

appendix 12

tracking curves

AP12 introduction

AP12.i This appendix specifies all requirements relating to tracking curves.

AP12.1 clearances additional to tracking curves



AP12.1.i A clearance factor is to be added onto the 90 percentile tracking curves as an allowance for driver unfamiliarity, vehicle steering variation, manoeuvring past obstacles and variations in approach manoeuvring in accordance with the standards below.

AP12.1.ii For residential activities a minimum clearance of 300mm must be applied to both sides of the 90 percentile car tracking curve of this design vehicle for any part of the vehicle manoeuvre except:

- a) any manoeuvre within a parking space, or
- b) any manoeuvre through an opening to a parking space (such as garage doors), or
- c) any part of a manoeuvre not involving horizontal turns or changes in direction.

AP12.1.iii For other than residential activities using the 90 percentile car tracking curve a minimum clearance of 600mm must be applied to both sides of the 90 percentile tracking curve of this design vehicle for any part of the vehicle manoeuvre except:

- a) any manoeuvre within a parking space, or
- b) any manoeuvre through an opening to an outdoor parking space, or
- c) any part of a manoeuvre not involving horizontal turns or changes in direction.

For the avoidance of doubt, the 600mm clearance factor is required for any part of a manoeuvre through an entrance or exit of a building or enclosed area.

AP12.1.iv For other than residential activities using the tracking curves other than the 90 percentile car tracking curve a minimum clearance of 600mm must be applied to both sides of the 90 percentile tracking curve of the particular design vehicle for any part of the vehicle manoeuvre except:

- a) any manoeuvre within a parking space, or
- b) any manoeuvre through an opening to an outdoor parking space

For the avoidance of doubt, the 600mm clearance factor is required for any part of a manoeuvre through an entrance or exit of a building or enclosed area.

AP12.1.v Obstructions to tracking curve clearances:

no structure, object, building or part of a building shall obstruct the minimum clearance from the ground level or finished floor level if within a building, up to a height of:

- a) 2.2m in the case of a 90 percentile car tracking manoeuvre, or
- b) 4.4m (minimum) in the case of any other vehicle manoeuvre.

AP12.1.v For site boundaries in the vicinity of tracking curve clearances a site boundary must not be within the minimum clearance, except along the road frontage for the purpose of gaining access to the site.

AP12.2 90 percentile car - tracking curves



AP12.2.i Advisory Note: This tracking curve (also called a 'swept path' in this Plan), is for a 1993 NZ 90 percentile design vehicle moving at a maximum speed of 5km/hr.

AP12.2.ii Minimum required clearance, refer to rules under Ap12.1 (clearances additional to tracking curves). Advisory note: with some frontal body trim the approach angle can be as low as 9°.

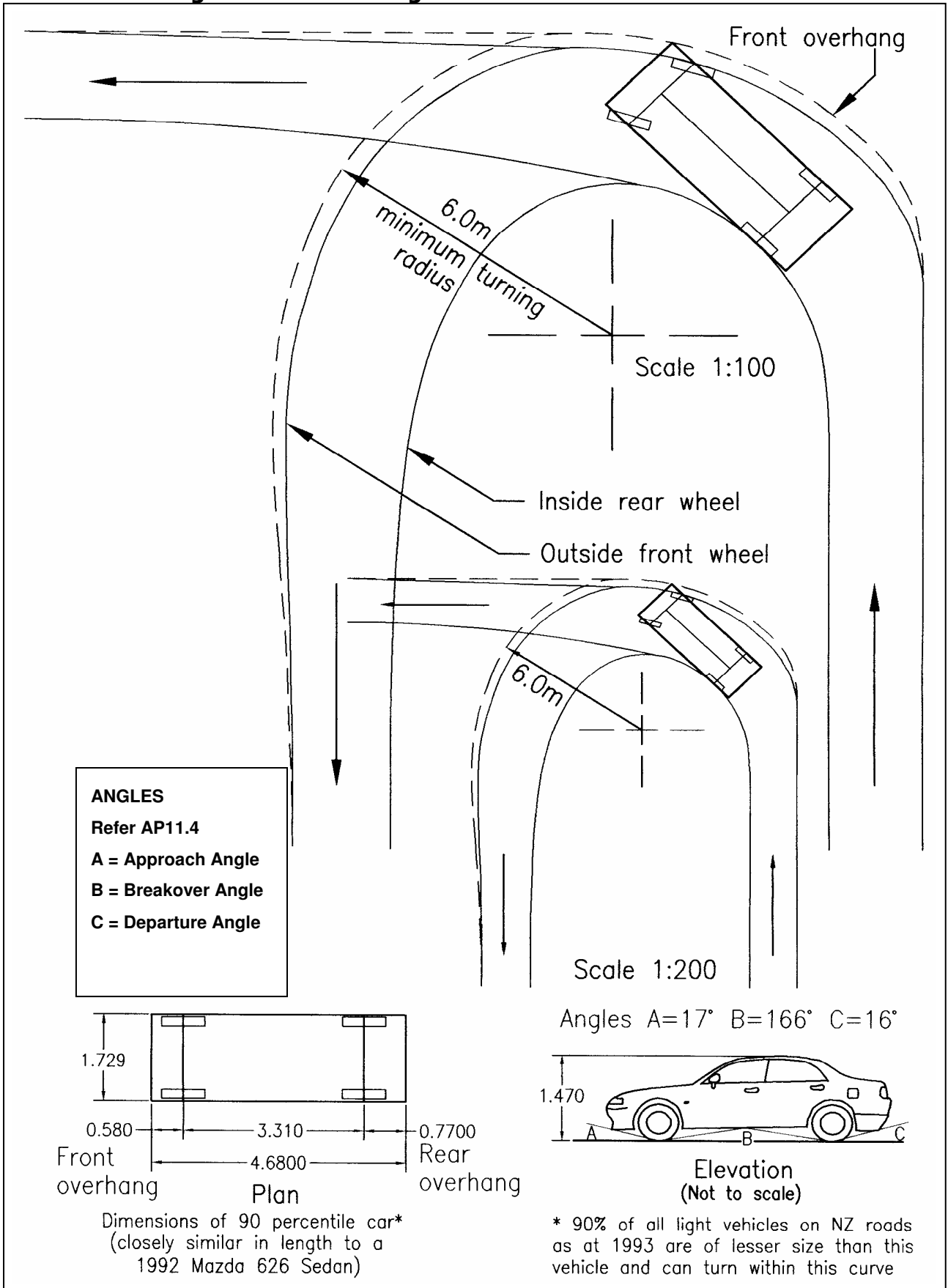
AP12.2.iii In respect to variables to be used for simulations of 90 percentile car tracking curve, the 90 percentile car tracking curve was produced using the Computer Simulation package 'Sim Path'. When using a simulation package to test for compliance with the 90 percentile car tracking curve required in this plan, the variables listed below must be used and the clearances specified under rule AP12.1 applied.

AP12.2.iv When using a simulation package to test for compliance with the 90 percentile car tracking curve, the variables and simulation package specification used must be included in any application.

AP12.2.v Further, a print of the u shaped (180°) tracking curve at a scale 1:100 as shown below must be included in any application to test similarity to the tracking curve specified in this plan.

Simpath File	H:\SIMPATHL\NZCARS97.SPV
Variables	
Unit	NZ 90%ile Car; 6.0 radius Turn Circle
Number	101
Last Edited	19980127 1036
Max Lock	35.063 ⁰
Front centre	0, 2.61
Rear tow point	0, -0.9
Unit Point 1	0.865, 3.9
Unit Point 2	0.865, -0.78
Unit Point 3	-0.865, -0.78
Unit Point 4	-0.865, 3.9
Vehicle Height	1.47
Quad Point 1	0, 0
Quad Point 2	0, 0
Quad Point 3	0, 0
Quad Point 4	0, 0
Quad Height	0
RSAX1 Shift	0; limit 0
RSAX2 Shift	0; limit 0
From LTSA 90% On Road Car + Info No.35 90% car TCircle	

Figure 1: car tracking curves

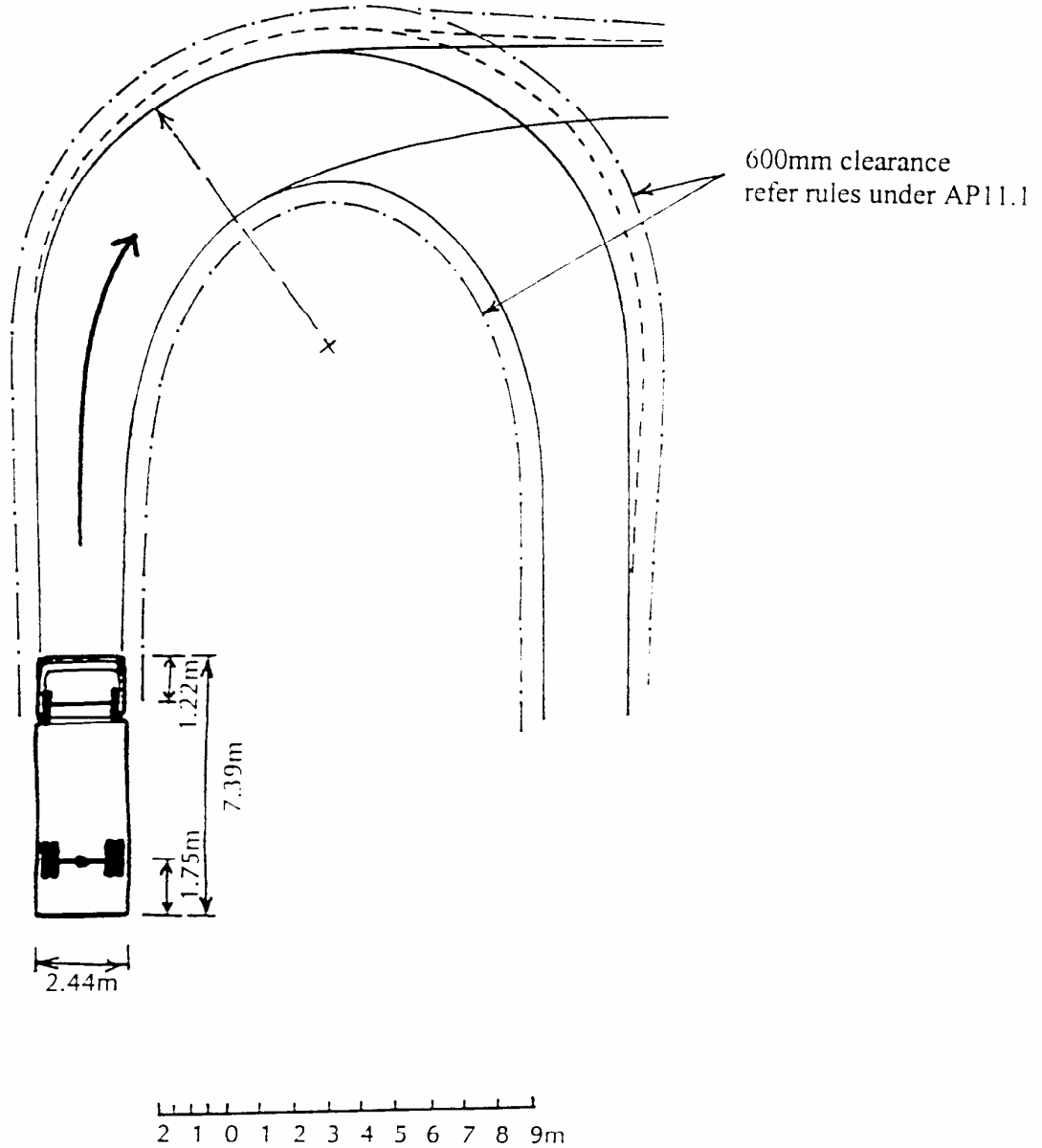


AP12.3 90 percentile two axle truck - tracking curves



AP12.3.i Minimum required clearance, refer to rules under AP12.1.

Figure 2: two axle truck tracking curves



scale 1:200

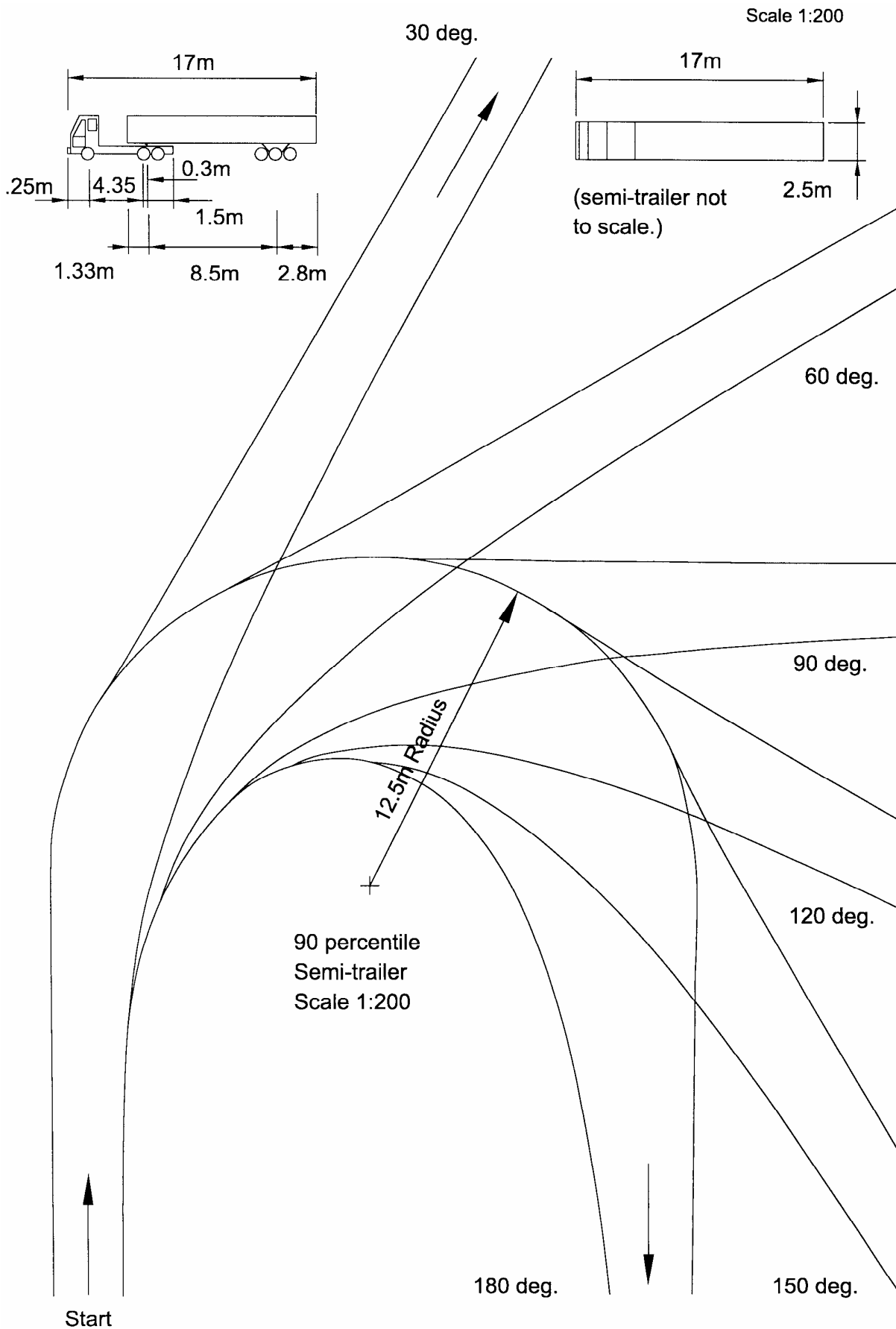
AP12.4 90 percentile semi-trailer - tracking curves



AP12.4.i

Minimum required clearance refer to rules under AP12.1

Figure 3: semi-trailer - tracking curves



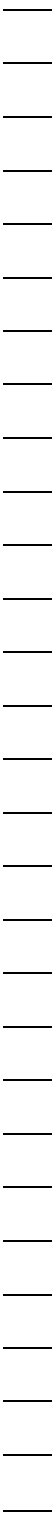
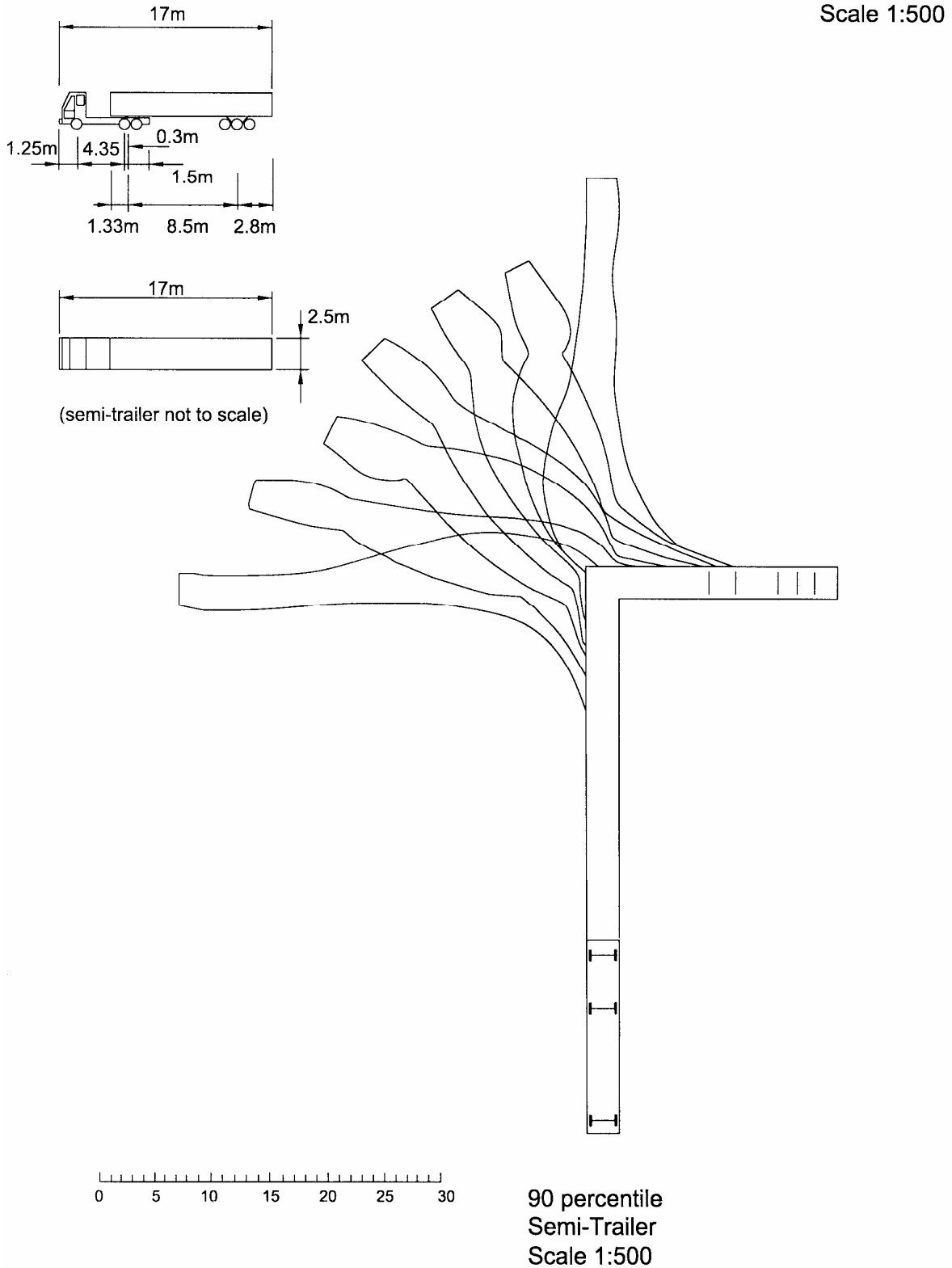
AP12.5 90 percentile semi-trailer - tracking curves suitable for complex turns



AP12.5.i

Minimum required clearance refer to rules under AP12.1

Figure 4: semi-trailer - tracking curves suitable for complex turns



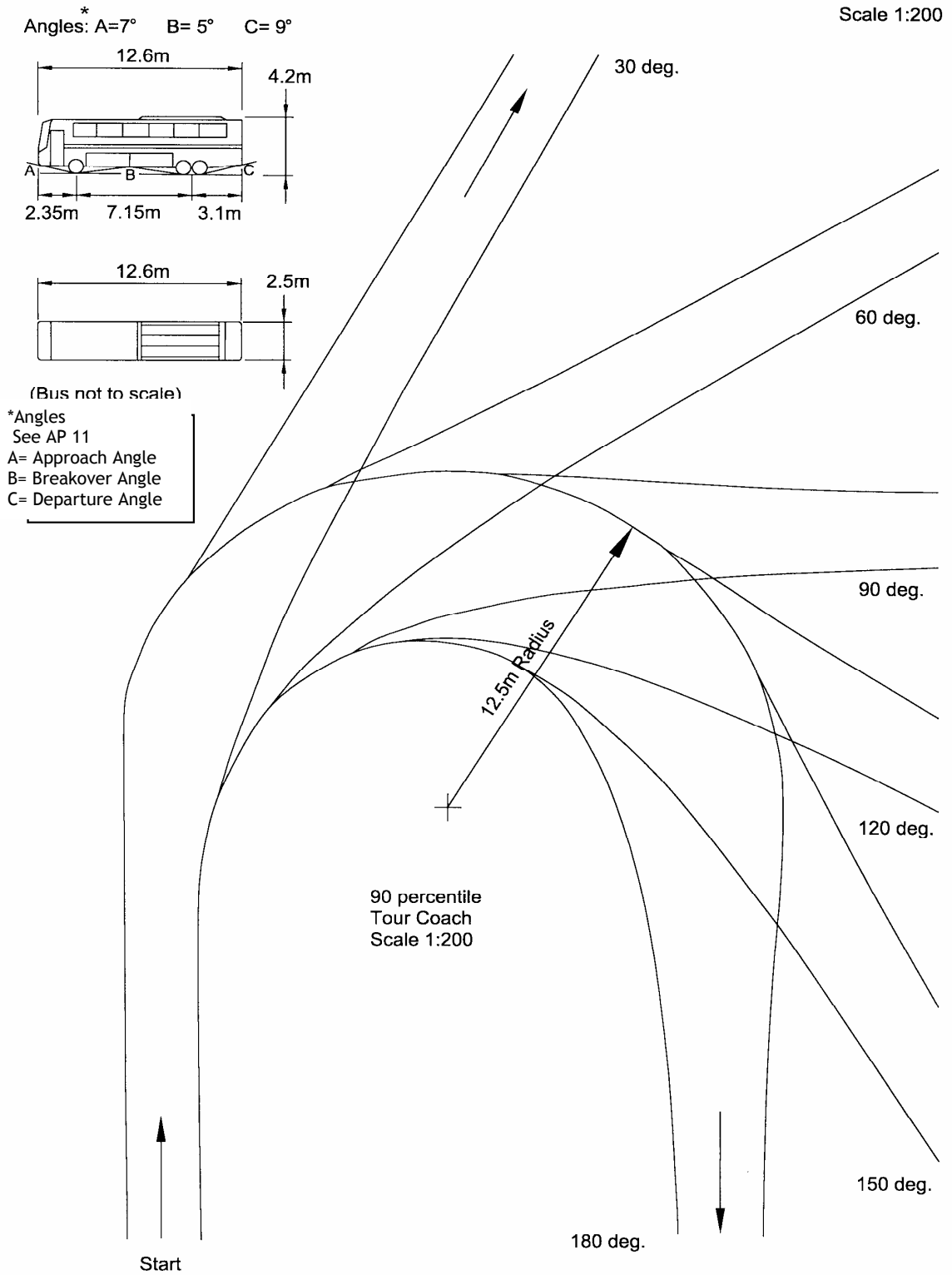
Ap12.6 90 percentile tour coach tracking curve



AP12.6.i

Minimum required clearance refer to rules under AP12.1

Figure 5: tour coach tracking curve



Ap11.6.1 Minimum required clearance refer to rules under Ap11.1

Diagram and Vehicle Dimension Source: Land Transport Safety Authority: New Zealand On Road Tracking Curves, October 1995 - Tour Coach 12.5 m radius, sheet 24.

AP12.7 Assessment criteria for resource consents

AP12.7.i General

In considering resource consents for land use activities, in addition to the applicable provisions of the Act, the Council shall apply the relevant assessment criteria listed in Appendix 10 (standards and terms for parking and loading).