



fernway
engineering

ABN 38 475 511 899

11 January 2024

Ray Ramadan
RM Designers

RE: Car Parking Review, 33 Russell Street, Greenacre NSW

Fernway Engineering has been engaged by the Applicant to assess the car parking design arrangements for the proposed domestic dwelling at the above address. This letter addresses Council's Request for Information relating to parking design matters.

This assessment pertains to the set of architectural plans prepared by RM Designers, overlayed in **Attachment A**, and the following regulatory design instruments:

- AS2890, Part 1, 3 and 6.

This review and certification process has been undertaken by an industry-recognised traffic engineering professional, the undersigned.



Transportation engineering
and planning.

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Melbourne VIC 3000

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Sydney NSW 2000

Information Responses

[5] The driveway width will need to be minimum 5.8m according to AS2890.1 2.4 Figure 2.2

The driveway has been widened to 5.8m to meet the Councils request.

[6] Turn table is prohibited within the Council DCP Chapter 3.2 Parking -37.

The turn table has been removed and the parking area has been redesigned accordingly.

[7] Please ensure that vehicles can enter and exit in a front facing manner and provide swept paths generated by a reputable traffic engineer.

A swept path analysis has been undertaken in accordance with the swept path methodology requirements of AS2890.1, Appendix B. This analysis demonstrates that the design vehicle (B85) is able to accomplish the following:

- May access/depart each space in an efficient 3-point manoeuvre
- May access and depart the site in a forward direction
- Maintains a 300mm safety clearance throughout each manoeuvre.

The swept path analysis has been included in **Appendix A (TR-001 & TR-002)**.

[8] Ramp section indicates the first transition calculates to be 17%. Please redesign to comply with AS2890.1 or otherwise demonstrate that no scraping will occur.

The driveway ramp has been modified slightly to minimise the initial changes in gradient to below 12.5%, albeit with 1.5m transition lengths. A scraping test has been carried out as per the methodology AS2890.1, Appendix C. This demonstrates that a B99 vehicle can enter and exit the site without scraping conflicts, thus meeting AS2890 performance requirements for ramp gradients.

The scraping test has been provided in **Appendix A (TR003)**.

Conclusion

Fernway Engineering has reviewed Council's Request for further information. We trust that the information herein addresses these requests to Council's satisfaction.

Should you require any further information, please contact the undersigned.

Yours sincerely,



Christopher J. Saunders
Principal Transport Engineer

Fernway Engineering Pty Ltd

BE (Civil), RPEQ (#24648), MIEAust, M.AITPM

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APPENDIX A – SWEPT PATH ANALYSIS & GROUND CLEARANCE TEST

PEDESTRIAN SIGHT SPAY:
KEEP ALL FEATURES BELOW 900mm
HEIGHT WITHIN SPLAYS



PEDESTRIAN SIGHT SPAY:
KEEP ALL FEATURES BELOW 900mm
HEIGHT WITHIN SPLAYS



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	mm
Width	: 1870
Track	: 1770
Lock to Lock Time	: 6.0
Steering Angle	: 34.1

The diagram shows a top-down view of a vehicle body (black outline) and its wheel path (blue line). A red line indicates a 300mm clearance from the vehicle body to the wheel path. The wheel path is labeled 'Wheel path' in a blue box. The vehicle body is labeled 'Vehicle body' in a black box. The clearance is labeled '300mm clearance' in a red box. The diagram also shows the 'STANDARDS 2004 (AU_NZ)' and 'B85' standards, with a green arrow pointing to the 'B85' standard.

A diagram illustrating a vehicle body and its wheel path. The vehicle body is shown in black, and the wheel path is indicated by a blue line. A red line represents the 300mm clearance. The diagram also shows the standards for the 2004 and 2008 (AU, NZ) versions of the vehicle, with labels for B85 and STANDARDS 2004 (AU, NZ).

REV:	DESCRIPTION:	BY:	DATE:
STATUS:			



CLIENT:
RM Designers

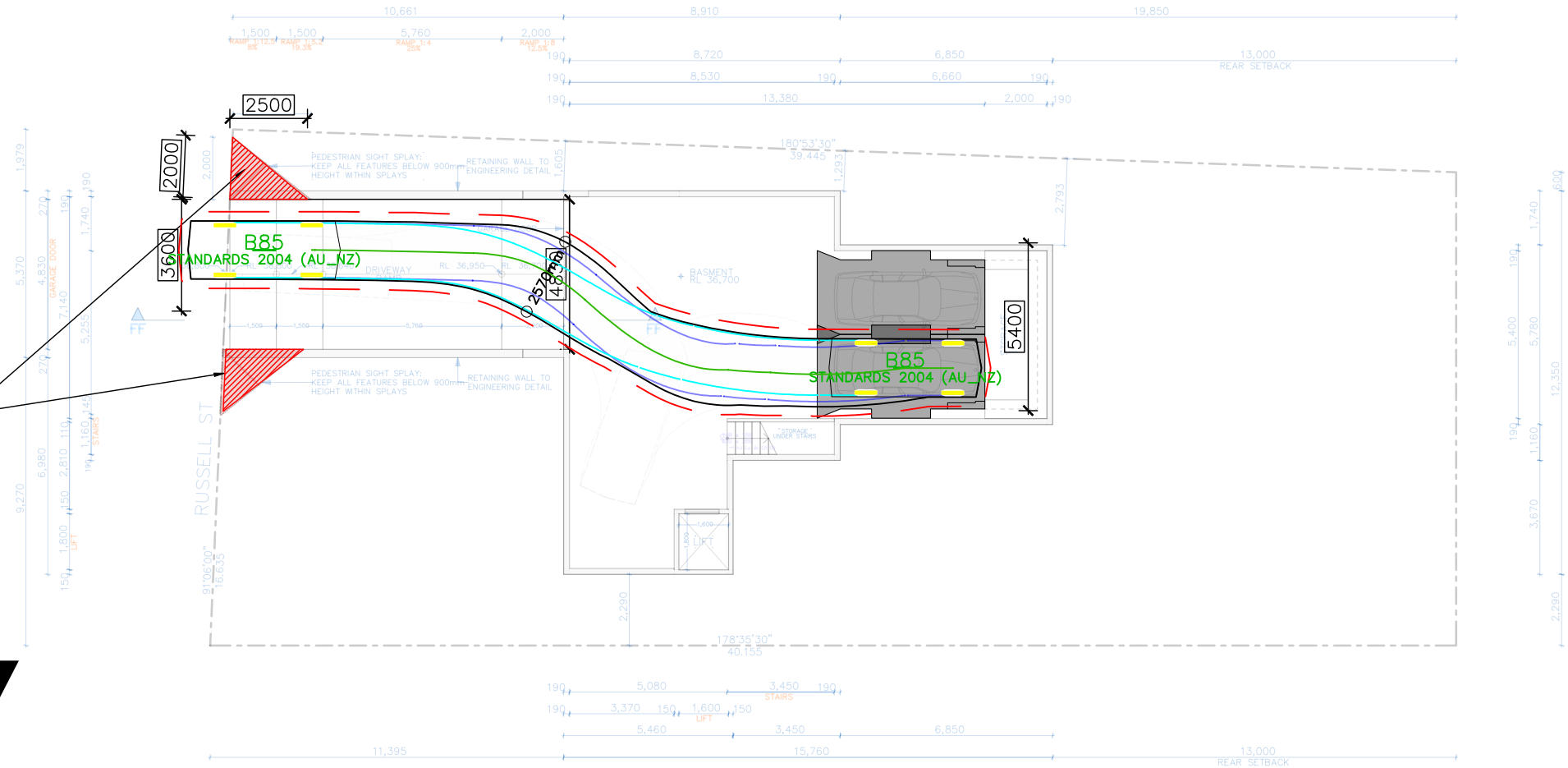
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33 Russell St, Greenacre NSW

TITLE:
Swept Path Analysis

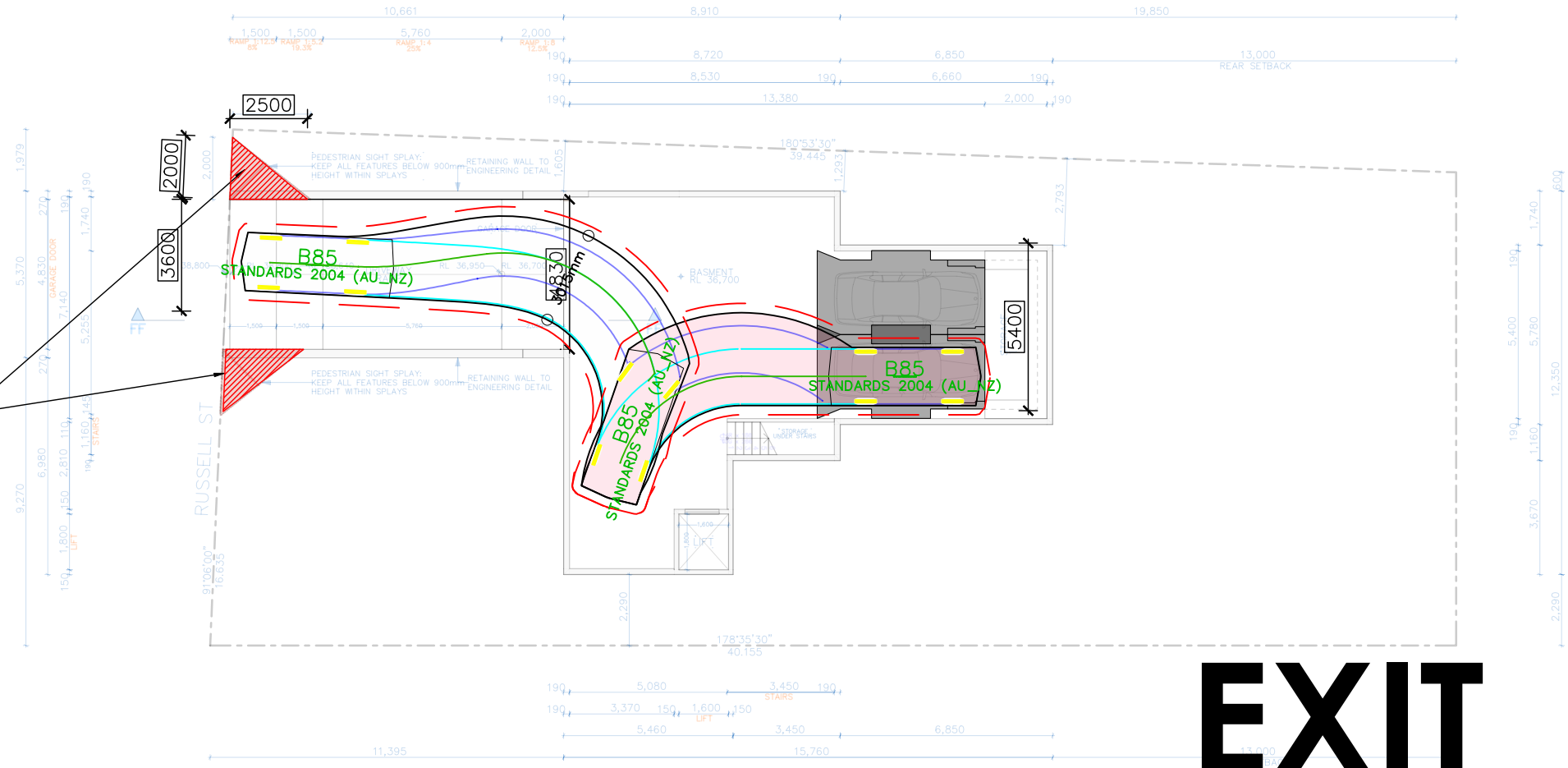
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PROJECT NO: 024-080	DRAWING NO: TR-001		REVISION: B

ENTRY

PEDESTRIAN SIGHT SPPLAY:
KEEP ALL FEATURES BELOW 900mm
HEIGHT WITHIN SPLAYS



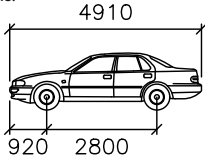
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KEEP ALL FEATURES BELOW 900mm
HEIGHT WITHIN SPLAYS



EXIT

Notes:

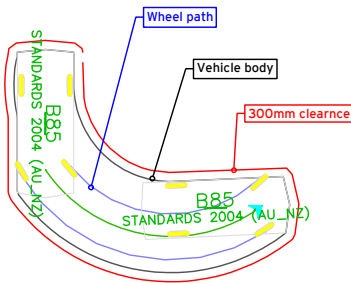
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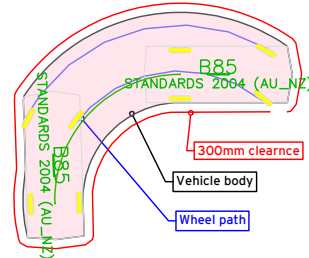
B85

Width : 1870
Track : 1770
Lock to Lock Time : 6.0
Steering Angle : 34.1

FORWARDS



REVERSE



REV:	DESCRIPTION:	BY:	DATE:
STATUS:			



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RM Designers

SITE:
33 Russell St, Greenacre NSW

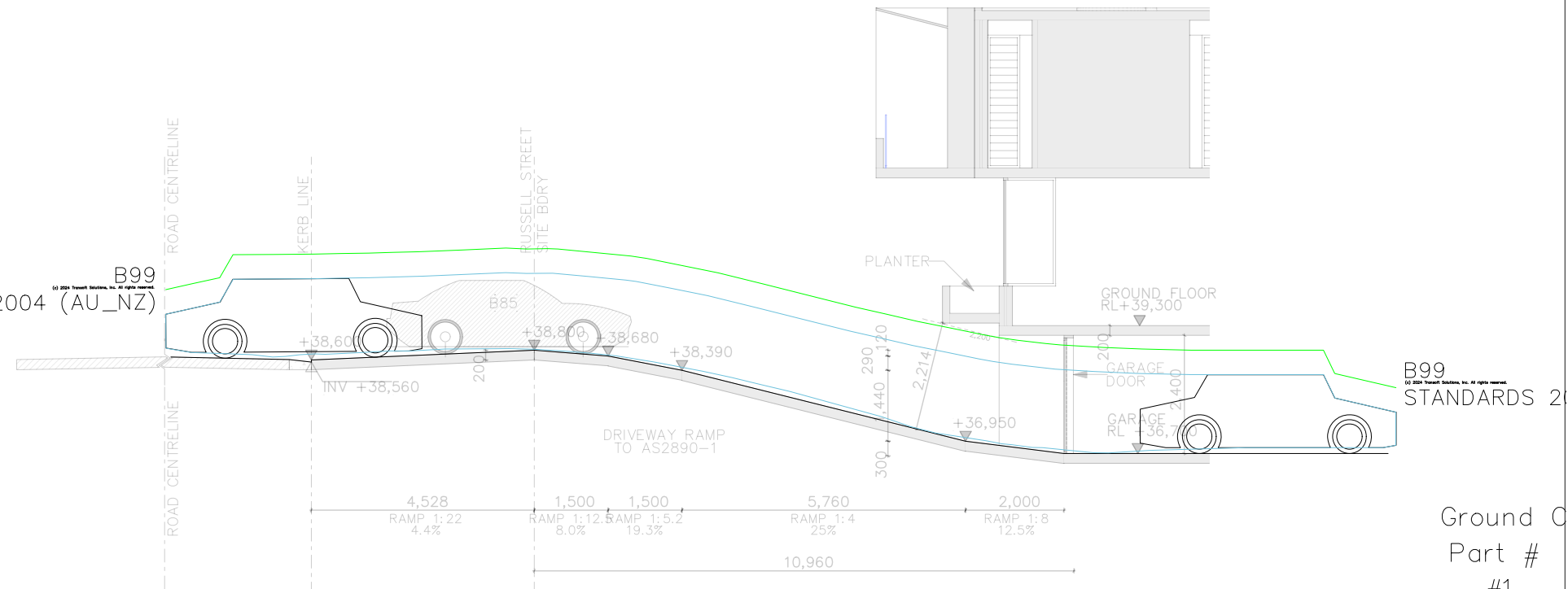
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SCALE AT A3: 1:200	DATE: 12.1.2024	DRAWN: CS	CHECKED: SP
PROJECT NO: 024-080	DRAWING NO: TR-002	REVISION: B	

B99

Width : 1940 mm
Track : 1840 mm
Lock to Lock Time : 6.0
Steering Angle : 33.9

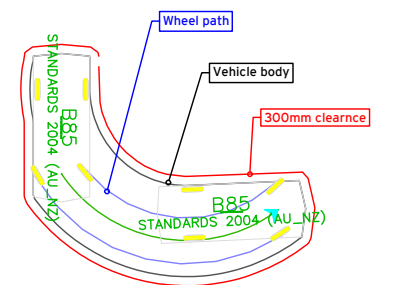
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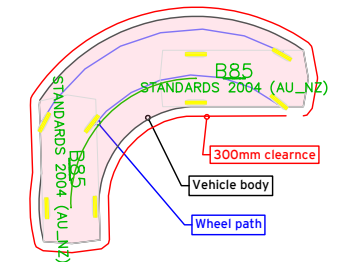
Ground C
Part #
#1

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REVERSE



REV:	DESCRIPTION:	BY:	DATE:
STATUS:			



CLIENT:
RM Designers

SITE:
33 Russell St, Greenacre NSW

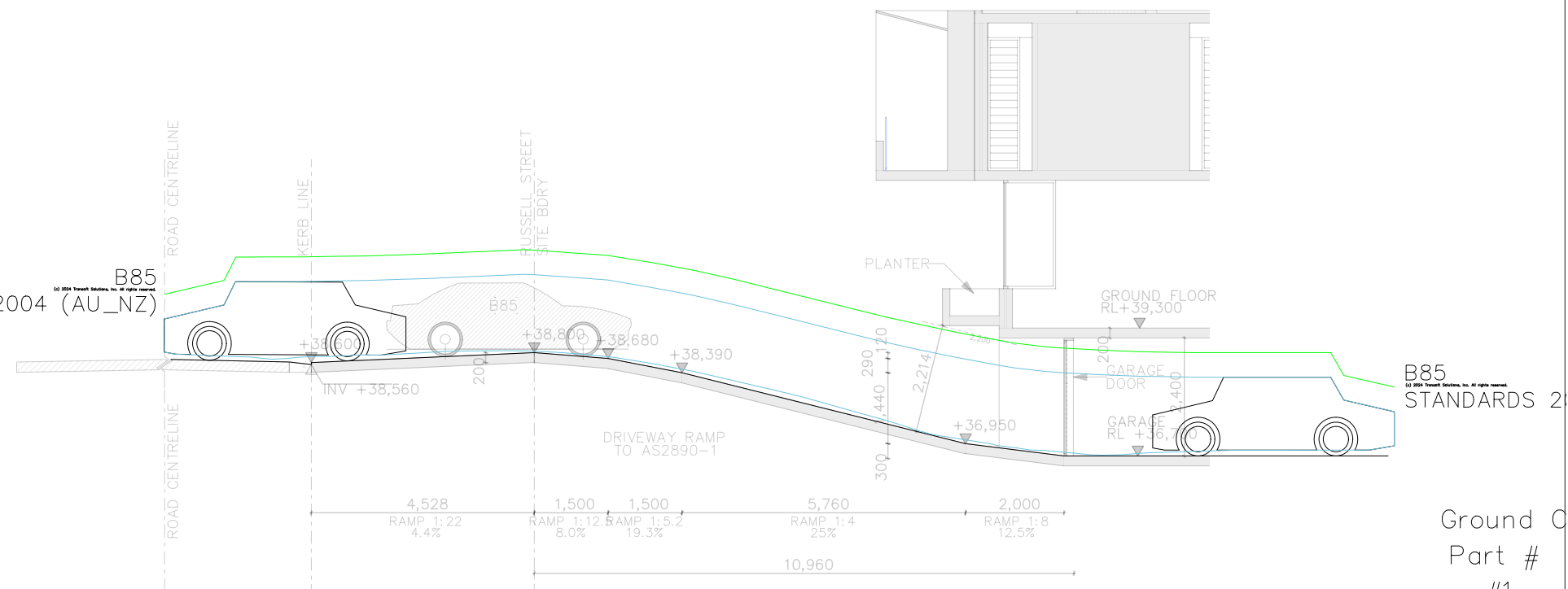
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Ground Clearance Analysis

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PROJECT NO: 024-080	DRAWING NO: TR-003	REVISION: B	

B99

Width : 1940 mm
Track : 1840 mm
Lock to Lock Time : 6.0
Steering Angle : 33.9

EXIT



Ground C
Part #
#1