

DESIGN STANDARDS
for
URBAN INFRASTRUCTURE
19 STREET AND PARK FURNITURE
AND BARBECUES



19 STREET AND PARK FURNITURE AND BARBECUES

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19.1 Introduction

Street furniture is a term used to describe all of the peripheral objects that help create functional and appealing outdoor spaces for public use. The inclusion of well designed and located street furniture can be a factor that transforms an unpleasant and poorly utilised area into an area that will attract users and promote outdoor activity.

19.2 Related codes of practice and guidelines

19.2.1 Legislation

Disability Discrimination Act 1992 (Cwlth)

Discrimination Act 1991 (ACT)

19.2.2 Industry standards

AS 1319 Safety Signs for the Occupational Environment, Standards Australia.

AS 1924.2 Playground Equipment for Parks, Schools and Domestic Use, Standards Australia.

AS 2342 Development, Testing and Implementation of Information and Safety Symbols and Symbolic Signs, Standards Australia.

AS 2416 Design and Application of Water Safety Signs, Standards Australia.

AS 2890.3 Parking Facilities. Part 3: Bicycle Parking Facilities, Standards Australia.

AS 2899.1 Public Information Symbol Signs. Part 1: General Information Signs, Standards Australia.

AS 2899.2 Public Information Symbol Signs. Part 2: Water Safety Signs, Standards Australia.

19.2.3 Policy and guidelines

ACT Crime Prevention and Urban Design Resource Manual, Planning and Land Management ACT Department of Urban Services, Canberra, 2000.

ACT Planning Guidelines for Access and Mobility, PALM (Draft 2001).

Basic Specification for Urban Infrastructure, Department of Urban Services, Canberra, 2001.

Digital Data Convention for Detail Surveying and Mapping of Shopping Precincts, Department of Urban Services, Canberra, 1999.

Proposed Policies for Residential Development in the ACT incorporating ACTCode - Draft for Information, Department of Urban Services, Canberra, 2000.

Signage Policy for Urban Parks and Places, Minale Tattersfield Bryce & Partners, 2001.

19.3 General requirements for street furniture

Elements of street furniture need to be co-ordinated with each other and with their surroundings. The lease and development conditions issued by Planning and Land Management contain specific street furniture requirements for some precincts. Designers should also check the master plan, design guidelines and other planning documents relevant to the site for any requirements for street furniture styles, colours and finishes.

Street furniture needs to:

- 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.

Paint finishes should be selected on the basis of superior resistance to fading, vandal resistance and appropriateness for the surface they are coating. 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.

19.4 Guide to street furniture numbers

The following table provides a guide to street furniture usage in the ACT. The numbers in the table are to provide a general indication. Use this table in conjunction with the street furniture siting guidelines below to assist in more precise planning.

	Suburban centre	Recreational space group centre	Suburban centre > 10 shops	Recreational space local centre > 10 shops	Local centre < 10 shops	Recreation space local centre < 10 shops	Corridor	Connecting space	Open space
Seats	15–20	5–10	5–10	0–5	0–5	0–2	1/100m	1/50m	0–5
Bins	10–20	0–5	5–10	0–5	0–5	0–2	*	0–5	0–1
Wheelie bins	5–10	0	0–5	0	0	0	0	0	0
Cycle racks	15–25	0–5	15–20	0–5	0	0	*	0	0
Drinking fountains	0–2	0–1	0–1	0–1	0–1	0–1	0	0	0
Tree guards	**	**	**	**	**	**	**	**	0
Tree grates	***	***	***	0	***	0	***	***	0

* Near fast food outlets

** To protect saplings

*** Use with concrete or paved surfaces

Street furniture numbers for urban spaces within city and town centres are evaluated on a specific needs basis.

19.5 Siting principles

Street furniture siting and selection should respond to the demands of the public and the physical location. The number of street furniture items is a direct response to the requirements of the particular space. For example, a town square or shopping plaza with high pedestrian numbers will require greater quantity and types of street furniture than a suburban

shopping centre. A particular location will also require particular types of street furniture. For example, a rubbish bin should be located near a shop selling ice creams and drinks; a seat should be located near a bus stop.

Street furniture should 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 should site street furniture in ways that provide shelter from the rain and other local weather patterns such as winter winds.

Groupings of street furniture elements can be established to create a sense of place. For example, street furniture can establish a discrete space that may become a gathering point or a focus. Street furniture siting and selection should allow the function of the space to be transparent and unambiguous.

The siting of street furniture also should reflect the needs of different sections of the community including the aged, the young and the physically challenged. The aged for example, require comfortable seating with appropriate egress and ingress approximately every 60 metres in order to rest. The *Disability Discrimination Act 1992* and the *Disability Act 1991* 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.

Street furniture is not to be located on street corners where it interrupts the line of sight for traffic. The *ACT Crime Prevention and Urban Design Resource Manual* also covers issues of safety in public spaces which should be considered when selecting and placing street furniture.

Street furniture should be selected and sited to reduce visual clutter. Rational layout can assist the visually impaired to use the space safely. Street furniture works best when the components have common design elements and are sited in regular patterns. Aligning street furniture with kerbs, walls and buildings may be a way of establishing patterns. Alignment in siting improves rhythm and subsequently the visual coherence of a streetscape. Positioning seats next to walls or fences, bins next to poles or lights, further assists in reducing visual clutter.

19.6 Seats

The type of seats chosen should reflect the use of the area. Places where people wait only for short times may not require seats. For example, taxi stands or inner city bus stops may not require seating or the site may only require a bench. The type of location should also influence the siting decisions, for example, seating in a town square may be sited on the edge of the activity, whereas seating in shopping malls may be sited 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.

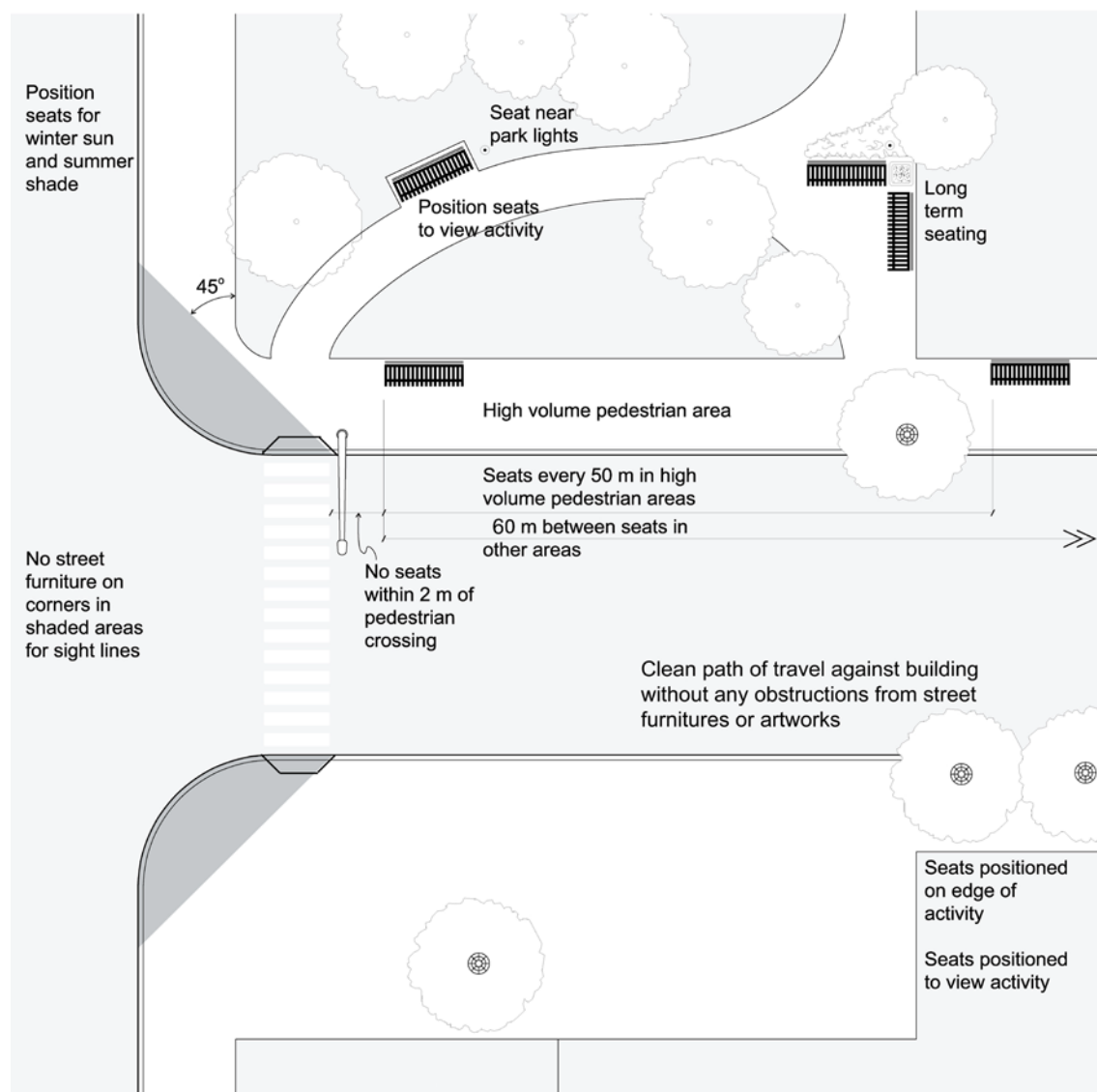
In high volume locations, it is desirable to provide access to seats every 60 metres. This may increase to every 50 metres in areas of intense activity. Seats are important where pedestrians congregate to wait. Seating may be required for bus stops, large taxi ranks and outside public buildings. Many people feel uncomfortable using seating where the back of the seat is adjacent to a busy road or path; they prefer to face these busy areas when seated.

Seating is a major component in spaces that are created primarily for relaxing or resting. Seating in these spaces should be designed for longer duration sitting. 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 a view, activity or desire lines. Seats in secluded areas should be sited near or directly under street lighting. Avoid locating seats in grass where maintenance of the grass around and beneath the seat will be difficult. Also avoid placing seats around trees where they collect leaf litter and require increased maintenance.

Seats with an all metal framework, durable finish, armrests, slats perpendicular to the length of the seat are preferred. Seating surfaces should have ample space between slats; this type of surface tends to dry more quickly after rain. Seats should be designed to avoid entrapment hazards (see Australian Standard AS 1924.2 for head entrapment and Design Standard 15 Playgrounds and Playground Equipment for finger entrapment).

Armrests and slats perpendicular to the length of the seat help to reduce vandalism; especially the danger and damage caused by in-line skaters and skateboard riders.



Street furniture layout requirements

19.7 Table/seats

Table/seats, often used in picnic areas, should be constructed from durable materials and be easy to clean and maintain. They should be designed to provide access to at least part of the table by people in wheelchairs. The design should be appropriate to the surroundings.

Table/seats should be installed on and fixed to a concrete slab. Placing table/seats on grass increases maintenance requirements and should be avoided.

19.8 Litter bins

Bins are generally required near retail centres, recreation spaces and other areas with high activity levels. They are normally placed at 30 metre intervals, unless the needs of the immediate location increases demand, and are sited as single units rather than multiples. Bin siting should consider aspect. For example, a sitting and relaxing space will require bins. They should be visible but not too intrusive or close and they should not be sited between seats and a view or an activity. Bins should be sited downwind in summer conditions of seats or spaces where pedestrians 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, a bus stop near a park or shops.

The siting of bins should not impede wheelchair access and the bin height should be appropriate for wheelchair and child access.

Wheelie bins are suited to high volume rubbish collection in sites that are accessible by collection equipment. At shopping centres 120 litre wheelie bins with a frame incorporating a cover over the top of the bin are required. Depending on use requirements, 240 litre or 120 litre wheelie bins should be provided in town and district parks.

Canberra Urban Parks and Places must approve the location of bins.

19.9 Bicycle racks

Bicycle rack design and siting should conform to Australian Standard AS 2890.3.

Bicycle racks should be sited in all commercial centres and other cycling destinations, for example, town centres, suburban shops, sports facilities, libraries and public buildings. The cycle racks should be sited as near to the immediate destination as possible and in full public view. They should be easily accessible from the cycle path, footpath and road.

Bicycle racks are normally sited in multiples of four. If the location is a small neighbourhood shopping centre and only one siting of bicycle racks is required then the rack multiple could be increased to six.

The siting of bicycle racks should not impede wheelchair or pedestrian access. Bicycle racks should not be placed immediately in front of building entrances or shop fronts.

The bicycle racks should be easily visible to pedestrians. The bicycle racks should not be painted but use durable finishes, such as galvanised metal, which are not damaged by the constant abrasion from the bicycles.

19.10 Lights

The style of lights selected for use in public spaces should be sympathetic to the surroundings and co-ordinated with selection of other street furniture for the space. See Design Standard 12 Public Lighting for more information.

19.11 Tree grates

Tree grates are placed around trees in high pedestrian volume locations to reduce compaction of the soil and damage to the root zone. Tree grates should be designed and installed to maintain the level of surface paving.

The minimum dimension for the grate area is approximately one metre square. The grate design should be compatible with the precinct streetscape and street furniture.

Each tree grate requires a sub-frame, and tree grates are generally constructed of multiples of a single casting. Tree grates must allow for growth of the tree trunk, for example, through the use of knock out concentric rings. Designers should only specify tree grates that are designed for easy enlargement. Where a tree guard is also required, the tree guard and grate should be an integrated design.

Tree grates are only one option for protecting trees from soil compaction and root damage. Other options include the use of cobblestones or permeable paving. See Design Standard 22 Soft Landscape Design for more information about protecting trees.

19.12 Tree guards

Tree guards may be required in high pedestrian volume locations, car parks and areas prone to vandalism. Each tree requires one tree guard and the 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.

Tree guards should be at least 0.75 metre square so not to impact or inhibit the growth of the tree and be compatible with the precinct streetscape and street furniture. The durability required for the tree guards depends on tree growth and the level of vandalism of the location. The tree guard design should signal weight and strength to pedestrians and motorists. The attachment of guards to the grate or below ground needs to be secure.

19.13 Planter boxes

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. Planter boxes should be constructed using material that is compatible with the surrounding street furniture or pavement material. The corners of planter boxes should be rounded to minimise the risk of injury to pedestrians.

Growing conditions in most planters are not optimum and species selection should recognize this problem. Planter boxes should also be designed to provide for irrigation and adequate drainage.

Theft of plants from planter boxes is common. Planter box designs should include mesh placed below the mulch to protect the plants.

19.14 Vehicle barriers

Vehicle barriers can divide a space into areas with different uses such as pedestrian areas and vehicular areas and so provide visual cues to the public as well as physical restrictions. The style of vehicle barriers on the edges of pedestrian areas should be sympathetic with the style of other street furniture in the surrounding areas. See Design Standard 11 Guardrails, Fences and Barriers for more information.

19.15 Trolley Return Bays

Trolley return bays may be needed in some shopping centres to encourage shoppers to store trolleys in a single location to minimise potential for injury or damage to other users of the area. 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 participation.

Design principles for trolley bays include

- bay 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 reflectorised panels if the area is used at night
- bays should 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 should 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
- foundations should be designed to resist damage by vandals.

The following photograph shows a trolley bay which incorporates most of the desirable design principles.



A well designed Trolley Return Bay

19.16 Pergolas and awnings

Designers should consult Canberra Urban Parks and Places early in the design process about any pergolas, awnings or other shade structures.

19.17 Drinking fountains

Drinking fountains or bubblers are generally sited in high use areas and on the edge of mainstream pedestrian traffic. Generally only one drinking fountain is provided in each location. The height and design of drinking fountains should allow access by people in wheelchairs and children. They require automatic off taps to reduce water wastage.

19.18 Fences and gates

See Design Standard 11 Guardrails, Fences and Barriers.

19.19 Sculpture and artworks

Public sculpture and artwork may be used as a focus in places of high levels of pedestrian movement or congregation. It can also be used to help establish a unique design character for the area. It may not be suitable for placement in high volume locations, especially pedestrian thoroughfares, unless the artwork functions as street furniture

Artwork must conform to a reasonable level of quality in fabrication and construction, especially with regard to surface finish. Artwork and sculpture for public places should be designed to minimise maintenance, resist vandalism and be structurally sound.

Playground standards must be met if a sculpture could also be considered a child's play item (see Design Standard 16 Playgrounds and Play Equipment).

19.20 Signs

Signage can have a profound impact on urban design and if it is not integrated with the character of the urban open space it will become a major contributor to visual clutter.

Appropriate signage will act to build a legible environment. Once a signage policy has been accepted it is important to maintain the policy throughout the precinct.

Canberra Urban Parks and Places and the ACT Bureau of Sport and Recreation recognise a hierarchy of urban open space and sportsground types (see *Proposed Policies for Residential Development in the ACT incorporating ACTCode*). Where possible, signage policies adopted should be consistent within and for all occurrences of these open space and sportsground types.

The number of signs should be kept to a minimum. Signs may be grouped together on the one support for clarity and ease of maintenance.

Good signage includes:

- identification signs visible from entry points
- an indication of activities appropriate at or near the car park
- informative interpretation signs carefully located to allow pedestrians to relate the information to a visible feature or features
- hazard warning signs where a feature poses a potential danger to the unwary

- directional signs to assist the user to locate and use features.

Signs are essentially a one way form of communication so they will only be effective for these purposes if they are:

- of relevance to the reader
- easily understood
- readily identified
- easily read
- tactile.

Signs located in grassed areas should be more than 2.2 m apart to allow ride-on mowers to manoeuvre. A 150 mm mowing strip at the base of posts, or grouping posts and obstacles in areas of hard paving will simplify maintenance. Where possible signs should be located in mulched shrub beds rather than in grassed areas (but not obstructed by tall shrubs).

19.20.1 Determining the need for a sign

A sign is most appropriate if the message to be communicated is; simple, site related, relevant to readers or solves a management problem. Conversely, a sign is less appropriate, and more difficult to use if the message to be communicated is complex, irrelevant, not of immediate use to readers, or not aimed at resolving an immediate, site related management problem or opportunity.

Management challenges that can be addressed with signs include:

- people not knowing where they are – a *locational* sign is useful
- people not knowing where to go – a *directional* sign is useful
- people participating in unsafe behaviour – a *safety* sign is useful
- people not aware of appropriate behaviour required - an *advisory* sign can be used
- people not aware of unforeseen risks – an *warning* sign can be used
- people not knowledgeable about the environment in which they find themselves – an *interpretation* sign can be used.

19.20.2 Choosing a site for a sign

Usually the best place for a sign will be where the intended reader is the most receptive. This will be at points of indecision or where readers would naturally ask the question that the sign is aiming to answer or advise upon.

Major location signs would take priority over interpretive or directional signs. When a major safety sign is placed near the entrance to a locality, such as warning swimming conditions, care should be taken not to visually complicate the area, by placing it too close to the main sign.

Signs should consider the needs of disabled people such as height, clarity and tactile.

Directional signs need to be sited to give sufficient warning for possible changes of direction.

Safety signs should be placed as near as possible to the activity or danger area. Their placement must not visually compete with major locational signs.

For interpretative signs, care should be taken with the graphic layout of maps to ensure that the map's orientation relates directly to the surrounding environment.

Locate signs so they are in sympathy with their surroundings. Avoid silhouetting against the sky or obscuring a view. As a general rule, all signs should set against a background of foliage, hill slope or other feature, however the signs themselves should not be obscured by vegetation or physical features. Generally, signs should be as close to the ground as possible without compromising their visibility, bearing in mind angles of vision and the fall of the land.

The ability to read a sign from a vehicle is largely dependent on the speed of that vehicle and the location and visibility of the sign, relevant to the direction of travel. When a major location sign needs to be viewed from both directions, it should be placed parallel to the shoulder of the road at a minimum distance of 5 metres from the road's edge.

Signs are not to be attached directly to boulders, trees or other living vegetation. Should these features require signing, an appropriate sign would be a bollard or some other non-attached sign.

19.20.3 Sign plans

A visitor to an open space area may be confronted with a number of issues that can be answered by appropriately worded and placed signs. These issues often usually stem from unfamiliarity with the area being visited. To answer these issues a sign plan should be devised and reviewed every two years to ensure it meets existing conditions.

A sign plan should be designed to meet visitor needs. It is also a formal record of the location and wording of each sign installed. In addition it provides a basis for regular review and maintenance of signs.

In developing a sign plan the following questions should be addressed.

- How are people coming into the area and from which direction or directions?
- Where are the points of confusion or decision?
- How, when and where should visitors be encouraged to enter and move within the area?
- Where should visitors stop?
- Where should visitors be directed?
- What should visitors be told to assist their enjoyment of the area?

The sign plan should record the following:

- location of signs
- messages on signs
- form or type of signs (preferably a photographic record)
- date when signs were last reviewed and maintained.

Information about signs should be recorded allowing storage in electronic formats compatible with CUPP's Asset and Tree Information System and the Digital Data Convention for Detailed Surveying and Mapping of Shopping Precincts.

19.20.4 Signage Policy

The Signage Policy for Urban Parks and Places (2001) should be referred to.

19.21 Paving

Roads ACT manage most paved areas in public spaces. See Design Standard 13 Pedestrian and Cycle Facilities for information about paving in parks and public spaces.

19.21.1 Gravel

Decomposed granite 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 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
- it is screened to the specified particle size, and it is properly compacted and stabilised immediately after laying. See *Standard Specification for Urban Infrastructure*.

19.22 Flagpoles

Stainless steel flagpoles with an internal halyard are preferred. Where possible painted flagpoles should not be used.

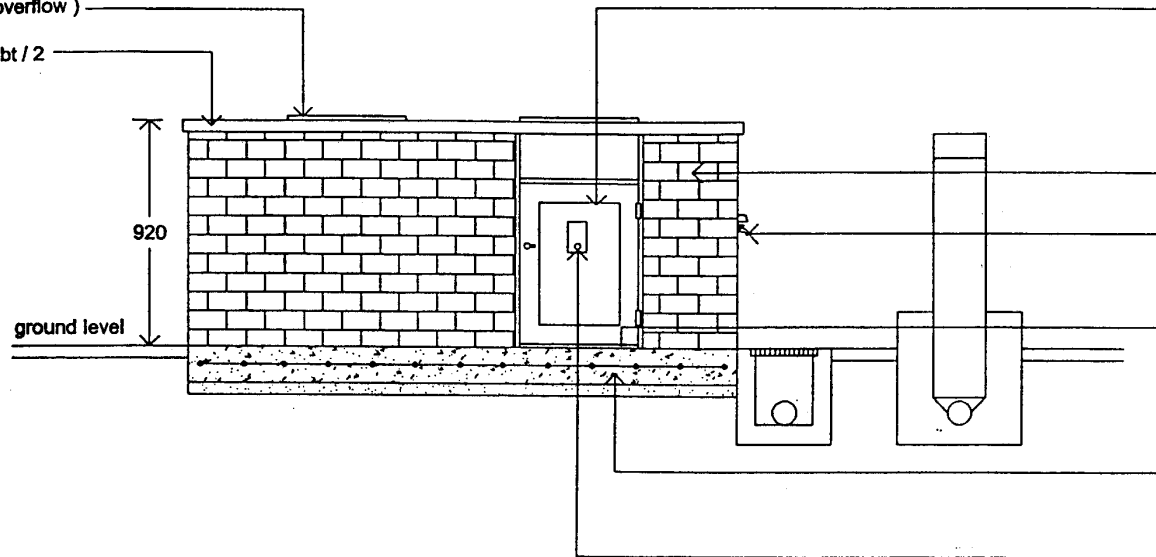
19.23 Barbecues

Barbecues are usually provided in district parks only. They are distributed at nodes of activity and should be easily accessible from car parks and for maintenance. Barbecues should be accessible for people with disabilities.

Barbecues shall be electric where possible and preferably constructed from brick with a stainless steel top. Seats, tables, bins, shelter and a tap and gully trap should be located in close proximity to barbecues. The gully trap should be connected to the sewer where available and otherwise to a soakage pit.

Barbecues do not need to have a facility for collecting money since they are free.

2 no. x stainless steel hot plates
with fat trays (with baffle and overflow)
stainless steel top model no.ssb / 2



heavy duty galv. main frame and door
with additional reinforcing 25 x 25 x 3mm
galv. steel angle welded to main frame

perimeter brick wall. traditional red brick.
(sample to be provided for approval
prior to work commencing)

tap.
refer detail below

10mm gap at bottom
of door for venting

150mm thick 25Mpa concrete slab,
reinforced with F82 located centrally
on 25mm thick bedding sand

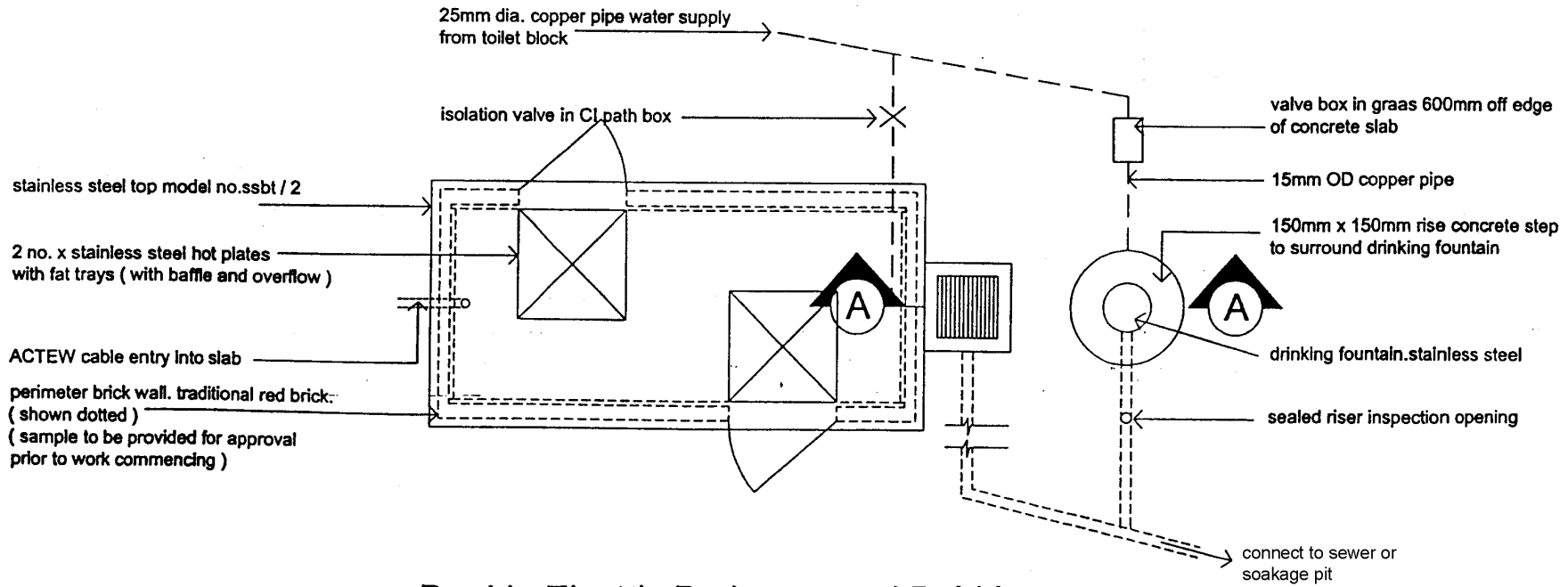
safety start switch
(hold for five seconds)

1

Double Electric Barbecue and Bubbler

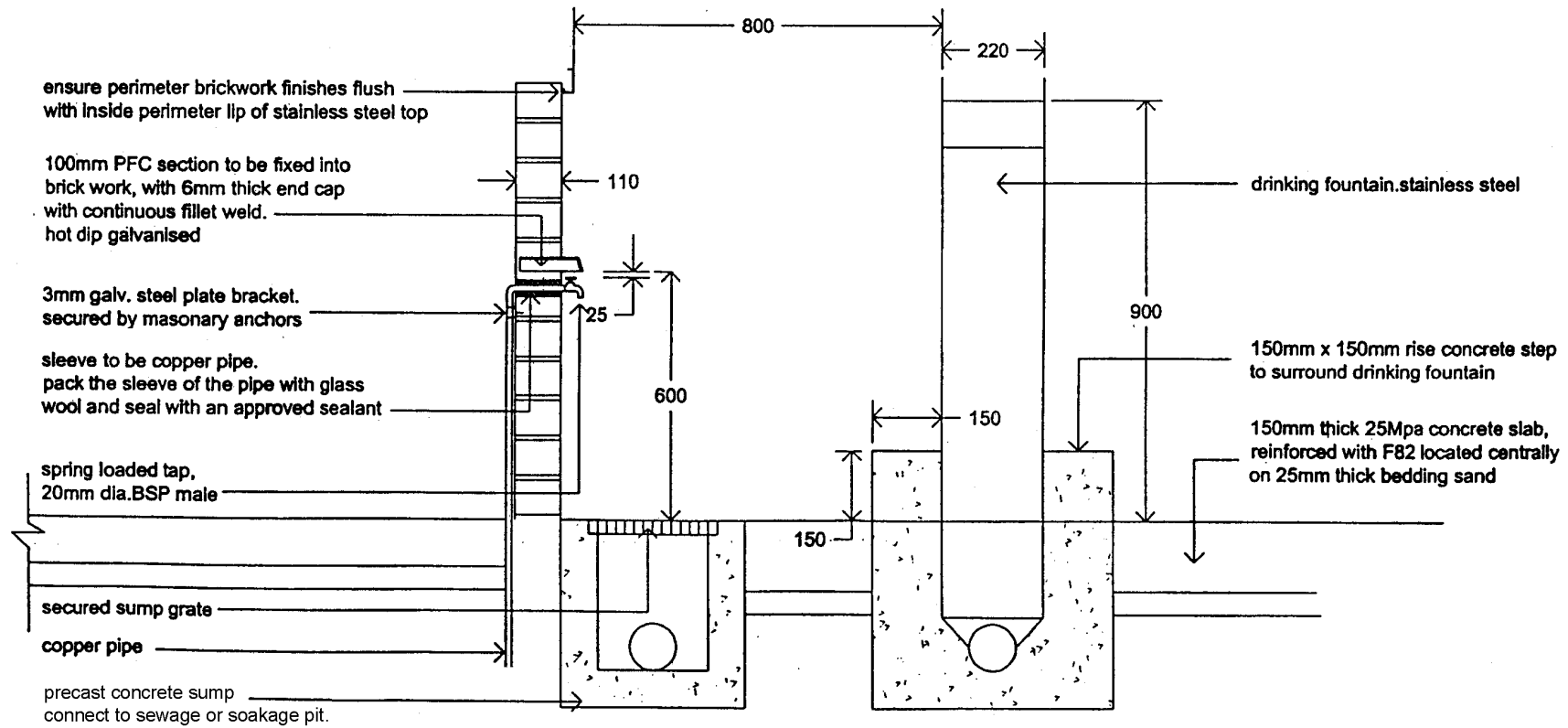
elevation scale - not to scale

Typical BBQ layout



2 Double Electric Barbecue and Bubbler
 plan scale - not to scale

Typical BBQ layout



Section AA

scale - not to scale

Typical BBQ layout

19.24 Further reading

Gungahlin Town Centre and Central Area - Draft Planning Guidelines, ACT Planning Authority, Canberra, 1995.

The Code of Practice for the Placement of Movable Signs in Public Places, Department of Urban Services, Canberra, 1999.