment addresses the geometric layout and surface grades of all on-site car parking areas and associated vehicle circulation areas. The design has been assessed against *AS/NZS 2890.1:2004 Parking Facilities Part 1: Off-street car parking* and *AS/NZS 2890.6:2009 Parking Facilities Part 6: Off-street parking for people with disabilities*.

Aspects specifically excluded from this assessment include height clearance, lighting, drainage and physical controls (e.g. wheel stops, kerbs, barriers and other protective devices) all of which are expected to comply with the relevant design and construction standards.

Table 1 below details the design requirements, proposed provisions and their compliance, associated with the on-site car parking area layout. TTM drawing numbers 19BRT0363-01,02 and 03 (Attachment B) are provided to demonstrate adequate vehicle circulation and manoeuvring at critical locations within the car parking area.

As indicated, all aspects of the design layout are compliant. Additional information and recommendations are provided below relating to some aspects of the car parking area.

Table 1: Car Parking Area Layout Compliance Summary

Design Aspect	AS/NZS 2890.1:2004 Requirement	Proposed Provision	Compliance
Parking space length: - Standard space - PWD space - Small car space	5.4m (min) 5.4m (min) 5.0m (min)	5.4m 5.4m 5.0m	Compliant Compliant Compliant
Parking space width: - Resident space - Visitor space - PWD space - Small car space	2.4m (min) 2.4m (min) 2.4m (min) + 2.4m shared zone 2.3m (min)	2.4m 2.4m 2.4m + 2.4m shared zone 2.3m	Compliant Compliant Compliant ¹ Compliant
Aisle Width: - Parking/circulation aisle - Circulation road/ramp - Blind aisle extension	5.8m (min) 5.5m (min) 1.0m (min)	6.2m (min) 5.5m (min) / 6.2m (gen) 1.0m (min)	Compliant ² Compliant Compliant
Parking space clearances	Figure 5.2 of standard	Figure 5.2 of standard	Compliant
Maximum Gradient: - PWD space - Parking space - Parking aisle - Ramp	1:40 (2.5%) 1:20 parallel to angle / 1:16 all other directions 1:16 (6.25%) 1:5 (20%)	Flat Flat / 1:16 1:16 1:5	Compliant Compliant Compliant Compliant
Maximum Change in Grade	1:8 (12.5%) summit 1:6.67 (15.0%) sag	1:8 1:8	Compliant Compliant

¹ Refer further information below regarding shared area to disabled parking space no. 5 on ground floor.

² Refer further information below regarding resident & visitor parking spaces on ground floor.

Parking space no. 5

The shared area for the disabled parking space on ground floor includes a bollard situated immediately adjacent the parking aisle. In accordance with AS/NZS 2890.6:2009 the bollard must be situated 800mm (+/- 50mm) from the parking aisle.

Parking space no. 4 & 10

This visitor parking space (no. 4) and resident parking space (no. 10) on ground floor has an atypical parking aisle arrangement, due to the inclusion of the adjacent bin store room, that requires a car to reverse into these two spaces and forward out via a 3-point turn as demonstrated in TTM drawing number 19BRT0363-03A (Attachment B). It is therefore recommended that these two parking spaces be clearly signposted as “reverse in only”.

Motorist sight lines

There are two locations where motorist sight lines are restricted due to walls bounding intersection areas; ground floor immediately adjacent the site access and Level 1 adjacent the top of the circulation ramp. It is recommended that high-visibility convex safety mirrors are installed at the locations identified in Figures 1 and 2 below to ensure appropriate motorist sight lines are available at these locations.

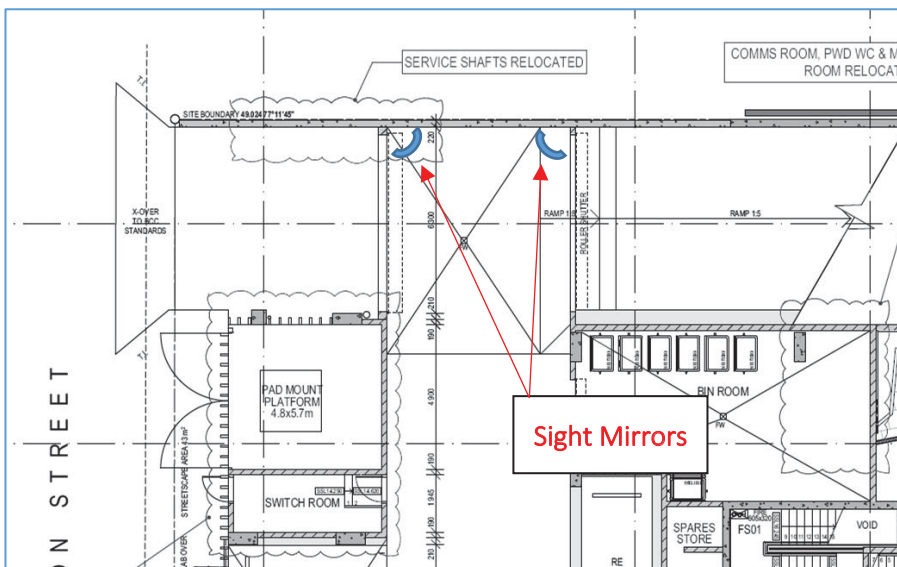


Figure 1: Recommended Location of Motorist Sight Mirrors (Ground Level)

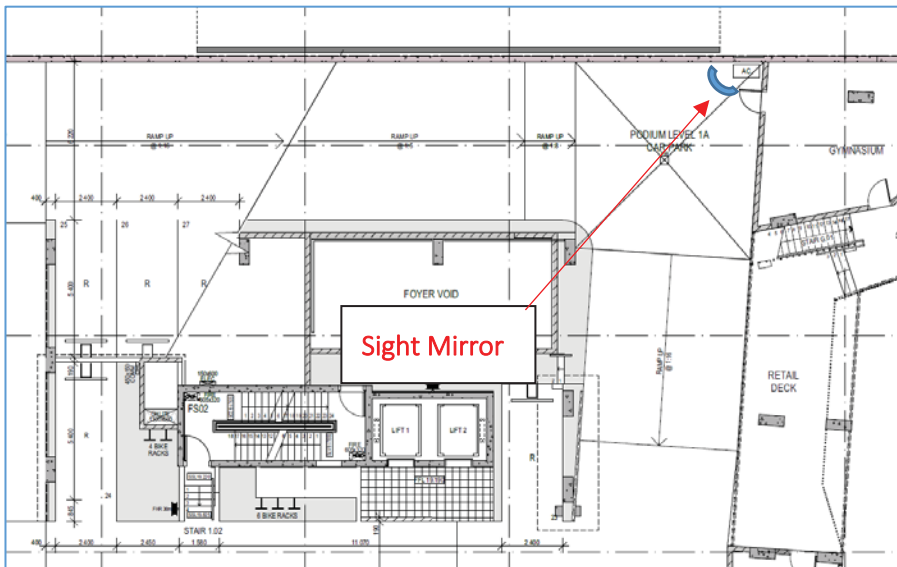


Figure 2: Recommended Location of Motorist Sight Mirror (Level 1)

Based on my assessment I hereby certify that the on-site car parking area layout, as detailed in the related architectural drawings herein, complies with the relevant standards subject to the above-mentioned recommendations being implemented.

I trust the information provided herein is sufficient. Should you require any further information, please contact me by phone on (07) 3327 9500 or by email at dgrummitt@ttmgroup.com.au.

Yours sincerely,

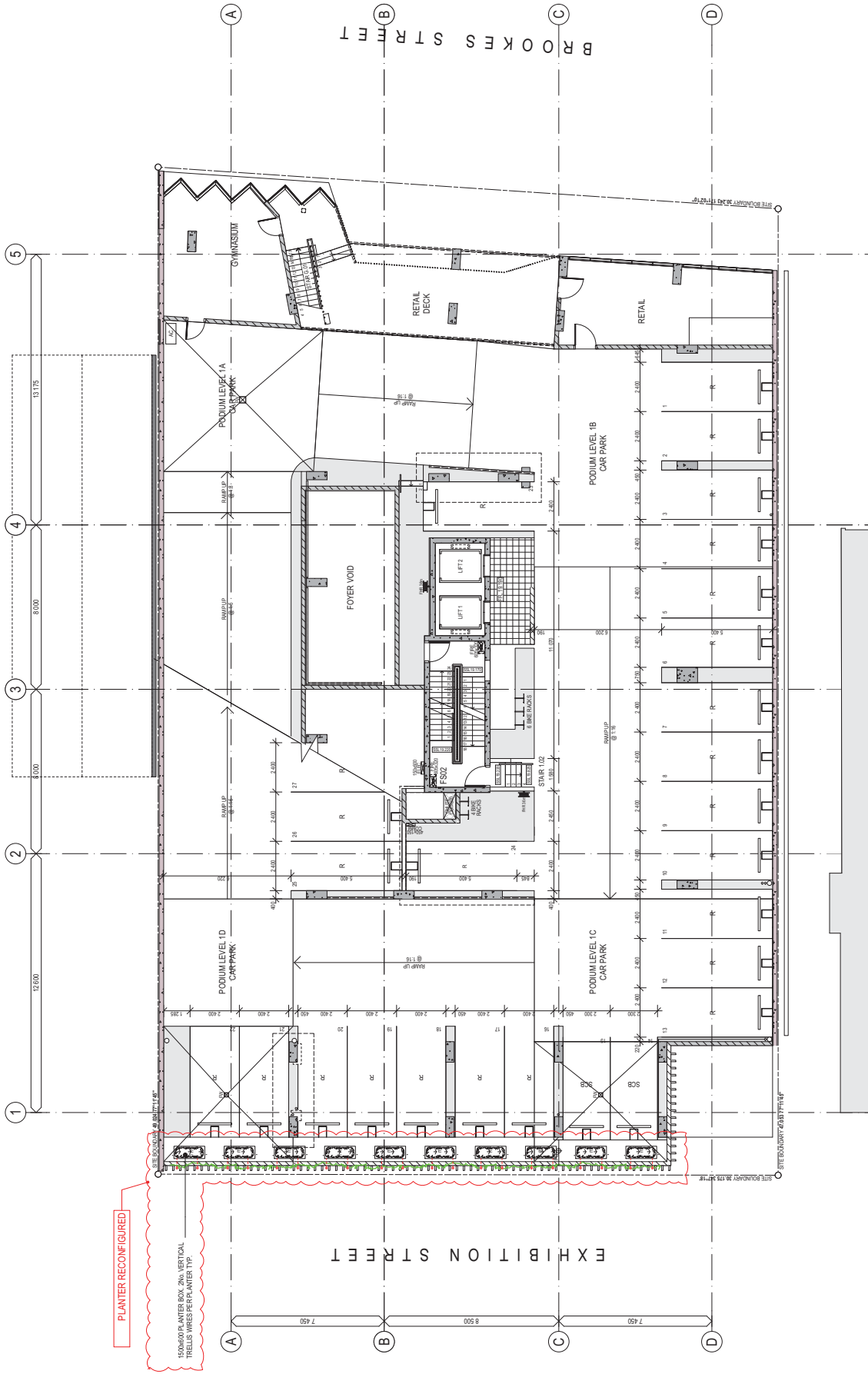


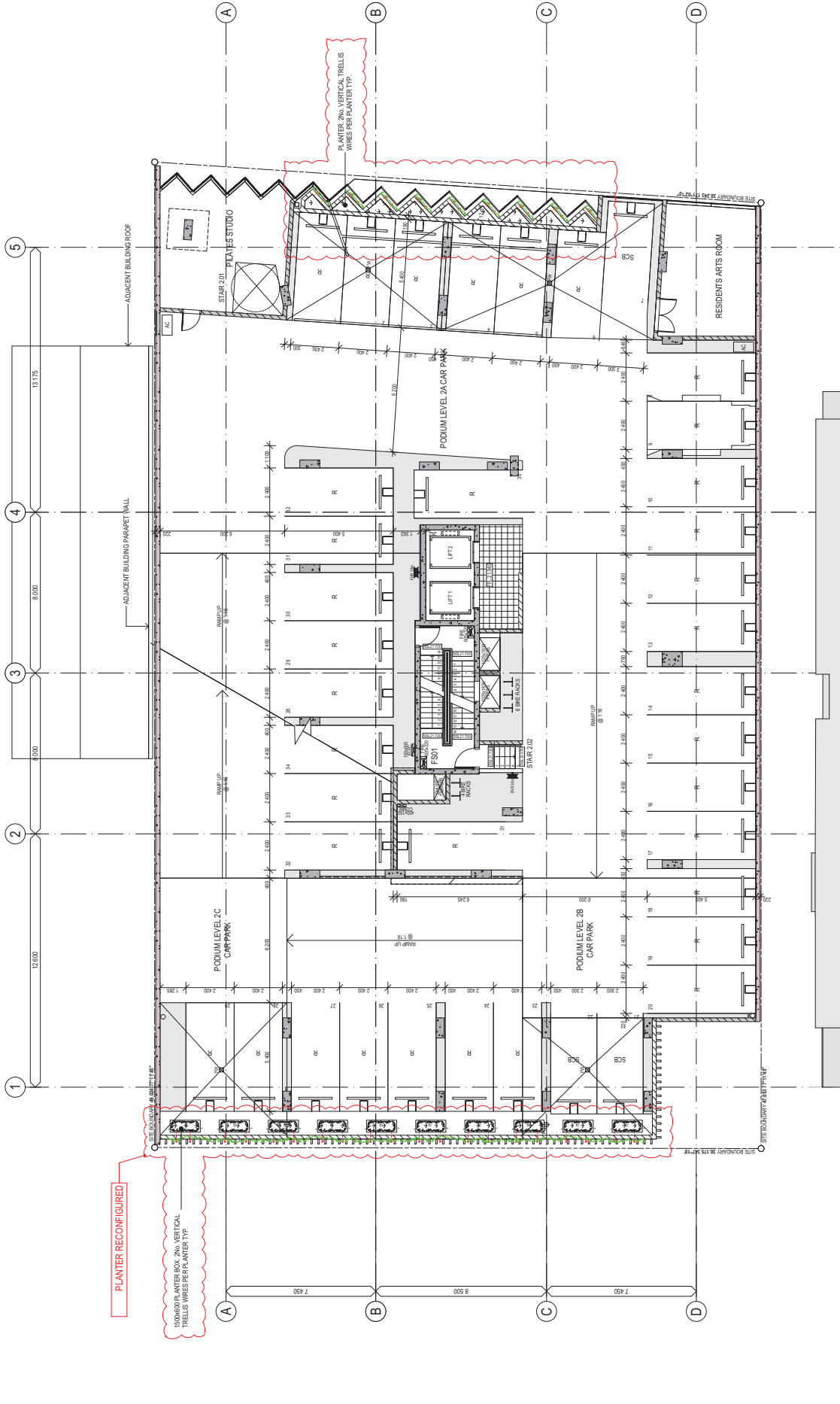
David Grummitt | RPEQ (19356) MIEAust NER
Senior Associate Director
TTM Consulting Pty Ltd

Attachments

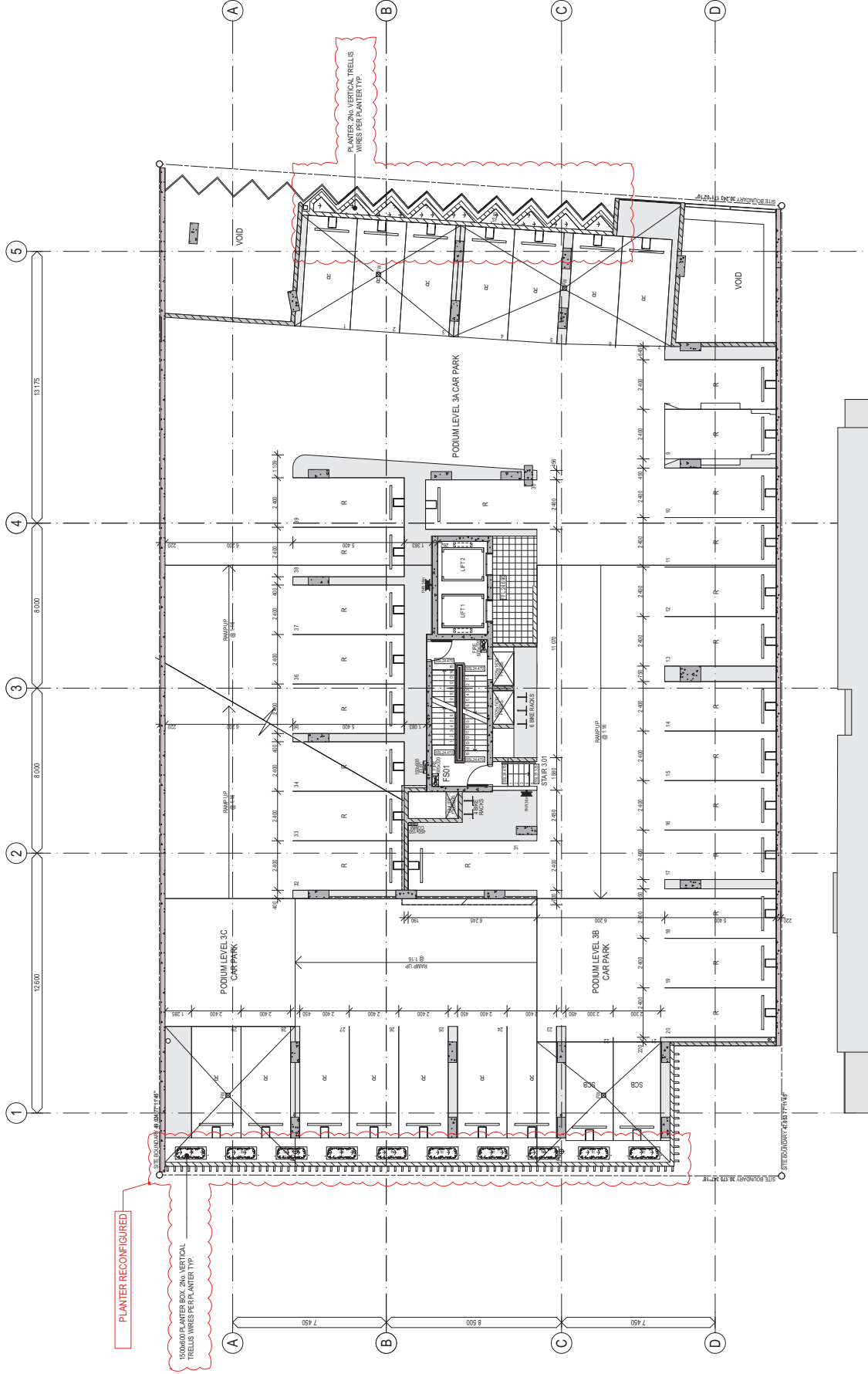
- Architectural drawings
- TTM Vehicle Swept Path Analysis Drawings







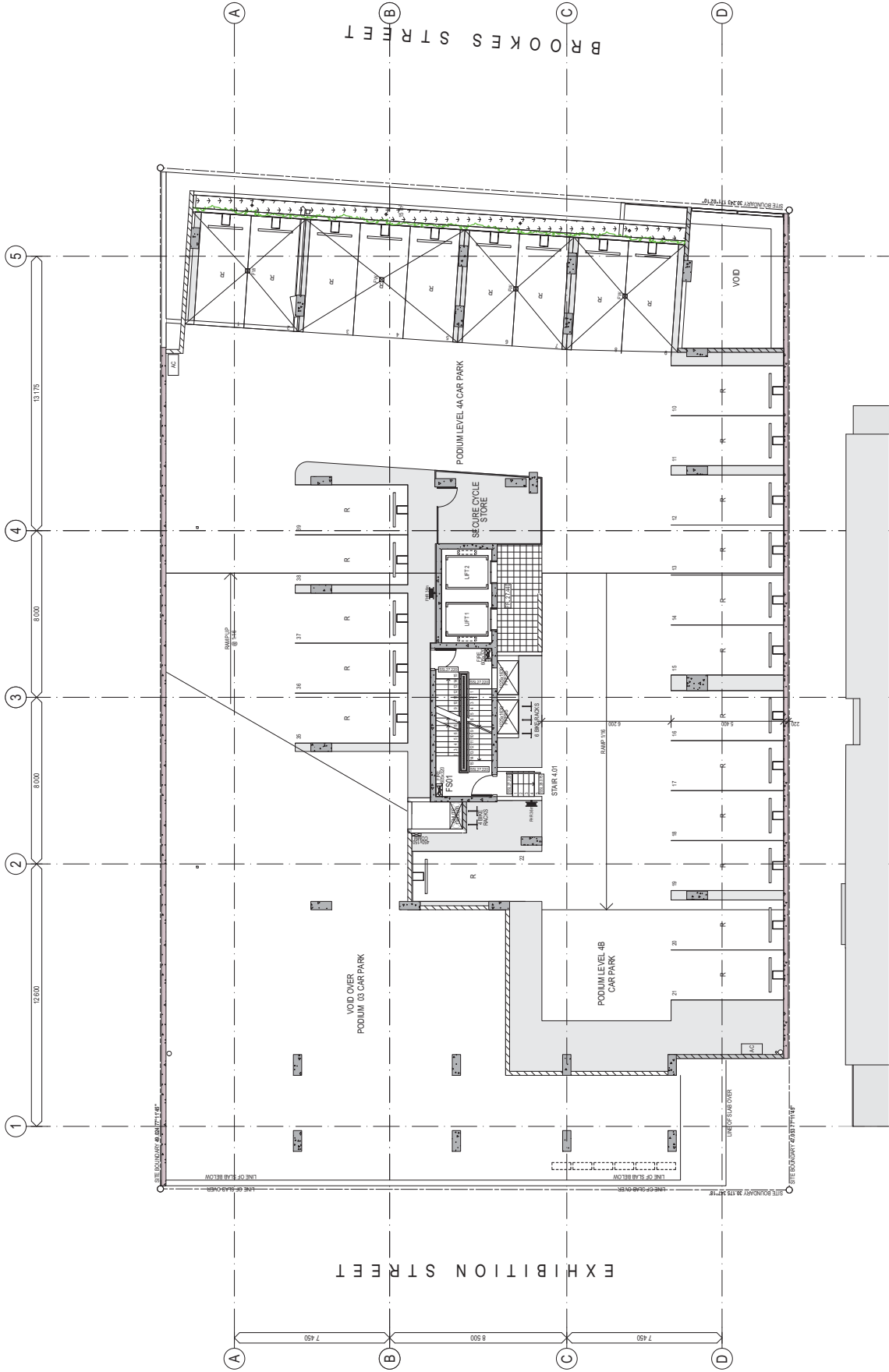
1. FLOOR PLAN - LEVEL 02 - PODIUM CAR PARK
SCALE @ A1 1:100

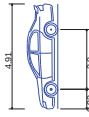
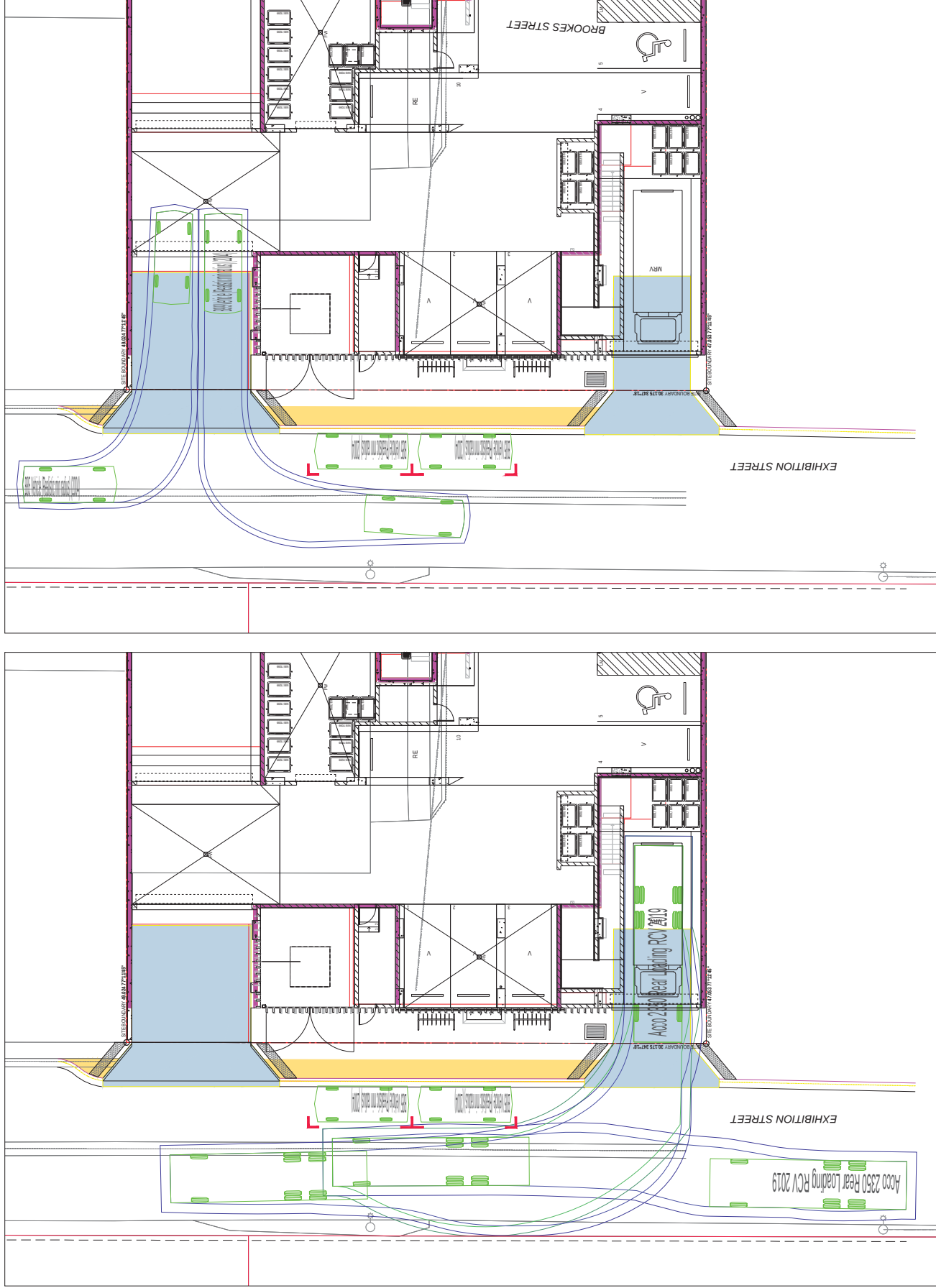




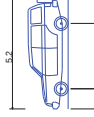
SCALE 1:100 @ A1

SCALE 1:200 @ A3

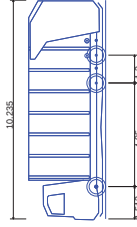




B85 Vehicle (Realistic min radius) (2004)
Overall Length 4.91m
Overall Width 1.87m
Overall Body Height 1.42m
Min Body Ground Clearance 0.15m
Track Width 1.70m
Lock to lock time 1.70m
Kerb to Kerb Turning Radius 4.00m
Kerb to Kerb Turning Radius 5.75m



B99 Vehicle (Realistic min radius) (2004)
Overall Length 5.20m
Overall Width 1.94m
Overall Body Height 1.87m
Min Body Ground Clearance 0.27m
Track Width 1.84m
Lock to lock time 1.84m
Kerb to Kerb Turning Radius 6.25m



Acco 2350 Rear Loading RCV 2019
Overall Length 10.235m
Overall Width 2.500m
Overall Body Height 3.600m
Min Body Ground Clearance 0.150m
Track Width 2.500m
Lock to lock time 2.500m
Kerb to Kerb Turning Radius 9.500m

SENIOR
ASSOCIATE
DIRECTOR
DAVID GRUMMITT
RPEQ 19356
APPROVED 30 Oct 2019

PROJECT		PROJECT NUMBER		ORIGINAL SIZE	
TTM CONSULTING PTY LTD		19BRT0363		A3	
LEVEL 4, 309 Ann Street, BRISBANE, QLD, 4000		DRAWING NUMBER		REVISION	
P.O. BOX 12015, BRISBANE, QLD, 4003		19BRT0363-02		A	
T: (07) 3327 9500 F: (07) 3327 9501		DATE		SHEET	
E: tim@ttmgroup.com.au W: www.ttmgroup.com.au		30 Oct 2019		1 OF 1	

61 BROOKES STREET, BOWEN HILLS

ON-SITE CAR PARKING AREA COMPLIANCE ASSESSMENT

VEHICLE SWEEP PATH ANALYSIS

GROUND LEVEL - SITE ACCESS

ttm

HUTCHINSON BUILDERS

SCALE

0 2 4 6 8 10m

SCALE 1:100 AT ORIGINAL SIZE

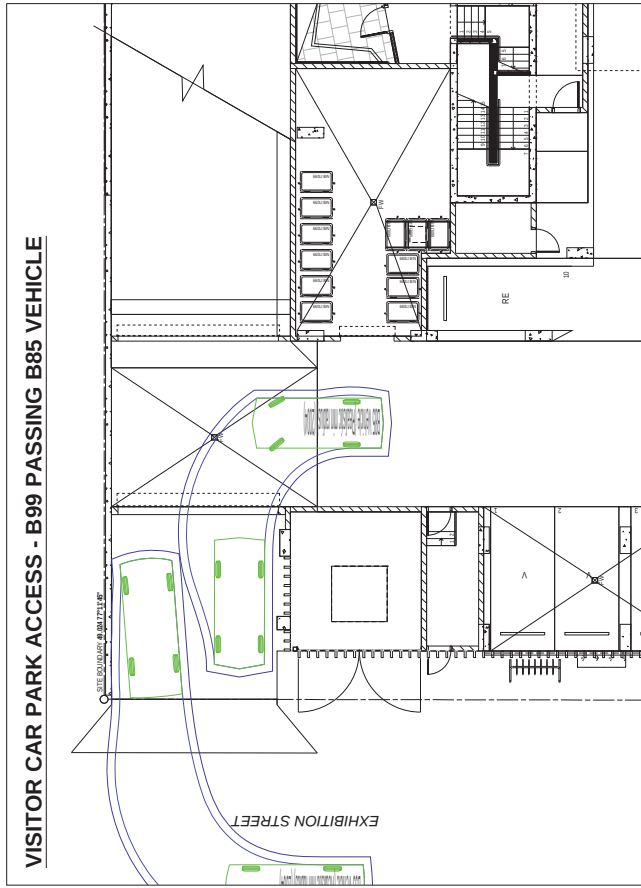
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NORTH

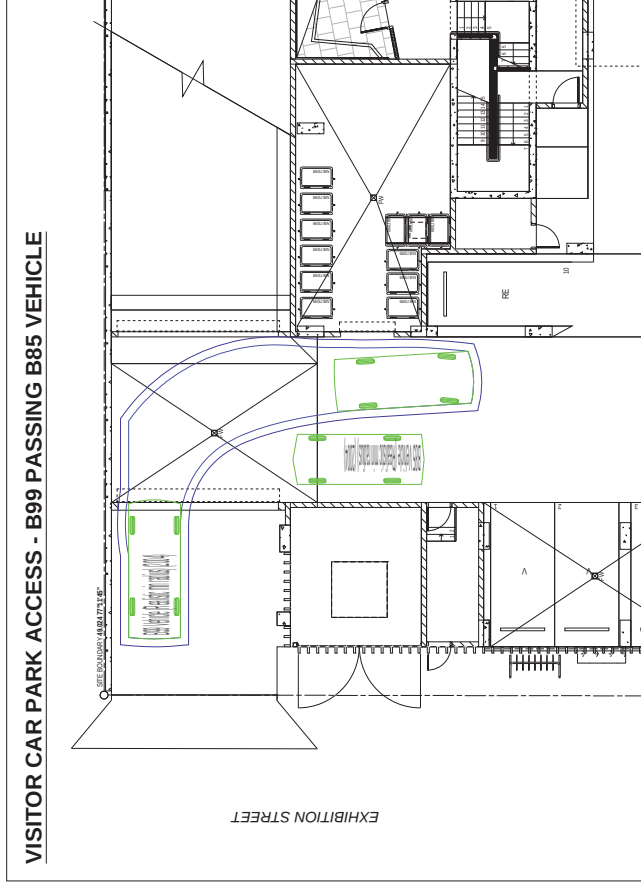
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REV	DATE	ORIGINAL ISSUE	AMENDMENT DESCRIPTION
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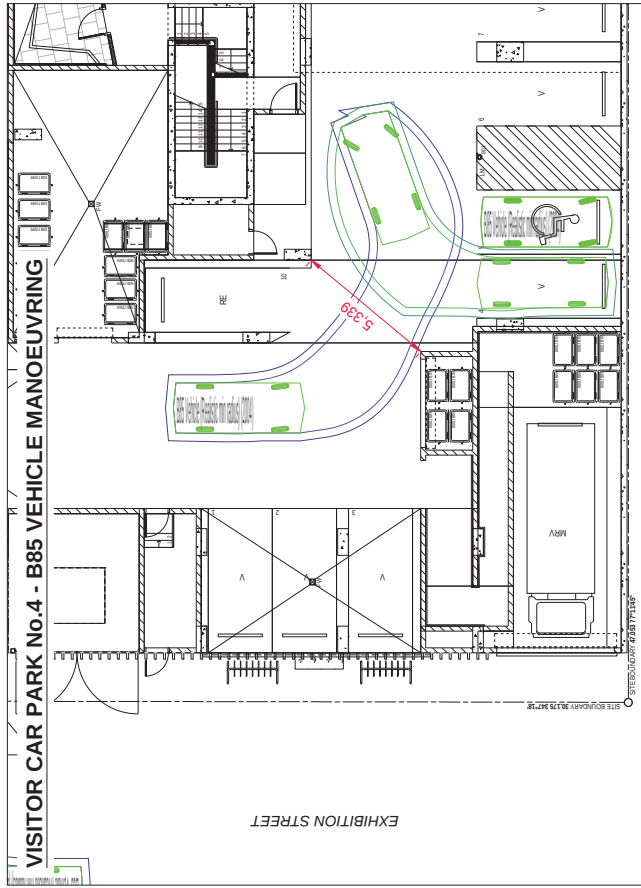
VISITOR CAR PARK ACCESS - B99 PASSING B85 VEHICLE



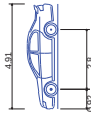
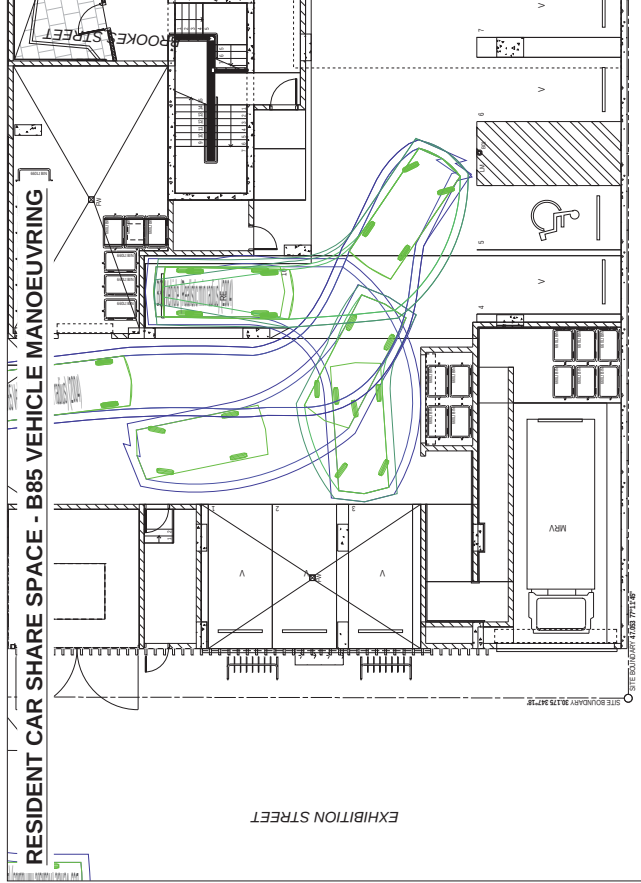
VISITOR CAR PARK ACCESS - B99 PASSING B85 VEHICLE



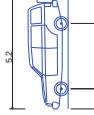
VISITOR CAR PARK No.4 - B85 VEHICLE MANOEUVRING



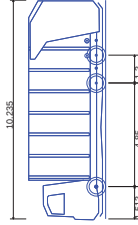
RESIDENT CAR SHARE SPACE - B85 VEHICLE MANOEUVRING



B85 Vehicle (Realistic min radius) (2004)
Overall Length 4.91m
Overall Width 1.87m
Overall Body Height 1.42m
Min Body Ground Clearance 0.15m
Track Width 1.70m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 5.75m



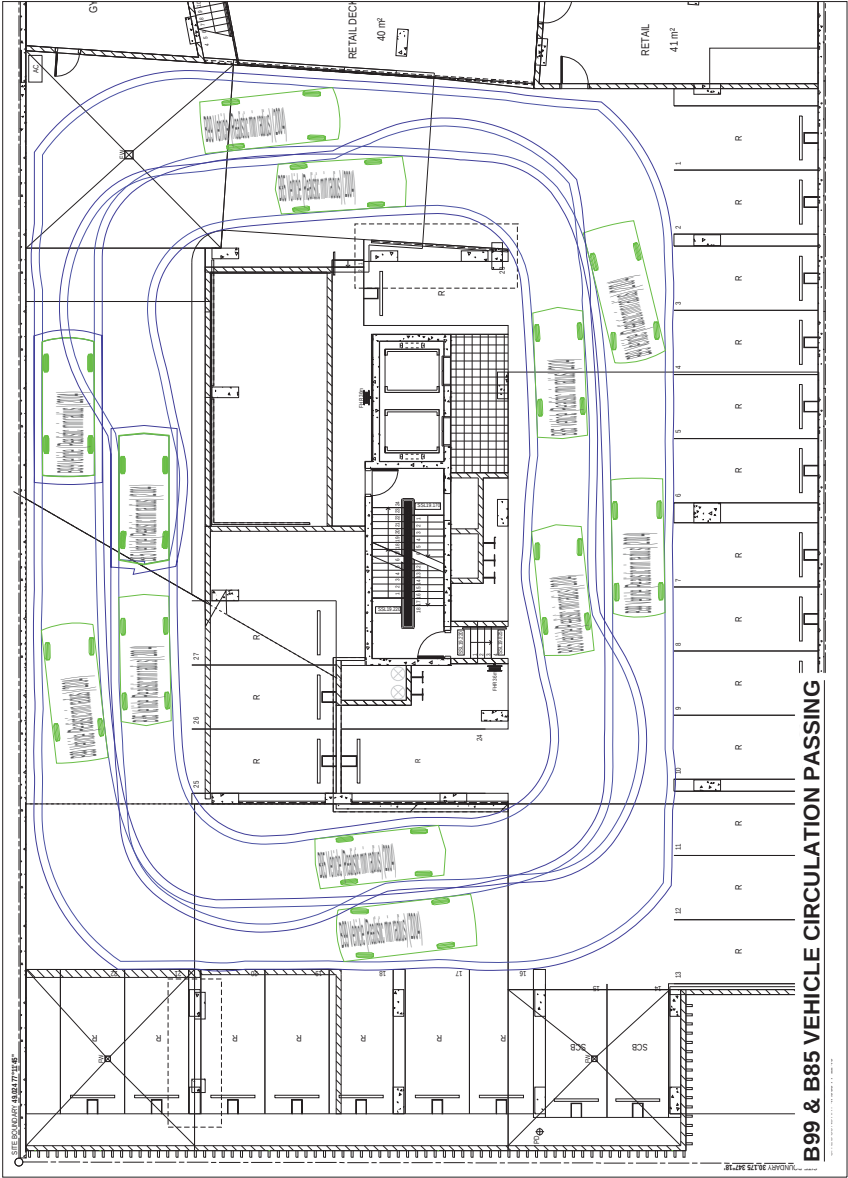
B99 Vehicle (Realistic min radius) (2004)
Overall Length 5.20m
Overall Width 1.94m
Overall Body Height 1.87m
Min Body Ground Clearance 0.27m
Track Width 1.84m
Lock to lock time 4.25m
Kerb to Kerb Turning Radius 6.25m



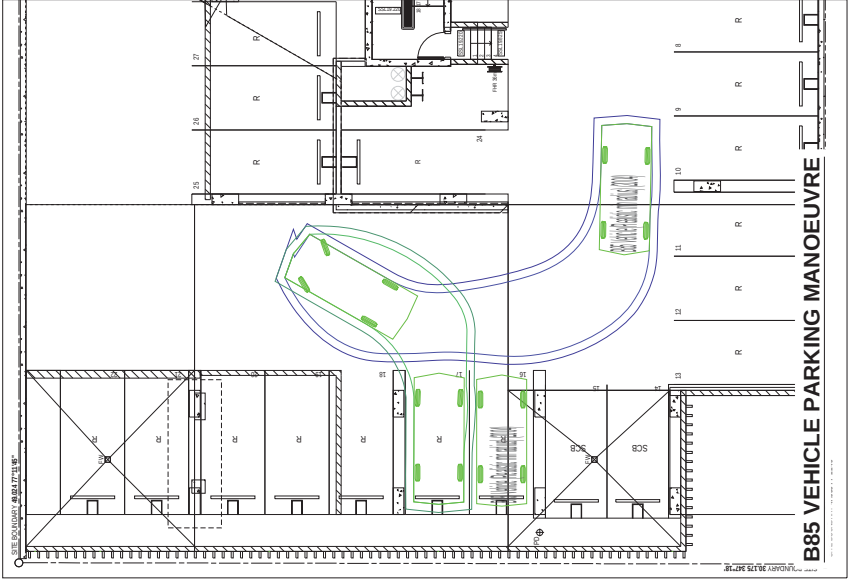
Acco 2350 Rear Loading RCV 2019
Overall Length 10.23m
Overall Width 2.50m
Overall Body Height 3.60m
Min Body Ground Clearance 0.15m
Track Width 2.50m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 9.50m

SENIOR
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DAVID GRUMMITT
RPEQ 19356
APPROVED 30 Oct 2019

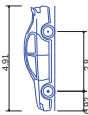
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LEVEL 4, 309 Ann Street, BRISBANE, QLD, 4000		REVISION	A
P.O. BOX 12015, BRISBANE, QLD, 4003		DATE	30 Oct 2019
T: (07) 3327 9500 F: (07) 3327 9501		SHEET	1 OF 1
E: ttmris@ttmgroup.com.au W: www.ttmgroup.com.au			
CLIENT		AMENDMENT DESCRIPTION	
HUTCHINSON BUILDERS		REV	DATE
SCALE 1:200 AT ORIGINAL SIZE		ORIGINAL ISSUE	
NORTH		DRAWN	CHECKED
0 2 4 6 8 10m		DWG	DWG
DRAWN		CHECKED	APPROVED



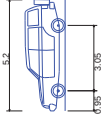
B99 & B85 VEHICLE CIRCULATION PASSING



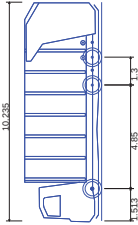
B85 VEHICLE PARKING MANOEUVRE



B85 Vehicle (Realistic min radius) (2004)
Overall Length 4.91m
Overall Width 1.87m
Min Body Ground Clearance 0.159m
Track Width 1.70m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 5.750m



B99 Vehicle (Realistic min radius) (2004)
Overall Length 5.20m
Overall Width 1.94m
Min Body Ground Clearance 0.272m
Track Width 1.840m
Lock to lock time 6.250m
Kerb to Kerb Turning Radius 6.250m



Acco 2350 Rear Loading RCV 2019
Overall Length 10.235m
Overall Width 2.500m
Overall Body Height 3.600m
Min Body Ground Clearance 0.150m
Track Width 2.500m
Lock to lock time 8.00s
Kerb to Kerb Turning Radius 9.500m

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RPEQ 19356
APPROVED 30 Oct 2019

PROJECT		PROJECT		PROJECT	
TTM CONSULTING PTY LTD		61 BROOKES STREET, BOWEN HILLS		19BRT0363	
ABN 65 010 888 621				ORIGINAL SIZE	
LEVEL 4, 309 Ann Street, BRISBANE, QLD, 4000				A3	
P.O. BOX 12015, BRISBANE, QLD, 4003				DRAWING NUMBER	
T: (07) 3327 9500 F: (07) 3327 9501				19BRT0363-04	
E: ttmris@ttmgroup.com.au W: www.ttmgroup.com.au				REVISION	
				A	
				DATE	
				30 Oct 2019	
				SHEET	
				1 OF 1	



HUTCHINSON BUILDERS



SCALE 1:200 AT ORIGINAL SIZE

REV	DATE	AMENDMENT DESCRIPTION
A	30-10-19	ORIGINAL ISSUE