PARKING GUIDELINES

Document Control Statement –This Standard is maintained by the City of Karratha Engineering Services team. Any printed copy may not be up to date, and you are advised to check the electronic copy at the City of Karratha Website to ensure that you have the current version. Alternatively, you may contact Customer Service on (08) 9186 8555.

1. SCOPE

1.1. Purpose

This standard provides guidelines to consulting engineers, planners, contractors, and developers involved in the design and construction of vehicle parking areas.

Parking involves temporarily leaving or stopping a vehicle in designated parking spaces or bays.

Parking areas shall be designed to ensure the safe and organised placement of vehicles when they are not actively in motion.

These requirements apply to ground level parking. Multi-storey car parks will require bespoke design outside of the scope of this standard.

1.2. Applicable Standards

The installation, materials and workmanship shall comply with all relevant current Australian Standards, Codes and Regulations and all reference codes and Standards listed in the prefaces to those standards and codes.

Where Australian Standards and Codes do not exist the appropriate International Standard or Codes shall apply. Request an instruction from the City for amendments to Standards, Codes or Regulations that come into effect during the works and affect the works of the contract.

Document	Title
AGTM 11	Austroads – Guide to Traffic Management Part 11: Parking
AP-R578-18	Austroads - Harmonisation of Pavement Markings and National Pavement Marking Specification
AS/NZS 1158.3.1	Lighting for roads and public spaces – Part 3.1: Pedestrian area (Category P) lighting – Performance and design requirements
AS/NZS 1170.1	Structural design actions – Part 1: Permanent, imposed and other actions
AS 1742 Suite	Manual of uniform traffic control devices
AS 1743	Road signs – Specifications
AS 1906	Retroreflective materials and devices for road traffic control purposes
AS/NZS 2009	Glass beads for pavement-marking materials

AS 2700:2011	Colour standards for general purposes
AS/NZS 2890.1	Parking facilities – Part 1: Off-street parking
AS 2890.2	Parking facilities – Part 2: Off-street commercial vehicle facilities
AS 2890.5	Parking facilities – Part 5: On-street parking
AS 2890.6	Parking facilities – Part 6: Off-street parking for people with disabilities
AS/NZS 3845.1	Road safety barrier systems and devices – Part 1: Road safety
AS 4049	Paints and related materials – Part 3: Pavement marking materials
AS 4586	Slip resistance classification of new pedestrian surface materials
CofK LPS 8	City of Karratha – Local Planning Scheme No. 8
CofK DAIP	Disability Access & Inclusion Plan 2023-2027
IPWEA LGGSD	Institute of Public Works Western Australia – Local Government Guidelines for Subdivisional Development
MRWA Specification 604	Main Roads WA – Specification 604 – Pavement Marking
Public Transport Authority	Bus Stop Design Guidelines
SPP 3.1:2018	State Planning Policy 3.1 – Residential Design Codes
WAPC LN 2015	Western Australian Planning Commission – Liveable Neighbourhoods
WAPC Guidelines DC 2.6 1998	Western Australian Planning Commission – The Design & Geometric Layout of Residential Roads

1.3. Definitions

Term	Description
Accessible Space	Parking space designed for the parking of vehicles used by people with disabilities
Aisle	The area used by vehicles to manoeuvre into and out of parking spaces

2. PARKING

Parking shall meet the City's Local Planning Scheme No. 8 (LPS 8), particularly Clauses 5.11 and Appendix 3.

2.1. Quantity Of Parking Bays

The quantity of parking bays shall be as per the LPS 8 Appendix 3 – Car Parking Requirements. Consultation and prior approval are required for the quantity of bays.

2.2. Pavement

Pavements used for parking shall comply with the City's CKS-400 – Road Specification.

2.3. Kerbs

Kerb shall comply with standard kerb designs in the City's CKS-400 – Road Specification. All kerbs shall be a maximum of 150mm in height.

2.4. Off-Street Parking

Car parks shall be designed as AS/NZS 2890.1:2004 Class 3A facilities, complying with Table 1.

Table 1: Parking Space & Aisle Requirements

Parking Space Parameter	Requirement
Required Door opening	Full opening, all doors
Aisle Width allowance	Single manoeuvre with additional allowance
Minimum Aisle Width (m)	6.2
Minimum Bay Length (m)	5.5 for 90° Bays 5.5 for angled parking
Bay Width (m)	2.7 minimum, 3.0 desired

Bay length and width measurements shall be taken from the centre of the marked lines in accordance with AS 2890.6:2022 Clause 3.2.2. Parallel parking for off-street parking must comply with AS 2890.6.

Parking for loading/unloading prams shall be designed where required in accordance with AS/NZS 2890.1 Clause 4.10. The minimum space requirements are as follows:

Table 2: Requirement for Parents with Prams spaces

Parents with Prams Parking Space Parameter	Requirement
Minimum Bay Length (m)	7.4 for 90° Bays 7.7 for angled parking
Bay Width (m)	3.2 minimum, 3.5 desired

Signage for off-street parking shall comply with AS/NZS 2890.1 Clause 4.3.

2.5. On-Street Parking

On-street parking shall be parallel parking, complying with the requirements of AS 2890.5.

Where there is a need to park vehicles larger than a B99 vehicle (5.2m long x 1.94m wide), a dedicated parking area complying with AS 2890.2 shall be designed and constructed.

Table 3: Width of parallel parking spaces for cars and light commercial vehicles (extract from AS 2890.5:2020 Table 3.1)

Speed limit (km/h)	Width of parallel parking bay (m)
50 or less	2.0 to 2.3
60	2.5 to 2.8
70	3.5 to 3.8
80 or more	On-street parking not recommended

Table 4: Parallel parking bay length requirements

Parallel parking design requirement (Refer to Figure 1 for dimensions)	Minimum parallel bay length requirements (m)
End space where vehicles may enter or leave the space directly (Dimension Y)	5.4
Intermediate spaces (Dimension Z)	6.0 to 6.7
End space obstructed at one end by a kerb or barrier (Dimension W)	Maximum of either 6.3 or the adjacent intermediate space

For short-term parking intended for vehicles larger than B99 (e.g., light buses), refer to Table 4.

Table 5: On-street short-term parking for large vehicles (AS 2890.5 Clause 4.2.4).

Parallel Parking – Large Vehicle Requirements	Minimum requirements
Bay Length (m)	Consider the length of the vehicle, number of vehicles and entry & exit requirements
Bay Width (m)	4.1
Maximum allowable speed limit (km/h). On-street parking for large vehicles is not recommended on streets above this speed limit.	70

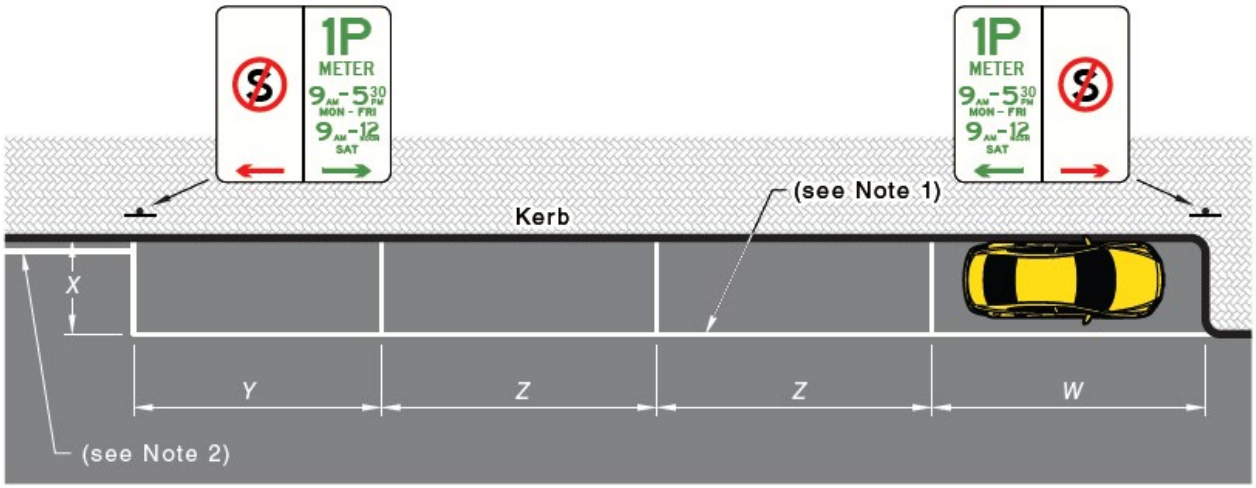

Figure 1: Parallel parking layout requirements (Extract from AS 2890.5:2020 Figure 3.1)

On-street parking should not be designed in the following unsafe areas, in accordance with AS 2890.5:2020 Clause 2.5 and 2.6.1:

- On the inside of sharp curves
- Within a T-junction
- Opposite a high-volume or high-speed terminating road
- Opposite a terminating road on a steep downgrade

- Kerbside parking around a left-hand curve with limited sight distance
- Parking just beyond a crest
- A parking area starting just beyond a roadway narrowing or lane reduction
- Parking on the right-hand side of a one-way roadway
- Parking that could protrude significantly onto a roadway

Loading bays and loading zones must be designed for temporarily unloading or loading goods into vehicles. Loading bays shall comply with AS 2890.5 Clause 4.2.2 and be located:

- Close to the premises being served
- Parallel to the kerb
- Beginning or end of a parking section (to avoid entry or exit manoeuvrability issues).

Signage for on-street parking shall comply with AS 1742.11.

2.6. Accessible Parking (ACROD Parking)

Accessible spaces (ACROD parking bays) are spaces designed for parking vehicles used by people with disabilities.

The City is committed to providing adequate ACROD parking to meet the demand of people with a disability in terms of quantity and location, as per the Disability Access & Inclusion Plan 2023-2027.

Accessible spaces shall comply with the requirements of AS 2890.6:2022, summarised below:

Table 6: Requirements for Accessible Parking - AS 2890.6:2022

Accessible Parking Design Parameter	Requirements
Location	Within 50m of an accessible entrance (AS 2890.6:2022 Clause 2.2)
Accessible Space – Angle Parking requirements	
Length of space	5500mm long x 2700mm wide minimum (AS 2890.6:2022 Clause 2.5.1 (a))
Shared area – rear of the vehicle	One shared space at the rear, the same width as the parking space, minimum 2700mm in length. Minimum 1000mm line of sight between parking aisle and rear shared space.
Shared area – side of vehicle	At least one shared space is required on the side of a vehicle, minimum 5500mm long x 2700mm wide
Bollards	To be installed in the side shared space to prevent car or motorcycle parking. Min 1300mm height, located between 750mm to 1750mm from the rear edge of the shared space and at the centre of the shared area. Not to impede the wheelchair unloading area or vehicles manoeuvring into and out of the space. 300mm retroreflective coloured band located 900mm height above the car park floor; 30% luminance contrast to the pavement.
Posted speed limit	10km/h

Accessible Space - Parallel parking requirements	
Accessible Space Dimensions	7800mm long x 3200mm wide minimum (AS 2890.6:2022 Clause 2.5.2 (a))
Shared area – side of vehicle, non-trafficked side	7800mm long x 1600mm wide minimum (AS 2890.6:2022 Clause 2.5.2 (a))

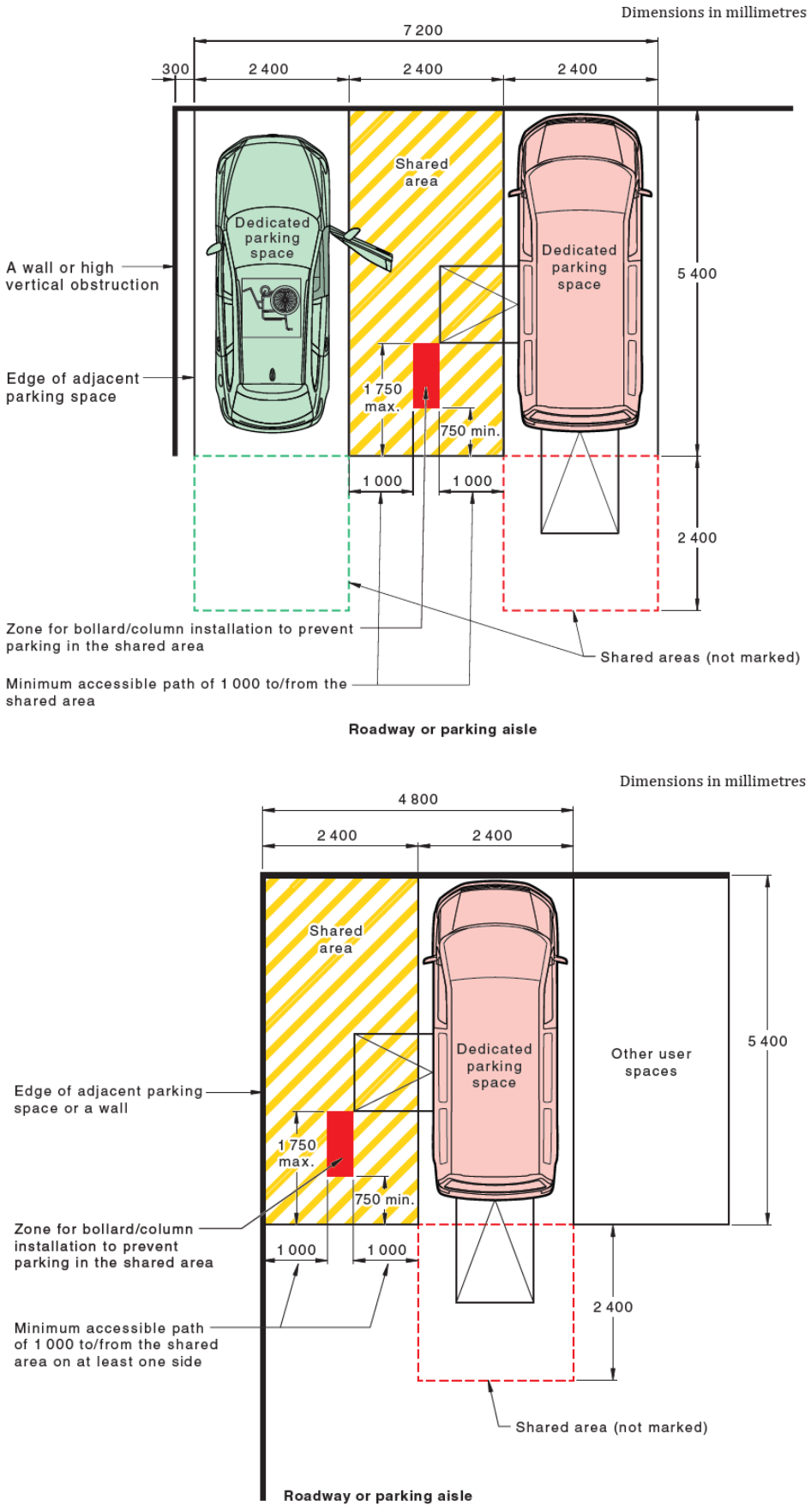

Figure 2: Plan view of accessible space and shared space requirements (AS 2890.6:2022 Fig 2.1 & 2.2)

Table 7: Recommended minimum number of accessible spaces by land use (Extract from AS 2890.5:2020)

Type of development and land use	Percentage of total bays to be accessible spaces
Retail/Commercial	2%
Public transport	2%
Community facilities, libraries, galleries, places of worship	2%
Senior citizens centres, clubs and residential care facilities	3% to 4%
Medical centres, services and hospitals	3% to 4%
Tertiary education institutions	1% to 2%
Entertainment centres, function centres	2%
Outdoor sporting facilities and outdoor recreation areas	1% to 2%

Accessible bay gradient slopes shall not exceed 1:33.

The slip resistance of accessible bays shall be in accordance with AS2890.6 Table 6; the requirements have been simplified in Table 8:

Table 8: Accessible Parking Space Slip Resistance Requirements

Accessible Parking Space Aspect	Slip Resistance Minimum Requirement (AS4586:2013 Classification)
Accessible parking space	P3 Dry P4 Wet
Pedestrian Accessways to accessible car park	P4 Dry P5 Wet

No drainage grates, grills, lids or other elements posing a hazard are permitted in the accessible space and shared space.

Headroom requirements are given by AS 2870.6:2022 Clause 2.7. A minimum of 2500mm is required above the parking space; a minimum of 2200mm is required above the route from the car park entrances and exits to the accessible parking space.

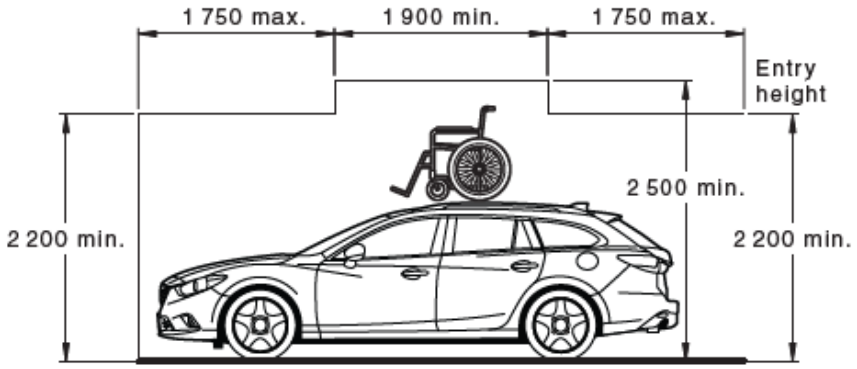

Figure 2.13(A) — Headroom required above car spaces for people with disabilities — Side on

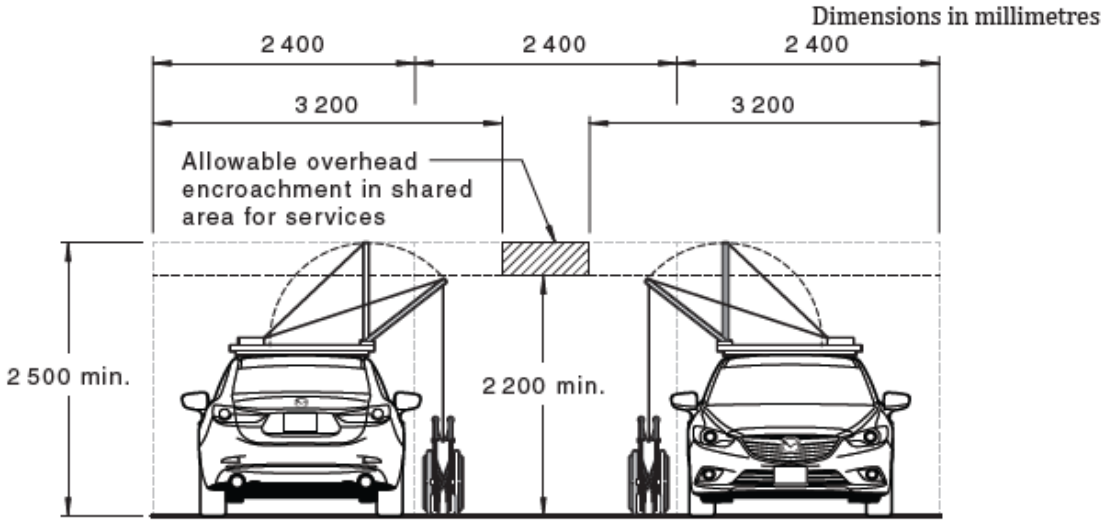

Figure 2.13(B) — Headroom required above car spaces for people with disabilities — Cross-section

Figure 3: Requirements for headroom above car bays for people with disabilities

2.7. Other Parking Considerations

Parking for seniors should be considered near the premises. The City shall advise the number of bays and requirements for individual developments.

Loading Zones shall comply with AS 2890.5 Clause 4.2.2.

Taxi stands to be designed and constructed shall be parallel to the kerb and face the same direction as the main traffic stream. The minimum length of taxi stands shall be in accordance with Table 9.

Table 9: Taxi Stand Length Requirements (AS 2890.5 Clause 4.3).

Number of taxis	Minimum Length of Taxi Stand Overall Space Length (m)
2	21
3	27
4	32

5	37
n	5.4n + 10

All parking spaces shall be provided with adequate access by means of manoeuvring lanes or otherwise with spaces designed so that it is not necessary to reverse directly into a public street to enter or to leave the parking area.

Adequate means of access and egress to and from the parking area shall be provided for all vehicles.

Where a parking bay is obstructed in width by a retaining wall, wall, column, or other obstruction the parking bay shall be designed to comply with clause 5.2 of AS/NZ 2890.1.

The height of any obstruction to a car parking facility shall be not less than 2.5 metres.

All parking facilities shall contain aisles, approach lanes, and manoeuvring areas that are clearly marked with directional arrows and lines to expedite traffic movements.

Once a parking facility has been marked in accordance with the approved site plan, the marking shall be permanently maintained.

The entire parking area, including parking spaces and manoeuvring lanes required by this or any other relevant policy shall be paved with either asphalt, concrete or brick paving or other sealed surfacing acceptable to the City.

2.8. Markings

Parking spaces must be marked with painted lines to define the boundaries of each space in accordance with Table 10.

Table 10: Parking Space Marking Requirements

Parameter	Value	Reference
Line Marking Width (mm)	80	AS/NZS 2890.1:2004 Clause 4.4.1
Colour	Y35 Off White Y12 Wattle Y14 Golden Yellow	AS 2700:2011
Paint	Water Borne Paint	MRWA Spec 604.07.01 AS 4049.3:2005
Minimum Film Thickness µm	320	MRWA Spec 604C
Retro reflectivity Glass Beads	Type D	AS/NZS 2009:2006
Glass Bead Density per square meter (g/m^2)	500 ± 50	MRWA Spec 604C
Slip Resistance	P3 Dry P4 Wet	AS 4586:2013

For accessible spaces, space delineation and shared area pavement markings shall be yellow in accordance with AS 2890.6:2022 Clause 3.2.1.

Each accessible space shall have a pavement marking using a white symbol of access complying with AS

1428.1 between 800mm and 1000mm high on a blue rectangular background with a maximum side length of 1200mm.

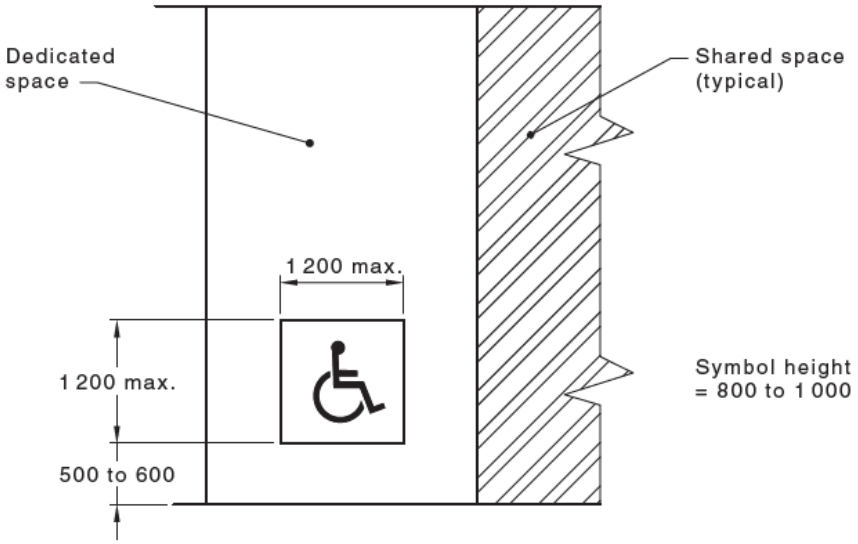

Figure 4: Extract from AS 2890.6:2022 Figure 3.1

Shared areas shall be marked with unbroken yellow lines 80mm wide on the long edge of an angled parking space, and the short edge of a parallel parking space (unless delineated by a kerb, barrier, or wall).

Solvent based paints are not permitted without prior approval of the City.

Work shall include spotting or setting out marking alignment prior to application at their correction locations.

2.9. Signage

All signage should feature the international symbol for access (AS 1428.1) with a white graphic of a figure in a wheelchair, facing right.

The background colour is ‘Ultramarine’, also called Australian Standards Blue B21 (AS 2700).

An upright sign must be mounted in front of the bay.

As a minimum, it must show the access symbol and the text ‘ONLY’.

Additional optional text such as ‘Must display a current ACROD parking permit’ and/or an indication of the level of fines for misuse may be useful.

Additional upright signage including a directional arrow to show the way to the ACROD bay/s may be required if the bay/s are not easily visible from all car park entrances.

2.10. Lighting

Lighting requirements for open-air car parks shall be in accordance with AS/NZS 1158.3.1 Clause 4.9 and Table 3.7. A lighting study shall be completed to ensure the minimum Light Technical Parameters (LTP) are met. Accessible Parking will need to meet the requirements of AS/NZS 1158.3.1 Table 3.1 for Lighting Subcategory PCD.

Lighting for on-street parking shall comply with the lighting on the road reserve. The lighting subcategory shall be determined as per AS/NZS 1158.3.1 Table 2.1, based on the type of road, pedestrian activity, fear of crime, and need to enhance aesthetic appeal.

3. PHYSICAL CONTROLS

3.1. Wheel Stops

Wheel stops shall be provided in accordance with the recommendations from AS/NZS 2890.1:2004 Clause 2.4.5.4:

- To limit vehicles overhanging a kerb onto a footpath, creating hazards for pedestrians, or impacting functionality or access of the area
- To avoid contact of the vehicle with end barriers, walls, trees, street furniture or other obstructions
- To avoid encroachment into an opposing parking space

Wheel stop dimensions shall comply with Table 11:

Table 11: Wheel stop dimensions

Vehicle stop dimensions	Acceptable Dimensions (mm)
Height	100
Width	1600 to 1700 Typical 1650

Table 12: Wheel Stop locations, extract from AS/NZS 2890.1:2004 Table 2.1, simplified for CofK standard parking kerb heights = 150mm.

Wheel stop location	Wheel stop distance to front of parking space [Dimension S] (mm)
Front-in	900
Rear-in (For areas where reverse parking is mandated)	620

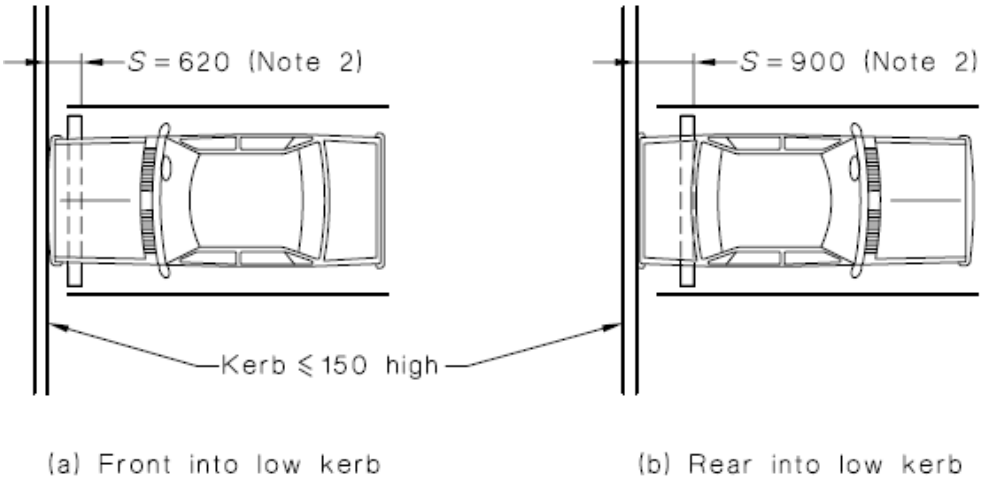

Figure 5: Location of wheel stops – extract from AS/NZS 2890.1:2004 Figure 2.6

Wheel stops shall be anchored to asphalt or concrete in accordance with the manufacturer's specifications.

The City's preference is for the use of polyethylene wheel stops.

3.2. Bollards

Bollards shall be installed in locations to prevent vehicles from parking in areas where they could impede the safe passage of personnel.

Bollards shall comply with the following requirements:

- Compliance with AS 3845.2:2017.
- Typical spacing from kerbing 0.6m
- Height 0.8m
- Maximum bollard spacing 1.5m
- Yellow with reflective red and white tape
- Cast-into-concrete in accordance with Figure 6.

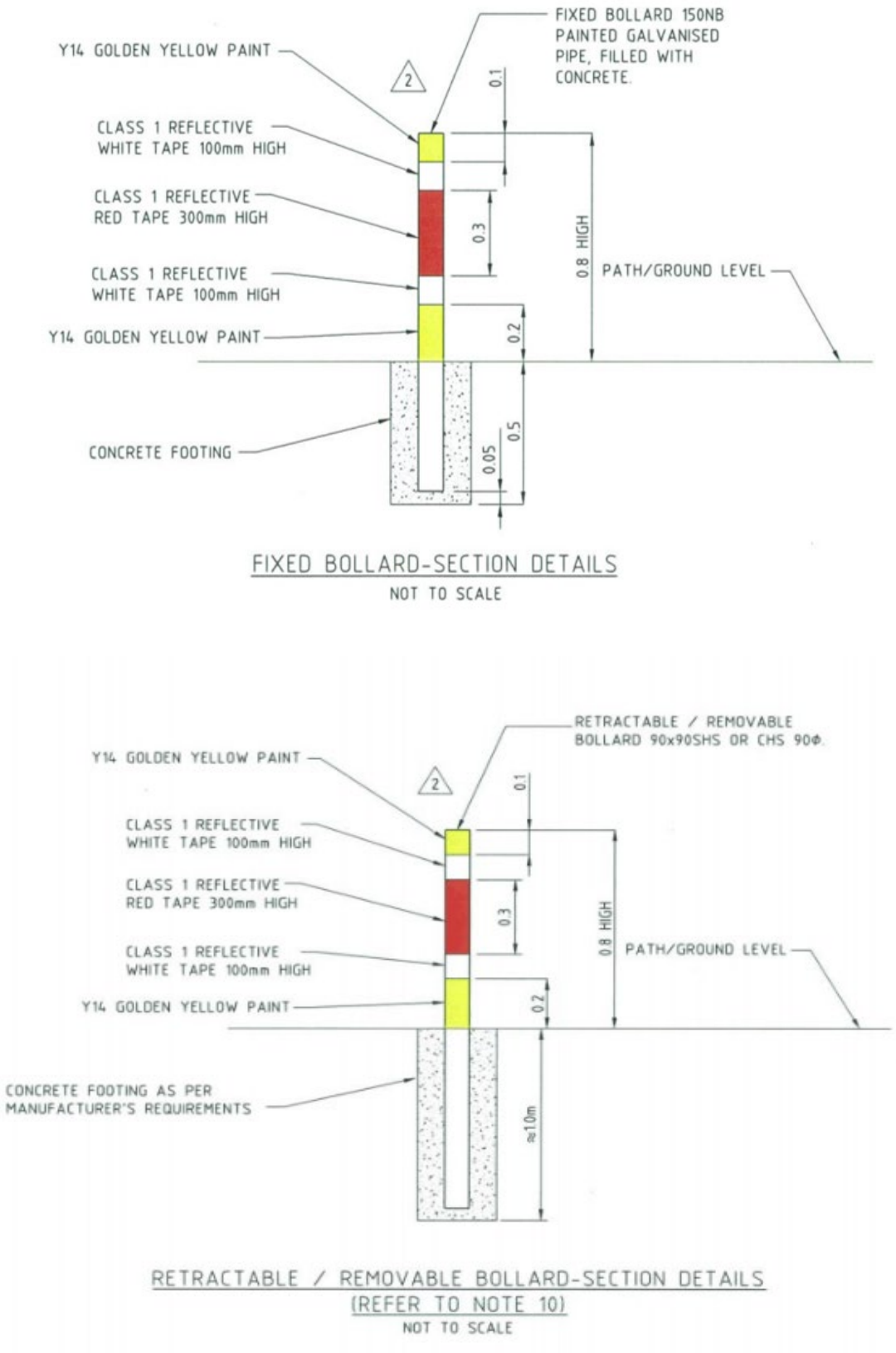

Figure 6: Bollard Detail (Source MRWA Drawing 200531-0008-2)

3.3. Vehicle Barriers

Vehicle barriers shall be installed at locations where there is a risk of vehicles overrunning an edge and dropping to a lower level exceeding 600mm in height, in accordance with AS/NZS 2890.1:2004 Clause 2.4.5.3.

Vehicle barriers shall comply with AS/NZS 3845.1:2015.

Vehicle barriers shall be at least 1.3m high so that drivers have visibility of the barrier while reversing.

Vehicle barrier footings and anchoring means shall be designed to withstand the vehicle impact loads in Table 13, applied over a 1.5m length.

Table 13: Design Impact Loads for Vehicle Barriers in car parks in accordance with AS/NZS 1170.1:2002 Clause 3.8

Type of Barrier	Gross Vehicle Mass (kg)	Design Impact Load
Barriers	0 to 2500	30kN applied 0.5m above floor level
	2500 to 10000	40kN applied 1.0m above floor level
	10000 and above	Further engineering required
Barriers at the end of downward ramps exceeding 20m in length	0 to 2500	240kN applied 0.5m above floor level
	2500 and above	Further engineering required

Standard Number:	**CKS-600**
Previous Standard/Number:	**N/A**
Last Reviewed:	**January 2025**
Next Reviewed:	**January 2026**
Responsible Officer:	**Principal Engineer Coordinator**