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Government

STREET AND PARK FURNITURE

MUNICIPAL
INFRASTRUCTURE
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Transport Canberra and
City Services

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ACKNOWLEDGEMENT OF COUNTRY

Transport Canberra and City Services (TCCS) acknowledge that Aboriginal people are the Traditional Owners of Australia. We acknowledge and pay respect to the Ngunnawal peoples as the custodians of the land and waters that we live and thrive on today here in the ACT.

TCCS acknowledges that Canberra’s cultural and natural heritage was maintained by the Ngunnawal people for many generations before colonial settlement on Australian soil. Aboriginal people’s management of the land preserved the natural balance of local plants and animals. This knowledge of the environment in which we live is critical to the protection and restoration of our land today.

It is our responsibility to preserve and encourage Ngunnawal, Aboriginal and Torres Strait Islander cultural integrity. When using this document, consider opportunities to incorporate Ngunnawal, Aboriginal and Torres Strait Islander culture into the street and park furniture designs.



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1 STREET AND PARK FURNITURE

1.1 General

This document covers the design, selection and siting of street and park furniture. It is recognised that providing appropriate type, quantity and location of street and park furniture can promote outdoor activity and active living.

1.1.1 Responsibilities

1.1.1.1 Objectives

Requirement: Design and document suitable landscape furniture and fixtures in appropriate locations.

Scope: All factors that influence the design of street and park furniture and barbecues shall be considered, including:

- > Ngunnawal, Aboriginal and Torres Strait Islander culture;
- > Function;
- > Comfort;
- > Environmental conditions and constraints;
- > Requirements of affected authorities;
- > Foundation conditions;
- > Accessibility;
- > Aesthetics of the element, its siting and surrounds;
- > Existing suite of furniture;
- > Crime Prevention Through Environmental Design (CPTED) principals;
- > Materials and durability;
- > Services location, connections and approvals;
- > Requirements for ease of cleaning and maintenance;
- > Design approvals; and
- > Safety.

1.1.1.2 Designer's Qualifications

The design of all recreational facilities shall be by qualified and experienced Landscape Architects who can demonstrate their current registration with Australian Institute of Landscape Architects (AILA).

1.1.1.3 Precedence

Where any document, except legislation or the *Territory Plan*, issued referenced in this Municipal Infrastructure Standard (MIS) includes technical requirements that conflict with this MIS, consult with the service authority and TCCS for clarification.

1.1.2 Cross references

1.1.2.1 Commonwealth Legislation

The following Commonwealth Legislation is relevant to this Standard:

Aboriginal and Torres Strait Islander Heritage Protection Act

Australian Capital Territory (Planning and Land Management) Act

Disability Discrimination Act

Environment Protection and Biodiversity Conservation Act

Work Health and Safety Act

1.1.2.2 ACT Legislation

The following ACT Legislation is relevant to this Standard:

Clinical Waste Act

Dangerous Substances Act

Discrimination Act

Emergencies Act

Environment Protection Act

Environment Protection Regulation

Heritage Act

Human Rights Commission Act

Legislation Act

Major Events Act

Nature Conservation Act

Planning and Development Act

Planning and Development Regulation

Public Roads Act

Public Unleased Land Act

Tree Protection Act

Utility Networks (Public Safety) Regulation

Water Resources Act

Water Resources Regulation

Waste Minimisation Act

Work Health and Safety Act

1.1.2.3 ACT Government Strategic Documents

The following strategic documents prepared by various Directorates of the ACT Government are relevant to this Standard:

The ACT Planning Strategy – Planning for a sustainable city

Plans of Management for urban open spaces

Canberra Plan: Towards Our Second Century

The City Plan

Building an Integrated Transport Network: Active Travel

Towards Zero Growth – Healthy Weight Action Plan

1.1.2.4 Design Standards

This Design Standard references the following component standards:

MIS 01	Street planning and design
MIS 05	Active travel facilities design
MIS 10	Fences, guardrails and barriers
MIS 14	Public lighting
MIS 16	Urban open space
MIS 17	Shopping centres and commercial areas
MIS 19	Sportsground design
MIS 21	Recreation facilities
MIS 22	Signage for urban parks and open space
MIS 24	Soft landscape design

1.1.2.5 Specifications

The following Specifications are related to this standard:

MITS 09	Landscape
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1.1.2.6 TCCS Reference Documents

The following TCCS reference documents are related to this standard:

Reference document 6	Design Acceptance submissions
Reference document 7	Operational acceptance submissions
Reference document 8	WAE quality records
Reference document 9	Final acceptance submissions

1.1.2.7 Design guides

The following design guides are related to this standard:

Canberra Central Design Manual

1.1.2.8 Further reading

ACT Crime Prevention and Urban Design Resource Manual, Department of Urban Services, Planning and Land Management, ACT Government and its successors

Access and Mobility General Code, ACTPLA

Municipal Infrastructure Technical Specification, Transport Canberra and City Services, ACT Government and its successors

1.1.3 Referenced documents

The following documents are incorporated into this Design Standard by reference:

1.1.3.1 Standards

AS 1428	Design for access and mobility (Parts 1-5)
AS 1742	Manual of uniform traffic control devices set (Parts 1-15), particularly:
AS 1742.9	Bicycle facilities
AS 1742.10	Pedestrian control protection
AS 1742.13	Local area traffic management
AS 1924	Playground equipment for parks, schools and domestic use
AS 1924.2	Part 2: Design and construction – safety aspects
AS/NZS 2890	Parking facilities set (Parts 1-5), including:
AS/NZS 2890.3	Part 3: Bicycle parking
ISO 7001	Graphical symbols – Public information symbols
ISO 17049	Accessible design – Application of braille on signage, equipment and appliances

1.1.3.2 Other publications

General: The following documents are incorporated into this design standard by reference:

Austrroads

AGTM Austrroads Guide to Traffic Management

AGRD Austrroads Guide to Road Design

1.1.3.3 Other documents

ACT Government Public Art Guidelines

ACT Heritage Register

The Code of Practice for the Placement of Movable Signs in Public Places

Human Rights Commission information regarding accessibility

National Construction Code – Building and plumbing codes (Australian Building Codes Board)

Environment Protection Policies, e.g. General, Waste Water Reuse, Air, Contaminated sites, Outdoor concert noise and Water quality (EPA)

Active Living Impact Check List – A tool for developments in the Australian Capital Territory

Australia's Strategy for Protecting Crowded Places from Terrorism

Proprietary products: To *TCCS Products previously considered for use list*

1.1.4 Interpretations

1.1.4.1 Abbreviations

General: For the purposes of this standard the following abbreviations apply:

ACTPLA: ACT Planning and Land Authority, ACT Government and its successors

AILA: Australian Institute of Landscape Architects

AUSTROADS: Association of Australasian Road Transport and Traffic Agencies

CPTED: Crime Prevention Through Environmental Design

CRP: Community Recreation Parkland

EPA: Environment Protection Authority, ACT Government and its successors

TCCS: Transport Canberra and City Services, ACT Government and its successors

1.1.4.2 Definitions

General: For the purposes of this Design Standard the definition given below applies:

Active living: A way of life that integrates physical activity into daily routines.

Crime Prevention through Environmental Design (CPTED): Aims to prevent crime by designing spaces and buildings that foster human activity and interaction using four key principles: natural (or passive) surveillance to limit the opportunity for crime; natural access to encourage the movement of people into spaces that are open and inviting; territorial reinforcement to maintain a sense of ownership by the local community; and target hardening to make it difficult to steal or vandalise property.

Passive Recreation: Recreation activities that are not about physical movement or activity. Examples of passive recreation include nature gazing, reading, having a picnic and talking.

Passive surveillance: Also referred to as natural, informal or casual surveillance. Surveillance undertaken by a person which is incidental to the primary purpose of their presence. Passive surveillance occurs as people go about their daily lives. Environments that foster greater human activity or are designed to allow passive surveillance can improve the actual and perceived safety of an area.

Path: A paved off-road facility of varying width and surfacing for shared use by pedestrians and cyclists. All paths, including paths adjacent to streets, are shared by pedestrians and cyclists in the ACT, differing from NSW and Victoria where cyclists over 12 years of age are not permitted to ride on paths unless appropriately designated.

Planning Authority: The ACT Government agency responsible for planning.

Playground or Play Space: An area designed for children's play, including the site, natural features, built landscape, and any manufactured equipment and surfacing.

Street and park furniture: A term used to describe all of the peripheral objects that help create functional and appealing outdoor spaces for public use.

Urban Open Space: Unleased Territory Land within the urban area set aside for public and recreational use.

Wayfinding: The National Heart Foundation Australia (2012) refers to wayfinding as the manner in which people orientate themselves in their physical environment and navigate from one place to another. It incorporates the processes of knowing where you are, where you are going, the best way to get there, recognising when you have arrived at your destination and knowing how to leave the area. It can also include indications of where people should not go.

1.2 Planning and design

1.2.1 TCCS planning policy

TCCS encourage contemporary interpretation of the Municipal Infrastructure Standards and Standard Drawing details where appropriate and in accordance with requirements for safety, low maintenance and high durability of materials and function.

Requirement: Liaison with the relevant TCCS approval section (Roads and Transport, Capital Works, Asset Acceptance, etc) during the design phase to seek support for deviations from standards in the design or materials is required.

Tree preservation: Consult with TCCS to identify requirements relating to tree protection and clearing of the site.

1.2.2 Consultation

Responsibility: Consult with the TCCS and other relevant authorities during the preparation of design. In addition to the requirements of this Design Standard, identify the specific design requirements of these authorities. Comply with Requirements for Design Review Submissions (if applicable).

1.2.2.1 Public consultation

General: Undertake public consultation if required as part of the development application assessment process undertaken by the Planning Authority.

1.2.2.2 Utilities services plans

Requirement: Obtain service plans from all relevant public utility authorities and other organisations whose services, trees, important ecological habitats or other assets exist within the area of the proposed development. Plot this information on the relevant drawings including the plan and cross-sectional views. As a minimum, designs should refer to 'Dial-before-you-dig' information that is readily available in most areas.

Responsibility: Confirm service plans accuracy with onsite inspection and also potholing/tracing if deemed necessary.

Requirement: An accurate survey shall be obtained when planning for the development / upgrade of play spaces (contour and feature plan) including full site investigation for underground and overhead services.

Proposed new services: Provide details of any new or relocated services proposed as part of the planned works.

1.2.2.3 Heritage considerations

Requirement: If required by the Development Application (DA), provide a plan for management of heritage assets in accordance with the DA.

1.2.2.4 Safety in Design

Requirement: Implement safety in design processes in accordance with the *Work Health and Safety Act*.

1.3 Design

1.3.1 Design criteria

1.3.1.1 General

The inclusion of well-designed and well located street furniture is important in creating spaces that attract people, improve function and promote outdoor activity and active living.

Urban open spaces should provide opportunities for both active and passive recreation to encourage social inclusiveness. Provision of facilities such as resting places, paths, bike racks and drinking fountains can encourage people to use open spaces. Street furniture elements provide amenity and contribute to a 'sense of place'.

Well-designed public spaces promote human activity and provide greater opportunities for social interaction and passive surveillance (using the *Crime Prevention through Environmental Design, or CPTED, principles*).

The location and design of street furniture in crowded places shall consider principles and guidelines identified in *Australia's Strategy for Protecting Crowded Places from Terrorism*. The placement and design of street furniture including bollards, seating and bins can achieve safety requirements in subtle ways which do not make public spaces feel controlled or prescribed.

1.3.1.2 Design Requirements

General: Elements of street furniture need to be co-ordinated with each other and with their surroundings. The lease and development conditions issued by ACTPLA contain specific street and park furniture requirements for some precincts.

Site inspection shall be undertaken prior to preparing the concept design.

Designers shall familiarise themselves with the Master Plan, design guidelines and other planning documents relevant to the site for any requirements for street furniture styles, colours and finishes.

Requirements: Street furniture is to:

- > Reflect Ngunnawal, Aboriginal and Torres Strait Islander culture;
- > Exhibit high resistance to vandalism;
- > Be durable against weathering and deterioration;
- > Be suitable for use by people with a wide range of needs including children, the aged and people with disabilities;
- > Have a low whole-of-life cost;
- > Enable replacement parts to be obtained easily;
- > Not cause maintenance or visual impact issues to other materials, e.g. Not leach or rust stain adjacent finishes;
- > Be safe to install, use and maintain, and at the end of its serviceable life, be safe to remove and dispose of;
- > Be recyclable at the end of its life;
- > Consider function e.g. Seats should be comfortable and include backrests and armrest to cater for elderly, pregnant women and less mobile persons;
- > Consider access and paths of travel and clearances e.g. Car door swings;
- > Consider performance characteristics such as heat and cold of seating, e.g. Do not utilise black coloured seating in full sun where it may become too hot or the effects of frost on materials during winter months;

- > Be constructed from low maintenance materials. Timber must be robust (hardwood) and be demonstrated to be of low maintenance (not requiring ongoing sanding, oiling etc). The use of timber will only be considered where other materials cannot achieve the same objectives. The use of recycled plastic and composite plastic is preferred for seating slats. The use of timber is subject to authority approval; and
- > Manufacturer/supplier warranty and service life of products is to be provided.

Paint finishes should be selected on the basis of superior resistance to fading, vandal resistance and appropriateness for the surface they are coating. Anti-graffiti coatings should be considered for surfaces likely to be affected by graffiti.

Within these requirements, street furniture may be selected to enhance the unique design character of the space.

1.3.2 Siting principles and distribution

General: Street and park furniture (including barbecues) siting and distribution shall respond to the demands/expected demands (in the case of new residential developments) of the public and the physical location.

The *Disability Discrimination Act* and the *ACT Discrimination Act* make it unlawful to discriminate on the grounds of disability in providing access to or use of premises that the public can enter or use.

Requirements:

- > Appropriate quantity and distribution of street and park furniture is to be provided to suit the function of the space, adjacent facilities, associated access networks, the estimated number of people that will use the site (dwelling, employment, education and recreational density), and accessibility.
- > The number of street and park furniture items shall be in direct response to the requirements of the particular space, including purpose and location of space, and volume and types of human activity. For example:
 - Public spaces in a town centre with high pedestrian numbers will generally require greater quantities and types of street furniture than public spaces in local centres.
 - Bins should be located close to sources of waste and seats should be located where it is anticipated people are likely to spend an extended period of time (i.e. Bus stops, shopping centres, close to food outlets and park settings).
- > Seating shall be more concentrated around key destinations. For example:
 - Locate a seat at least every 50m on an access way from parking or set down to facilities such as toilets, barbecue, seating areas, play spaces, major artworks, etc;
 - Locate a seat at least every 100m within a 400m radius of a key destination: and
 - Locate a seat every 200m to 500m in other frequently used areas, depending on anticipated usage.
- > Street and park furniture shall be sited to focus on an activity or a view and take advantage of seasonal change, especially winter sun and summer shade. Where possible, designers shall site street and park furniture in ways that provide shelter from the rain and other local weather patterns such as winter winds.
- > Groupings of street and park furniture elements can create a sense of place. For example, street and park furniture can establish a discrete space that may become a gathering point or a focus. Street and park furniture siting and selection should readily and clearly communicate the function of the space to users.

- > The selection and siting of street and park furniture shall reflect the needs of different sections of the community including pregnant women, the aged, the young and the physically challenged. For example, the aged generally require comfortable seating with arm and back rests and with appropriate egress and ingress. Where possible a range of seats with and without armrests and backs help provide access for a wider range of people.
- > Street furniture is not to be located where it interrupts the line of sight for traffic. Refer to the *Austroads Guide to Road Design* for sight distance.
- > The *ACT Crime Prevention and Urban Design Resource Manual* covers issues of safety in public spaces which shall be considered, as well as the use of *CPTED principles* when selecting and placing street and park furniture.
- > Street and park furniture shall be selected and sited to reduce visual clutter and obstacles to movement. Rational layout assists the visually impaired to use the space safely. Aligning street and park furniture with kerbs, walls and buildings can be an efficient method of establishing patterns and special delineation.

Standards: The following standards are relevant to siting principles:

- > *MIS 01 Street planning and design;*
- > *MIS 16 Urban open space;*
- > *MIS 17 Shopping centres and commercial areas;*
- > *MIS 19 Sportsground design and*
- > *MIS 21 Recreation facilities.*

Design references:

- > *Disability Discrimination Act and the ACT Discrimination Act;*
- > *Austroads Guide to Road Design;* and
- > *ACT Crime Prevention and Urban Design Resource Manual.*

1.3.3 Specific design criteria

1.3.3.1 Place-Making and Aesthetics

General: The visual appearance of street and park furniture can influence and contribute to place-making by creating an identity and character associated with an area or type of space. The design aesthetics of the furniture elements can engender human responses such as to enliven and amuse or provide sophistication, formality or calmness to the landscape.

Street and park furniture usually works best when the components have common design elements and are sited in regular patterns.

Consider:

- > The Ngunnawal and Aboriginal cultural site significance;
- > The location of the area and its relationship to the broader landscape setting and what landscape character is appropriate;
- > Whether the street and park furniture should match items or a suite of furniture used in adjacent areas or similar landscape settings elsewhere;
- > The current setting and future opportunities of the site;
- > Unifying the furniture with common design elements and siting with a common theme; and
- > User comfort and if the setting is accessible.

Standards: The following standards are relevant to place-making:

- > *MIS 01 Street planning and design;*
- > *MIS 16 Urban open space;*
- > *MIS 17 Shopping centres and commercial areas;*
- > *MIS 19 Sportsground design; and*
- > *MIS 21 Recreation facilities*

1.3.3.2 Seating Design and Location

General: The type of seats selected need to reflect the use of the area. The type of location will also influence siting decisions, for example, seating in a town square may be positioned to the edge of the activity, whereas seating in shopping malls may be installed at the centre of activity.

Where possible a variety of seating options should be offered. A range of seat heights and seats with and without armrests help provide access for a wider range of people.

Requirements:

- > Seat and table setting shall be on a hard stand or bonded aggregate surface;
- > Seats and table settings shall be surface mounted. Tamper proof fixings shall be used;
- > Seating and table settings shall be of compatible aesthetic with the precinct streetscape, open space and suite of street or park furniture (for example the *Canberra Central Design Manual*);
- > Where seats are adjacent pedestrian routes provide a minimum 1m clearance from edge of path to seat; and
- > Armrests shall be of robust construction – use of strong metal frames.

Consider:

- > Quantity and distribution of seats (refer to **Siting Principles and Distribution**);
- > Seats are important where pedestrians congregate to wait;
- > Seating may be required for bus stops, large taxi ranks and outside public buildings;
- > Many people feel uncomfortable using seating where the back of the seat is adjacent to a busy road or path – people prefer to face these busy areas when seated;
- > Where practicable, seats should be placed to promote social interaction;
- > Seating is a major functional component in spaces that are created primarily for relaxing or resting – seating in these spaces should be designed/selected for longer duration sitting;
- > If seating is in an area where ‘after-dark’ activities are encouraged then appropriate lighting should be provided;
- > Avoid placing seats around trees with excessive gum sap drop or other tree litter drop;
- > Seating surfaces should have ample space between slats to assist drying more quickly after rain;
- > Armrests and slats perpendicular to the length of the seat help to reduce damage caused by skaters and due to vandalism;
- > User comfort and ergonomics, armrest, backrests, seating height, shape and materiality; and
- > Integration of seating into functional elements such as walls.

Aggregations or multiples of seating may be required in central locations where they can be placed to encourage conversation or to generate a sense of place. This form of seating is normally inwardly facing, should be visible but not intrusive and sited in a manner that does not obstruct views, activity or desire lines.

Standards: The following standards are relevant to seating design and location:

- > *AS 1924.2;*
- > *MIS 01 Street planning and design;*
- > *MIS 16 Urban open space;*
- > *MIS 17 Shopping centres and commercial areas;*
- > *MIS 19 Sportsground design;* and
- > *MIS 21 Recreation facilities.*

1.3.3.3 Seat Comfort and Ergonomics

General: Providing comfortable seating in public places and on pathways at regular intervals encourages people to be active and partake in outdoor activities and increases their enjoyment of the outdoors by providing opportunities for rest.

Consider including seats that incorporate ergonomic design principles, such as:

- > Ergonomic seat height typically 425mm-450mm;
- > In locations where a high number of children use the space consider addition of lower smaller seats;
- > Include seats with backs – the seat and back should angle back slightly to provide a comfortable resting position and to prevent people slipping forward on the seat; and
- > Armrests provide people with additional support when sitting and standing.

1.3.3.4 Table Settings

General: Table settings are often used in picnic areas.

Requirements: Table settings must be:

- > Constructed from robust durable materials such as metal, concrete or recycled plastic and be easy to clean and maintain – if other materials are proposed such as timber, provide justification, product information and maintenance considerations to the approval authority for consideration prior to inclusion in the design submissions;
- > Designed to provide accessibility for people of all abilities and where practicable tables should be accessible (at least in part) to people with mobility aids such as wheelchairs and scooters (refer to *AS 1428.1-5*);
- > Designed appropriately to the surroundings; and
- > Fixed in place on a hard stand area.

Standards: The following standards are relevant to table settings:

- > *AS 1428.1-5;* and
- > *MIS 16 Urban open space.*

1.3.3.5 Litter Bins

General: Bins are generally required near retail centres, recreation spaces, public transport nodes and other areas with high activity levels. Litter bins are suitable for high volume rubbish collection in sites such as shopping centres, CRPs, district parks and sports and recreation areas.

Requirements:

- > TCCS approval is required for locations of all bins and must be sought from Capital Works or Asset Acceptance (for all other works);
- > Bins shall be of design compatible with the precinct streetscape, open space and suite of street or park furniture (for example the *Canberra Central Design Manual*);
- > Bins must be located so that they are easily accessible by collection equipment, consider access and path of travel including grades, distance and clearances to collection point;
- > Bins shall be 240 litre wheelie bins;
- > The siting of bins shall not impede wheelchair access, pedestrian or cycle movement, ensure appropriate clearances to paths of travel are provided;
- > At shopping centres, wheelie bins are to be within a bin enclosure frame incorporating side panels, a lockable door and a cover or part cover over the top – the bin enclosures are to be wheelchair accessible to Australian Standards for accessibility (*AS 1428*);
- > Bins are to be located within paving or in a planting bed adjacent to paths or paving;
- > Bins are not to be provided in play spaces or in general open space areas such as neighbourhood parks and suburban bus stops;
- > In major public areas, bins are to be placed at 30-40 metre intervals and sited as single units rather than multiples – high use areas may require more bins; and
- > Locate bins where they are visible, but not too intrusive or too close to where people sit, and they should not be sited where they obscure views from seats.

Consider:

- > When selecting the location for bins, consideration should be given to odour drift – bin placement should consider the predominant summer wind direction and the negative effects of odour drift, particularly where people congregate;
- > Bins should be placed near the litter source, for example, near take away food shops and fast food outlets, and at assembly points that are near litter sources, for example near park entries or shops;
- > Use of canopies/cowling to avoid domestic waste dumping, rain ingress and vermin;
- > Anti-graffiti Coating for ease of maintenance; and
- > Consideration should be given to addressing progressive innovative technologies that deliver alternative solutions to waste management. Solar compaction systems that can significantly increase the storage spaces and efficiency of collection resulting in a more amenable environment and a reduction in emissions.

Standards: The following standards are relevant to litter bins:

- > *AS 1428*;
- > *MIS 01 Street planning and design*;
- > *MIS 16 Urban open space*;
- > *MIS 17 Shopping centres and commercial areas*; and
- > *MIS 19 Sportsground design*.

1.3.3.6 Bicycle Racks

General: Bicycle racks shall be sited in all commercial centres and other cycling destinations, for example, town centres, suburban shops, sports facilities, libraries, public buildings and some open spaces including town parks, district parks and CRPs. Bicycle racks should be sited as close to the destination as reasonably practical and preferably in full public view for passive surveillance. Bicycle racks should be visible and readily accessible from adjacent cycle paths, footpaths and roadways.

Bicycle racks are typically sited in multiples and the quantity of bike racks should cater for above the known demand at each specific location to encourage cycling activity.

Note: The bicycle rack design included in *AS 2890.3 Figure B3 (a)* is not preferred by TCCS, due to;

- > Children tend to use these bike racks as play equipment; and
- > The shape of this bike rack design impacts on the bicycles' brakes and cables.

Requirement: Bicycle racks shall:

- > Bicycle rack design shall be to TCCS preferred design parameters, which are as per *AS 2890.3 Figure B3 (a)*, but with the following modification to the size of the rack and spacing:
 - Height range: 850mm - 1100mm
 - Width range: 450mm - 600mm
 - Spacing range: 1000mm - 1200mm
- > Conform to *AS 1742.9*, *AS 2890.3* and *Austroads cycling standards*;
- > Not impede wheelchair or pedestrian access;
- > Be of design compatible with the precinct streetscape, open space and suite of street or park furniture (for example the *Canberra Central Design Manual*);
- > Not be placed immediately in front of building entrances or shop fronts;
- > Be easily visible to pedestrians and cyclists so as not to form a hazard; and
- > The bicycle racks shall be of durable finishes, such as galvanised steel, which are not damaged by the constant abrasion from the bicycles. Where paint is proposed consider anodised finish or heavy duty powder coating.

Consider: The design and siting of bike racks shall consider:

- > Bicycle parking for bikes with trailers or tag along bikes – provide additional length for bike parking at destinations which may attract people with young children (parks, shops).

For further information on bike parking facilities refer to *MIS 05 Active travel facilities design*.

Standards: The following standards are relevant to bicycle racks:

- > *AS 1742.9 and AS 2890.3*;
- > *MIS 01 Street planning and design*;
- > *MIS 05 Active travel facilities design*;
- > *MIS 16 Urban open space*;
- > *MIS 17 Shopping centres and commercial areas*; and
- > *MIS 19 Sportsground design*.

1.3.3.7 Lights

Requirement: The style of lights selected for use in public spaces should be sympathetic to the surroundings and co-ordinated with selection of other street and park furniture for the space.

Standards: The following standards are relevant to lighting:

- > *MIS 14 Public Lighting.*

1.3.3.8 Tree Grates

General: Tree grates may be placed around trees in high pedestrian use locations to reduce compaction of the soil and damage to the root zone.

Tree grates are one option for protecting trees from soil compaction and root damage. Preferred options include the use of permeable paving and structural soils and cells. See *MIS 24 Soft landscape design* for more information about protecting trees.

Requirement: Tree grates shall:

- > Be designed and installed to finish flush with the surface level of surrounding paving;
- > Be of design compatible with the precinct streetscape, open space and suite of street or park furniture (for example the *Canberra Central Design Manual*);
- > Comprise minimum dimension of grate area of one metre diameter;
- > Comprise grate design compatible with the precinct streetscape, open space and suite of street or park furniture;
- > Include a supporting sub-frame to ensure solid fixing without movement;
- > Allow for growth of the tree trunk, for example, through the use of knock out concentric rings. Designers should only specify tree grates with an effective system for growth that is low maintenance; and
- > Tree grates must include the ability to easily lift out and clear away rubbish.

Consider the use of porous paving and garden beds which are easier to maintain.

Where a tree guard is also required, the tree guard and grate should be an integrated design.

Standards: The following standards are relevant to tree grates:

- > *MIS 24 Soft landscape design.*

1.3.3.9 Tree Guards

General: Tree guards may be required for young trees or trees that are yet to be established in high pedestrian use locations, car parks and areas prone to vandalism.

In urban areas, consideration is to be given to planting larger, more mature trees that do not require tree guards. These advanced trees will also provide instant amenity.

Refer to *MIS 24 Soft landscape design* for more information about protecting trees.

Requirement: Tree guards must allow for tree growth to occur without damage to the branches or trunk (abrasion is a major cause of damage). Guards may also act as staking for young trees, with hessian ties as required. Refer to the Municipal Infrastructure Technical Specification 09 (MITS09).

Standards: The following standards are relevant to tree guards:

- > *MIS 24 Soft landscape design.*

1.3.3.10 Tree guards for urban areas

Tree guards for urban areas shall:

- > Be at least 0.75 metres square, so as not to impact or inhibit the growth of trees;
- > Be of design compatible with the precinct streetscape, open space and suite of street or park furniture (for example the *Canberra Central Design Manual*);
- > Signal weight and strength to pedestrians and motorists. The durability required for tree guards will depend on tree growth and the expected level of vandalism of the location;
- > Be in two parts that are joined together on site and easily removed when the young tree has matured; and
- > Attach to the grate or below ground securely.

Consider how the tree guard may be removed once the tree is fully self supporting and of reasonable size to resist vandalism or damage from vehicles.

Tree guards will only be accepted in high order open space areas such as group and town centres, the use of tree guards will only be accepted where other methods to protect trees such as garden beds are not suitable.

1.3.3.11 Planter Boxes

General: Planter boxes are sometimes used in streetscapes where direct planting into the ground is not possible or practical. They are normally used in multiple groupings or laid out in regular intervals or patterns for spatial definition.

Requirement: Planter boxes shall be constructed using materials that are compatible with the surrounding street or park furniture, or pavement material. The corners of planter boxes shall be rounded to minimise the risk of injury to pedestrians.

Growing conditions in most planters are not optimal and species selection should recognise this. Planter boxes should be designed to provide for irrigation and adequate drainage. Drainage shall not discharge onto non permeable surfaces and shall either be connected to stormwater or discharge into a planting bed.

Theft of plants from planter boxes is common. Planter box designs shall include mesh placed below the mulch to protect the plants. Mesh shall be made from durable material such as galvanised steel. The planter box design shall include a feature to prevent the mesh from becoming displaced or removed (e.g. a lip around the top of the planter box).

Planter boxes can double as seating walls when designed between 450 and 500mm high. If utilised as seating the top of wall shall be a minimum of 300mm wide.

Planter boxes should typically not exceed 600mm in height. Planter boxes near play spaces should not exceed 600mm in height.

Where planter boxes exceeding 600mm in height are proposed a safety in Design report shall address potential safety concerns.

Standards: The following standards are relevant to planter boxes:

- > *MIS 24 Soft landscape design.*

1.3.3.12 Vehicle Barriers

General: Vehicle barriers can divide a space into areas with different uses, such as pedestrian areas and vehicular areas, and by doing so provide visual cues to the public and physical restrictions to vehicles.

Requirement: The style of vehicle barriers on the edges of pedestrian areas should be sympathetic with the precinct streetscape or style of other street and park furniture in the surrounding areas (for example the *Canberra Central Design Manual*).

Bollard lights are not acceptable.

Standards: The following standards are relevant to vehicle barriers:

- > *MIS 10 Fences, guardrails and barriers.*

1.3.3.13 Trolley Return Bays

General: Trolley return bays may be needed in some shopping centres to encourage shoppers to return trolleys to a single or a few location/s to minimise potential for injury to pedestrians or damage to vehicles.

Bays may be located in either car parking areas or pedestrian areas depending on which will cause the least inconvenience to users and encourage maximum use.

Requirement: Design principles for trolley bays include:

- > Bays must be clearly visible to encourage use and to avoid collisions by cars and pedestrians;
- > Rails or walls should be sufficiently high to be seen by car drivers and pedestrians and should be light coloured and incorporate reflector panels if the area is used at night;
- > Bays must be graded so that free rolling trolleys move into rather than out of the bay;
- > Rails should be rounded to reduce chance of injury;
- > A buffer must be incorporated to stop trolleys rolling right through the bay;
- > Parking bays adjacent to the trolley bay should be treated as though they were next to a wall; and
- > Foundations should be designed to resist damage by vandals.

Figure 20-1 Example of a well designed trolley bay shows a trolley bay that incorporates most of the desirable design principles noted above. It is clearly visible, has rounded ends to railings, railings are of height visible from vehicles and are securely installed, bays are graded fairly level to prevent trolleys from rolling out and a buffer board stops trolleys rolling right through the bay.

Standards: The following standards are relevant to trolley return bays:

- > *MIS 17 Shopping centres and commercial areas.*



Figure 20-1 Example of a well designed trolley bay.

1.3.3.14 Pergolas, Shelters, Awnings and Screens

Requirement: Designers shall consult TCCS prior to Design Review about any pergolas, shelters, awnings, screens or other structures proposed within unleased Territory Land.

The design of pergolas, shelters, awnings and screens shall:

- > Consider unintentional use/access, such as climbing onto the structure or nearby buildings;
- > Be constructed of robust materials;
- > Not drain onto paths of travel;
- > Not create hidden spaces or spaces which could be detrimental to safety (for example screens directly adjacent active travel routes or structures which obstruct views through spaces where people are likely to walk or cycle);
- > Provide shelter (screen objects, provide adequate shade of 80% UVR minimum, 90% or higher UVR desirable for shade sails or shelter from rain); and
- > Shade sails shall only be considered in central community and district play spaces (refer *MIS 21 Recreation facilities*).

The design of pergolas, awnings and screens shall consider:

- > Anti-graffiti coatings to vulnerable surfaces;
- > Maintenance of materials; and
- > Size of the structure.

1.3.3.15 Drinking Fountains and Refill Stations

General: The provision of drinking fountains and refill stations:

- > Presents a no-cost drink option;
- > Improves access to drinking water;
- > Encourages people to make healthy drink choices;
- > Encourages people to be active as they can re-hydrate at strategically located fountains and refill stations; and
- > Reduces the number of plastic bottles that are sent to landfill.

Requirements: Drinking fountains are generally sited in high use areas and on the edge of high use active travel routes. Generally only one drinking fountain is provided in each location.

The siting of drinking fountains must be on the low side of pathways to avoid any water leak or fault resulting in ice on the path in winter. Ensure minimum 1m clearance between path edge/path of travel and drinking fountain, including space for pedestrian using the fountain.

Drinking fountains shall:

- > Be at a height that allows access by people in wheelchairs and children;
- > Have automatic off taps to reduce water wastage;
- > Be of high quality and not be susceptible to water freezing damage (insulated pipes and nozzles and fittings suitable for freezing conditions);
- > Ensure water flows away from the spout to avoid water contamination;
- > Be easily maintained with plumbing fixtures easily accessible;
- > Have cost effective and easily available replacement parts;
- > Have access to the back of the bubbler nozzle to assist removal of foreign objects; and
- > Be of a design that is compatible with the precinct streetscape, open space and suite of street or park furniture.

Water supply for drink fountains and taps shall be of adequate depth and include appropriate insulation to avoid freezing.

Drink fountains shall include a separate water meter and stop valve for each station to allow for isolation for maintenance.

Consider: Other features that may be useful include:

- > Bottle re-fill capabilities in areas of high use such as town and group centres, commercial zones, education and health institutions, sporting fields, town and district parks, main community routes, destinations; and
- > A lower tap and/or dog bowl so that water is available for pets, and if additional accessories such as dog bowls are provided, they are secured or integrated into the system to avoid being used as a step.

Consider the inclusion of additional hex key tap where the open space may be used for events.

1.3.3.16 Fences and Gates

General: Permanent safety barriers, fences and gates in the public realm provide convenient and safe road and pathway access, vehicular or public exclusion and maintenance access functions. For more information refer to *MIS 10 Fences, Guardrails and Barriers*.

Consider: Fences and gates can be utilised as interpretive elements incorporating art and story telling.

Standards: The following standards are relevant to vehicle barriers:

- > *MIS 10 Fences, Guardrails and Barriers*.

1.3.3.17 Artistic features, Community Public Art and Architectural features

General: Artistic features such as public art, community public art and architectural features can contribute to a sense of place and enrich user experience. For example, in places of high levels of pedestrian movement or congregation, public artwork or sculpture can be located in prominent areas. It can also be used to enhance the unique identity and character of the area. It may not be suitable for placement in high volume locations, especially pedestrian thoroughfares, unless the artwork also functions as street or park furniture.

Artistic features may be incorporated into the environment in a variety of ways. It is important to ensure that they are safe, durable and easy to maintain. They should be placed in locations with frequent pedestrian traffic, be visible from roadways and buildings that have the potential to act as deterrents to vandalism and graffiti. Placement in well lit areas should be considered as a deterrent to vandalism. Engineering and construction techniques along with durable surface treatments can provide a resistance to damage to ensure that artistic features are easily repairable, replaceable or removable if remedial works are warranted.

Artworks and sculptures are maintained by artsACT.

Artistic elements, architectural features and community art integrated into functional furniture are maintained by TCCS. Maintenance of these assets shall be simple and requires the artist to relinquish intellectual property to allow for maintenance such as replacing tiles or amending furniture as required for ongoing maintenance. The proponent shall provide a maintenance schedule for artistic elements.

Requirements: Elements and features must conform to a high standard of quality in fabrication and construction, especially with regard to surface finish. Elements and features for public places must be designed to be durable, minimise maintenance, resist vandalism and be structurally sound.

Requirement: Community and stakeholder consultation process will contribute to identifying cultural and community values. The consultation process should also be informed by research, as relevant, of history and social/community values to develop a cultural profile integral to the character of the public open space and surrounding areas. The profile may aid and inform the development of design themes and specific design proposals.

Community public art and other architectural features may be non-functional or can be incorporated into the design of functional objects such as furniture, manhole covers, walls, paving and lighting.

If public art is under consideration, TCCS and artsACT must be consulted. Refer *ACT Government Public Art Guidelines*.

Playground standards must be met if elements could be reasonably perceived by children as play equipment.

Standards: The following standards are relevant to sculpture and artwork:

- > *MIS 21 Recreation facilities*.

1.3.3.18 Signs

General: Signage is an important element in wayfinding, place identification and place making. Well designed and considered signage adds great value and amenity to the urban realm and encourages active travel, healthy living and social interaction.

Standards: The following standards are relevant to paving:

- > *MIS 22 Signage for urban parks and open space.*

1.3.3.19 Paving

General: The Roads ACT Division (sub-unit of TCCS) manage most paved areas in public spaces. Refer *MIS 05 Active travel facilities design* for information about paving in parks and public spaces.

Standards: The following standards are relevant to paving:

- > *MIS 05 Active travel facilities design*

1.3.3.19.1 Decomposed granite gravel

Decomposed granite gravel paving is acceptable providing that:

- > It is not located near doors or areas where it may be trafficked into buildings;
- > It is not adjacent to hard paved areas where it could lead to safety problems related to the 'ball bearing' action of gravel particles on a hard smooth surface;
- > Slopes are minimal, i.e. not greater than 1:33 (3%) and water falling on gravel is not likely to build up enough flow to cause erosion (water should not drain onto gravel areas);
- > It is adequately edged and contained; and
- > It is screened to the specified particle size, and it is properly compacted and stabilised immediately after laying – see *MITS 08D – Furniture and Fixtures*.

Design references: Refer to the *Municipal Infrastructure Technical Specifications*.

1.3.3.20 Flagpoles

Requirement: Galvanised or stainless steel flagpoles with an internal halyard are preferred. Painted flagpoles should not be used without consulting TCCS.

1.3.3.21 Barbecues

General: Barbecues are usually only provided in district parks, however, there are some instances where barbecues could be considered in other types of parks, particularly in higher density residential areas where private open space is not provided (e.g. near apartments).

Requirements: Approval from Asset Acceptance is required for all locations of barbecues. Barbecue siting and design must be:

- > Distributed at nodes of activity and easily accessible from car parks and for maintenance;
- > Accessible for people with disabilities;
- > Electric where possible, with two hotplates and preferably stainless steel modular units mechanically fixed to a concrete slab;
- > Located in close proximity to other furniture such as seats, tables, bins and shelters;
- > Locate a gully trap and stand-alone tap or drinking fountain nearby and minimum 1m away from barbecue. The tap shall be auto tap (typically spring loaded);
- > Every upgraded, replaced or new barbecue will be fitted with an internal 'counter' device for each hotplate (typically two) to record barbecue usage for identifying high and low usage sites; and
- > Provide separate doors for electrical and maintenance.

Consider: The siting and design of barbecues may also consider:

- > For safety, taps should not be attached to the barbecue unit as they can be potential hand/foot holds for young children to use to climb onto the structure;
- > The gully trap should be connected to the sewer where available, otherwise to a soakage pit;
- > Barbecues do not need to have a facility for collecting money since they are free; and
- > Using modular units which in future are more easily removed or relocated.

Standards: The following standards are relevant to barbecues:

- > *MIS 16 Urban open space.*

1.4 Documentation

Requirements: Comply with *Reference document 6 Design Acceptance submissions*



Transport Canberra and
City Services

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