



Tram Stop – Furniture

Engineering Standard

Asset Management

CS2-DOC-003444

DOCUMENT AMENDMENT RECORD

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TABLE OF CONTENTS

1. Introduction.....	4
2. Purpose	4
3. Scope	4
4. Compliance.....	4
5. Related Documents.....	4
6. References.....	5
7. Design Requirements	5
7.1. Minimum Furniture Requirements.....	5
7.2. Furniture Locations	5
7.2.1. Platforms	5
7.2.2. Access Paths	6
7.2.3. Restricting Vehicle Movements	6
7.3. Furniture Design and Specification.....	6
7.3.1. General Requirements.....	6
7.3.2. Material Selection	6
7.3.3. Detailing	6
8. Furniture	7
8.1. Seats.....	7
8.2. Litter Bins.....	7
8.3. Bollards	7
9. Fixing	7
9.1. Furniture.....	7
9.2. Bollards	7
10. Materials and Finishes.....	7

1. Introduction

The primary function of furniture infrastructure is to provide passengers with safe, efficient and equitable seating and other relevant infrastructure at Adelaide Metropolitan Railway Network (AMPRN) tram stops.

2. Purpose

The purpose of this standard is to outline the fundamental requirements for design, selection, sitting and fixing of platform furniture at the tram stops.

This standard must be read in conjunction with The Rail Commissioner's tram stop standards, relevant tram system standards and The Department's Master Specifications.

3. Scope

This standard applies to all new furniture on tram stops.

Existing furniture may be rated against this standard. In the context of this standard, 'rating' is the compliance review of furniture that has been designed and installed prior to this standard being published.

Furniture defined in this standard includes seats, litter bins and bollards.

4. Compliance

There are 3 types of provisions contained within this standard:

1. Requirements
2. Recommendations
3. Permissions

Requirements – it is mandatory to follow all requirements to claim full compliance with the standard. Requirements are identified within the text by the term '**must**'.

Recommendations – do not mention or exclude other possibilities but do offer the one that is preferred. Recommendations are identified within the text by the term '**should**'. Recommendations recognise that there could be limitations to the universal application of the control, i.e. the identified control is not able to be applied or other controls are more appropriate or better.

Permissions – conveys consent by providing an allowable option. Permissions are identified within the text by the term '**may**'.

Deviation from a mandatory requirement noted within this standard is only permitted when an Engineering Waiver has been provided to and approved by Rail Asset Management.

5. Related Documents

Table 1 – Related Documents

DOCUMENT NAME	DOCUMENT NUMBER
Standard Drawing - Seats - General Details	CS2-DRG-365089
Standard Drawing - Litter Bin & Bollards - General Details	CS2-DRG-365088
Standard Drawing - Tram Stop - Platform Arrangements - General Layout	CS2-DRG-365079
Standard Drawing - Marginal Platform - Standard Amenity Shelter - General Layout	CS2-DRG-365080
Standard Drawing - Island Platform - Standard Amenity Shelter - General Layout	CS2-DRG-365082
Standard Drawing - TGSI & Pavement Marking - General Layout	CS2-DRG-365084
Standard Drawing - Marginal Platform – Closed Corridor Standard Amenity	CS2-DRG-365274

Shelter - General Layout	
Standard Drawing - Island Platform – Closed Corridor Standard Amenity Shelter - General Layout	CS2-DRG-365275
Guidelines for Low Voltage Electrical Earthing and Bonding for the Adelaide Metro Tram Network	TPS-DOC-002020

6. References

The following referenced documents are used by this standard for information only:

- AS 1428 Design for Access and Mobility
- AS 2700 Colour Standards for General Purpose
- AS 2890 Parking Facilities
- Disability Standards for Accessible Public Requirements (DSAPT)

7. Design Requirements

Furniture must have a minimum design life of 30 years.

7.1. Minimum Furniture Requirements

Table 2 details the minimum furniture requirements at Tram Stops.

Table 2 – Minimum Furniture Requirements at Stops

	CLOSED CORRIDOR STANDARD AMENITY STOP		URBAN STANDARD AMENITY STOP		ENHANCED AMENITY STOP	
	SEATS	LITTER BINS	SEATS	LITTER BINS	SEATS	LITTER BINS
Up/Down track	2	1	3	1	4	2
Accessible paths	1 per 60 m	Optional	1 per 60 m	Optional	1 per 60 m	Optional

For seat specification refer to CS2-DRG-365089 Standard Drawing - Seats - General Details

For litter bin and bollard specification refer to CS2-DRG-365088 Standard Drawing - Tram Stop - Litter Bin & Bollards - General Details

Bollards are to be installed as required, where there is deemed a need to restrict vehicle movement around the tram stop.

7.2. Furniture Locations

Furniture must be located:

1. so as not to present a hazard to people with impaired vision;
2. a minimum horizontal distance of 1000 mm from the edge of the roof line of adjacent structures such as shelters and toilet facilities; and
3. such that the front edge of any seats must preferably be set back a minimum of 500 mm from the primary access path.

Litter bins must be located in such a way that they do not intrude onto accessible paths of travel or maneuvering areas while permitting easy access for emptying. Litter bins must not be located underneath the shelter roof.

7.2.1. Platforms

Platform furniture must be located in the Physical Structure Zone and as shown on:

- CS2-DRG-365080 Standard Drawing - Marginal Platform – Standard Amenity Shelter - General Layout
- CS2-DRG-365082 Standard Drawing - Tram Stop - Island Platform - Standard Amenity Shelter - General Layout
- CS2-DRG-365084 Standard Drawing - TGS1 & Pavement Marking - General Layout

- CS2-DRG-365274 Standard Drawing - Marginal Platform – Closed Corridor Standard Amenity Shelter - General Layout
- CS2-DRG-365275 Standard Drawing - Island Platform – Closed Corridor Standard Amenity Shelter - General Layout
- CS2-DRG-365079 Standard Drawing - Tram Stop - Urban Platform Arrangements - General Layout.

7.2.2. Access Paths

An additional seat must be provided at resting points in accordance with Disability Standards for Accessible Public Transport (DSAPT). Litter bins adjacent access paths must not intrude into the access path.

7.2.3. Restricting Vehicle Movements

Impact absorbing bollards must be provided where there is deemed a need to restrict vehicle movement within the tram stop including:

1. preventing vehicle access to platforms;
2. protecting rail infrastructure / equipment; and
3. protecting utility services.

7.3. Furniture Design and Specification

7.3.1. General Requirements

Furniture must meet the following criteria:

1. suitable for people with disabilities in accordance with DSAPT and AS 1428 Design for Access and Mobility;
2. form part of a unique architectural suite of transport specific fittings, in order to assist with AMPRN wide corporate branding; and
3. easily removed and replaced by way of supports and attachments being of consistent size, spacings and locations.

7.3.2. Material Selection

Materials must utilise base material finishes such as a galvanised steel or stainless-steel matte (brush) finish. Other materials and finishes may be acceptable subject to the approval of The Rail Commissioner and provided that they have a minimum 30 year design life with minimal maintenance.

All metal finishes must have no sharp edges, be de-burred, smooth and must provide a minimum radius of 3mm.

Furniture must be fabricated of material that meets the following criteria:

1. robust;
2. easily maintained and durable; and
3. maximises performance and longevity.

7.3.3. Detailing

Furniture must incorporate the following construction detailing:

1. simple whilst facilitating rapid repair, removal and replacement as required;
2. highly resistant to vandalism and damage through either impact damage, flame damage, scratching or engraving damage and graffiti;
3. excludes small channels or crevices to minimise holding of water and stuffing of refuse or rubbish;
4. simple planar surfaces, thus facilitating ease of cleaning and removal of stickers and graffiti rather than containing difficult crevices which hamper easy maintenance;
5. limited "rail" lengths to discourage skateboarding and similar activities; and

6. have no sharp edges or pinching points.

8. Furniture

All furniture must be in accordance with TPS-DOC-002020 Guidelines for Low Voltage Electrical Earthing and Bonding for the Adelaide Metro Tram Network.

8.1. Seats

Seats must comply with CS2-DRG-365089 Standard Drawing – Seats - General Details

8.2. Litter Bins

Litter bins must comply with CS2-DRG-365088 Standard Drawing - Tram Stop - Litter Bin & Bollards - General Details and the following:

1. be locked with an “M” Padlock;
2. have a removable 140L wheelie bin insert; and
3. the door opening must not face the track.

8.3. Bollards

Bollards must comply with CS2-DRG-365088 Standard Drawing - Tram Stop - Litter Bin & Bollards - General Details. Bollards must be lockable/ removable where authorised vehicle access is required but public vehicle access is not permitted.

9. Fixing

9.1. Furniture

Furniture support posts must not be cast into concrete. Furniture must be fixed using chemical anchor fixings.

9.2. Bollards

Bollards must be installed in accordance with the manufacturer's specifications.

Options for bollard installation include:

1. removable;
2. impact absorbing;
3. casting into a concrete footing; and
4. base plate with chemical anchor fixings.

10. Materials and Finishes

The following table details the materials and finishes that must be used for furniture on Tram Stop Platforms.

Table 3 – Materials and Finishes

ELEMENT	MATERIAL	FINISH
Seat planks and back rests	2mm thick Grade 316L Stainless steel	Matte (brush) - unpainted
Seat arm rests	Hot dip galvanised steel	galvanised
Seat support posts	Hot dip galvanised steel	Galvanised
Seat frame	Hot dip galvanised steel	Galvanised
Litter bins	1.6mm thick Grade 316L Stainless steel	Matte (brush) - unpainted
Bollards	Grade 316L Stainless steel	Matte (brush) - unpainted
Base plates for furniture	Hot dip galvanised	Galvanised

Note: Refer to 7.3.2. for alternative material and finish option.