

INFRASTRUCTURE & LANDSCAPE GUIDELINES

February 2016



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Introduction

The Maroondah Infrastructure & Landscape Guidelines have been developed to assist Council Staff, developers, user groups and other land managers in the appropriate selection of open space infrastructure – furniture, fencing, signage etc – and methods/ styles of landscaping that may be applied to the various classes of open space within Maroondah.

The Guidelines are the culmination of many years of research, trial and practices that have established benchmarks for many of the items and styles listed.

The Guidelines also consider contemporary designs, materials & practices and will continue to evolve as products, technologies, methodologies and community expectations change over time.

There are several guiding principles that underpin these Guidelines and are essential to the selection of appropriate designs irrespective of changes over time. These are:

- Functional Design – practical, safe, durable, accessible & aesthetic design
- Lifecycle Cost – the initial, operational & maintenance costs over the lifespan of the item
- Maintainability – ease and frequency of maintenance & ease of replacement
- Sustainability – minimise use of non-renewable resources, use recycled and recyclable materials, maximise product lifespan.

Other factors to be considered when selecting products and designs/methods for inclusion in these Guidelines are:

- Past performance and recommendations
- Extent and history of previous use within Maroondah
- Availability of appropriate materials, colours & styles
- Local availability
- Changes in industry practices & regulations

The development and production of these Guidelines is a cooperative process involving many Council departments, coordinated and maintained by the Open Space Unit within the Assets Department.

Selection Principles & Criteria

The Maroondah Infrastructure & Landscape Guidelines provide a coordinated suite of site infrastructure and landscape treatments that may be selected to provide appropriate levels of amenity and service and to enhance public enjoyment of the various types of open space identified within the Maroondah Open Space Strategy (2005).

The Open Space Planning Framework developed within the Open Space Strategy identifies a number of Open Space categories based on a three-tiered classification system that defines the catchment, function and specific qualities of open space within the municipality.

To simplify the infrastructure selection process, the landscape setting typology established within the Open Space Strategy has been modified to group similar setting types together as outlined below. As many parks are comprised of a number of setting types, there may be a range of styles employed depending on the exact location and type of facilities provided.

A. ACTIVITY CENTRES & STREETSCAPES (A1)

- Paved Area (Urban Plaza) *eg. Croydon Main Street, Strip Shopping Centres*

B. PARKS, GARDENS & BUSHLAND AREAS

B1 Significant Parks and Gardens

Areas of special importance including Regional or City-Wide Open Space

- Exotic, Ornamental or Specimen Planting (Exotic)
eg. Ringwood Lake, Croydon Park, Community Buildings

B2 Informal Parks & Community Recreation Reserves

Areas of open space with a mix of grass, native & exotic vegetation

- Open Grassland (Grassland)
- Open Parkland (Parkland)
- Lake/Waterbody (Lake)
- Crop or Plantation (Crop)
- Tree Plantation (Tree)
- Wetland (Wetland)
eg. Brentwood Park, Dandenong Creek, Narr Maen Reserve

B3 Sporting Reserves

Areas of lawn, turf or synthetic surfaces developed for sports or organised recreation

- Specialised Sports Surfaces (SSS)
- Lawn or Managed Turf (Turf)
eg. East Ringwood Reserve Oval, Proclamation Park, AC Robertson Athletics Track

B4 Bushland & Natural Areas

Areas of open space dominated by remnant indigenous vegetation

- Bushland/Forest (Bushland)
- Rough Natural Area (Natural)
- Creek Corridor (Creek)
eg. Loughie's Bushland, Mullum Mullum Creek

Note 1. Ringwood Urban Design Manual must be applied only within the Activity Centre Area.

Note 2. Use discretion in infrastructure selection where an existing style has been extensively used within a specific park and remains serviceable.
(Replacement in the short term may be impractical).

Selection Matrix

The range of designs proposed for use in each of the major open space groupings –(A1, B1, B2, B3, B4) are presented in the following selection matrix.

- A1 Activity Centres & Streetscapes
- B1 Significant Parks and Gardens
- B2 Informal Parks & Community Recreation Reserves
- B3 Sporting Reserves
- B4 Bushland & Natural Areas

OPEN SPACE CATEGORY	A1	B1	B2	B3	B4
1.0 Bike Facilities					
1.1 Bicycle Parking Hoop	X	X	X	X	
1.2 Bicycle Holding Rail	X	X	X	X	
1.3 Bicycle Parking 'Bike Chain' Hoop	X				
2.0 Bridges and Decks					
2.1 Pedestrian Bridge		X	X		X
2.2 Boardwalks		X	X		X
2.3 Feature Decking		X	X		
3.0 Bollards and Barriers					
3.1 Post and Pipe Rail Fence – Square 'Pyramid Top'		X	X	X	
3.2 Cypress Pine Parking Barrier			X	X	X
3.3 Round 'Dome Top' Bollard			X	X	X
3.4 Square 'Pyramid Top' Bollard		X	X	X	
3.5 Removable Round 'Dome Top' Bollard			X	X	X
3.6 Removable Square 'Pyramid Top' Bollard		X	X	X	
3.7 Recycled Plastic Wheel Stop	X	X			
3.8 Square 'Chamfer Top' Bollard		Refer to detail			
3.9 Removable Round Steel Bollard		Refer to detail			
3.10 Heavy Duty Round Steel Bollard	X				
3.11 Round Steel Bollard		Refer to detail			
3.12 Flexible Guide Post		Refer to detail			
4.0 Drinking Fountains					
4.1 Slimline Drinking Fountain	X	X	X	X	
4.2 Wheelchair Accessible Drinking Fountain	X	X	X	X	
4.3 Recycled Plastic Drinking Fountain			X	X	
5.0 Fences					
5.1 Cypress Pine Post & Rail Fence		X	X	X	X
5.2 Mesh Oval Fence				X	
5.3 Loop Top Fencing	X	X			
5.4 Galvanized Pipe & Double Rail Fence			X	X	
5.5 Square Mesh Fencing (Galvanised)			X	X	
5.6 Ringlock Bushland Fencing					X
5.7 Wire Strand Fencing			X		X

Selection Matrix

OPEN SPACE CATEGORY	A1	B1	B2	B3	B4
6.0 Gates					
6.1 Boom Gate (Manual Operation)			X	X	X
6.2 Boom Gate (Electronic Control)		X	X	X	
6.3 Chicane – Open/Spring Closing Gate			X		X
7.0 Lighting					
7.1 Solar Powered Light Pole			X		
7.2 Park & Trail Light Pole & Fixtures		X		X	
7.3 Bollard & Footfall Lighting	X	X			
8.0 Rubbish Bins					
8.1 Lockable Steel Bin Stand	X	X	X		
8.2 Maroondah Rubbish Bin Enclosure	X	X			
8.3 Maroondah Recycle Bin Enclosure	X	X			
8.4 Park Duraslat Rubbish Bin Enclosure		X			
9.0 Seats, Benches & Tables					
9.1 Urban 'Duraslat' Seat & Bench	X	X		X	
9.2 Urban 'Duraslat' Picnic Setting		X			
9.3 Aluminium Bench Seat				X	
9.4 Timber Park Seat			X		X
9.5 Timber Multi-Purpose Bench			X		
9.6 Timber Park Bench			X		
9.7 Timber Picnic Table		X	X	X	X
9.8 'Prospect Truss' Picnic Setting		Refer to detail			
9.9 Park 'Duraslat' Picnic Setting		X	X	X	
9.10 Park 'Duraslat' Seat		X	X	X	
9.11 Metal Slat Seat	X				
10.0 Paints & Coatings					
10.1 Anti-graffiti Coating	X	X	X	X	X
10.2 Paint Types / Colours	X	X	X	X	X
10.3 Timber Finishes	X	X	X	X	X
11.0 Path and Trail Construction					
11.1 Granitic Gravel Path		X	X	X	X
11.2 Asphalt Path (1800mm)		X	X	X	
11.3 Path Edging		X	X	X	
11.4 Concrete Path (1500mm)	X	X	X	X	
11.5 Equal Access Provisions – Ramps & Grab Rails					
11.6 Steps – Concrete, Timber, Natural Rock					
11.7 Pedestrian Crossings					
11.8 Path Drainage – Boards, Grates Humps & Culverts					
11.9 End-Wall Treatments					

Selection Matrix

OPEN SPACE CATEGORY	A1	B1	B2	B3	B4
12.0 Paving					
12.1 Granitic Gravel Paving					
12.2 Segmental Paving					
12.3 Mass-pour Paving & Patterned Paving					
12.4 Stormwater Infiltration Paving					
13.0 Park Furniture – Feature Elements					
13.1 Memorial Plaques					
13.2 Masts & Flagpoles					
13.3 Fountains & Water Features					
13.4 Sculptural Features					
13.5 Estate Entry Display Walls & Branding					
13.6 Decorative Features – Gazebos, Pergolas & Stages					
13.7 Spotlight & Up-light Housings					
14.0 BBQ's					
14.1 Single BBQ Unit		X		X	
14.2 Double BBQ Unit		X		X	
14.3 Rendered Block / Brick BBQ					
15.0 Shade Shelters					
15.1 Steel Shelter			X	X	
15.2 Timber Shelter			X		X
16.0 Signs					
16.1 Council Property Identification (Multi-colour Sign)	X	X	X	X	X
16.2 Council Property Identification (Blue Sign)		Refer to detail			
16.3 Trail Signs		Refer to detail			
16.4 Plaques – Interpretive Panels / Advisory Signs	X	X	X		X
16.5 Plaques – Commemorative	X	X	X		X
16.6 Interpretive Signs					
16.7 Noticeboards & Information Shelter					
16.8 Way-finding Signs					
17.0 Sports Amenities					
17.1 Coaches Boxes				X	
17.2 Basketball / Netball Tower & Pad		X		X	
17.3 Goal Posts – Football, Soccer, Hockey & Rugby				X	
17.4 Cricket Wicket				X	
17.5 Cricket Practice Nets				X	
18.0 Toilets, Sheds & Other Built Structures					
18.1 Toilet Construction		X	X	X	
18.2 Toilet Fitting Out		X	X	X	
18.3 Storage Sheds			X	X	
18.4 Playground Siting & Design		X	X	X	
18.5 Playground Soft Fall Mulch & Edging		X	X	X	

Selection Matrix

OPEN SPACE CATEGORY	A1	B1	B2	B3	B4
19.0 Landscaping – Civil Works					
19.1 Block Retaining Walls – Keystone Wall		X		X	
19.2 Crib Retaining Walls					
19.3 Timber Retaining Walls					
19.4 Timber Sleeper & Steel Beam Retaining Wall			X	X	
19.5 Terraces					
19.6 Rock Placement					
19.7 Drainage – Grates, Pits & Culverts					
19.8 Irrigation					
19.9 Median Strips – Constructed Surfaces					
19.10 Roundabouts – Constructed Surfaces					
20.0 Landscaping – Planting Works					
20.1 Recommended Plant Lists (Include spacing guideline)					
20.2 Tree Planting	X	X	X	X	
20.3 Tree Surrounds					
20.4 Tree Guards & Stakes					
20.5 Shrub & Ground Cover Planting					
20.6 Planting Bed Preparation					
20.7 Weed Control					
20.8 Mulch – Organic & Inorganic					
20.9 Weed Control & Soil Stabilisation Matting					
20.10 Edge Treatments (Timber, Spade, Bush Logs etc)					
20.11 Grassing and Turfing					
21.0 Vehicle Management in Recreation Areas					
21.1 Vehicle Access – Principles & Design Practice					
21.2 Car & Bus Parking – Principles & Design Practice					
21.3 Traffic Control – Humps & Rumble Strips					
22.0 Water Sensitive Urban Design & Wetlands					
22.1 WSUD Principles & Techniques					
22.2 Water Gardens					

Note: Guidelines shown in red are yet to be developed.

Materials - Benefits & Consideration

The appropriate selection of materials for use in the outdoor environment will have far-reaching effects on public perception of the quality of Maroondah's open space.

Sensitively selected and appropriately sited, high-quality infrastructure can greatly enhance the public enjoyment of outdoor spaces and improve the visual character of the urban area, parkland or natural setting in which it is to be located.

Therefore materials selection should be strongly influenced by the use context and specific landscape qualities of each particular site in which public infrastructure is proposed to be sited.

In urban activity areas & significant parks and gardens:

Select high-quality street furnishings & infrastructure with streamlined modern forms (not overly ornate), constructed of 'urban' materials with combinations of dressed and painted or stained timbers, stainless steel, recycled composite materials and perforated metal.

In informal parks, sporting reserves & community recreation reserves:

Materials selection will vary, depending on the context. In higher-use parks, some 'urban' materials may be combined with more recycled or natural materials. In areas of less intensive use, selection of natural timbers and simple forms may be more appropriate.

In bushland & natural areas:

Select natural materials such as unpainted cypress pine with designs that are utilitarian in nature, simple and robust in form. Recycled materials may also be used to reinforce the message of environmental sustainability.

Wherever practicable, the selection of materials for use in new site developments and the modification, maintenance, repair and/or refurbishment of existing Council assets should consider whole-of-life impacts on the environment.

Selection of materials should be consistent with Council's environmental guidelines and should be informed by life-cycle assessment considerations including:

- impact on natural ecosystem from which the material was extracted/grown
- energy consumption and greenhouse gas emissions in production and use
- toxicity of material in production, use and disposal
- recyclable content and potential for end-of-life reuse or recyclability
- nature of waste generated by disposal of the product
- transport and distribution – preference for local manufacturers/suppliers
- operational effectiveness, durability and maintenance
- impact on project cost and delivery.

Materials selection should also consider emerging environmental technologies and processes that can be demonstrated to deliver environmentally superior results.

In general, public infrastructure should:

- Be appropriate for its intended use
- Be hard-wearing and long lasting
- Be made from sustainably-grown or recycled materials
- Be able to be recycled or re-used
- Have minimal packaging or waste

Materials - Benefits & Consideration

Specific Considerations for Commonly Used Materials (Positives and Negatives)

Aluminium

- + Modern appearance, doesn't deteriorate or rust
- + Can come from a recycled source & be recycled
- + Graffiti easily removed
- + Hard to burn (but can be 'bashed' and dented)
- Can get hot in sunny positions & cold in winter

Stainless Steel

- + Modern appearance
- + Strong material, doesn't deteriorate or rust
- + Graffiti easily removed
- Non-sustainable material

Powder-coated Steel

- + Wide range of colours, can be repainted
- + Very strong (but paint can be scratched easily)
- Can rust if finish is poor or damaged
- Needs anti-graffiti coating to allow easy removal

Timber

- + Natural look and feel
- + Temperature stays relatively constant
- + Can be carved, painted or stained
- + Very strong (but paint can be scratched easily)
- Graffiti is hard to remove - damages surface
- Deteriorates over time - rots
- Can be burnt and cut easily
- Generally not a sustainable material

Recycled Plastic

- + Doesn't rot or deteriorate
- + Composed of recycled materials
- + Graffiti easily removed
- Can warp and expand in full sun
- Can be burnt
- Comes in a limited range of colours

Composite (Fibreglass)

- + Doesn't rot or deteriorate
- + Wide range of colours
- + Can form complex shapes
- + Can imbed non-slip surface treatments
- + Strong and lightweight
- Non-sustainable product

Composite (Wood/Plastic)

- + Doesn't rot or deteriorate
- + Partially recycled material
- + Looks like timber
- + Graffiti can be removed (best with anti-graffiti coating)
- Limited colours/finishes/sizes

Anti-graffiti protection:

All screen-printed signs should have a '3M Anti-graffiti film' applied (anodised aluminium signs and plaques usually do not require a protective film).

Spray-on coatings are available to treat timber, metal and plastic surfaces & can be applied before or after installation - some are sacrificial and need to be re-applied regularly.

Refer to 'Paints & Coatings' Section.

Suppliers

Potential Suppliers	Contact Name	Phone No.	Email / Website
Alltek Welding	Paul Legg	(03) 9738 0999	www.alltek.net.au
Armsign	Brian Clarke	(02) 6625 1122	sales@armsign.com.au
A.R.C. Fences		1800 336 237	www.arcfences.com.au
Artcraft		(03) 9887 0877	melsales@artcraftpl.com.au
BAB Aluminium		(02) 9755 1580	www.bab.com.au
Barling's Woodworks	John Barling	(03) 9724 9600	sales@barlings.com.au
Boral		1300 134 002	www.boral.com.au
Botton & Gardiner		(02) 9667 8100	info@bguf.com.au
DA Christie		(03) 5981 0144	admin@dachristie.com.au
DeNeefe Signs	Mike Healy	(03) 9431 0999	signs@trafficltd.com.au
Draffin		(03) 9720 1033	inwel@draffin.com.au
Estate Australia	Lester Earl	1300 654 390	sales@estate-australia.com.au
Form A Sign	Wes Chandler	(03) 9561 7300	asigns@formsign.com.au
Furphy Foundry		(03) 5831 2681	furphyg@mcmedia.com.au
Glennwire Fencing	David Brine	(03) 9876 3335	gwire@pacific.net.au
Ingal EPS	Andrew Eames	(03) 9541 9300	sales@ingaleps.com.au
GR Design & Construct	Andrew Gunnersen	1300 733 492	ahgunnersen@grdesignandconstruct.com.au
JSP Engineering	John Putman	0414 813 676	information@jspengineering.com.au
Landmark Products	Jim Devitsakis	(03) 9391 5090	jim@landmarkpro.com.au
Leda-Vannaclip		(03) 9397 3233	www.ledaint.com
Metalcorp Steel		(03) 9768 1200	msunderl@metalcorpsteel.com.au
Norwood Products	Matthew Earl	(03) 5248 5679	norwood@estate-australia.com.au
Polite Enterprises Corporation		(03) 9462 7400	info@polite.com.au
Replas		1800 737 527	sales@replas.com.au
Road Management Solutions (RMS)		(03) 8878 3500	melbsales@rmssolutions.com.au
Roadwise Safety Solution		0408 354 256	roadwiseaust@gmail.com
Sign & Badge Centre		(03) 9720 8110	orders@signandbadge.com.au
Truline		1800 995 577	sales@trulineaustralia.com.au
Urban Design Group	Darren Rice	(03) 9357 8884	sales@stanfred.com.au
Urban Renewal Street Furniture	Leon Brodzik	(03) 9710 1532	urbanrenewalsf@lexicon.net.au
Vicpole		(03) 9738 0808	sales@vicpole.com.au

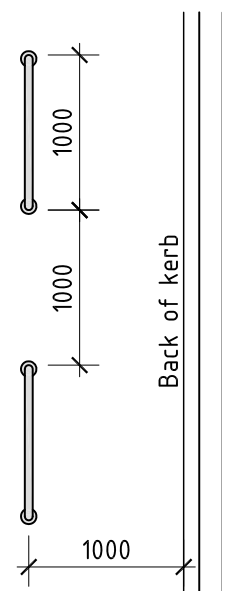
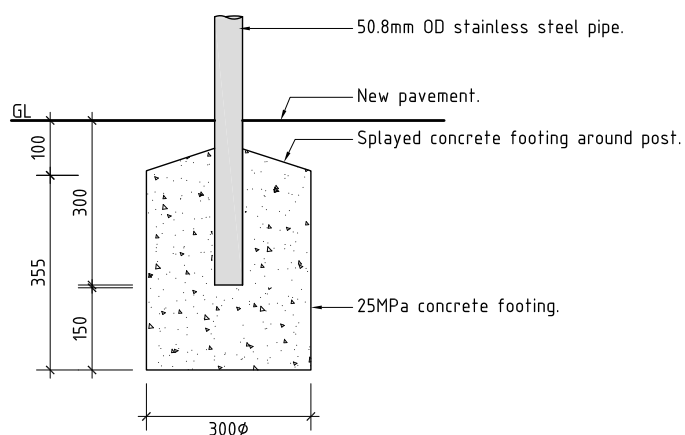
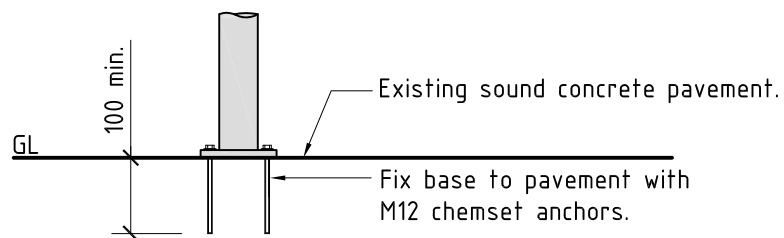
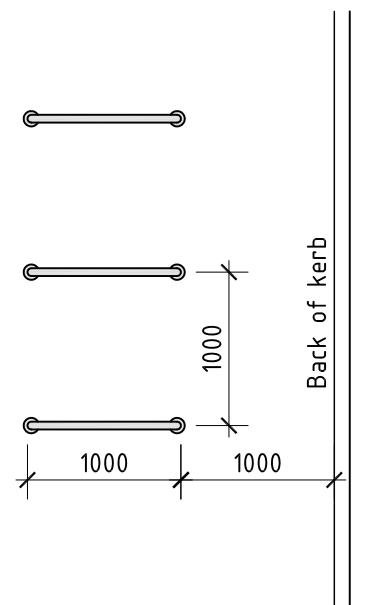
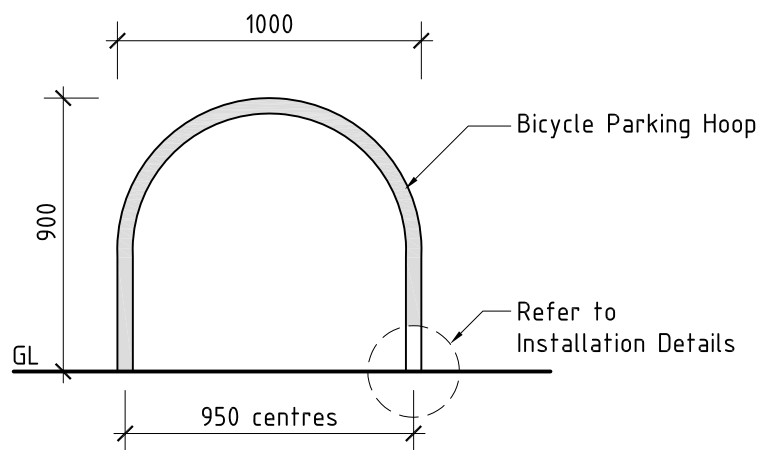
Note: This list is not exclusive and does not prohibit use of any other alternative supplier for a similar product.



Suitable Locations	<ul style="list-style-type: none">▪ Activity Centres & Streetscapes▪ Significant Parks & Gardens▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves
Common Location	<ul style="list-style-type: none">▪ Shopping Strips, Community Facilities.
Dimensions	<ul style="list-style-type: none">▪ 1000x900mm above ground.
Material	<ul style="list-style-type: none">▪ Grade 304 polished stainless steel tube 50.8mm OD.
Installation	<ul style="list-style-type: none">▪ In-ground: Encase steel pipe sleeve in concrete footing. Ensure sleeves are set plumb. This method is preferable for proposed pavement areas.▪ Bolt-Down: Fix to concrete pavement with M12 chemset anchors at each fixing points. Tack weld bolts discretely as required to increase theft and vandalism resistance. This method is preferable where there is an existing sound concrete pavement.
Maintenance	<ul style="list-style-type: none">▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none">▪ Single Bike Rack GOV 102S by Furphy Foundry/ Urban Design Group.▪ Other alternative suppliers are available.

1.1 Bicycle Parking Hoop

Detail

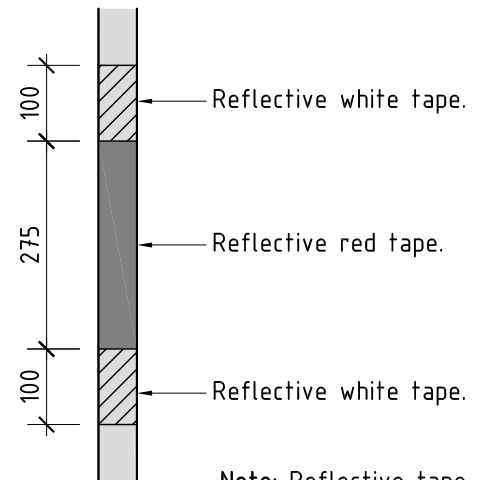
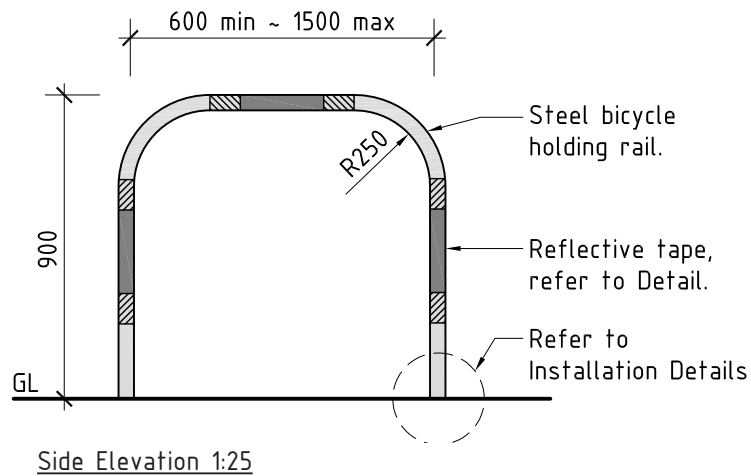




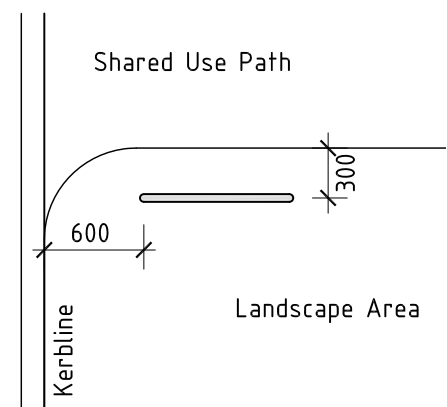
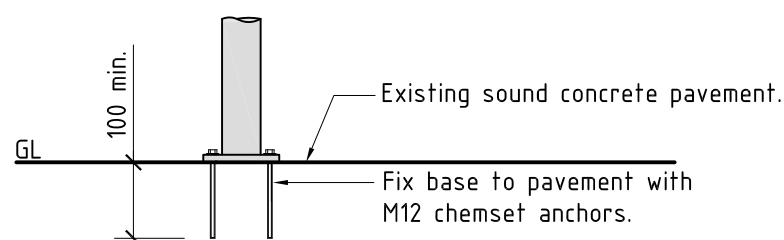
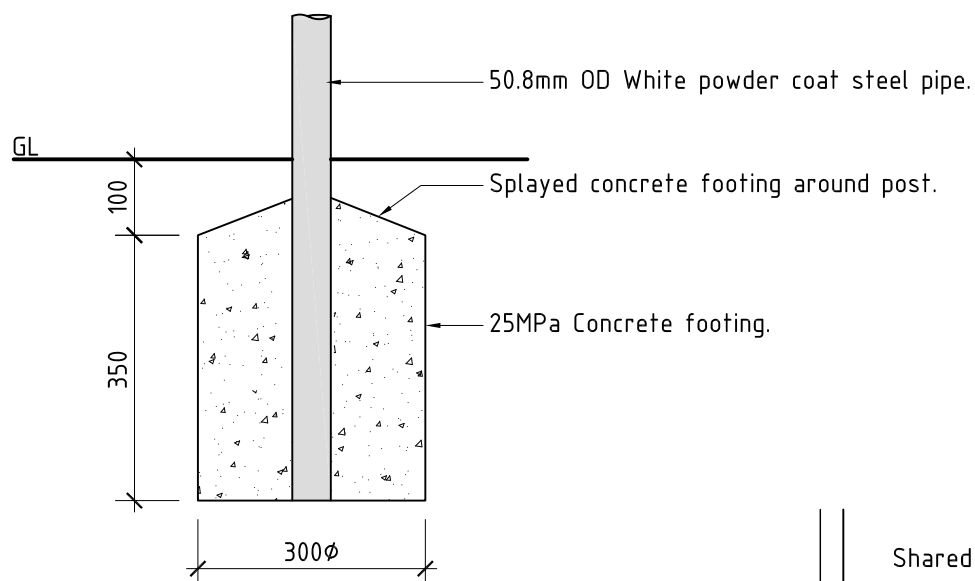
Suitable Locations	<ul style="list-style-type: none">▪ Activity Centres & Streetscapes▪ Significant Parks & Gardens▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves
Common Location	<ul style="list-style-type: none">▪ Kalinda Road & Mullum Mullum Creek Trail
Dimensions	<ul style="list-style-type: none">▪ 600~1500x1000mm above ground.
Material	<ul style="list-style-type: none">▪ White powdercoated steel tube 50.8mm OD.
Installation	<ul style="list-style-type: none">▪ In-ground: Encase steel pipe sleeve in concrete footing. Ensure sleeves are set plumb. This method is preferable for proposed pavement, grass and garden bed areas.▪ Bolt-down: Fix to concrete pavement with M12 chemset anchors at each fixing points. Tack weld bolts discretely as required to increase theft and vandalism resistance. This method is preferable where there is an existing sound concrete pavement.
Maintenance	<ul style="list-style-type: none">▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none">▪ By DeNeeffe Signs, Road Management Solutions.

1.2 Bicycle Holding Rail

Detail

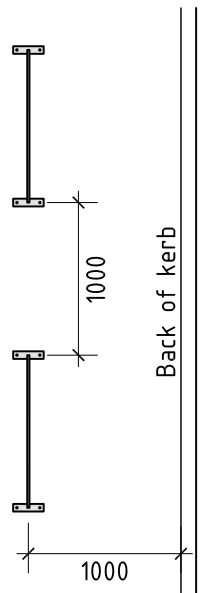


Note: Reflective tape to be Class 1 (AS1906.1) unless local regulations

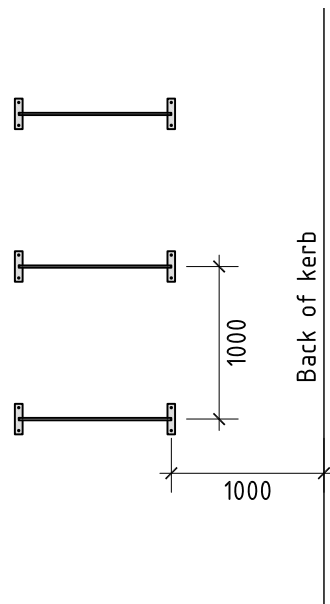




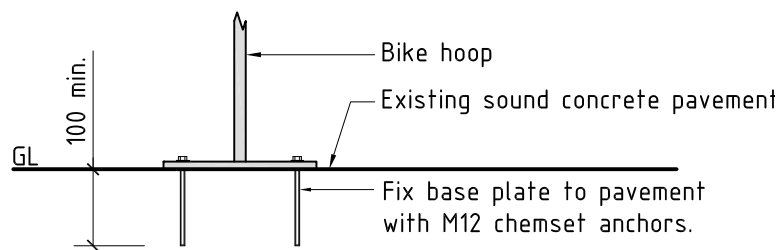
Suitable Locations	<ul style="list-style-type: none">▪ Civic facilities▪ Special sites
Common Locations	<ul style="list-style-type: none">▪ Maroondah Federation Estate▪ Croydon X Space
Dimensions	<ul style="list-style-type: none">▪ 1000x770mm above ground.
Material	<ul style="list-style-type: none">▪ 10mm mild steel with zinc primer and silver powder coat.
Installation	<ul style="list-style-type: none">▪ Fix to concrete pavement with M12 chemset anchors at each fixing points. Tack weld bolts discretely as required to increase theft and vandalism resistance.
Maintenance	<ul style="list-style-type: none">▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none">▪ Bike Chain Style Bike Hoop by Alltek Welding.



Plan (In-line Double) - 1:50



Plan (Parallel Double) - 1:50



Installation Detail (Bolt-down) - Section 1:10

2.1 Pedestrian Bridge <900mm High (Typical)

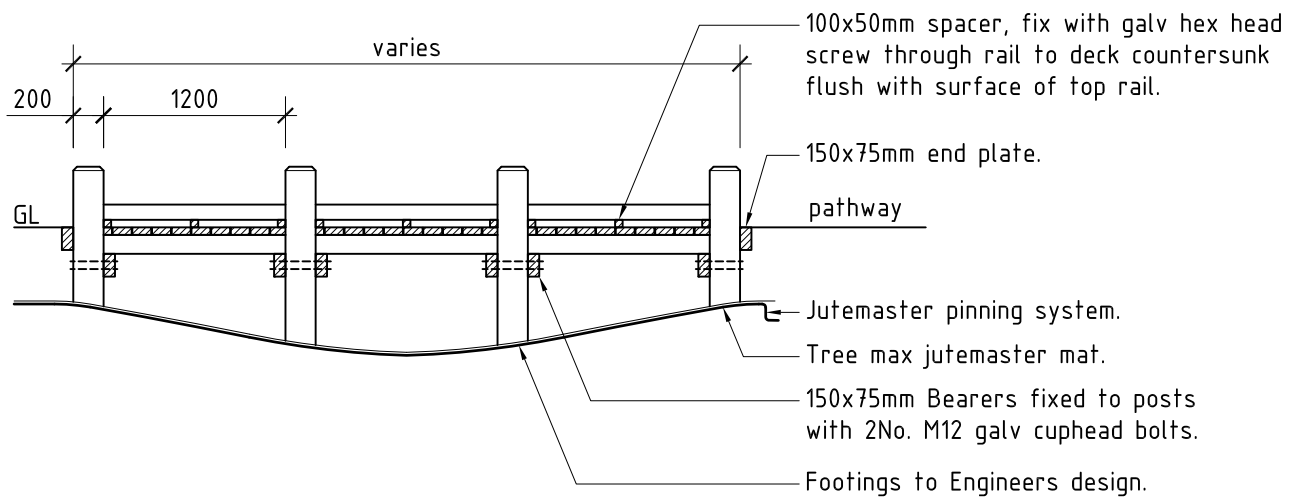
Description



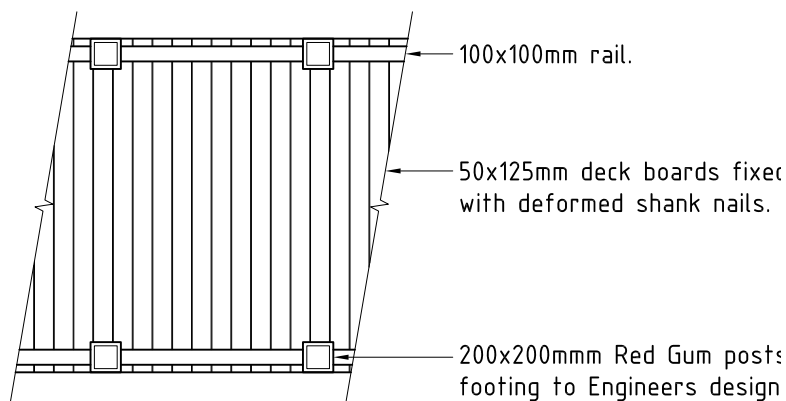
Suitable Locations	<ul style="list-style-type: none">▪ Significant Parks & Gardens▪ Informal Parks & Community Recreation Reserves▪ Bushland & Natural Areas
Dimensions	<ul style="list-style-type: none">▪ 1800mm max wide.
Material	<ul style="list-style-type: none">▪ 200x200 Red Gum posts, chamfer top.▪ First grade Class 1 KDHW timber deck boards, rails, spacers, bearers, end plates and joists. Free of splits and shakes.▪ All fixings to be hot dipped galvanised.▪ Apply non-slip coating to timber decks or use non-slip material for deck.
Installation	<ul style="list-style-type: none">▪ Fix timber posts into concrete footings to Engineers design, set plumb.▪ Fix bearers to timber posts with 2No. M12 galvanised cuphead coach bolts.▪ Fix joists to bearers with galvanised straps @ 500mm max centres. Fix to posts with 2No. M12 galvanised cuphead coach bolts.▪ Deck boards fixed to joists with deformed shank nails. Nominal gap between deck boards equally spaced 5mm. To meet flush with ground level.
Maintenance	<ul style="list-style-type: none">▪ Repair/ replace timber as required.▪ Inspect regularly for rot or damage.▪ Clean with high pressure hot water.▪ Renew non-slip coating as required.
Suppliers	<ul style="list-style-type: none">▪ Numerous bridge design and construction companies

2.1 Pedestrian Bridge <900mm High (Typical)

Detail



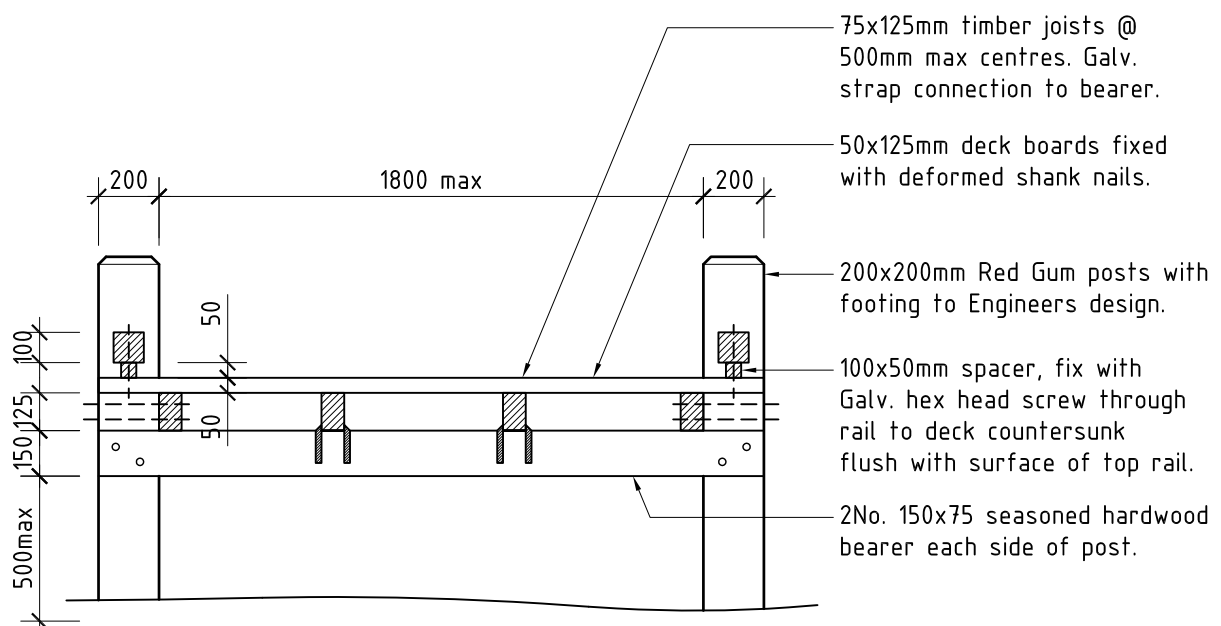
Installation Detail - Elevation 1:50



Installation Detail - Plan 1:50

Notes:

All timber to be first grade Class 1 KDHW. All fixings to be hot dipped galvanised.



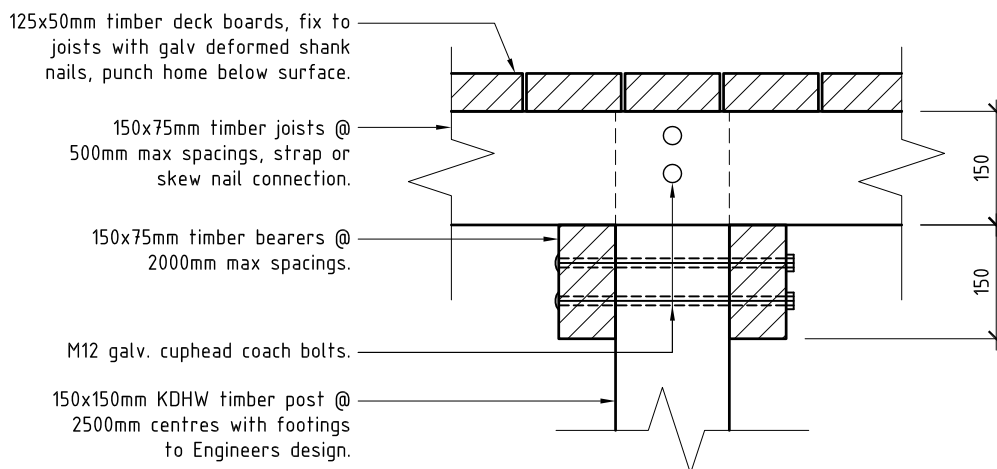
Installation Detail - 1:25



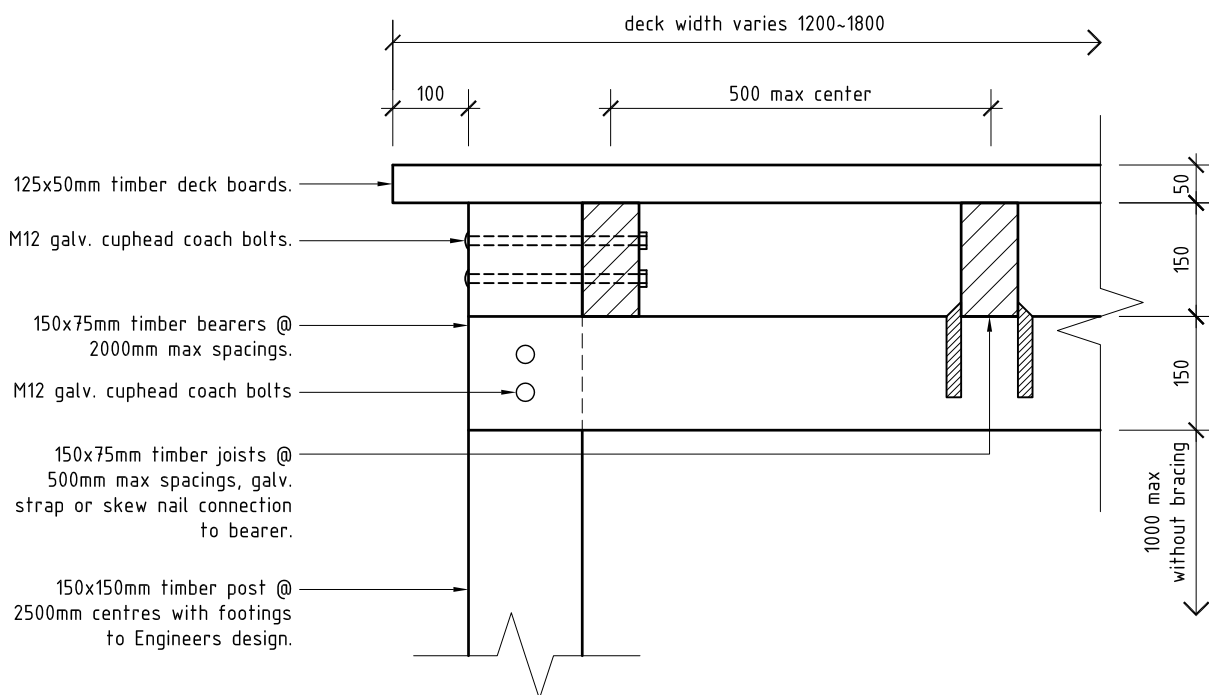
Suitable Locations	<ul style="list-style-type: none">▪ Significant Parks & Gardens▪ Informal Parks & Community Recreation Reserves▪ Bushland & Natural Areas
Dimensions	<ul style="list-style-type: none">▪ 1200~1800mm wide.
Material	<ul style="list-style-type: none">▪ First grade Class 1 KDHW or Cypress Pine timber deck boards, posts, bearers and joists. Free of splits and shakes.▪ All fixings to be hot dipped galvanised.▪ Apply non-slip coating to timber decks or use non-slip material for deck.
Installation	<ul style="list-style-type: none">▪ Fix timber posts into concrete footings to Engineers design, set plumb.▪ Fix bearers to timber posts with 2No. M12 galvanised cuphead coach bolts.▪ Fix joists to bearers with galvanised straps or skew nails @ 500mm max centres. Fix to posts with 2No. M12 galvanised cuphead coach bolts.▪ Deck boards fixed to joists with deformed shank nails. Nominal gap between deck boards equally spaced 5mm. Surface to meet flush with ground level.
Maintenance	<ul style="list-style-type: none">▪ Repair/ replace timber as required.▪ Inspect regularly for rot or damage.▪ Clean with high pressure hot water.▪ Renew non-slip coating as required.
Suppliers	<ul style="list-style-type: none">▪ Numerous bridge design and construction companies

2.2 Boardwalks (Typical)

Detail



Installation Detail Elevation - 1:10



Installation Detail Section - 1:10

Notes:

All timber for boardwalk construction to be first grade Class 1 KD F17 Australian Hardwood or KD F7 Cypress Pine free of splits and shakes. All fixings to be hot dipped galvanised.

3.1 Post and Pipe Rail Fence Square ‘Pyramid Top’

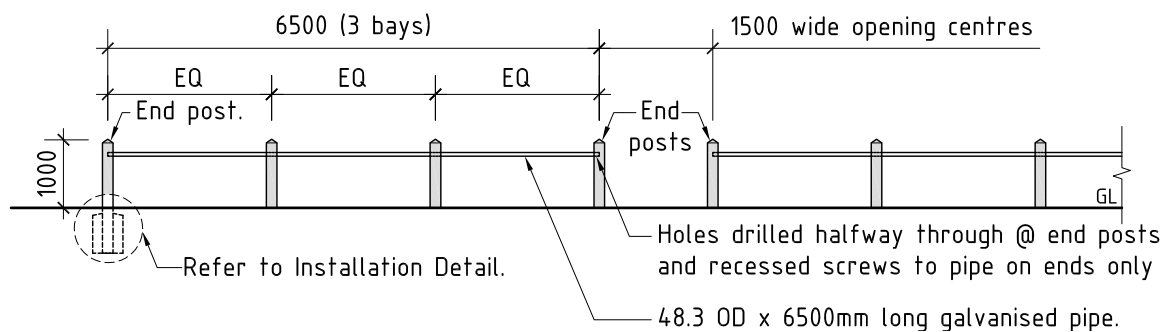
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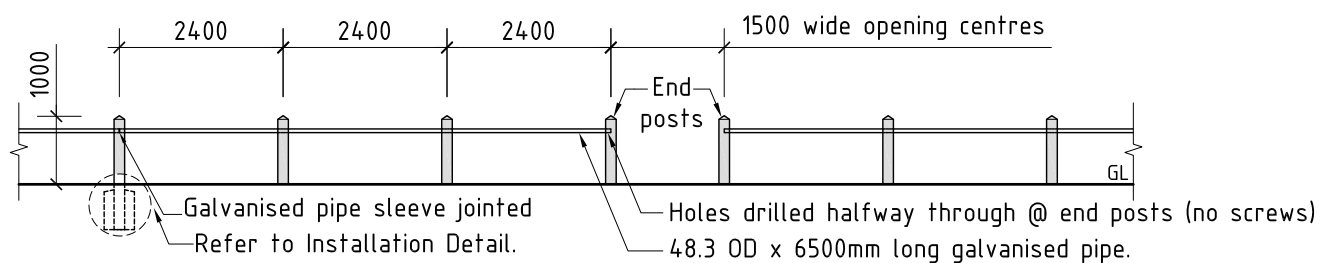
Suitable Locations	<ul style="list-style-type: none">▪ Significant Parks & Gardens▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none">▪ Croydon Park & Town Park.
Dimensions	<ul style="list-style-type: none">▪ 6500 centre-centre modules/4 posts/3 bays, 1000mm above ground.▪ Internal sleeve jointed option for continuous fencing (posts at 2400 centres).
Material	<ul style="list-style-type: none">▪ 50Ø galvanised steel pipe rail.▪ 125x125x1500 Cypress Pine square post with pyramid top, dressed finish, chamfered corners.▪ Recessed delineators are available for roadside locations.
Installation	<ul style="list-style-type: none">▪ Holes through posts are to be 5mm larger than steel pipe OD.▪ 1500mm wide pedestrian access opening for every 4 sections.▪ Fix bollards into concrete footings as shown in Installation Detail.
Product & Supplier	<ul style="list-style-type: none">▪ Barling's Woodworks Pty. Ltd.
Note	<ul style="list-style-type: none">▪ Not to be used directly adjacent to roadsides with speed limit greater than 40 km/hr, set back as per Austroad Guidelines.▪ Posts to be frangible if potentially impacted by vehicles.

3.1 Post and Pipe Rail Fence Square 'Pyramid Top'

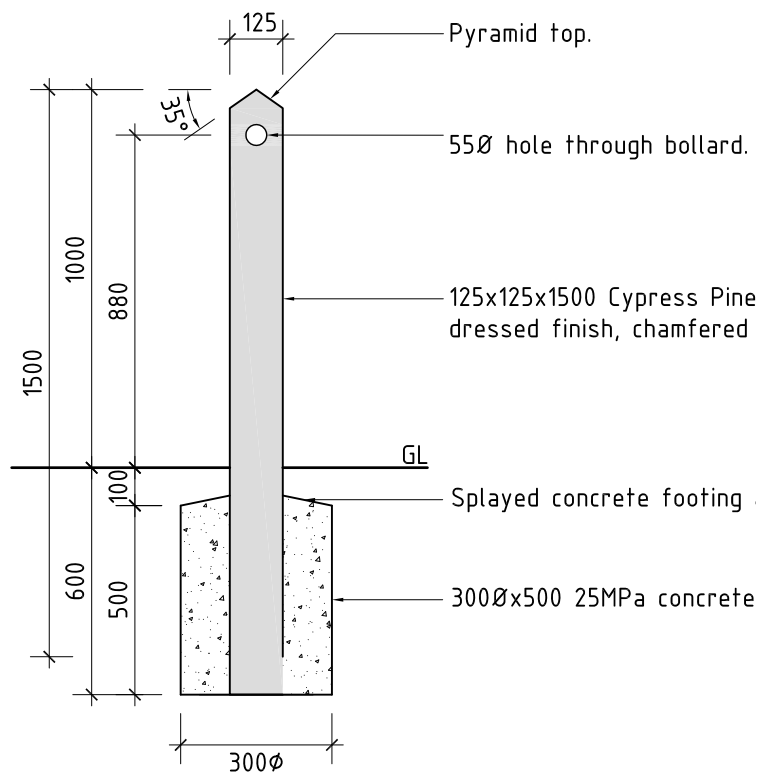
Detail



3-bay Fencing: Elevation 1:100



Continuous Fencing: Elevation 1:100



Installation Detail - Section 1:20



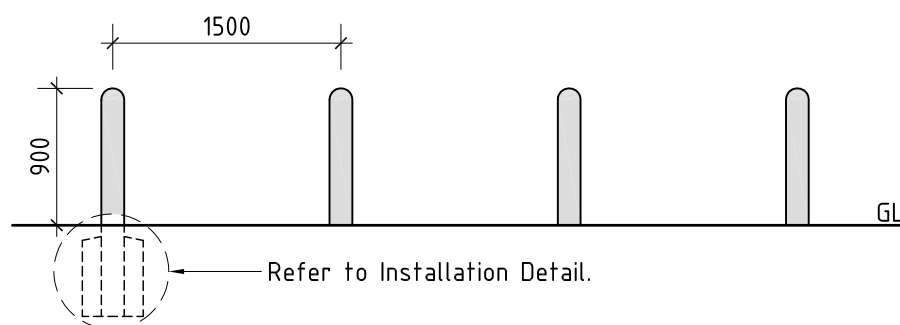
Suitable Locations	<ul style="list-style-type: none">▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves▪ Bushland & Natural Areas
Common Location	<ul style="list-style-type: none">▪ Quambee Reserve, H.E. Parker Reserve, P. Vergers Reserve.
Dimensions	<ul style="list-style-type: none">▪ 3000x700mm above ground (top of rail).
Material	<ul style="list-style-type: none">▪ White Cypress Pine post and rail.▪ 2No. M10x200 galvanised coach bolts, anti-tamper nut.
Installation	<ul style="list-style-type: none">▪ Install parallel to kerb edge unless instructed otherwise.▪ Posts are to be fixed into concrete footings as shown in Installation Details.▪ Ensure barrier rail is level (unless significant slope – to be assessed in site) and in the correct line before connecting to posts.
Product & Supplier	<ul style="list-style-type: none">▪ Cypress Pine Parking Barrier by Barling's Woodworks Pty Ltd.



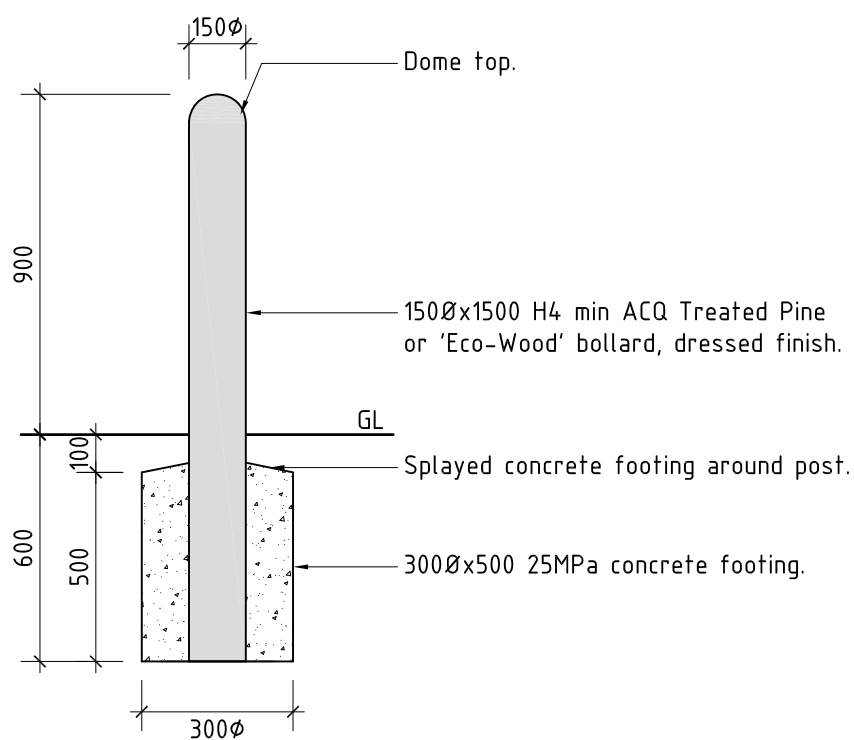
Suitable Locations	<ul style="list-style-type: none">▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves▪ Bushland & Natural Areas
Common Location	<ul style="list-style-type: none">▪ Common to all areas.
Dimensions	<ul style="list-style-type: none">▪ 150Øx900mm above ground.
Material	<ul style="list-style-type: none">▪ 150Øx1500 H4 minimum ACQ Treated Pine or 'Eco-Wood' round post with dome top, dressed finish.▪ Recessed delineators are available for roadside locations.
Installation	<ul style="list-style-type: none">▪ Install along edge of path unless instructed otherwise.▪ Install bollards @ 1500mm centres along straight paths.▪ Bollards are to be fixed into concrete footings as shown in Installation Detail.
Product & Supplier	<ul style="list-style-type: none">▪ B5 Treated Pine (150Ø Dome Top) by Barling's Woodworks Pty. Ltd.
Note	<ul style="list-style-type: none">▪ Not to be used directly adjacent to roadsides with speed limit greater than 40 km/hr, set back as per Austroad guidelines.▪ Posts to be frangible if potentially impacted by vehicles.

3.3 Round 'Dome Top' Bollard

Detail



Elevation 1:50



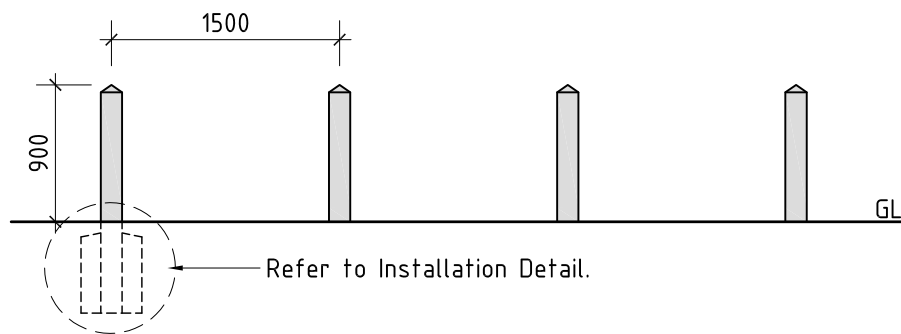
Installation Detail - Section 1:20



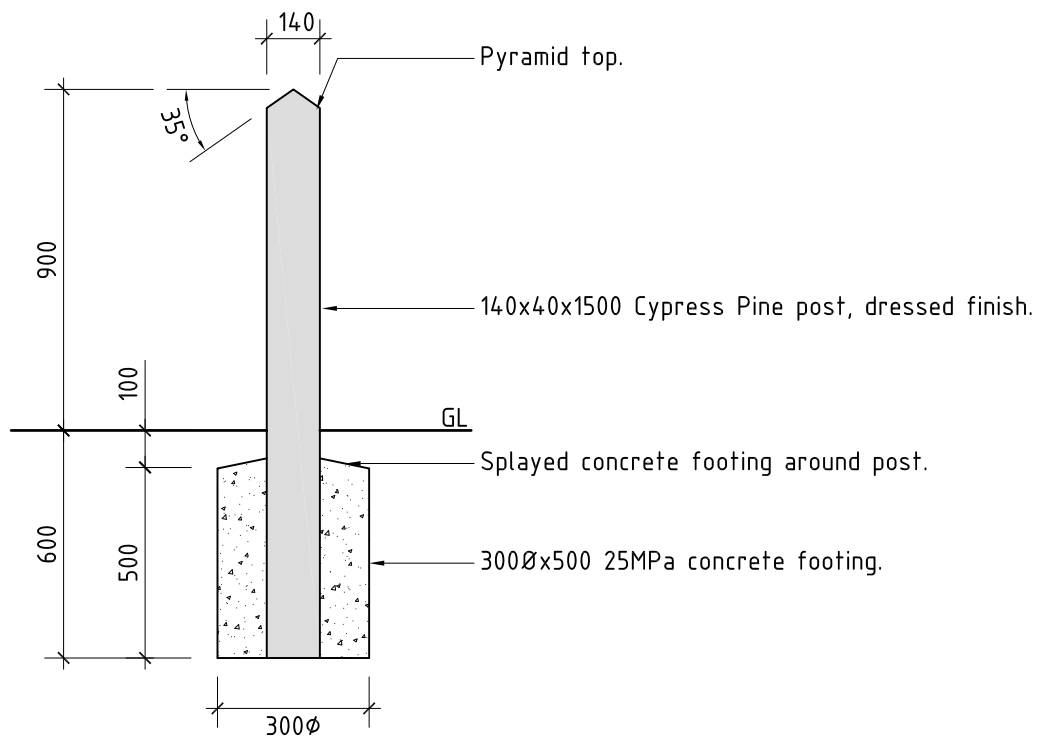
Suitable Locations	<ul style="list-style-type: none"> ▪ Significant Parks & Gardens ▪ Informal Parks & Community Recreation Reserves ▪ Sporting Reserves
Common Location	<ul style="list-style-type: none"> ▪ Common to all areas.
Dimensions	<ul style="list-style-type: none"> ▪ 140x140x900 above ground.
Material	<ul style="list-style-type: none"> ▪ 140x140x1500 Cypress Pine square post with pyramid top, dressed finish. ▪ Painted white or green (optional) ▪ Recessed delineators are available for roadside/ shared trail locations.
Installation	<ul style="list-style-type: none"> ▪ Install along edge of path unless instructed otherwise. ▪ Install bollards @ 1500mm centres along straight paths. ▪ Bollards are to be fixed into concrete footings as shown in Installation Detail.
Product & Supplier	<ul style="list-style-type: none"> ▪ B4 Cypress Pine (140mm Square Top) by Barling's Woodworks Pty. Ltd.
Note	<ul style="list-style-type: none"> ▪ Not to be used directly adjacent to roadsides with speed limit greater than 40 km/hr, set back as per Austroad guidelines. ▪ Posts to be frangible if potentially impacted by vehicles.

3.4 Square 'Pyramid Top' Bollard

Detail



Installation Detail - Elevation 1:50



Installation Detail - Section 1:20

3.5 Removable Round ‘Dome Top’ Bollard

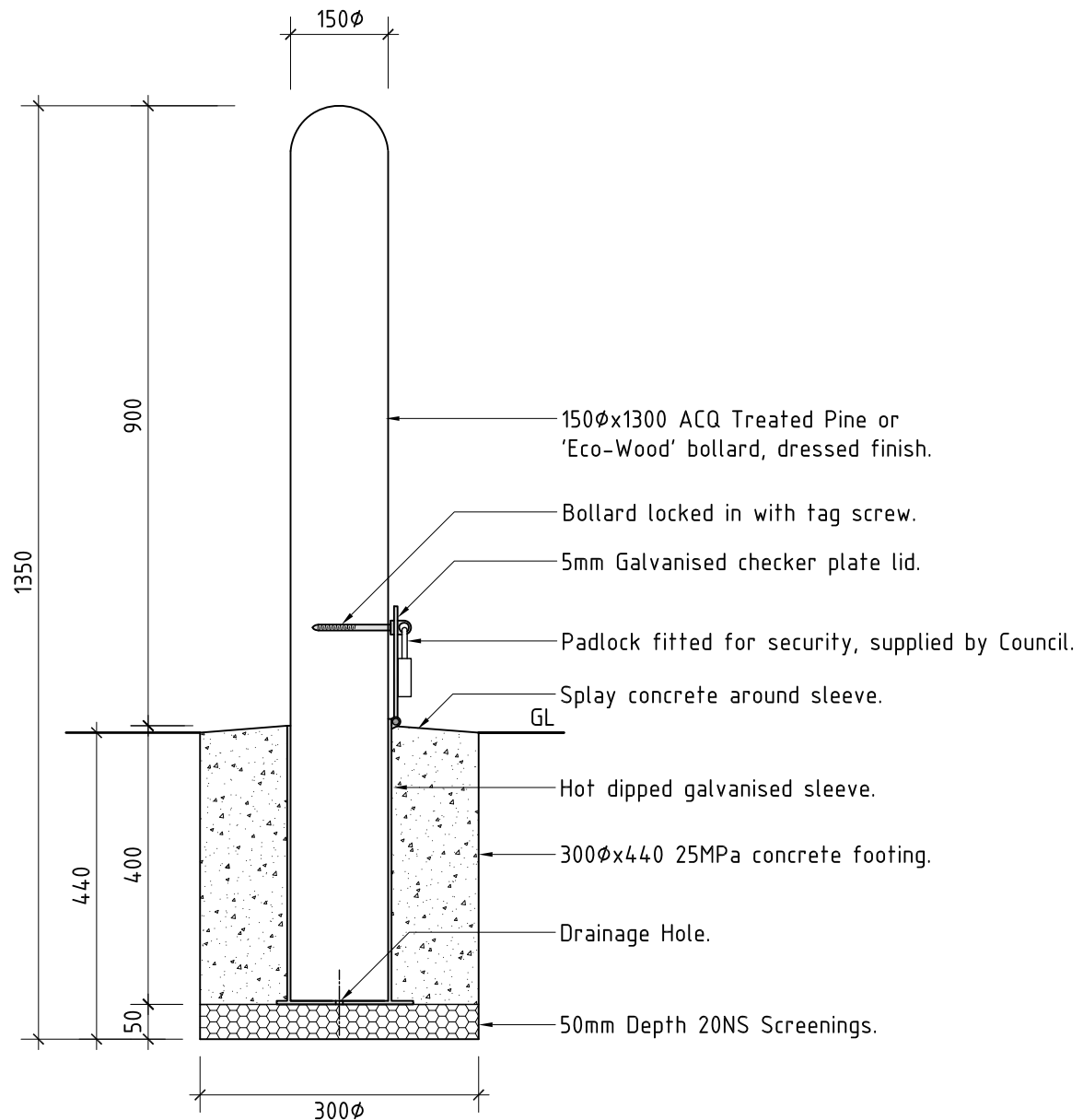
Description



Suitable Locations	<ul style="list-style-type: none">▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves▪ Bushland & Natural Areas
Common Location	<ul style="list-style-type: none">▪ Common to all areas.
Dimensions	<ul style="list-style-type: none">▪ 150Øx900mm above ground.
Material	<ul style="list-style-type: none">▪ 150Øx1300 H4 minimum ACQ Treated Pine or ‘Eco-Wood’ round post with dome top, dressed finish.▪ Hot dipped galvanised sleeve.▪ Tag screw.▪ 5mm checker plate lid.▪ Recessed delineators are available for roadside/ shared trail locations.
Installation	<ul style="list-style-type: none">▪ Install bollard sleeve into concrete footing as shown in Installation Detail.▪ Once the correct height has been determined the tag is to be screwed into the bollard.▪ Padlock tag screw for security.
Product & Supplier	<ul style="list-style-type: none">▪ Galvanised In-Ground Round Bollard Sleeve & B5 Treated Pine (150Ø Dome Top) by Barling’s Woodworks Pty. Ltd.

3.5 Removable Round 'Dome Top' Bollard

Detail



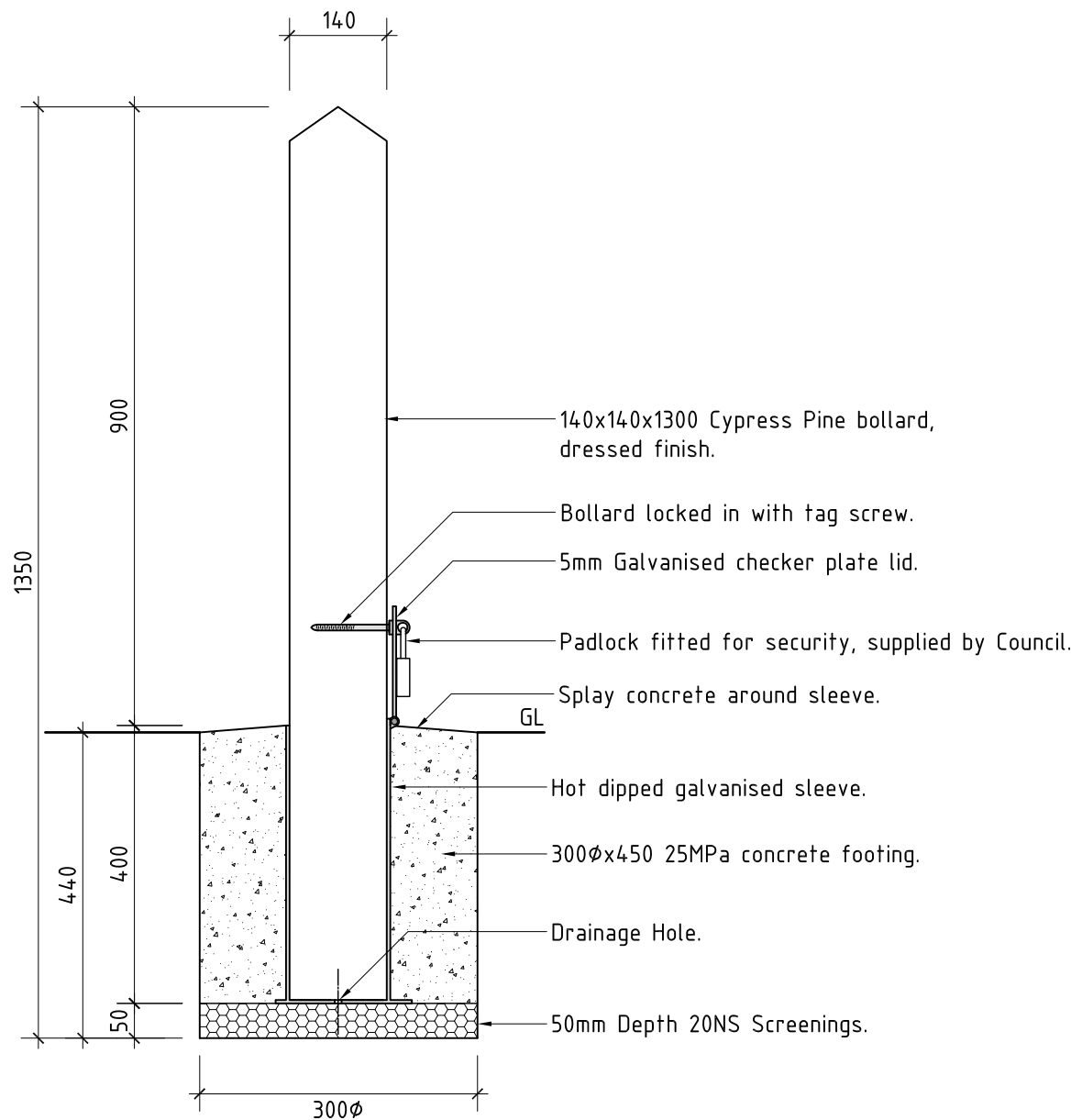
Installation Detail - Section 1:10



Suitable Locations	<ul style="list-style-type: none">▪ Significant Parks & Gardens▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves
Common Location	<ul style="list-style-type: none">▪ Common to all areas.
Dimensions	<ul style="list-style-type: none">▪ 140x140x900mm above ground.
Material	<ul style="list-style-type: none">▪ 140x140x1300 Cypress Pine square post with pyramid top, dressed finish.▪ Hot dipped galvanised sleeve.▪ Tag screw▪ 5mm checker plate lid.▪ Recessed delineators are available for roadside/ shared trail locations.
Installation	<ul style="list-style-type: none">▪ Install bollard sleeve into concrete footing as shown in Installation Detail.▪ Once the correct height has been determined the tag is to be screwed into the bollard.▪ Padlock tag screw for security.
Product & Supplier	<ul style="list-style-type: none">▪ Galvanised In-Ground Square Bollard Sleeve & B4 Cypress Pine (140mm Pyramid Top) by Barling's Woodworks Pty. Ltd.

3.6 Removable Square Pyramid Top Bollard

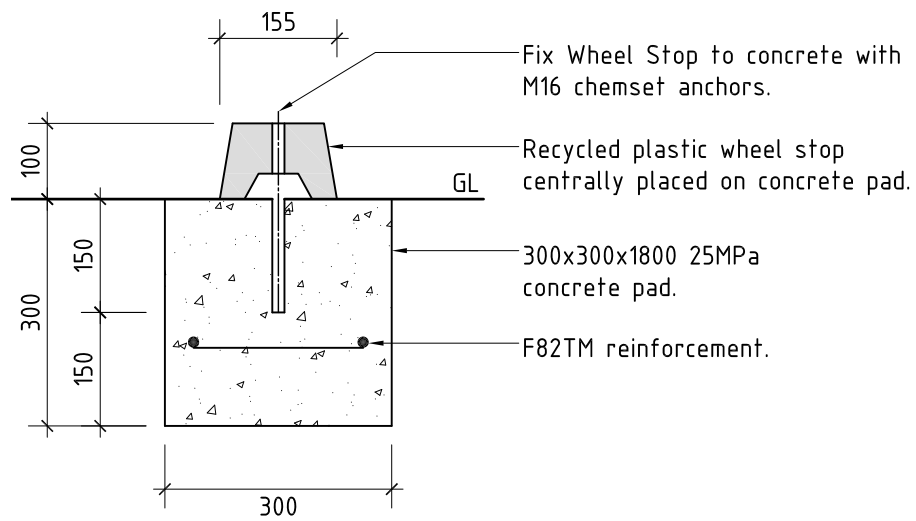
Detail



Installation Detail - Section 1:10



Suitable Locations	<ul style="list-style-type: none">▪ Activity Centres & Streetscapes▪ Significant Parks & Gardens
Common Location	<ul style="list-style-type: none">▪ Car parks.
Dimensions	<ul style="list-style-type: none">▪ 1650(long)x155(wide)x100(high).
Material	<ul style="list-style-type: none">▪ 1650x155x100 recycled plastic, standard 'concrete' grey colour.
Installation	<ul style="list-style-type: none">▪ Fix on to concrete pad with M16 chemset anchors as shown in Installation Detail.
Product & Supplier	<ul style="list-style-type: none">▪ PSS-159 Wheel Stop by Polite Enterprises Corporation.



Installation Detail - Section 1:10

3.8 Square ‘Chamfer Top’ Bollard

Description



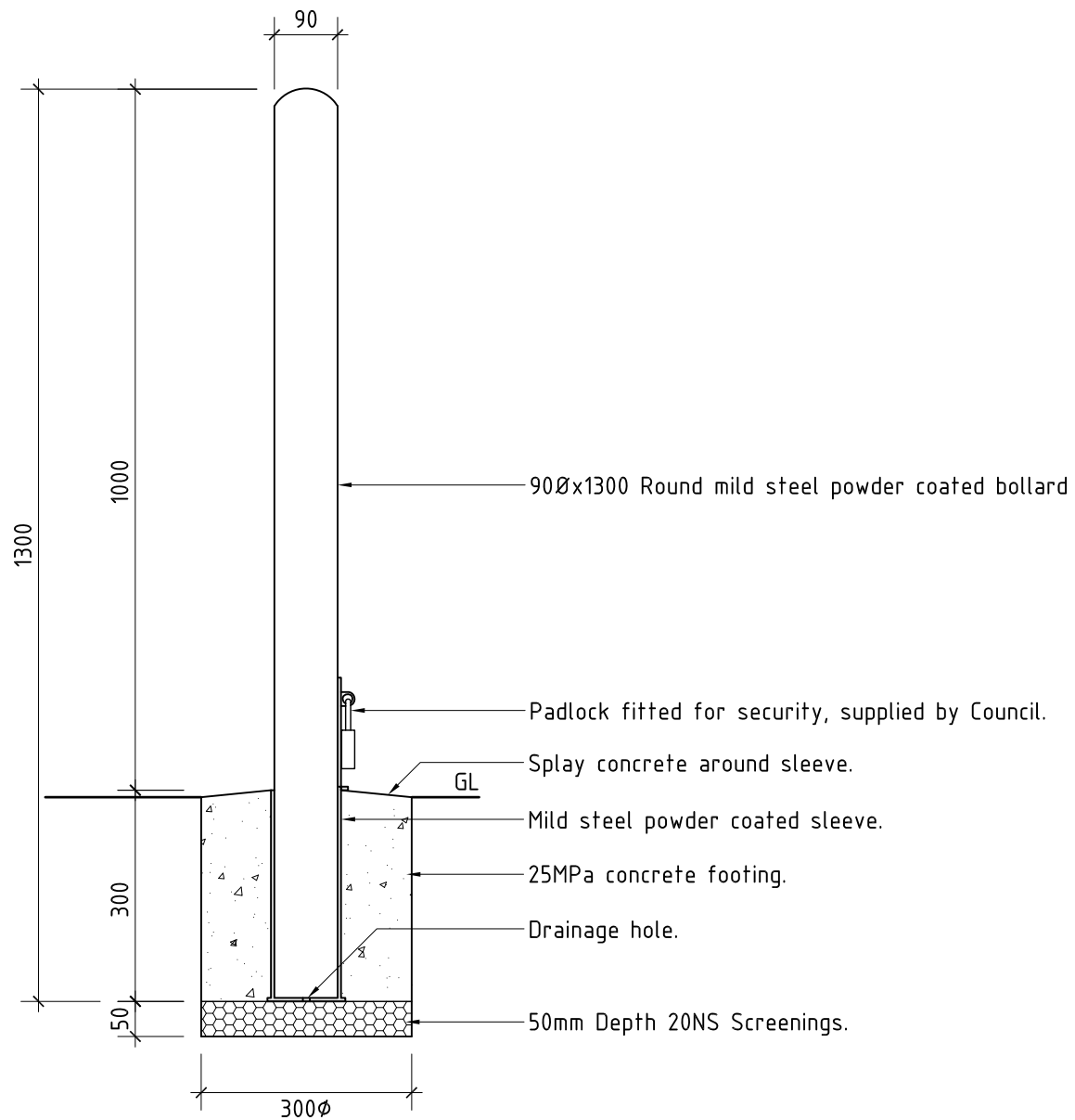
Suitable Locations	<ul style="list-style-type: none">▪ Car Parks▪ Garden beds
Common Location	<ul style="list-style-type: none">▪ Quambee Reserve
Dimensions	<ul style="list-style-type: none">▪ 200x200x1000mm above ground.
Material	<ul style="list-style-type: none">▪ 200x200x1500mm Cypress Pine square post with chamfer top, dressed finish.▪ 3No. Recessed delineators. Colour: Red.
Installation	<ul style="list-style-type: none">▪ Bollards to be fixed in concrete footing as shown in Installation Detail.
Product & Supplier	<ul style="list-style-type: none">▪ B6 Cypress Pine (25mm Chamfer Top) by Barling’s Woodworks Pty. Ltd.

3.9 Removable Round Steel Bollard

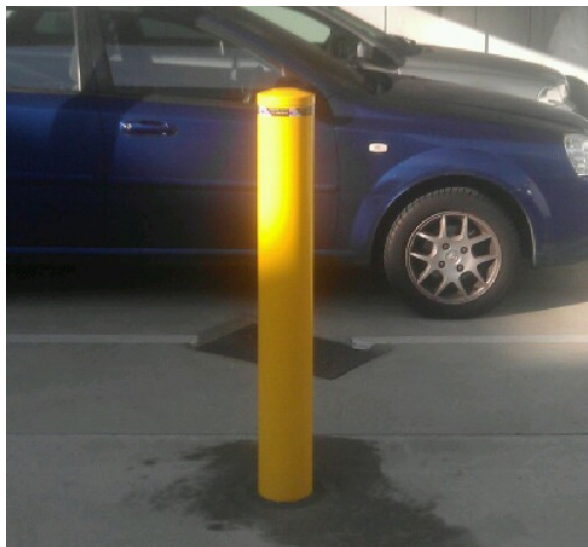
Description



Suitable Locations	<ul style="list-style-type: none">▪ Vehicle access points▪ Trail entrances
Common Location	<ul style="list-style-type: none">▪ Ringwood Lake
Dimensions	<ul style="list-style-type: none">▪ 90Øx1000mm above ground.
Material	<ul style="list-style-type: none">▪ 90Øx1300mm powder coated mild steel.▪ Powder coat: white or yellow with reflective band.
Installation	<ul style="list-style-type: none">▪ Install bollard sleeve into concrete footing as shown in Installation Detail.
Product & Supplier	<ul style="list-style-type: none">▪ SRRB-10 Standard Round Removable Bollard by Polite Enterprises Corporation.



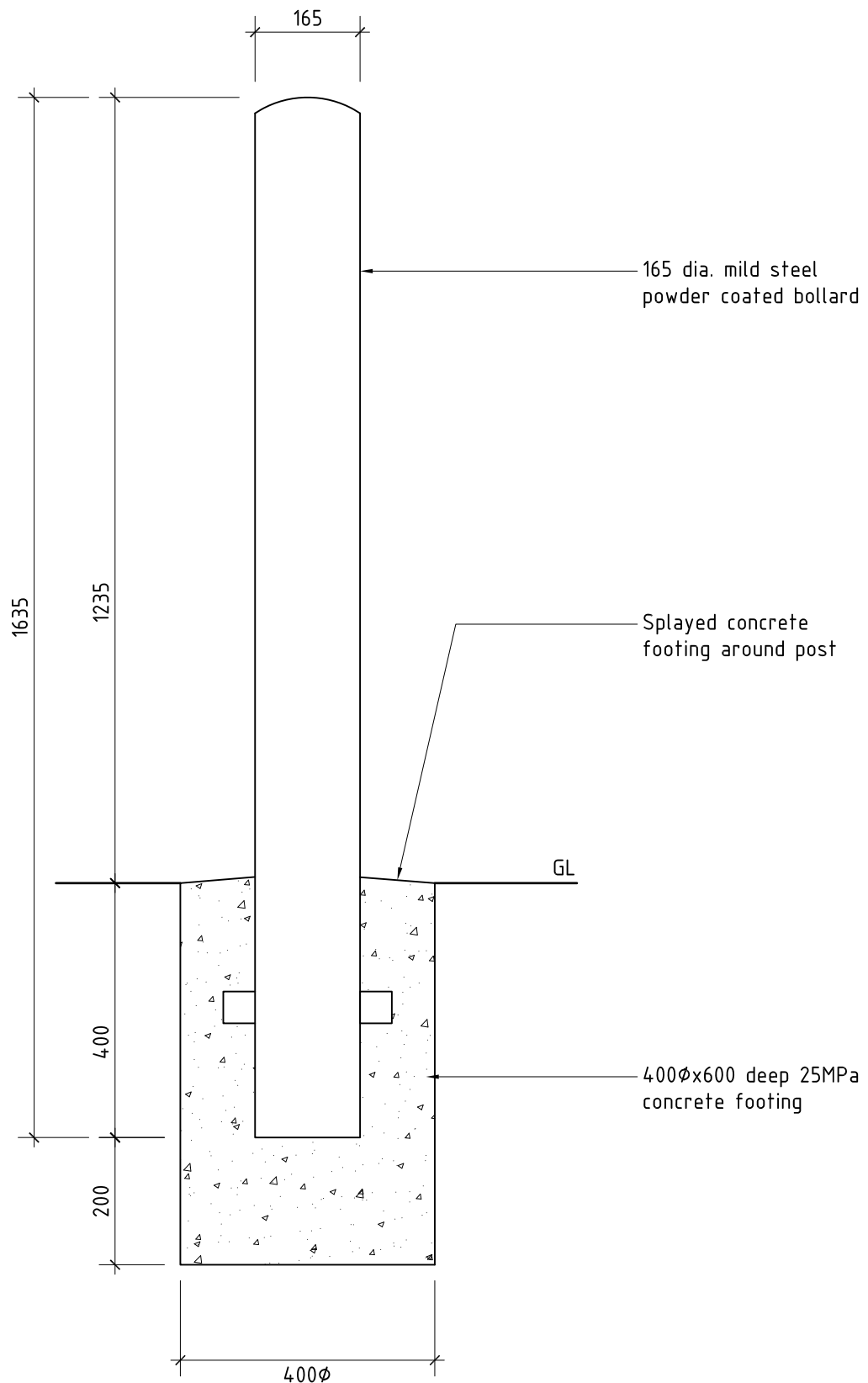
Installation Detail – Section 1:10



Suitable Locations	▪ Shopping centres.
Common Location	▪ Heathmont shops.
Dimensions	▪ 165Øx1235mm above ground.
Material	▪ 165Øx1635mm powder coated mild steel. ▪ Powder coat: white, yellow or mist green.
Installation	▪ Fix in concrete footing as shown in Installation Detail.
Product & Supplier	▪ HRB-8 Heavy Duty Round Bollard by Polite Enterprises Corporation.

3.10 Heavy Duty Round Steel Bollard

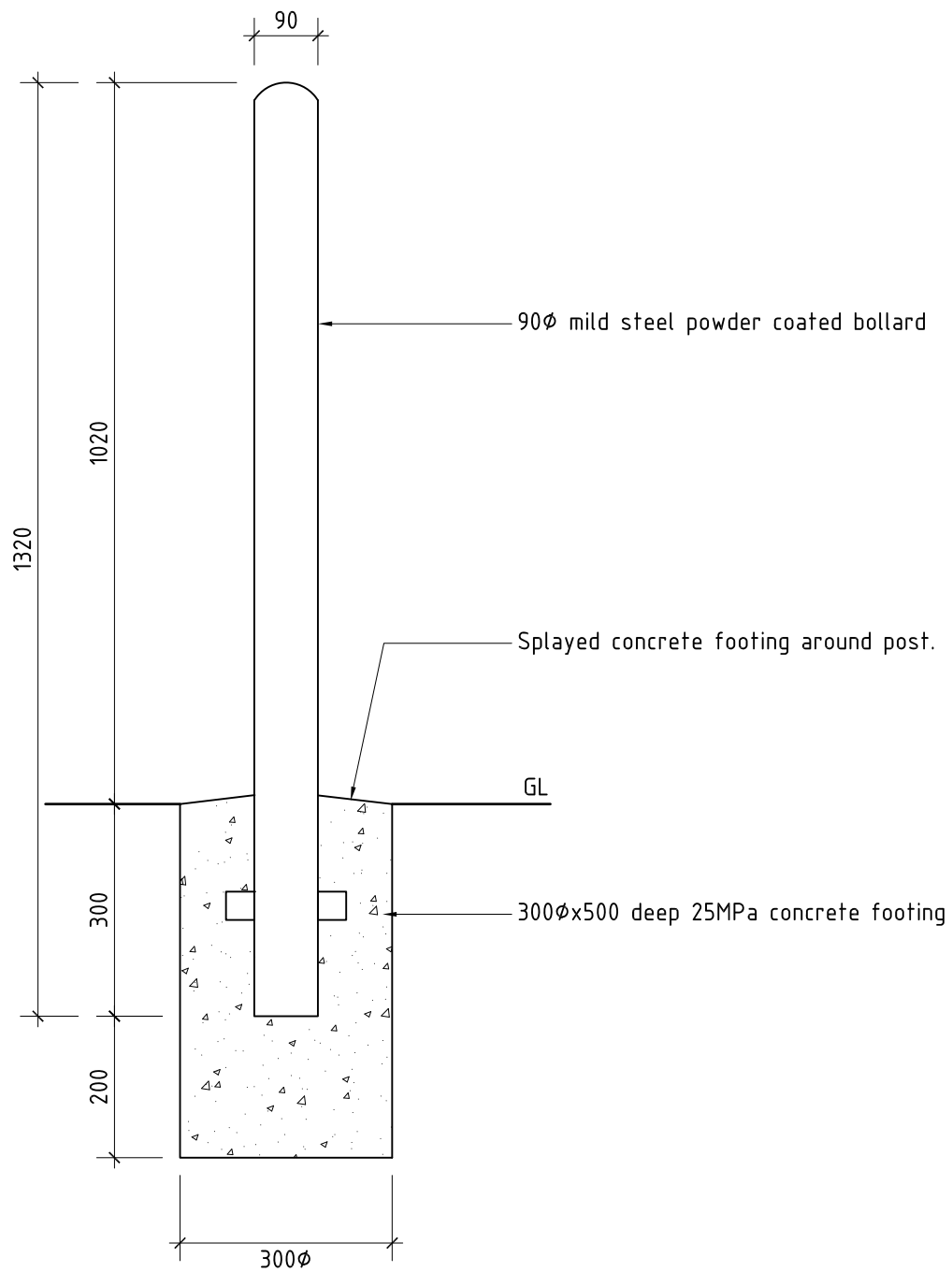
Detail



Installation Detail - Section 1:10



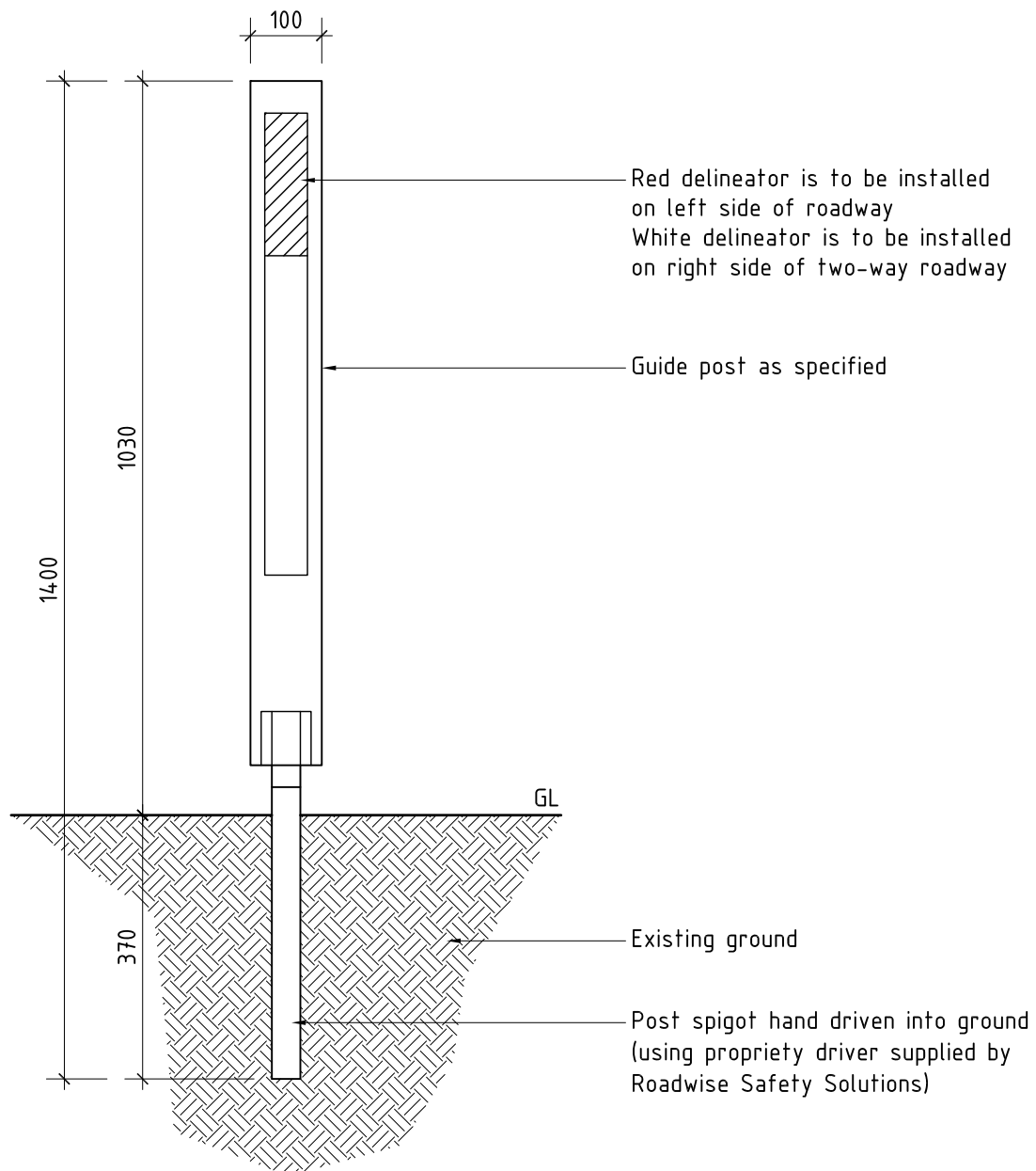
Suitable Locations	▪ Trail entrances
Dimensions	▪ 90Øx1020mm above ground.
Material	▪ 90Øx1320mm powder coated mild steel. ▪ Powder coat: white or yellow.
Installation	▪ Fix into concrete footing as shown in Installation Detail.
Product & Supplier	▪ SRB-6 Standard Round Bollard by Polite Enterprises Corporation.



Installation Detail - Section 1:10



Suitable Locations	<ul style="list-style-type: none"> ▪ Road verge, shared paths (culverts/hazard).
Dimensions	<ul style="list-style-type: none"> ▪ 100mm wide x 25mm thick x 1030mm high above ground.
Material:	<ul style="list-style-type: none"> ▪ 1400mm long white guide posts with galvanised steel spigots ▪ Red and white delineators to guide posts.
Installation	<ul style="list-style-type: none"> ▪ Guide posts are to be installed with hand drivers. ▪ When installing posts into sandy or soft ground conditions the tabs on either side of the lower portion of the ground anchor can be twisted with a small tool or shifter creating greater ground anchorage and resistance to removal. ▪ Clip the guide post to the driver coupling with the convex side of the ground anchor or the red delineator facing the driver and the driver toe positioned over the guide post driver pin. Ensure the final post installation is <i>vertical and orientated correctly</i>. (Red delineator facing on-coming traffic). ▪ Position the ground anchor point and twist the posts back and forth several times to create a depression and a starting point for the post installation. ▪ To establish the post in a final vertical position the top of the post and driver should be slightly tilted toward your body as the downward driving action tends to push the post away from you. ▪ Drive the post into the ground, avoid consistently striking the upper stop as this will result in the drive fingers lifting off the pin and disengaging from the post. ▪ The top of the round housing that contains the drive pin should be about ground level after installation.
Product & Supplier	<ul style="list-style-type: none"> ▪ Box Section Spigot Flexible Guide Post by Roadwise Safety Solutions.



Installation Detail - Section 1:10

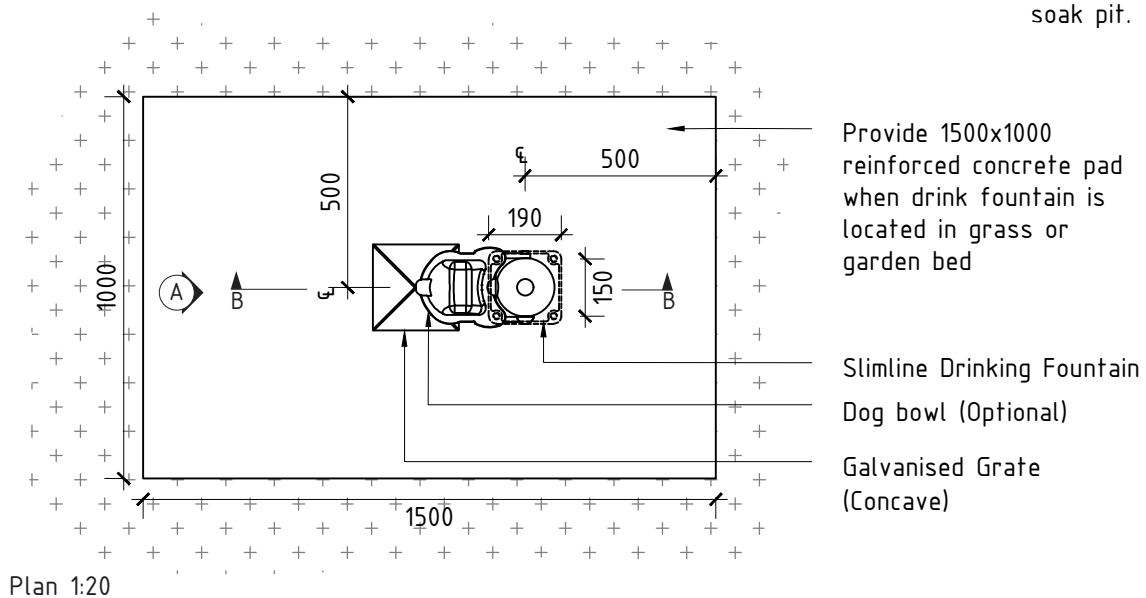
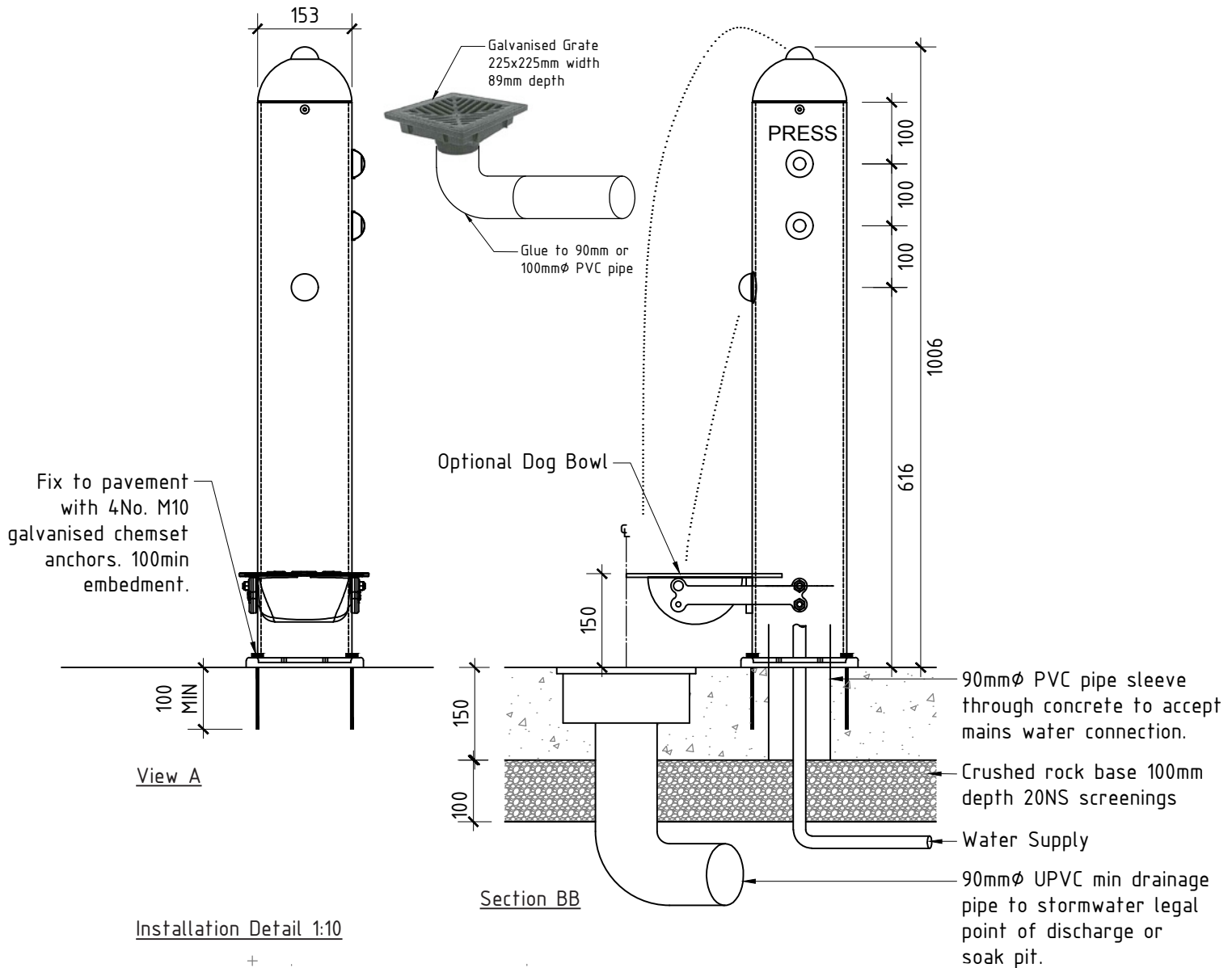


Dog Bowl Optional

Suitable Locations	<ul style="list-style-type: none"> ▪ Significant parks and gardens. ▪ Informal parks and community recreation reserves. ▪ Dog Off-Leash Parks- Optional dog bowl required.
Dimensions	<ul style="list-style-type: none"> ▪ 1006 High x 153 Diameter column
Material	<ul style="list-style-type: none"> ▪ Aluminium powder coated 'Dulux' Anotec XT dark grey 51275 matte. 'PRESS' Wording to be colour yellow.
Installation	<ul style="list-style-type: none"> ▪ Construct concrete paving or 1500x1000 concrete pad with provision for water supply and drainage. Plumbing to be undertaken in accordance with Australian Standards. Provide a separate shut off valve and pressure reducing valve in a lockable plastic valve box adjacent to the drink fountain. ▪ Fix to pavement with 4 No. M10 galvanised chemset anchors at each fixing point as shown in installation details. Not to be tamper proof. Ensure drink fountain is installed plumb.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required. ▪ Paint to be touched up when chipped or damaged.
Product & Supplier	<ul style="list-style-type: none"> ▪ Terrain Group Pty Ltd.

4.1 Slimline Drinking Fountain

Detail

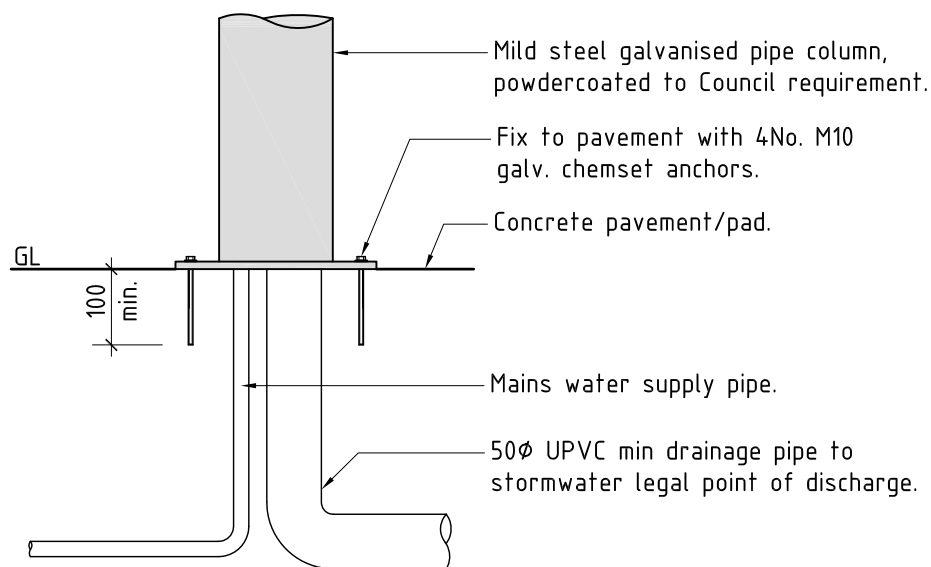




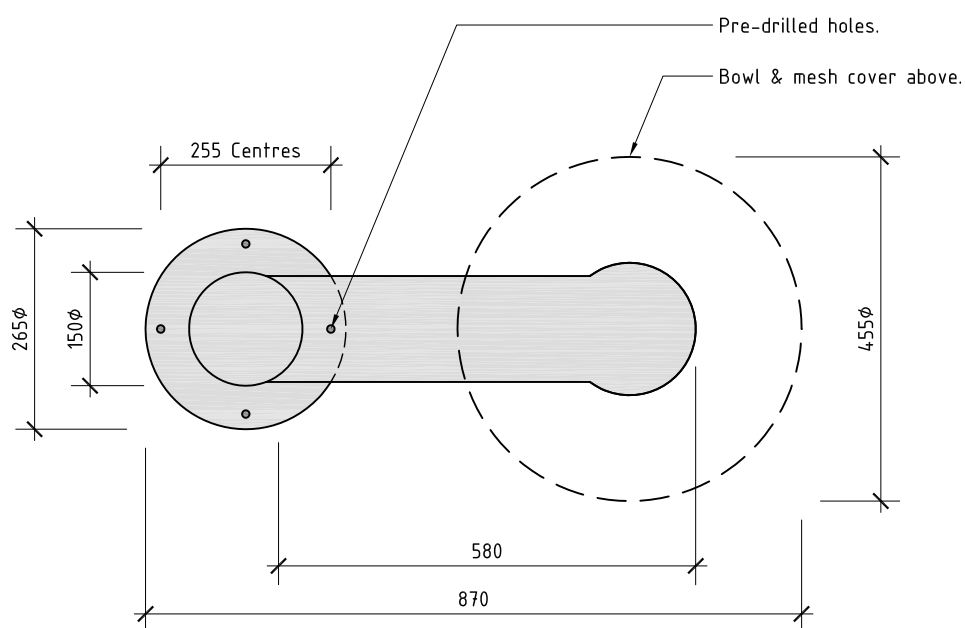
Suitable Locations	<ul style="list-style-type: none"> ▪ Activity Centres & Streetscapes ▪ Significant Parks & Gardens ▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none"> ▪ Arrabri and Staley Gardens.
Dimensions	<ul style="list-style-type: none"> ▪ 450Ø bowl / 265Ø base plate with pre-drilled holes / 520mm extension area with 570mm clearance above ground.
Material	<ul style="list-style-type: none"> ▪ Bowl & Mesh cover: Stainless steel. ▪ Bubbler: Stainless steel. ▪ Column: 150Ø mild steel pipe hot dipped galvanised. ▪ Finish: Powdercoat to Council requirement.
Installation	<ul style="list-style-type: none"> ▪ Construct concrete footing with provision for water supply and drainage. Plumbing to be undertaken in accordance with relevant Australian Standards. ▪ Fix base plate to pavement with 4No. M10 galvanised chemset anchors at each fixing point as shown in Installation Details. ▪ Ensure drinking fountain is installed plumb.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required. ▪ Paint to be touched up when chipped or damaged.
Product & Supplier	<ul style="list-style-type: none"> ▪ Cascade Drinking Fountain GOV 64WCA by Furphy Foundry

4.2 Wheelchair Accessible Drinking Fountain

Detail



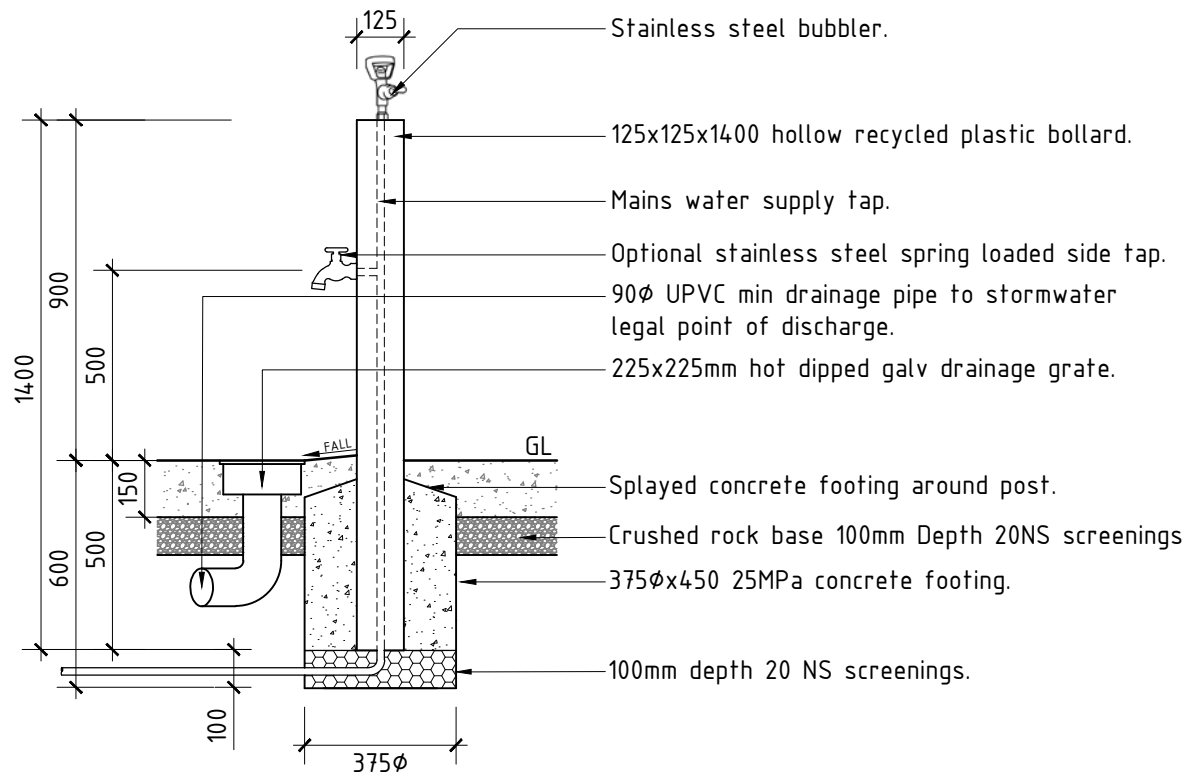
Installation Detail - Section 1:10



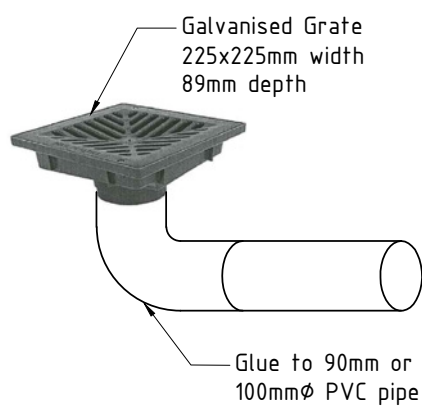
Plan 1:10



Suitable Locations	<ul style="list-style-type: none">▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none">▪ Gracedale Park & Cheong Park.
Dimensions	<ul style="list-style-type: none">▪ 125x125x900mm above ground.
Material	<ul style="list-style-type: none">▪ Recycled plastic square bollard in grey.▪ Stainless steel bubbler.▪ Stainless steel spring loaded side tap is optional.
Installation	<ul style="list-style-type: none">▪ Fix drinking fountain into concrete footing with provision for water supply as shown in Installation Detail.▪ A drain is required at the foot of the drinking fountain if a side tap is used.▪ Plumbing to be undertaken in accordance with relevant Australian Standards. Ensure drinking fountain is installed plumb.
Maintenance	<ul style="list-style-type: none">▪ Graffiti is removable from plastic elements with 'Solvit Citrus Clean'.▪ Stainless steel bubbler and side tap clean as required.
Product & Supplier	<ul style="list-style-type: none">▪ Drinking Fountain DF-BC (DF-BCST with side tap) by Replas.



Installation Detail - Section 1:20

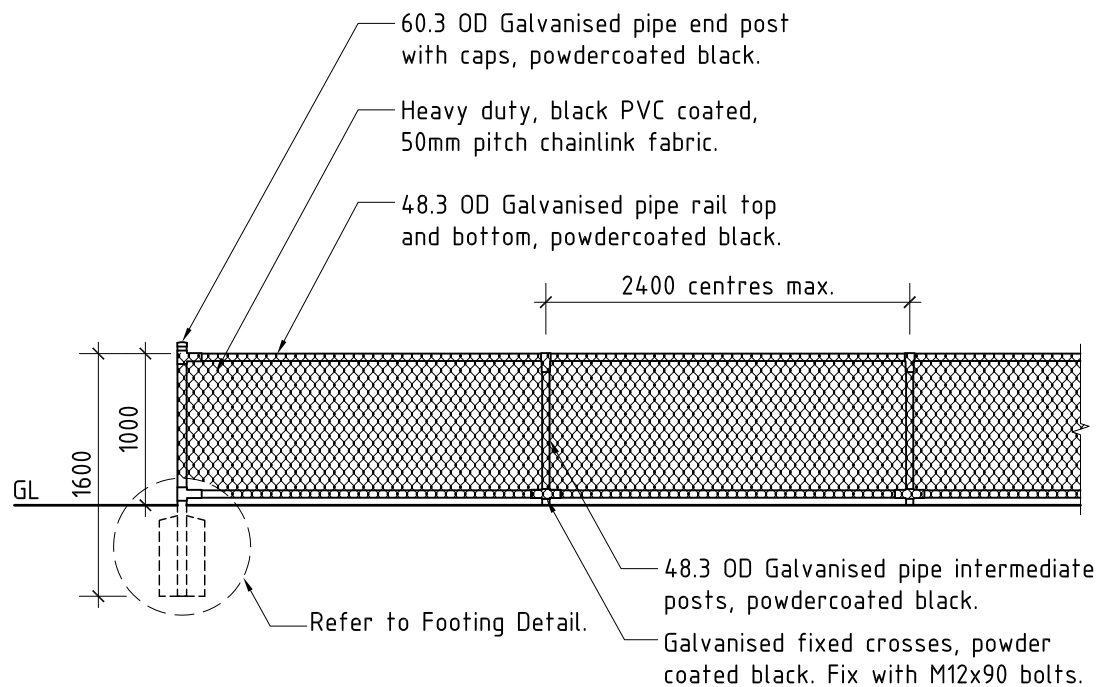




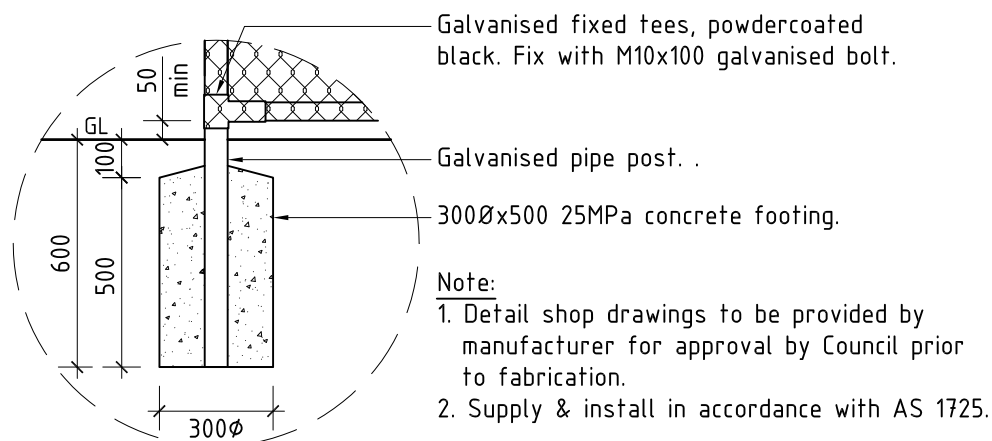
Suitable Locations	<ul style="list-style-type: none">▪ Significant Parks & gardens▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves▪ Bushland & Natural Areas
Common Locations	<ul style="list-style-type: none">▪ Ringwood Lake Park, Narr Maen & Settlers Orchard Reserves
Dimensions	<ul style="list-style-type: none">▪ 2500(sections)x1000mm above ground.
Material	<ul style="list-style-type: none">▪ Chamfered top and morticed Cypress Pine post, dressed finish. Intermediate Posts: 150x150x1500mm. End Posts: 150x150x1500mm.▪ 2No. 200x50x2500 Cypress Pine rail, dressed finish.
Installation	<ul style="list-style-type: none">▪ Install along edge of path unless instructed otherwise.▪ Install posts @ 2500mm centres along straight paths.▪ Posts are to be fixed into concrete footing as shown in Installation Detail.
Product & Supplier	<ul style="list-style-type: none">▪ Post & Rail fencing by Norwood Products, Barlings Woodworks.▪ Other alternative suppliers are available.



Suitable Location	<ul style="list-style-type: none"> ▪ Sporting Reserves
Dimensions	<ul style="list-style-type: none"> ▪ 2400max(sections)x1000mm above ground.
Material	<ul style="list-style-type: none"> ▪ 48.3 OD galvanised pipe rails and intermediate posts. ▪ 60.3 OD galvanised end posts. ▪ Galvanised pipe caps. ▪ Pipe rails, posts, caps, tees and crosses are galvanised and powdercoated black. ▪ Heavy duty, black PVC coated, 50mm pitch chainlink fabric.
Installation	<ul style="list-style-type: none"> ▪ Fix posts into concrete footings @ 2400 max centres, as shown in Installation Detail. ▪ Fix rails to posts with tees and crosses. ▪ Secure chainlink fabric to post and rails in accordance with manufacture's instructions.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none"> ▪ Black PVC Coated Mesh Fence by Glenwire Fencing. ▪ Other alternative suppliers are available.



Elevation 1:50



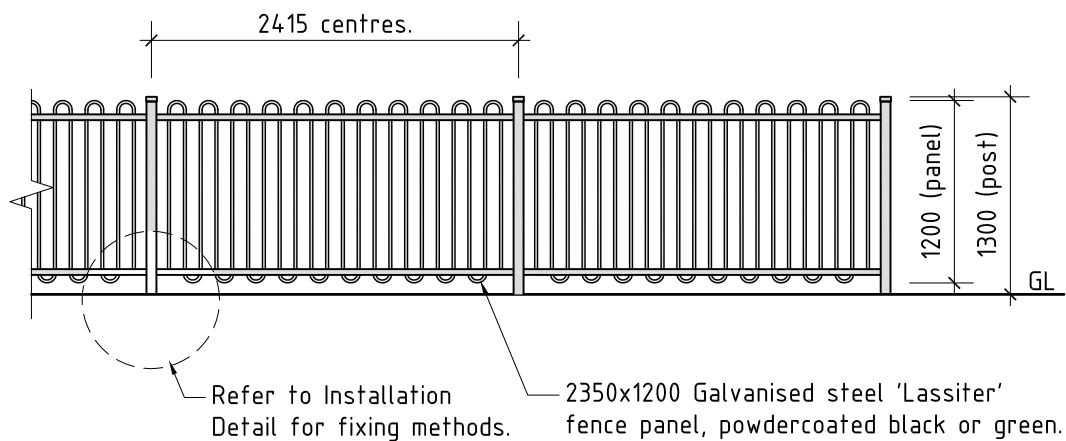
Footing Detail - Section 1:20



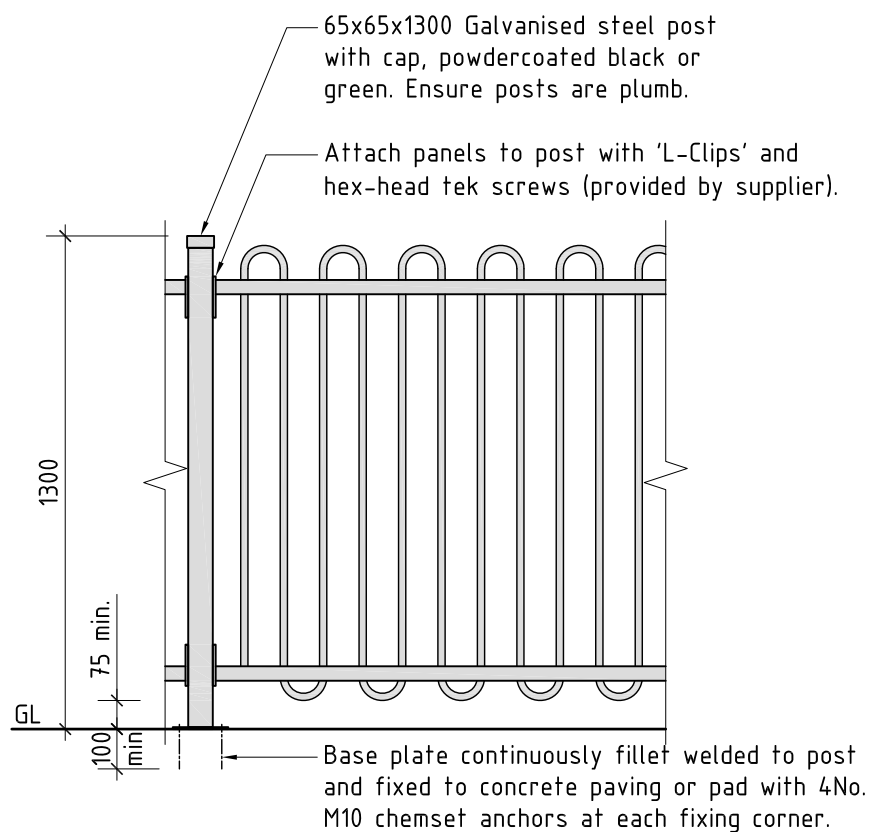
Suitable Locations	<ul style="list-style-type: none"> ▪ Activity Centres & Streetscapes ▪ Significant Parks & Gardens
Common Locations	<ul style="list-style-type: none"> ▪ Croydon Library Lake & Karralyka Centre
Dimensions	<ul style="list-style-type: none"> ▪ 2415(sections)x1300mm above ground.
Material	<ul style="list-style-type: none"> ▪ 2300x1200 Galvanised steel fence panel consist of 19mm OD steel tube and 38x25 top and bottom rails. ▪ 65x65 Galvanised steel square posts. ▪ Fence panel, posts and fittings to be galvanised & powdercoated green or black. Confirm colour with Council.
Installation	<ul style="list-style-type: none"> ▪ Post base plates are to be fixed on to concrete paving or pad with 4No. M10 galvanised chemset anchors at each corner fixing point.
Maintenance	<ul style="list-style-type: none"> ▪ Bi-annual wash-down with warm water and a mild detergent. ▪ Paint to be touched up when chipped or damaged.
Product & Supplier	<ul style="list-style-type: none"> ▪ Lassiter tubular steel fence by A.R.C. Fences

5.3 Loop Top Fencing

Detail



Elevation 1:50



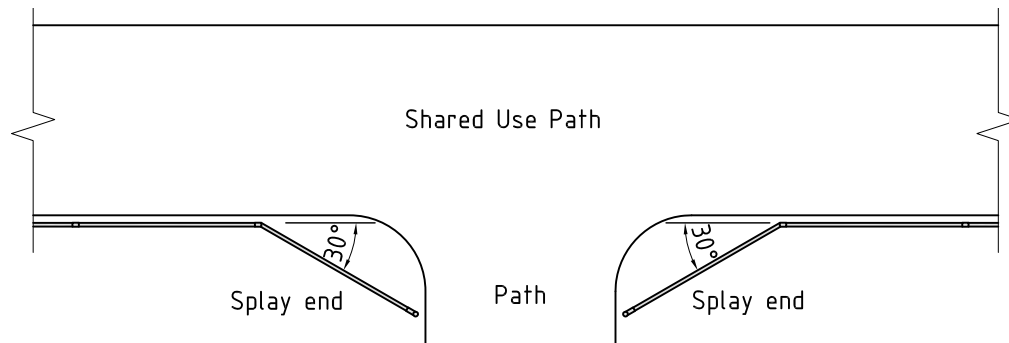
Installation Detail - Section 1:20



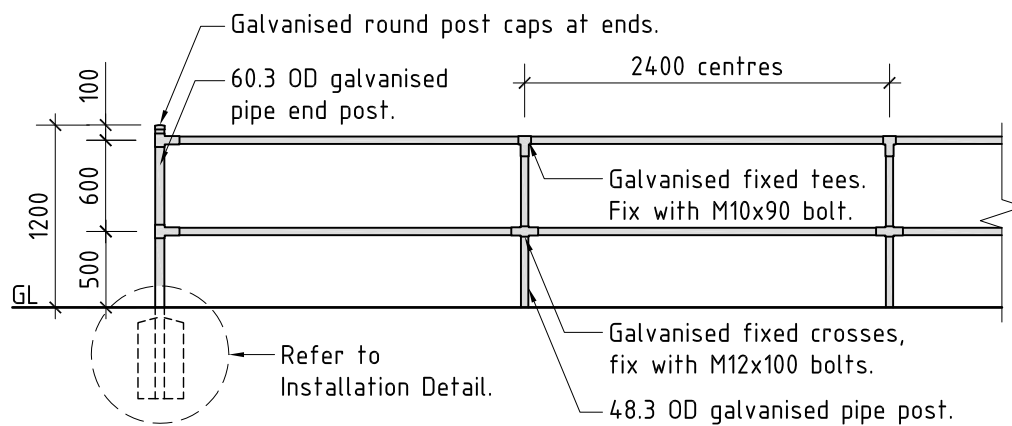
Suitable Locations	<ul style="list-style-type: none">▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none">▪ Shared paths.
Dimensions	<ul style="list-style-type: none">▪ 2400(sections)x1200mm above ground.
Material	<ul style="list-style-type: none">▪ 48.3 OD Galvanised pipe rails and posts, 60.3 OD end posts.▪ Galvanised fittings; caps, fixed tees and crosses.▪ Bolts are to be tack welded.
Installation	<ul style="list-style-type: none">▪ Install straight sections parallel to path.▪ Corners to be splayed 30°.▪ Posts are to be fixed into concrete footings as shown in Installation Details.▪ Do not use near roads.
Product & Supplier	<ul style="list-style-type: none">▪ Galvanised pipe and rail fence by Glenwire Fencing.▪ Other alternative suppliers are available.

5.4 Galvanised Pipe & Double Rail Fence

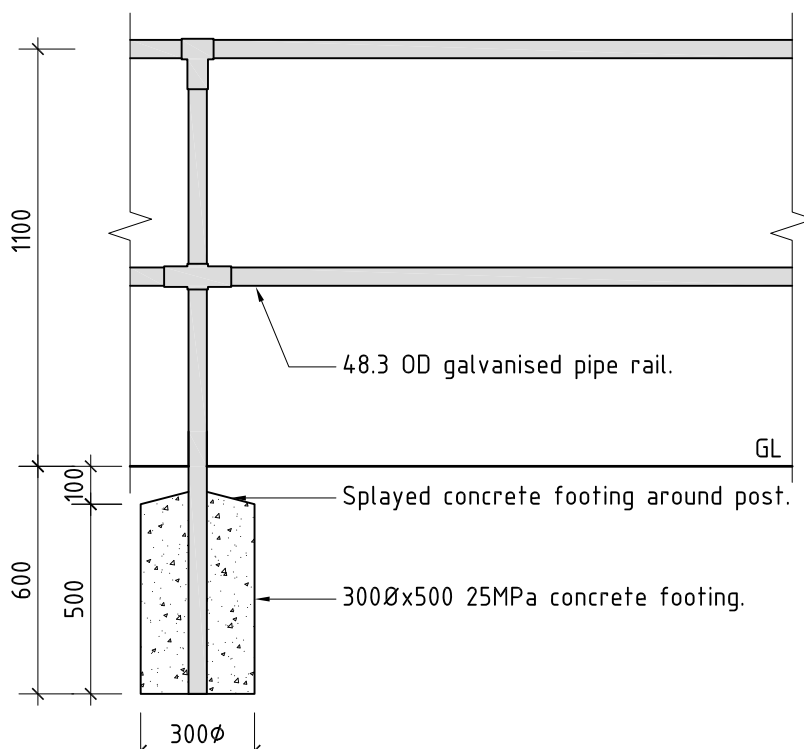
Detail



Installation Detail – Plan 1:100



Elevation 1:50



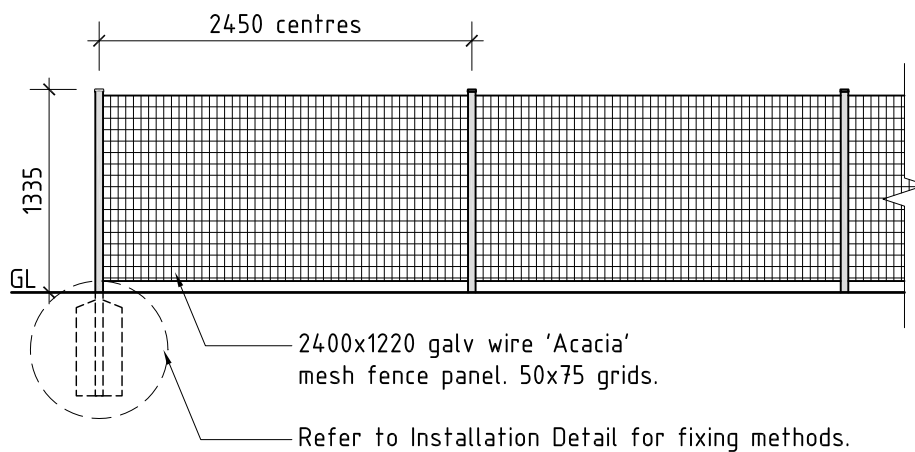
Installation Detail – Section 1:20



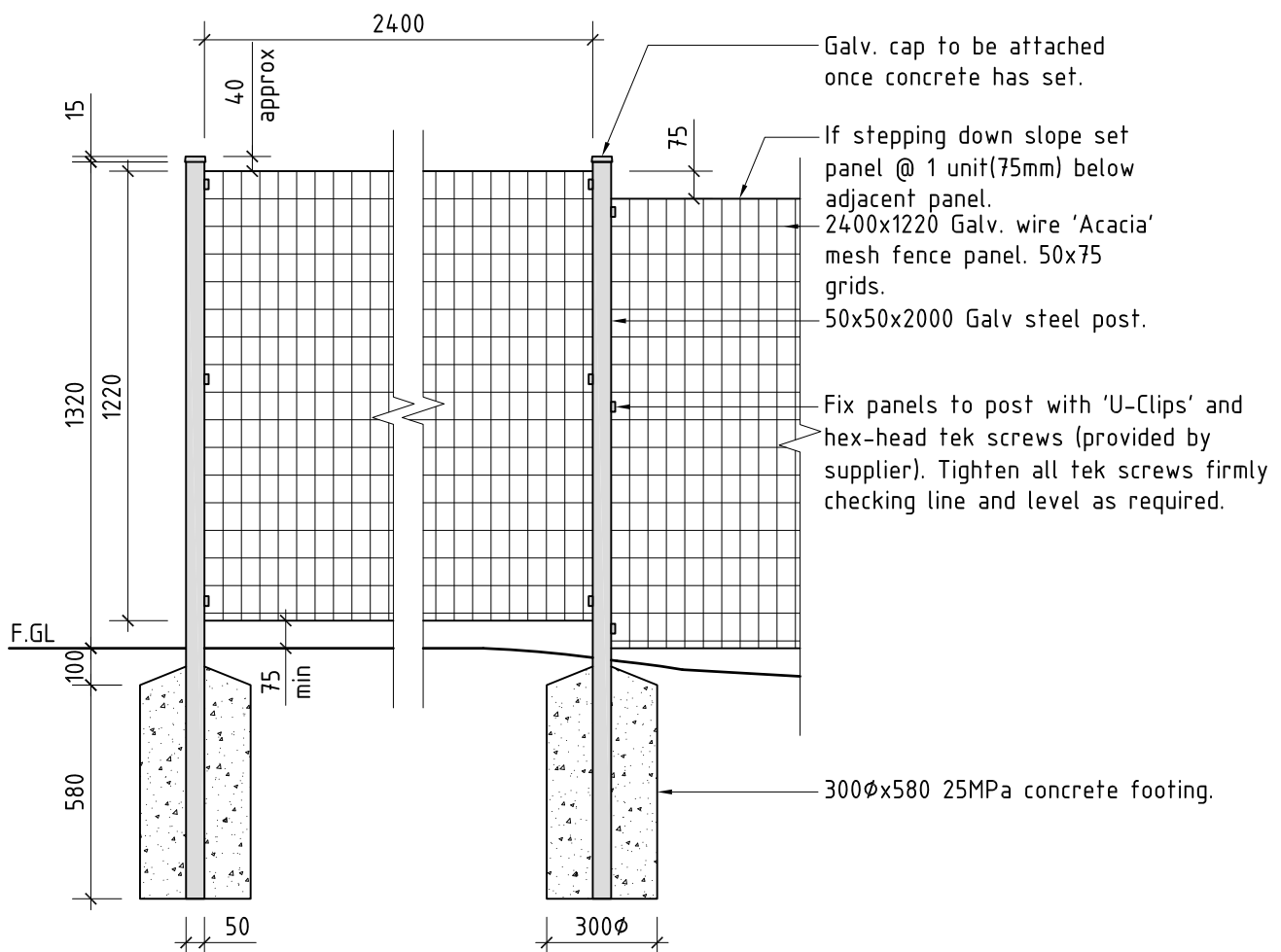
Suitable Locations	<ul style="list-style-type: none">▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none">▪ Shared Trails
Dimensions	<ul style="list-style-type: none">▪ 2450(sections)x1335mm above ground.
Material	<ul style="list-style-type: none">▪ 50x50 Galvanised steel square posts.▪ 2400x1220 Galvanised steel square mesh fence panels (50x75 grids).▪ Galvanised post caps to suit.
Installation	<ul style="list-style-type: none">▪ Posts are to be fixed into concrete footings as shown in Installation Detail.▪ Fix panels to posts with 'U-Cups' and tek screws (provided by supplier), check line and level as required.▪ Attach post caps after concrete footing has set.▪ Optional bolt down plates on posts with 4 x M12 chemset anchors.
Maintenance	<ul style="list-style-type: none">▪ Bi-annual wash-down with warm water and a mild detergent.▪ Paint to be touched up when chipped or damaged.
Product & Supplier	<ul style="list-style-type: none">▪ Acacia fence by A.R.C. Fences

5.5 Square Mesh Fencing (Galvanised)

Detail



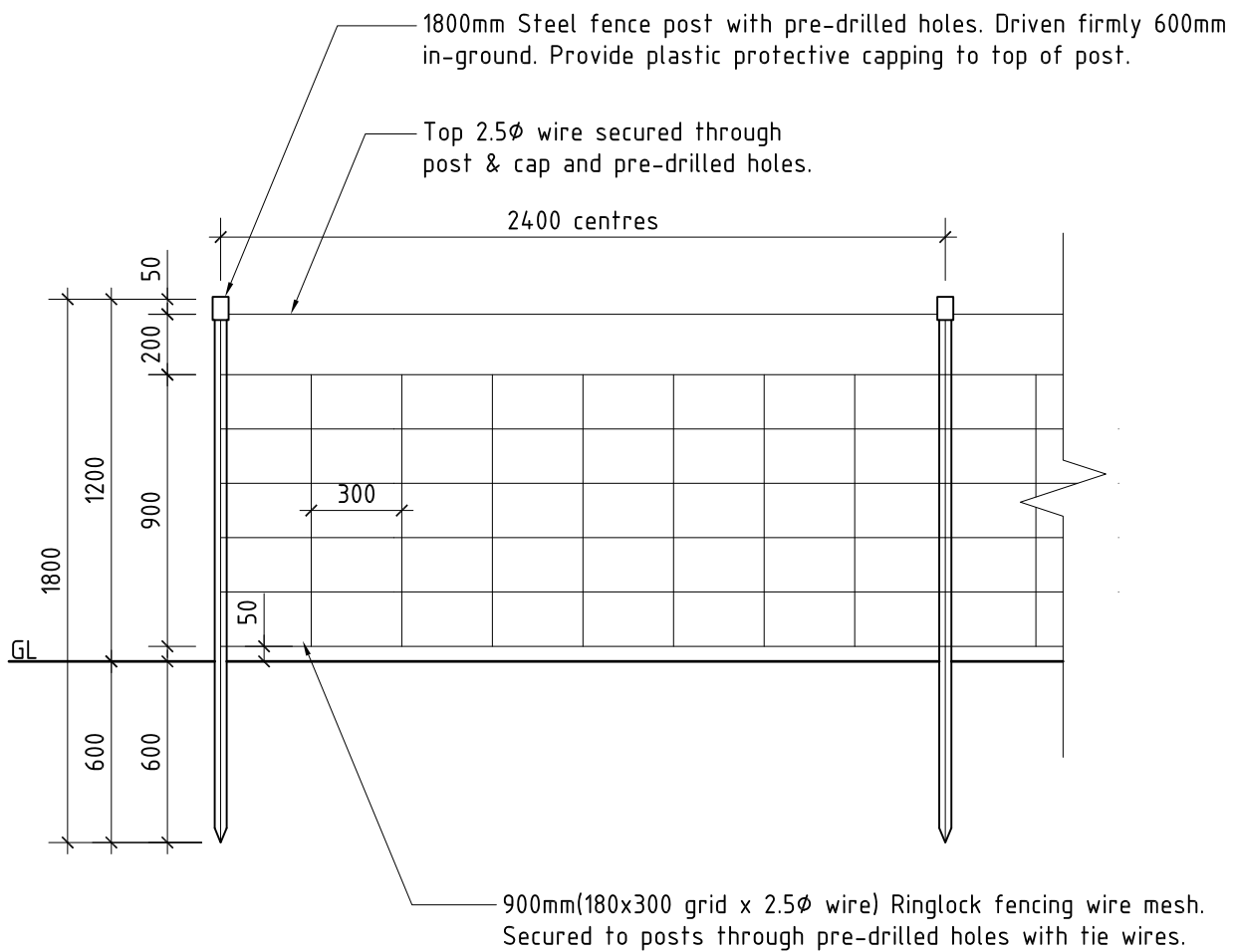
Elevation 1:50



Installation Detail - Section 1:20



Suitable Location	▪ Bushland & Natural Areas
Common Locations	▪ Dandenong Creek & Arrabri
Dimensions	▪ 2400(section)x1200mm above ground.
Material	<ul style="list-style-type: none"> ▪ 900 high (180x300 grid x 2.5Ø wire) galvanised ringlock fencing wire mesh. ▪ 1800 galvanised steel fence post with pre-drilled 8Ø holes. ▪ 2.5Ø plain fencing wire ▪ Tie wires. ▪ Plastic protective caps to posts.
Installation	<ul style="list-style-type: none"> ▪ Drive steel posts into ground @ max 2400mm centres as shown in the Installation Detail. ▪ Secure ringlock mesh to posts with tie wires, ensure it is 50mm above ground. ▪ Secure fencing wire to top of posts.
Product & Supplier	<ul style="list-style-type: none"> ▪ Ring Lock Standard & Steel Fence Post by Metalcop Steel ▪ Other alternative suppliers are available.



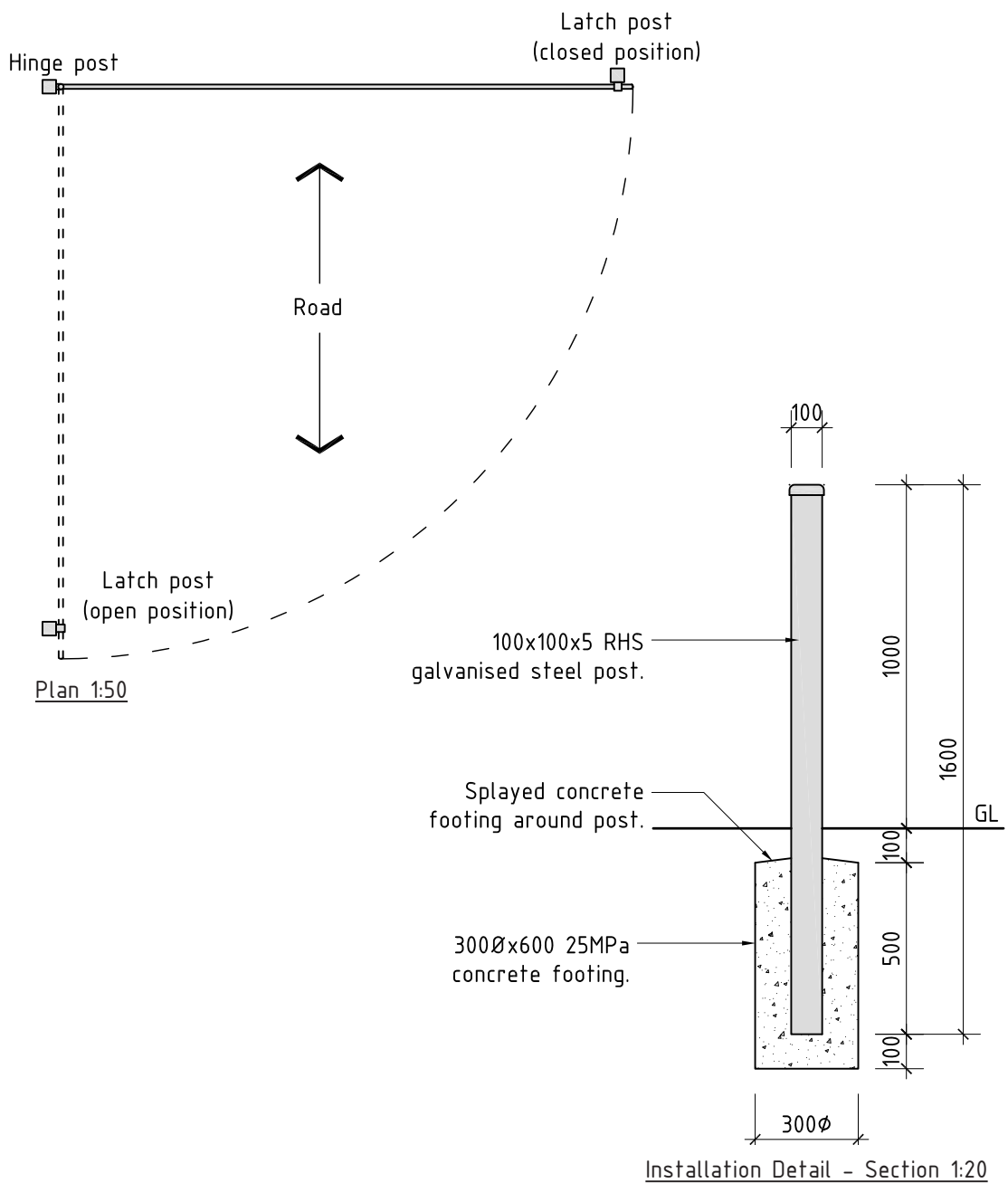
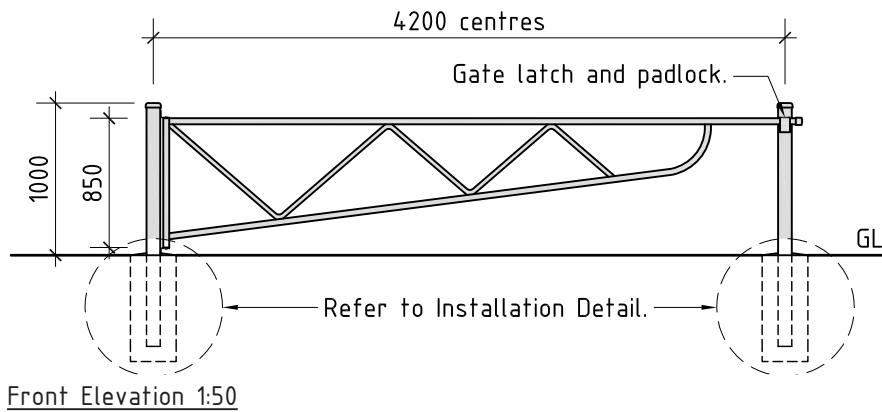
Installation Detail - Section 1:25



Suitable Locations	<ul style="list-style-type: none">▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves▪ Bushland & Natural Areas
Common Locations	<ul style="list-style-type: none">▪ Barneong Reserve & Eastfield Park.
Dimensions	<ul style="list-style-type: none">▪ 4200x1000mm high above ground.
Material	<ul style="list-style-type: none">▪ Galvanised steel boom gate made from 32Ø medium galvanised pipe, powdercoated white.▪ Boom gates are supplied with:<ul style="list-style-type: none">(1) 1No. hinge post,(2) 2No. latch post (for gate in closed and open positions).▪ All posts are 100x100x5 RHS galvanised with white powdercoat finish.
Installation	<ul style="list-style-type: none">▪ Install perpendicular to road.▪ All posts are to be fixed into concrete footings as shown in Installation Detail.
Maintenance	<ul style="list-style-type: none">▪ Clean as required.▪ Paint to be touched up when chipped or damaged.
Product & Supplier	<ul style="list-style-type: none">▪ Boom Gate & Lock by Barling's Woodworks Pty. Ltd. or Glennwire Fencing.

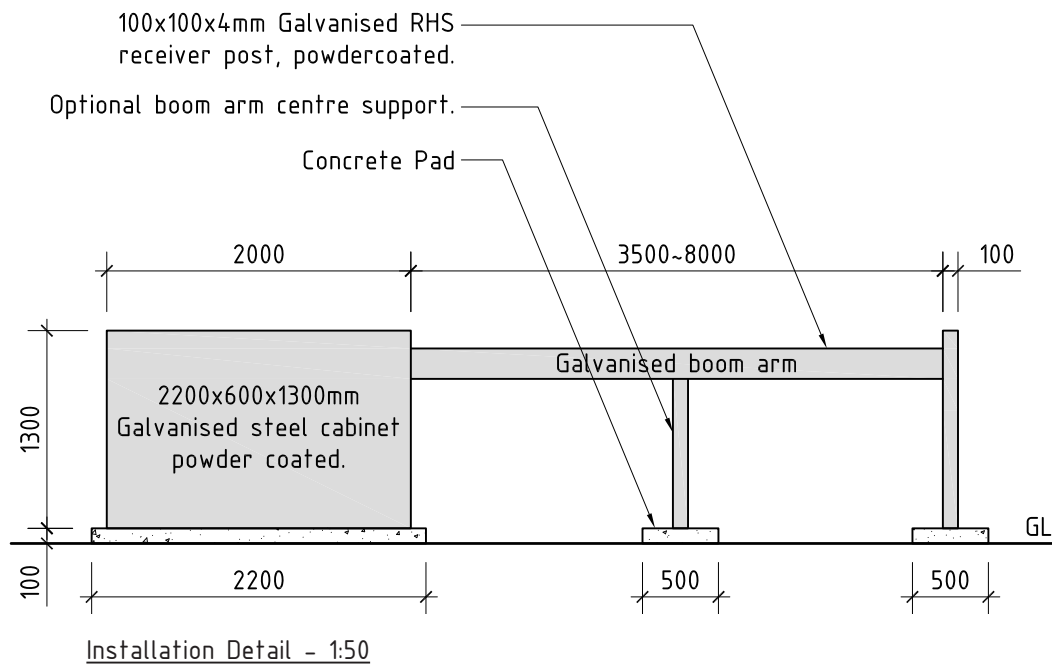
6.1 Boom Gate (Manual Operation)

Detail





Suitable Locations	<ul style="list-style-type: none">▪ Significant Parks & Gardens▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none">▪ For future installation
Dimensions	<ul style="list-style-type: none">▪ 3500mm wide for single lane. 4000mm extension option.▪ 7000mm wide for double lane. 8000mm extension option.
Material	<ul style="list-style-type: none">▪ 2000x600x1300 high galvanised steel cabinet, powdercoated to Council request.▪ 100x100x1300 high galvanised receiver post, powdercoated to Council request.▪ 200x100x3500~9000 galvanised RHS boom arm.
Installation	<ul style="list-style-type: none">▪ Install perpendicular to road.▪ Fix components to concrete pad to manufacture's instructions.▪ Ensure electrical supply provisions to steel cabinet in accordance with Australian Standards.
Maintenance	<ul style="list-style-type: none">▪ Clean as required.▪ Paint to be touched up when chipped or damaged.
Product & Supplier	<ul style="list-style-type: none">▪ TMSBA4 (single) TMSBA8 (double) by Leda-Vannaclip▪ Other alternative suppliers are available.



7.2 Park & Trail Light Pole & Fixtures

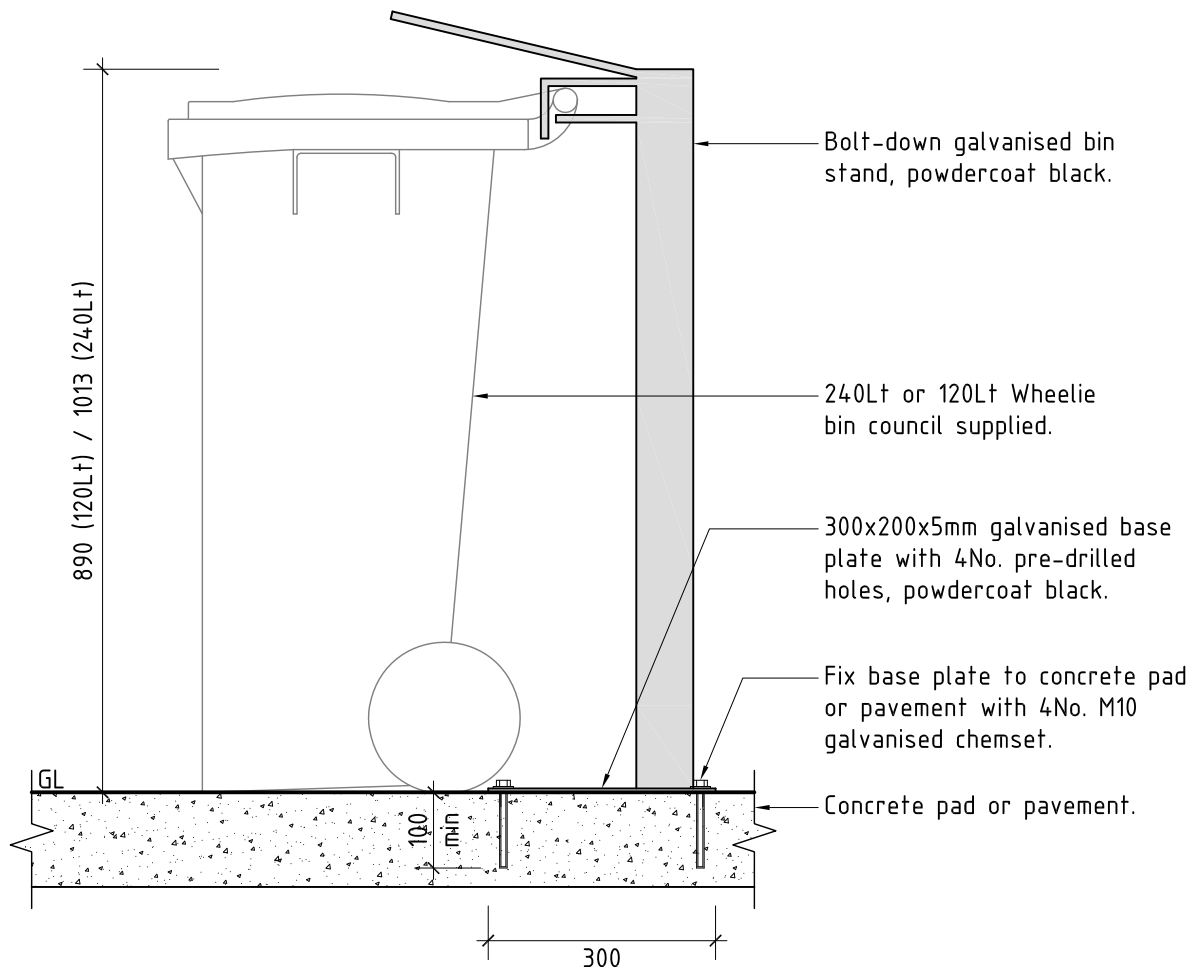
Description



Suitable Locations	<ul style="list-style-type: none">▪ Significant Parks & Gardens▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none">▪ Croydon Park, Town Park, Mullum Mullum Creek Trail
Dimensions	<ul style="list-style-type: none">▪ 6.0m above ground max. – varies depending on light levels required.
Material	<ul style="list-style-type: none">▪ Luminaire: Die cast aluminium housing, natural finish, LED luminaire.▪ Light Pole: Tapered octagonal hot dip galvanised steel, powder coated satin black, curved outreach arm or as required.
Installation	<ul style="list-style-type: none">▪ In-ground fixing: Buried 1.5m deep below ground line.▪ Bolt down fixing: Fix with M20 Rag Bolt.▪ Installation of all electrical items shall be performed by a licensed electrician.▪ All lighting must be supplied with an electrician's certificate upon completion of installation.
Maintenance	<ul style="list-style-type: none">▪ Lighting has quick release latches for access to electronic control gear and LED modules.
Product & Supplier	<ul style="list-style-type: none">▪ Luminaire: 'StreetLED Eco 18 Natural Finish' 18w LED with 3-pin D2, photoelectric cell optional, code: JL99A30L22 by Sylvania Lighting.▪ Light Pole: 6m high 'Tapered Octagonal' Pole with curved arm by Ingal EPS.



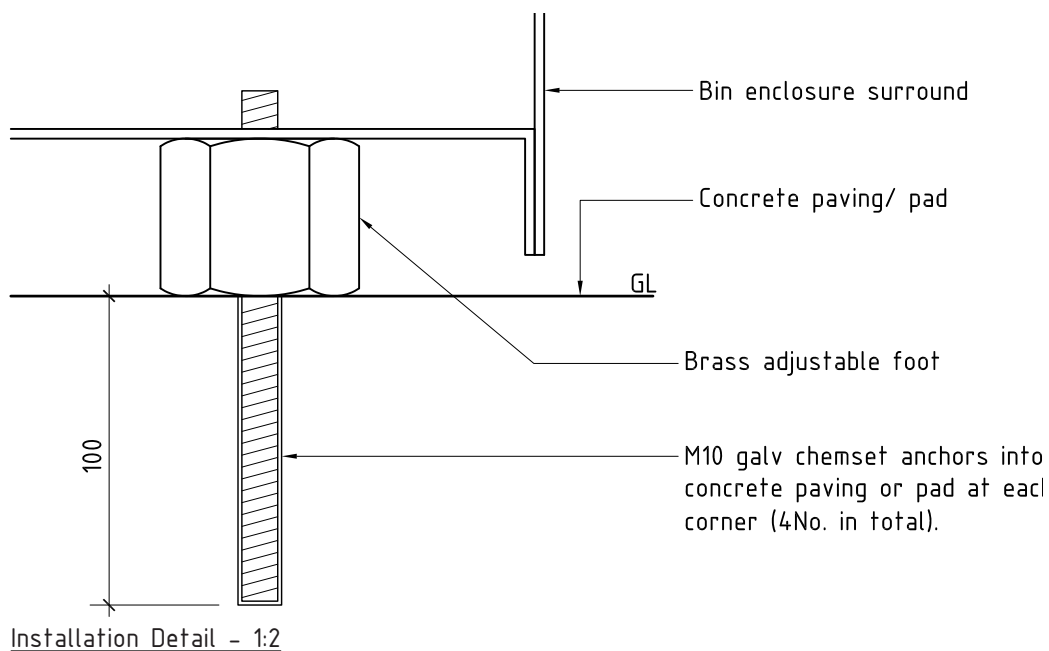
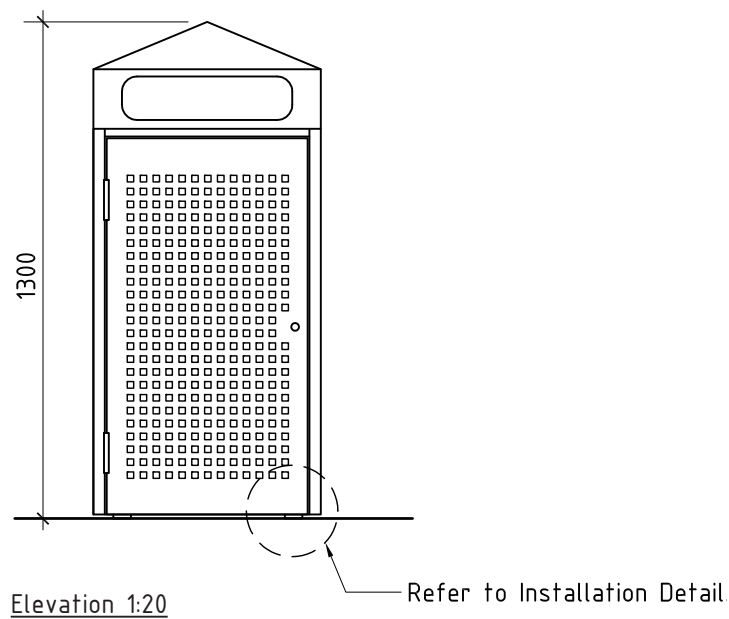
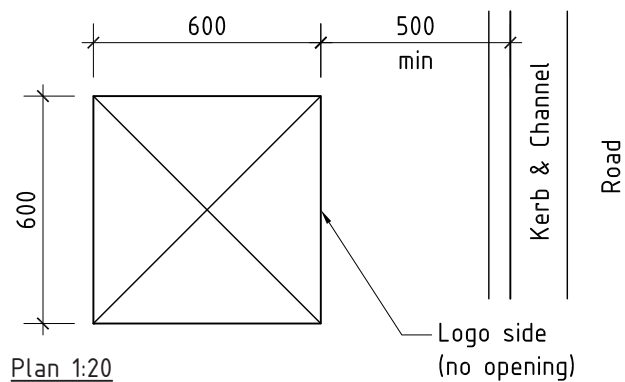
Suitable Locations	<ul style="list-style-type: none">▪ Activity Centres & Streetscapes▪ Significant Parks & Gardens▪ Informal Parks & Community Recreation Reserves
Common Locations	<ul style="list-style-type: none">▪ BBQ areas.
Dimensions	<ul style="list-style-type: none">▪ 120 Litre bolt-down stand height: 890mm▪ 240 Litre bolt-down stand height: 1013mm
Material	<ul style="list-style-type: none">▪ Hot dipped galvanised steel bolt-down Wheelie Bin stand, powder coat black.
Installation	<ul style="list-style-type: none">▪ Refer to Council Waste Management Guidelines. Install to concrete pad/pavement with 4No. M10 galvanised chemset anchors to fit pre-drilled holes in base plate.
Maintenance	<ul style="list-style-type: none">▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none">▪ Wheelie Bin Post Cat No. 383(B) by Draffin. State the size of Wheelie Bin when placing orders.



Installation Detail - 1:10



Suitable Locations	<ul style="list-style-type: none"> ▪ Activity Centres & Streetscapes ▪ Significant Parks & Gardens
Common Locations	<ul style="list-style-type: none"> ▪ Strip Shopping Centres
Dimensions	<ul style="list-style-type: none"> ▪ 600x600x1300mm above ground. (120 litre bin)
Material	<ul style="list-style-type: none"> ▪ Lid: 316 stainless steel, mirror finish. Openings to 3 sides. ▪ Bin surround & door: 316 stainless steel, brush finish, with slam lock and magnet. Internal guide panels. ▪ Hinges: Stainless steel. ▪ Lock: 8mm Male Triangle.
Installation	<ul style="list-style-type: none"> ▪ Install unit parallel to kerb edge unless instructed otherwise. Ensure minimum 500mm offset from face of kerb & channel. ▪ Frames to be fixed to pavement with M10 galvanised chemset anchors as shown in Installation Detail.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none"> ▪ Maroondah Rubbish Bin Enclosure by Draffin.

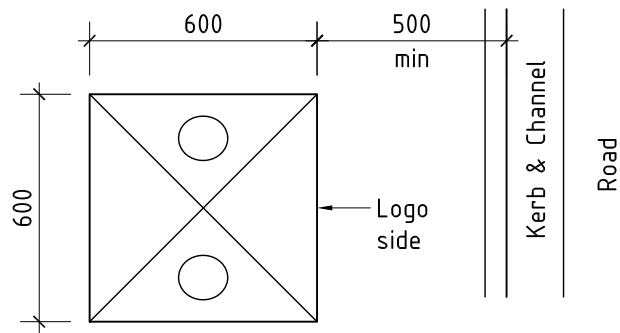




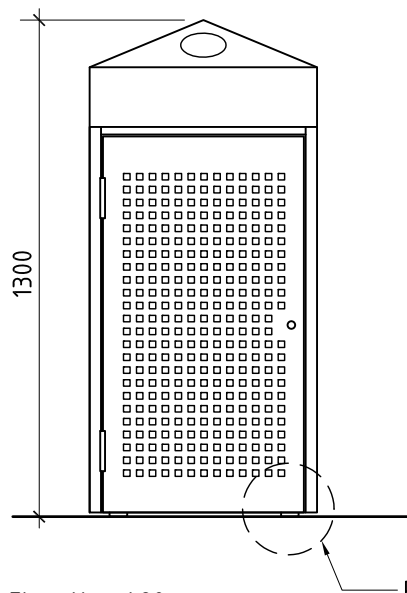
Suitable Locations	<ul style="list-style-type: none"> ▪ Activity Centres & Streetscapes ▪ Significant Parks & Gardens
Common Locations	<ul style="list-style-type: none"> ▪ Main Street, Croydon.
Dimensions	<ul style="list-style-type: none"> ▪ 600x600x1300mm above ground. (120 litre bin)
Material	<ul style="list-style-type: none"> ▪ Lid: 316 stainless steel, mirror finish. 2 welded tube (round) openings. ▪ Bin surround & door: 316 stainless steel, brush finish. Internal guide panels. ▪ Hinges: Stainless steel. ▪ Lock: 8mm Male Triangle.
Installation	<ul style="list-style-type: none"> ▪ Install unit parallel to kerb edge unless instructed otherwise. Ensure minimum 500mm offset from face of kerb & channel. ▪ Frames to be fixed to pavement with M10 galvanised chemset anchors as shown in Installation Detail.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none"> ▪ Maroondah Recycle Bin Enclosure by Draffin.

8.3 Maroondah Recycle Bin Enclosure

Detail

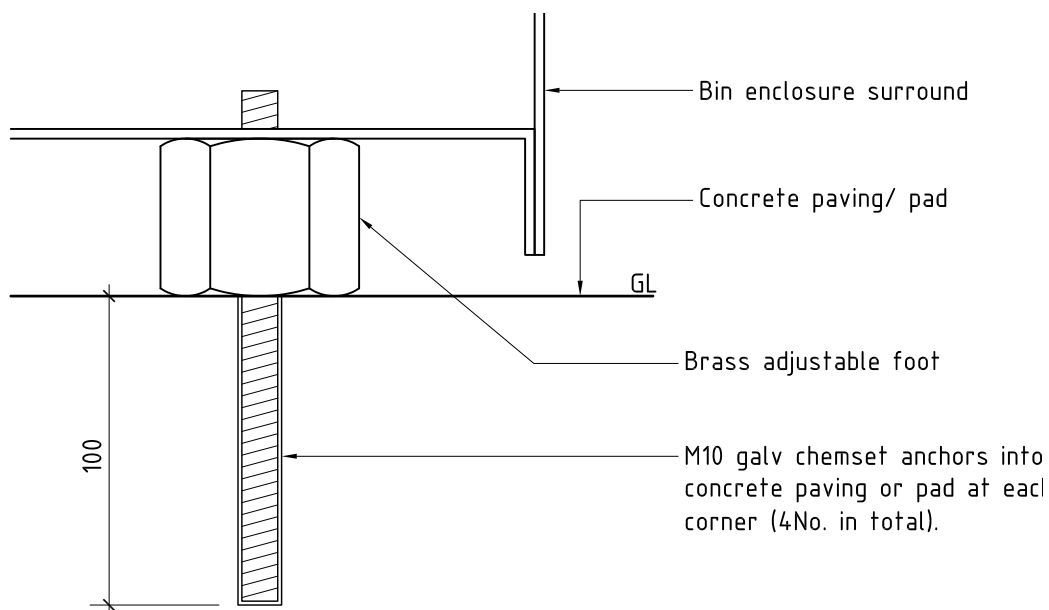


Plan 1:20



Elevation 1:20

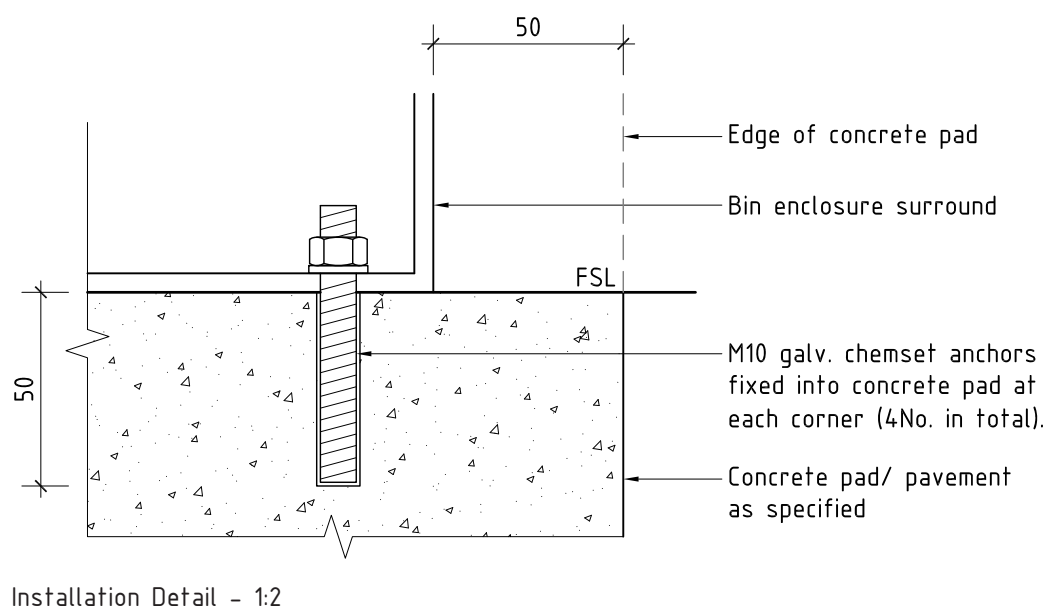
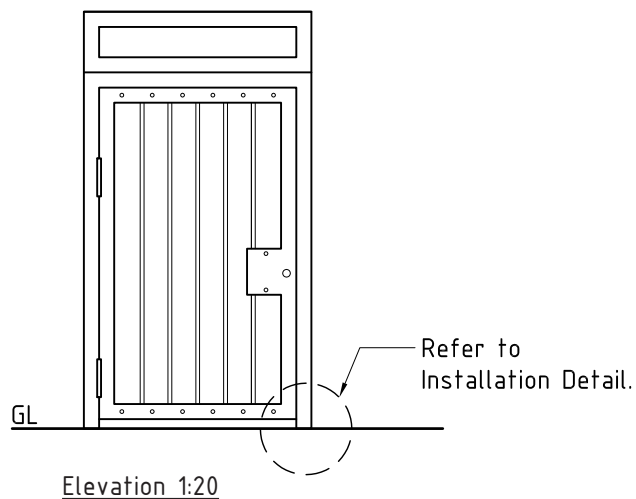
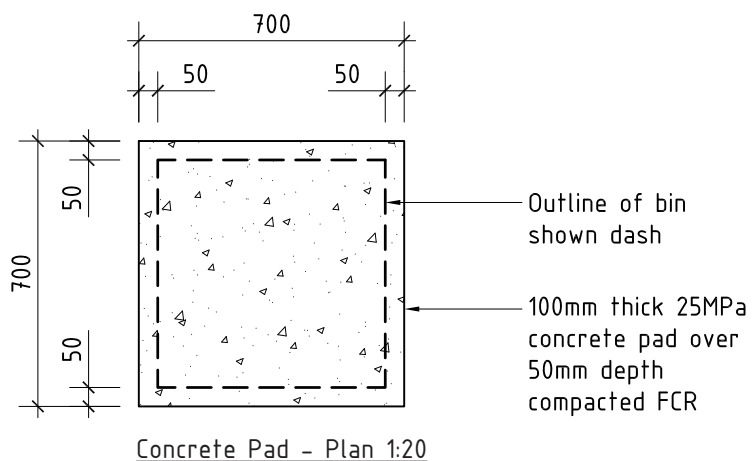
Refer to Installation Detail.



Installation Detail - 1:2



Suitable Locations	<ul style="list-style-type: none"> ▪ Significant Parks & Gardens
Common Locations	<ul style="list-style-type: none"> ▪ Glen Park Reserve
Dimensions	<ul style="list-style-type: none"> ▪ 600x600x1400mm above ground. (120 litre bin)
Material	<ul style="list-style-type: none"> ▪ Slats: Brown 'DuraSlat' wood/plastic composite. ▪ Steel Frame: Silver zinc plated mild steel, powder coated with 'Bright Silver'. Include internal cowling from all sides. ▪ Lock: 8mm Male Triangle. ▪ Concrete Pad (if required): 100mm thick 25MPa or Pit Lid. Finish: 'Broomed' unless otherwise noted. Refer to Concrete pad notes and installation detail.
Installation	<ul style="list-style-type: none"> ▪ Install concrete pad parallel to edge of footpath/pavement unless instructed otherwise. ▪ Bin enclosure to be fixed to concrete pad with M10 galvanised chemset anchors as shown in Installation Detail.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required. ▪ Paint to be touched up when chipped or damaged.
Product & Supplier	<ul style="list-style-type: none"> ▪ 120Lt UDG3-BN50 (modified) by Urban Design Group.



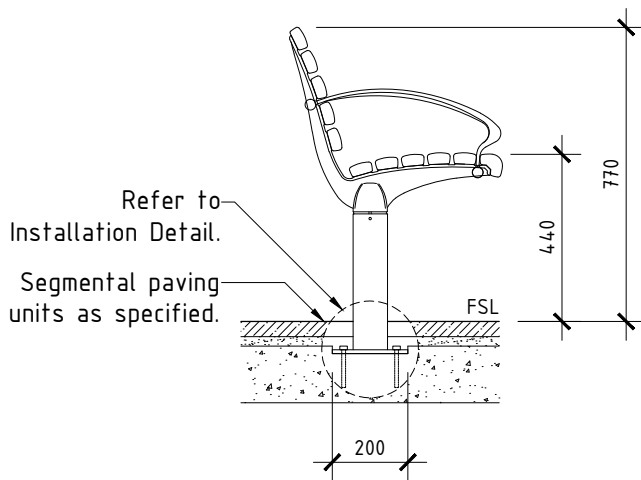


Seat



Bench

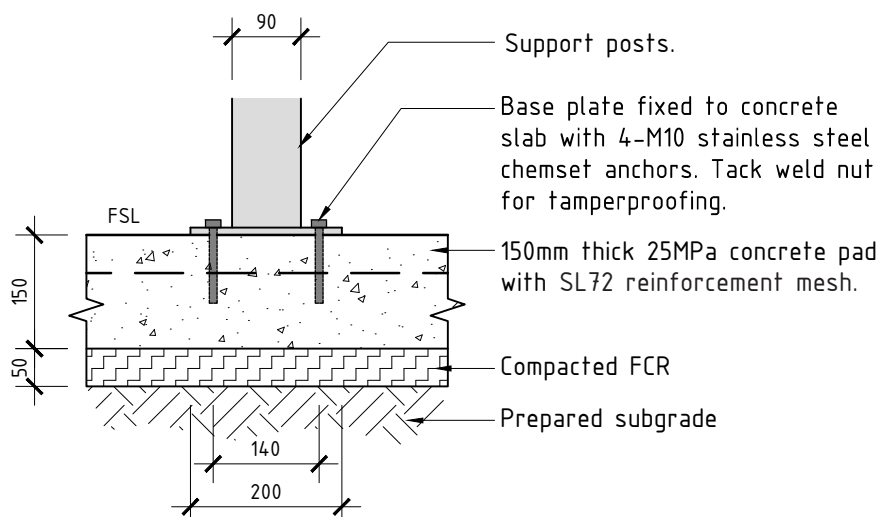
Suitable Locations	<ul style="list-style-type: none"> ▪ Activity Centres & Streetscapes ▪ Significant Parks & Gardens ▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none"> ▪ Croydon Park, Town Park and Main Street, Croydon.
Dimensions	<ul style="list-style-type: none"> ▪ Seat: 1600x570x770mm above ground with 2 posts. ▪ Bench: 2000x570x440mm above ground with 3 posts.
Material	<ul style="list-style-type: none"> ▪ Slats: Jarrah, 'DuraSlat' wood/plastic composite. ▪ Posts: Mild steel with 'Dulux' Anotec XT Dark Grey 51725 powdercoated finish. ▪ Armrests: Cast aluminium polished. (Optional on bench) ▪ Concrete Pad (if required): 150mm thick 25MPa 'Abilox' CAF-X2 Black, dosage rate 4.15% in grey cement. Finish: 'Broomed' unless otherwise noted. Refer to Concrete pad notes and installation detail.
Installation	<ul style="list-style-type: none"> ▪ Install parallel to kerb edge unless instructed otherwise. Ensure 500mm offset from face of kerb in streetscapes. ▪ Adjust position to provide minimal side slope (max. 5%) across seat face. ▪ Sub-surface: Base plate fixed within concrete slab recess with M10 stainless steel chemset anchors, concealed by pavement, as shown in Installation Detail. ▪ Surface: Base plate fixed to concrete paving/pad with M10 stainless steel chemset anchors, as shown in Installation Detail.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required. Paint to be touched up when chipped or damaged.
Product & Supplier	<ul style="list-style-type: none"> ▪ Urban Seat 55 post mounted by Botton & Gardiner. ▪ Urban Bench Seat 45 post mounted



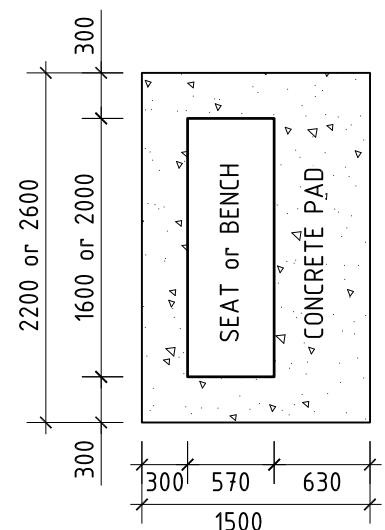
Elevation - Section 1:20

Concrete Pad Notes:

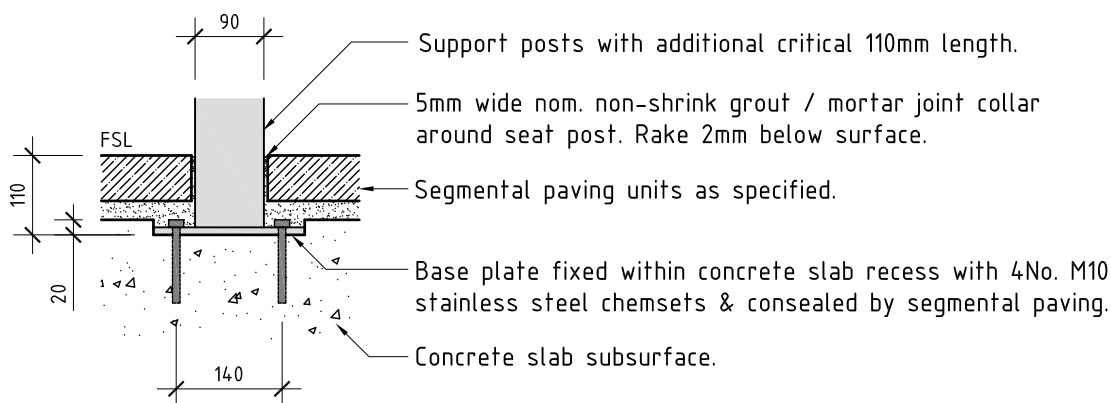
The 'Abilox' brand of fine colouring pigment powder shall be added to the transit mixer truck containing all of the pre-mixed concrete raw materials. The total contents from one (1x12.5kg) sack of the CAF-X2 Black pigment powder shall be added to every cubic metre of the non-set plastic pre-mixed concrete, which shall then be efficiently mixed in the stationary transit truck for 10 minutes at the fastest transit mixers barrel speed so that the pigment particles are uniformly dispersed. The resultant 'Abilox' coloured plastic concrete shall then be placed, jointed and completely cured.



Installation Detail (Surface Mounted) - Section 1:10



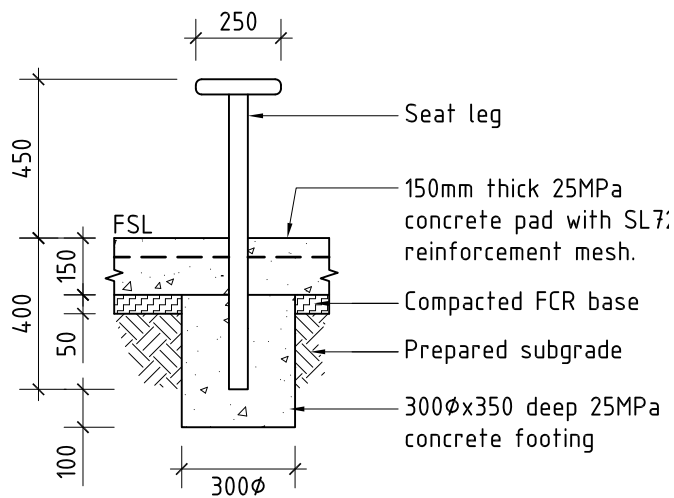
Concrete Pad - Not To Scale



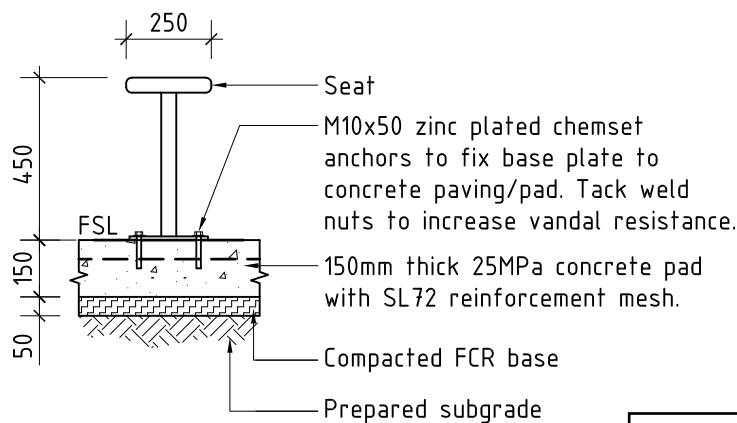
Installation Detail (Sub-surface Mounted) - Section 1:10



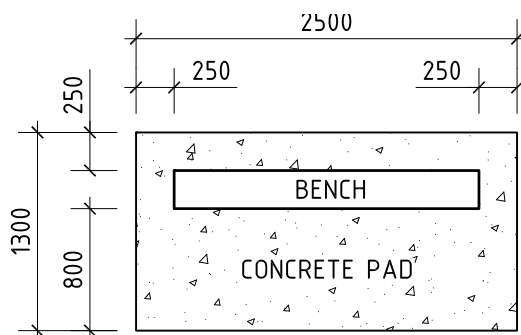
Suitable Location	<ul style="list-style-type: none"> ▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none"> ▪ Griff Hunt Reserve, Croydon Park and Barneong Reserve.
Dimensions	<ul style="list-style-type: none"> ▪ 2000x250x450mm above ground.
Material	<ul style="list-style-type: none"> ▪ Seat: Clear anodised extruded aluminium with end caps. ▪ Seat posts: Aluminium round tubes ▪ Concrete Pad (if required): 150mm thick 25MPa 'Abilox' CAF-X2 Black, dosage rate 4.15% in grey cement. Finish: 'Broomed' unless otherwise noted. Refer to Concrete pad notes and installation detail.
Installation	<ul style="list-style-type: none"> ▪ In-ground: Fix seat supports in concrete footings as shown in Installation Detail. This method is preferable for proposed pavement areas. ▪ Bolt-down: Fix seat support base plate to concrete pad with minimum M10 galv. chemset anchors (tack weld or blur to increase vandal resistance). This method is preferable where there is an existing sound concrete pavement.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required. ▪ Graffiti can be removed with solvent solution.
Product & Supplier	<ul style="list-style-type: none"> ▪ UDG2-ST200 Aluminium Bench Seat by Urban Design Group. ▪ Other alternative suppliers are available.



Installation Detail (In-ground) - Section 1:20



Installation Detail (Bolt-down) - Section 1:10



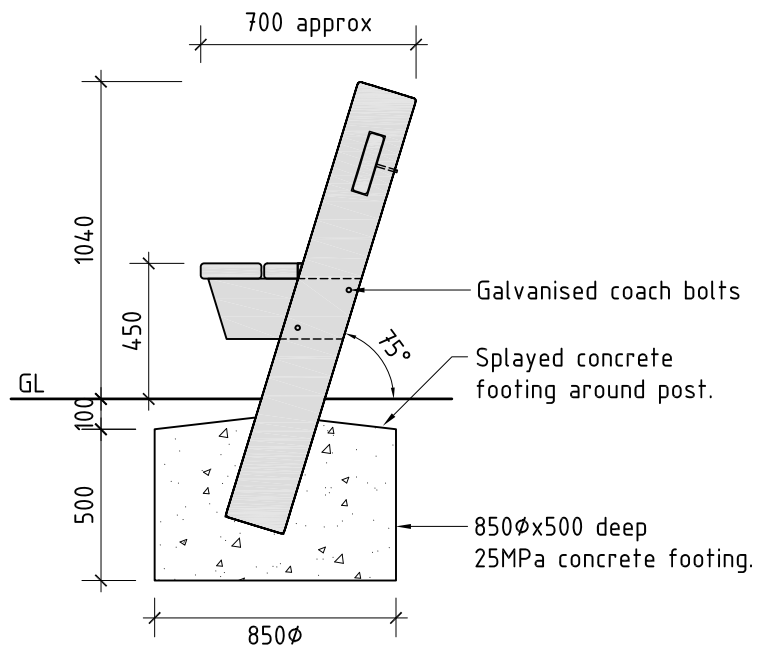
Concrete Pad - Plan 1:50

Concrete Pad Notes:

The 'Abilox' brand of fine colouring pigment powder shall be added to the transit mixer truck containing all of the pre-mixed concrete raw materials. The total contents from one (1x12.5kg) sack of the CAF-X2 Black pigment powder shall be added to every cubic metre of the non-set plastic pre-mixed concrete, which shall then be efficiently mixed in the stationary transit truck for 10 minutes at the fastest transit mixers barrel speed so that the pigment particles are uniformly dispersed. The resultant 'Abilox' coloured plastic concrete shall then be placed, jointed and completely cured.

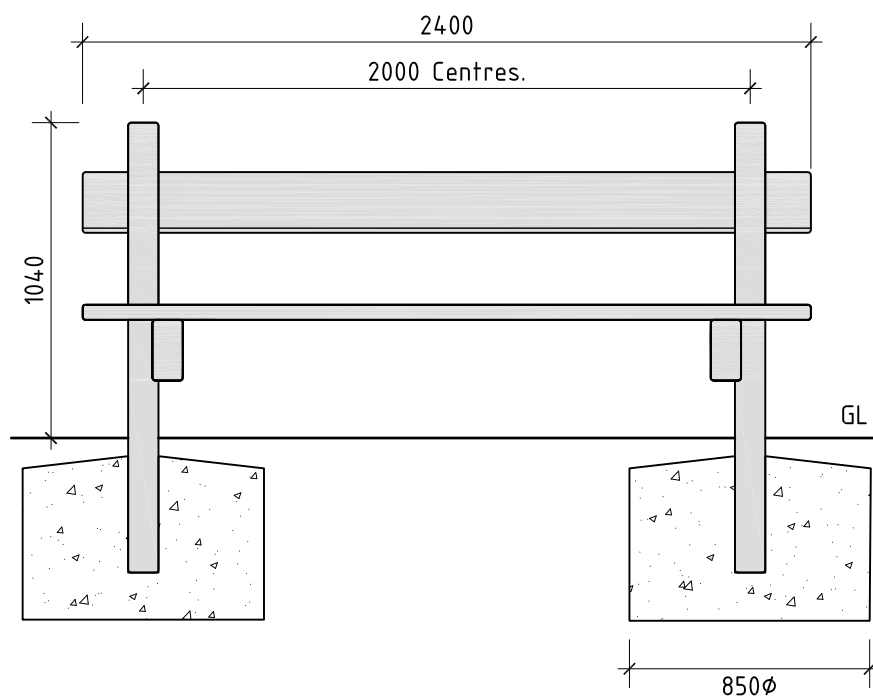


Suitable Locations	<ul style="list-style-type: none"> ▪ Informal Parks & Community Recreation Reserves ▪ Bushland & Natural Areas
Common Locations	<ul style="list-style-type: none"> ▪ Parks.
Dimensions	<ul style="list-style-type: none"> ▪ 2400x700x1040mm above ground.
Material	<ul style="list-style-type: none"> ▪ Cypress Pine timber seat is supplied fully assembled, wood carvings are optional (external artists). ▪ Back rest rail: 1No. 200x50x2400mm. ▪ Seat rail: 2No. 200x50x2400mm. ▪ Seat bearer: 2No. 200x100x505mm ▪ Seat legs: 2No. 200x100x1500mm ▪ Galvanised bolt fixtures. ▪ Optional steel armrests, powder coated colours to suit surrounds.
Installation	<ul style="list-style-type: none"> ▪ Fix seat legs into concrete footings as shown in Installation Details. ▪ Ensure seat rails are leveled and 450mm above ground level.
Maintenance	<ul style="list-style-type: none"> ▪ Graffiti can be removed with hot water pressure washer or sanding
Product & Supplier	<ul style="list-style-type: none"> ▪ Maroondah Seat by Barling's Woodworks Pty. Ltd.



Side

Installation Detail - Section 1:25

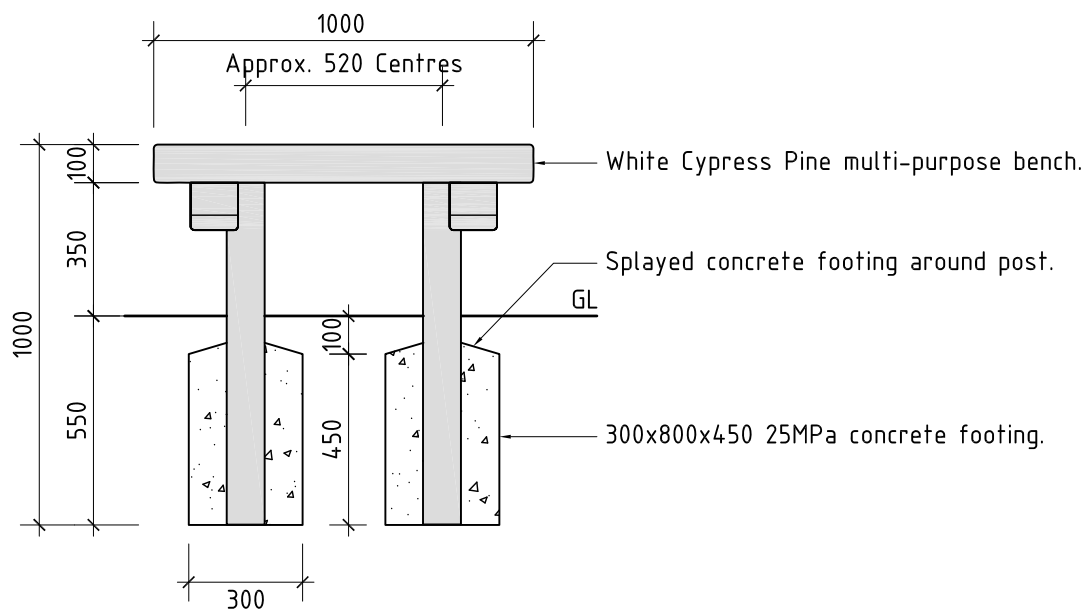


Front

Installation Detail - Section 1:25

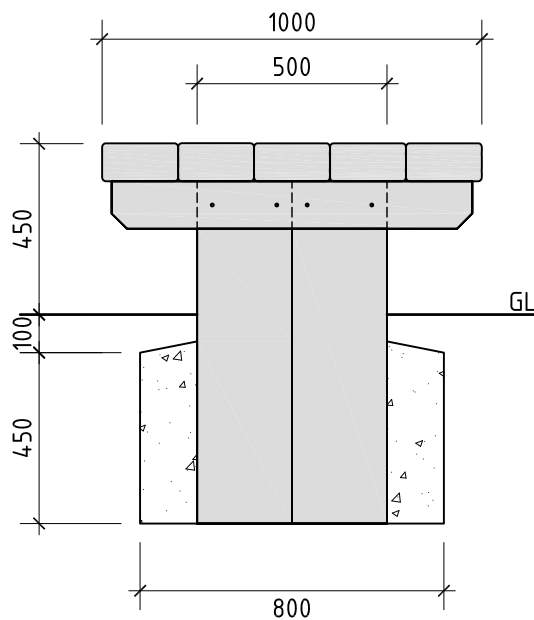


Suitable Locations	▪ Informal Parks & Community Recreation Reserves
Common Locations	▪ Greenwood Park & Lipscombe Park.
Dimensions	▪ 1000x1000x450mm above ground.
Material	<ul style="list-style-type: none"> ▪ Bench is supplied fully assembled ▪ Bench top: 5No. 200x100x1000 timber, butt-jointed ▪ Posts: 4No. 250x100x900 timber. ▪ Top supports: 2No. 125x75x900 timber with chamfered corners. ▪ All timbers are Cypress Pine. Fixed with galvanised fixtures.
Installation	▪ Fix bench legs into concrete footings as shown in Footing Details.
Maintenance	▪ Graffiti can be removed with hot water pressure washer or sanding
Product & Supplier	▪ Multi-Purpose Bench by Barling's Woodworks Pty. Ltd.



Side

Footing Detail - Section 1:20

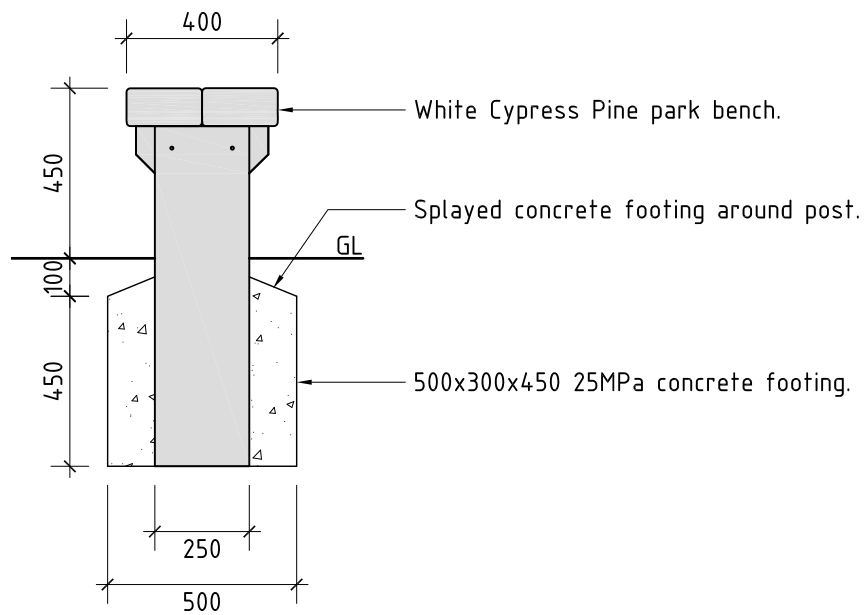


Front

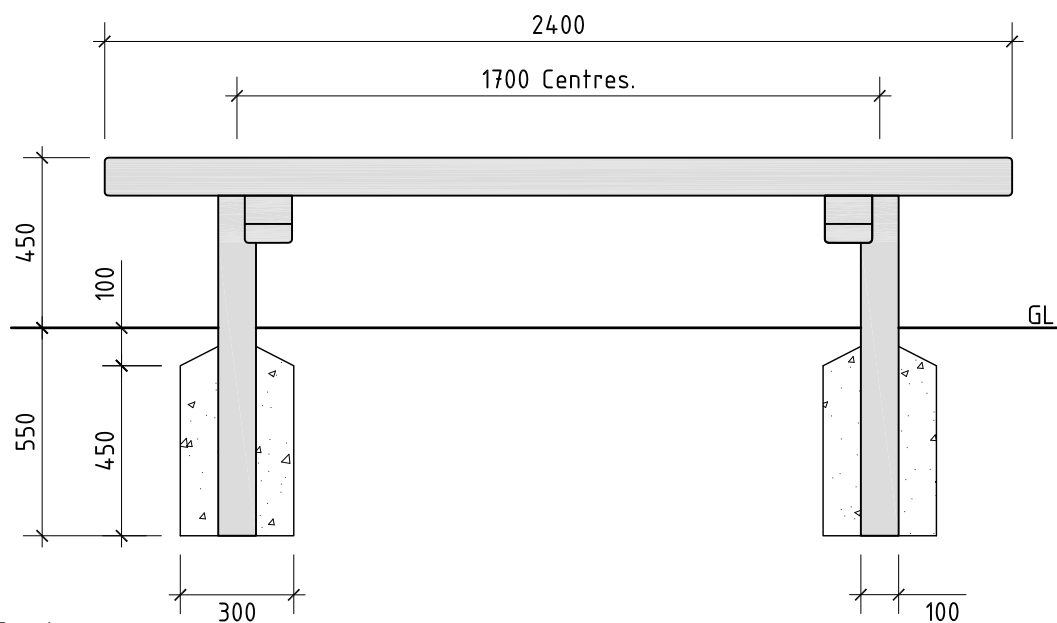
Footing Detail - Section 1:20



Suitable Locations	▪ Informal Parks & Community Recreation Reserves
Common Locations	▪ Arrabri Reserve.
Dimensions	▪ 2400x400x450mm above ground.
Material	<ul style="list-style-type: none"> ▪ Bench is supplied fully assembled. ▪ Bench top: 2No. 200x100x2400 timber, butt-jointed. ▪ Supports: 2No. timber supports. ▪ All timbers are Cypress Pine. Fixed with galvanised fixtures.
Installation	▪ Fix seat legs into concrete footings as shown in Installation Details.
Maintenance	▪ Graffiti can be removed with hot water pressure washer or sanding
Product & Supplier	▪ Park Bench by Barling's Woodworks Pty. Ltd.



Side
Footing Detail - Section 1:20



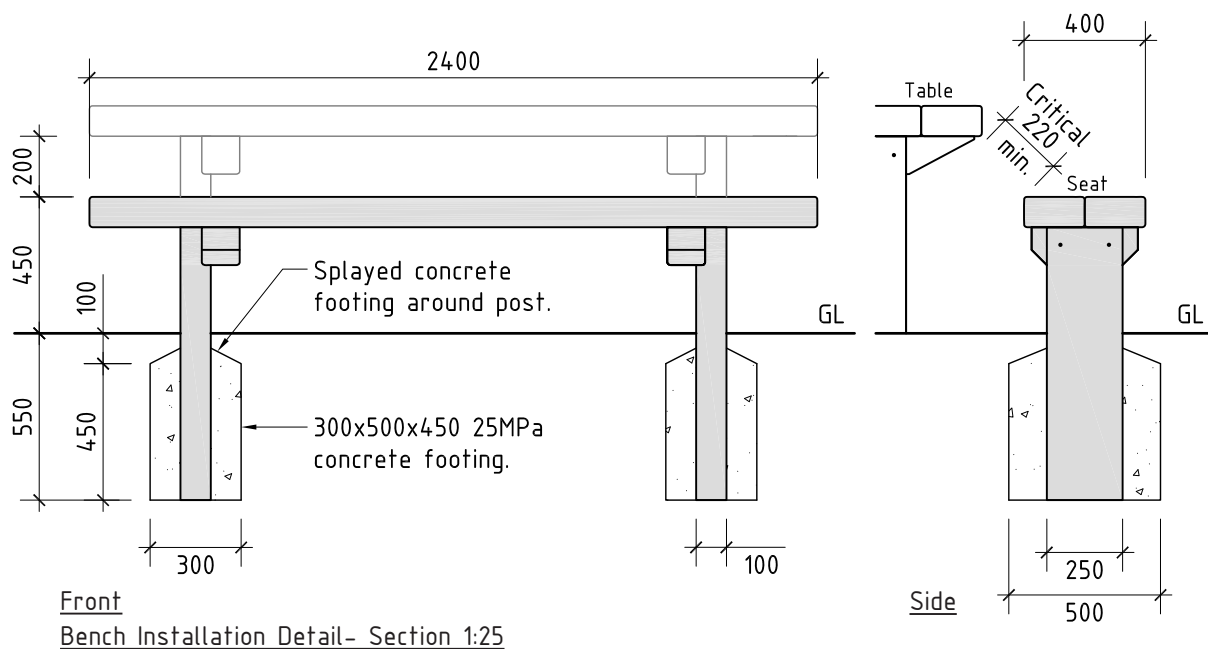
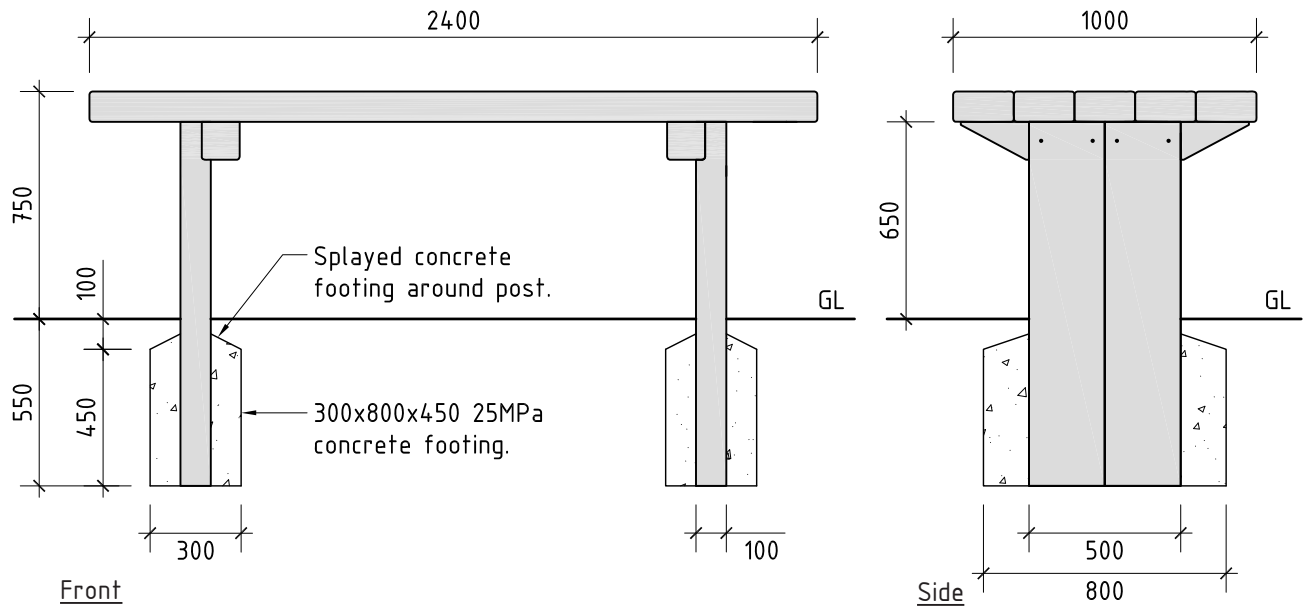
Front
Footing Detail - Section 1:20



Suitable Locations	<ul style="list-style-type: none"> ▪ Significant Parks & Gardens ▪ Informal Parks & Community Recreation Reserves ▪ Sporting Reserves ▪ Bushland & Natural Areas
Common Locations	<ul style="list-style-type: none"> ▪ Eastfield Park, Warrien Reserve & Town Park.
Dimensions	<ul style="list-style-type: none"> ▪ Table: 2400x1000x750mm above ground. ▪ Bench: 2No. 2400x400x450mm above ground.
Material	<ul style="list-style-type: none"> ▪ Cypress Pine table and benches are supplied fully assembled. ▪ Single or double accessible ends are optional. (Single accessible version shown above)
Installation	<ul style="list-style-type: none"> ▪ Fix table and bench legs into concrete footing as shown in Installation Details.
Maintenance	<ul style="list-style-type: none"> ▪ Graffiti can be removed with hot water pressure washer or sanding
Product & Supplier	<ul style="list-style-type: none"> ▪ Maroondah Table by Barling's Woodworks Pty. Ltd.

9.7 Timber Picnic Table

Detail

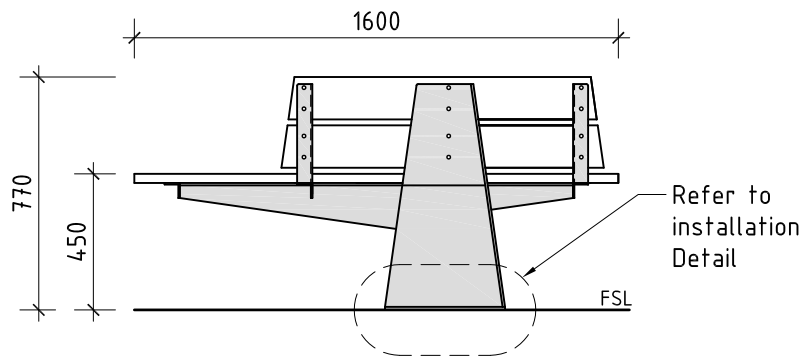




Suitable Locations	<ul style="list-style-type: none"> ▪ Special sites ▪ Skate facilities
Common Locations	<ul style="list-style-type: none"> ▪ Croydon Park X & Y Spaces
Dimensions	<ul style="list-style-type: none"> ▪ Table: 1600x820x740mm above ground. ▪ 'Half-back' Seats: 1600x560x770mm above ground.
Material	<ul style="list-style-type: none"> ▪ Galvanised steel frame/ legs. ▪ Slats: Jarrah, 'DuraSlat' wood/plastic composite. ▪ Concrete Pad: 150mm thick 25MPa 'Abilox' CAF-X2 Black, dosage rate 4.15% in grey cement. Finish: 'Broomed' unless otherwise noted. Refer to Concrete pad notes and installation detail.
Installation	<ul style="list-style-type: none"> ▪ Table and seats are to be fixed onto concrete pad with M16 galvanised chemset anchors at each fixing points (4No. per leg).
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required
Product & Supplier	<ul style="list-style-type: none"> ▪ Prospect Truss Table (PTT.16.DS) and 'Half Back' Seats (PT.LT.32.DS) by Botton & Gardiner.

9.8 'Prospect Truss' Picnic Setting

Detail



Seat: Elevation 1:25

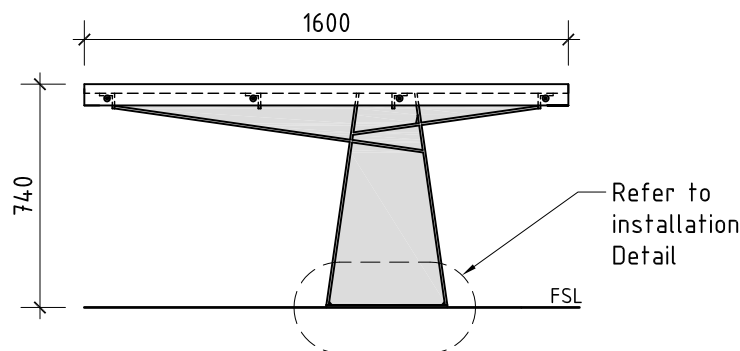
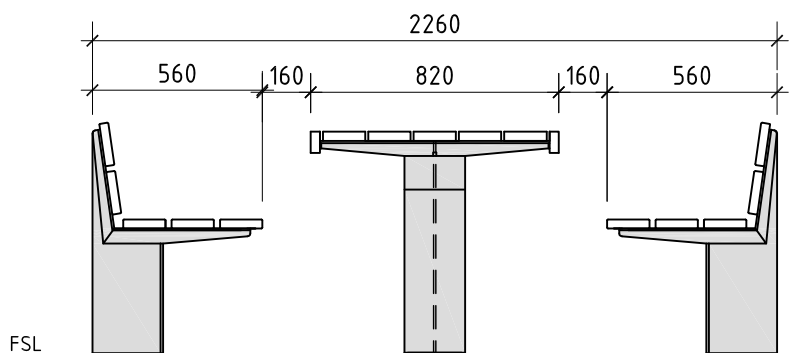
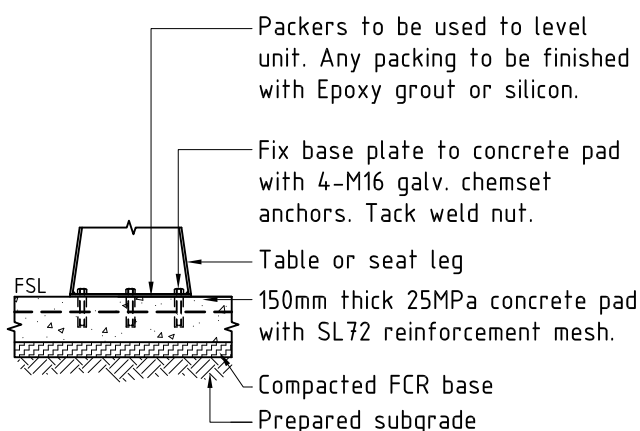


Table: Elevation 1:25



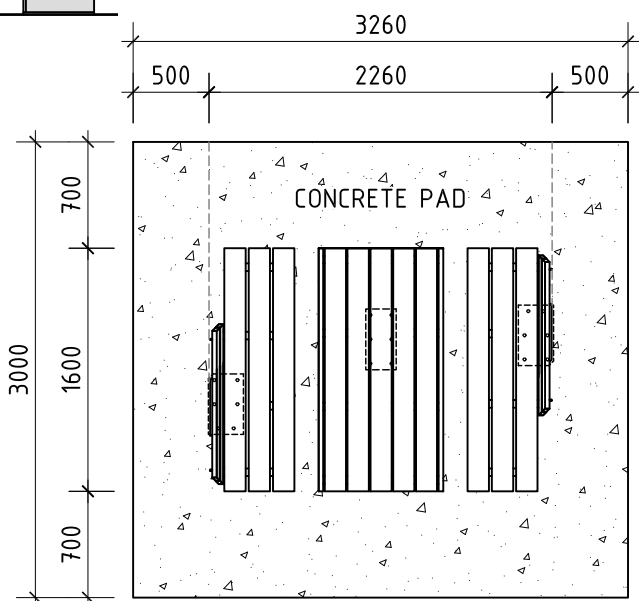
Side Elevation 1:25



Installation Detail - 1:25

Concrete Pad Notes:

The 'Abilox' brand of fine colouring pigment powder shall be added to the transit mixer truck containing all of the pre-mixed concrete raw materials. The total contents from one (1x12.5kg) sack of the CAF-X2 Black pigment powder shall be added to every cubic metre of the non-set plastic pre-mixed concrete, which shall then be efficiently mixed in the stationary transit truck for 10 minutes at the fastest transit mixers barrel speed so that the pigment particles are uniformly dispersed. The resultant 'Abilox' coloured plastic concrete shall then be placed, jointed and completely cured.



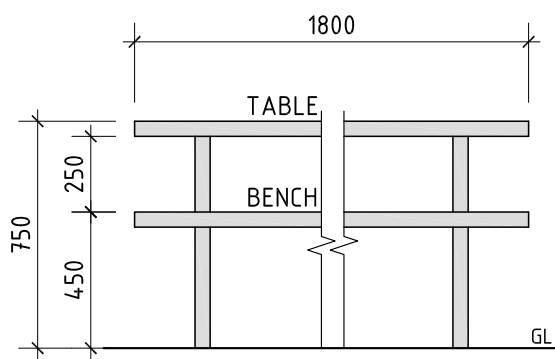
Concrete Pad - Plan 1:50



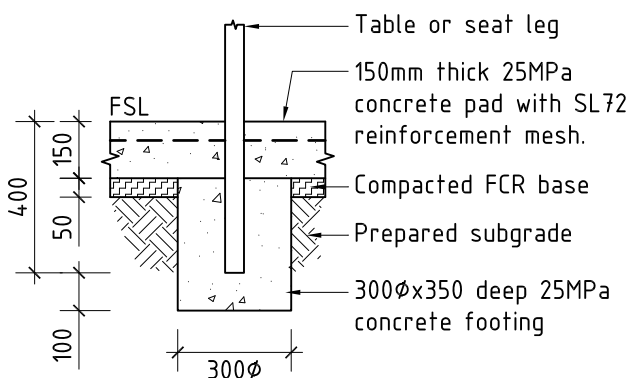
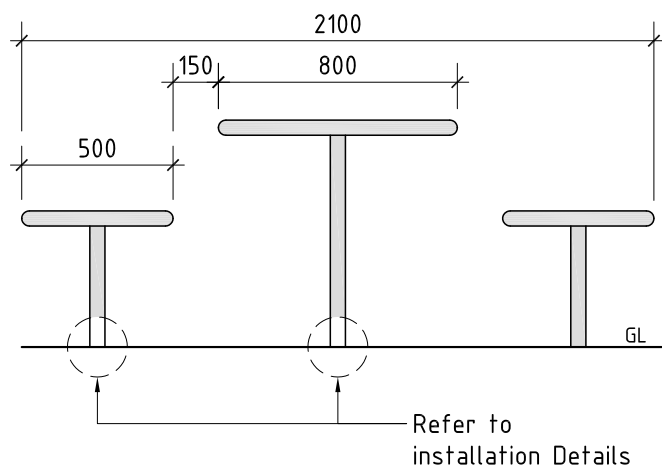
Suitable Locations	<ul style="list-style-type: none"> ▪ Significant Parks & Gardens ▪ Informal Parks & Community Recreation Reserves ▪ Sporting Reserves.
Common Locations	<ul style="list-style-type: none"> ▪ Glen Park Reserve & Croydon Park
Dimensions	<ul style="list-style-type: none"> ▪ Table: 1800x800x750mm (above ground). ▪ Bench: 1800x500x450mm (above ground).
Material	<ul style="list-style-type: none"> ▪ Silver zinc plated steel frame/ legs, powder coat 'Bright Silver' ▪ Slats: Brown 'DuraSlat' wood/plastic composite. ▪ Concrete Pad: 150mm thick 25MPa 'Abilox' CAF-X2 Black, dosage rate 4.15% in grey cement. Finish: 'Broomed' unless otherwise noted. Refer to Concrete pad notes and installation detail.
Installation	<ul style="list-style-type: none"> ▪ In-ground: Table and bench legs are to be encased in concrete footing as shown in Installation Detail. This method is preferable for proposed pavement areas. ▪ Bolt-down: Install concrete pad as detailed (if required). Table and benches are to be fixed onto concrete pad/ paving with M10 galv. chemset anchors. This method is preferable where there is an existing sound concrete pavement.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required
Product & Supplier	<ul style="list-style-type: none"> ▪ Picnic Setting UDG2-PS300 (non-standard finish) by Urban Design Group.

9.9 Park 'Duraslat' Picnic Setting

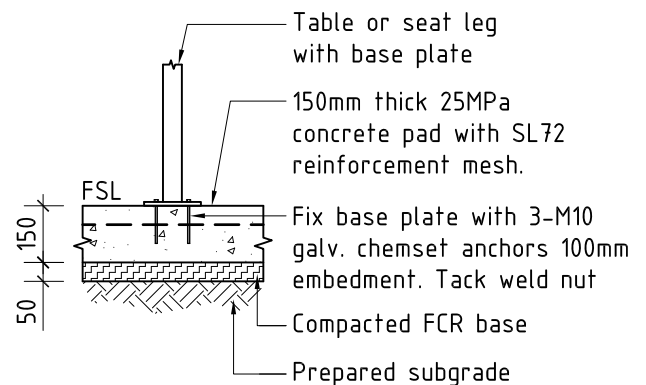
Detail



Elevation 1:20



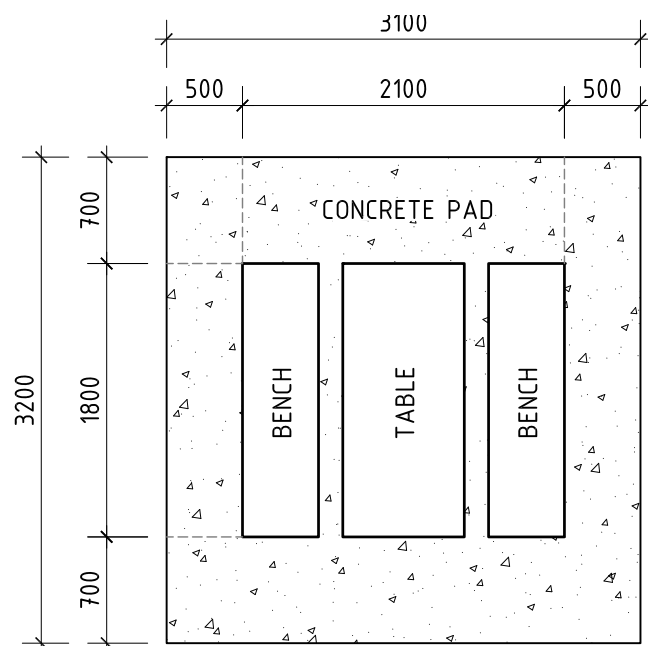
Installation Detail (In-ground) - 1:20



Installation Detail (Bolt-down) - 1:20

Concrete Pad Notes:

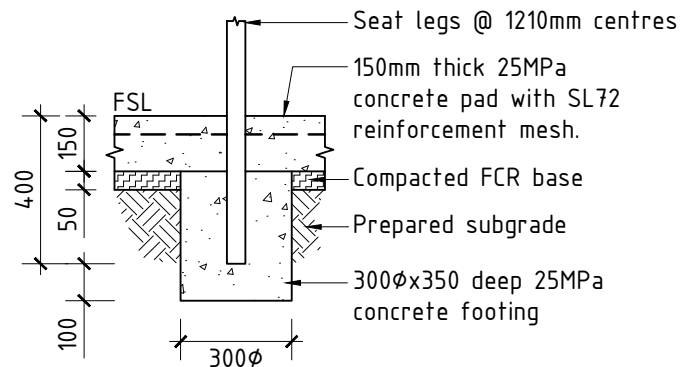
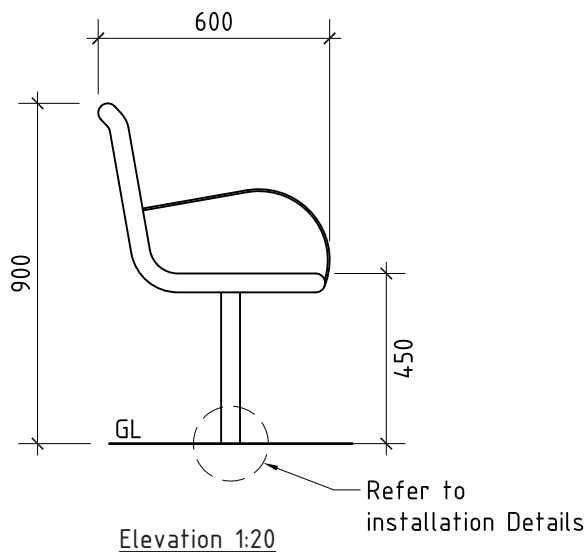
The 'Abilox' brand of fine colouring pigment powder shall be added to the transit mixer truck containing all of the pre-mixed concrete raw materials. The total contents from one (1x12.5kg) sack of the CAF-X2 Black pigment powder shall be added to every cubic metre of the non-set plastic pre-mixed concrete, which shall then be efficiently mixed in the stationary transit truck for 10 minutes at the fastest transit mixers barrel speed so that the pigment particles are uniformly dispersed. The resultant 'Abilox' coloured plastic concrete shall then be placed, jointed and completely cured.



Concrete Pad - Plan 1:50

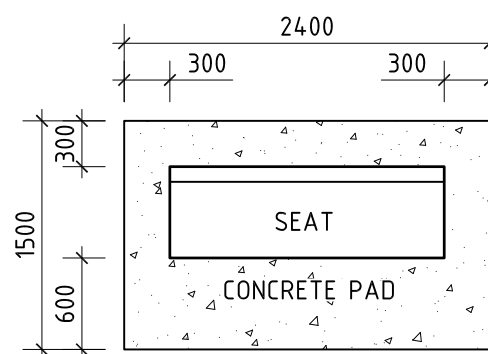
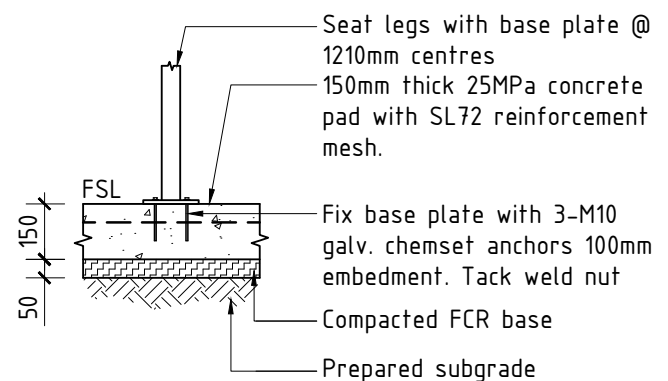


Suitable Locations	<ul style="list-style-type: none"> ▪ Significant Parks & Gardens. ▪ Informal Parks & Community Recreation Reserves. ▪ Sporting Reserves.
Common Locations	<ul style="list-style-type: none"> ▪ Glen Park Reserve, Jubilee Park & Ainslie Park.
Dimensions	<ul style="list-style-type: none"> ▪ 1800x600x900mm above ground.
Material	<ul style="list-style-type: none"> ▪ Silver zinc plated steel frame, legs and armrest. with 'Bright Silver' powder coat finish. ▪ Slats: Brown 'DuraSlat' wood/plastic composite. ▪ Concrete Pad (if required): 150mm thick 25MPa 'Abilox' CAF-X2 Black, dosage rate 4.15% in grey cement. Finish: 'Broomed' unless otherwise noted. Refer to Concrete pad notes and installation detail.
Installation	<ul style="list-style-type: none"> ▪ In-ground: Encase legs in concrete footing as shown in Installation Detail. This method is preferable for proposed pavement areas. ▪ Bolt-down: Base plates are to be fixed onto concrete pad/ paving with M10 galv. chemset anchors. This method is preferable where there is an existing sound concrete pavement.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none"> ▪ Seat UDG2-ST90 (non-standard finish) by Urban Design Group.



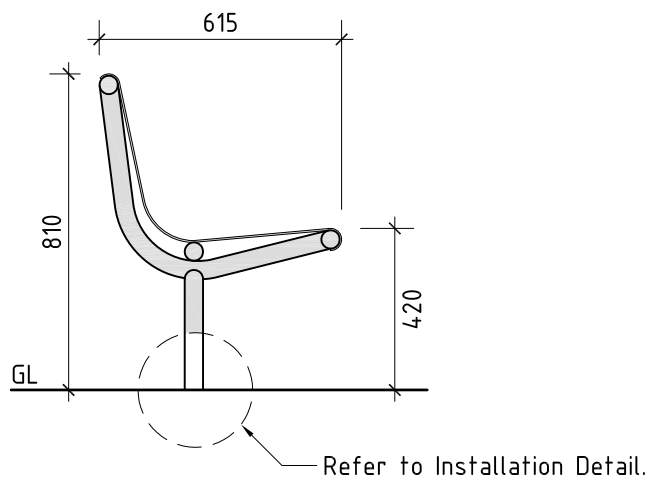
Concrete Pad Notes:

The 'Abilox' brand of fine colouring pigment powder shall be added to the transit mixer truck containing all of the pre-mixed concrete raw materials. The total contents from one (1x12.5kg) sack of the CAF-X2 Black pigment powder shall be added to every cubic metre of the non-set plastic pre-mixed concrete, which shall then be efficiently mixed in the stationary transit truck for 10 minutes at the fastest transit mixers barrel speed so that the pigment particles are uniformly dispersed. The resultant 'Abilox' coloured plastic concrete shall then be placed, jointed and completely cured.

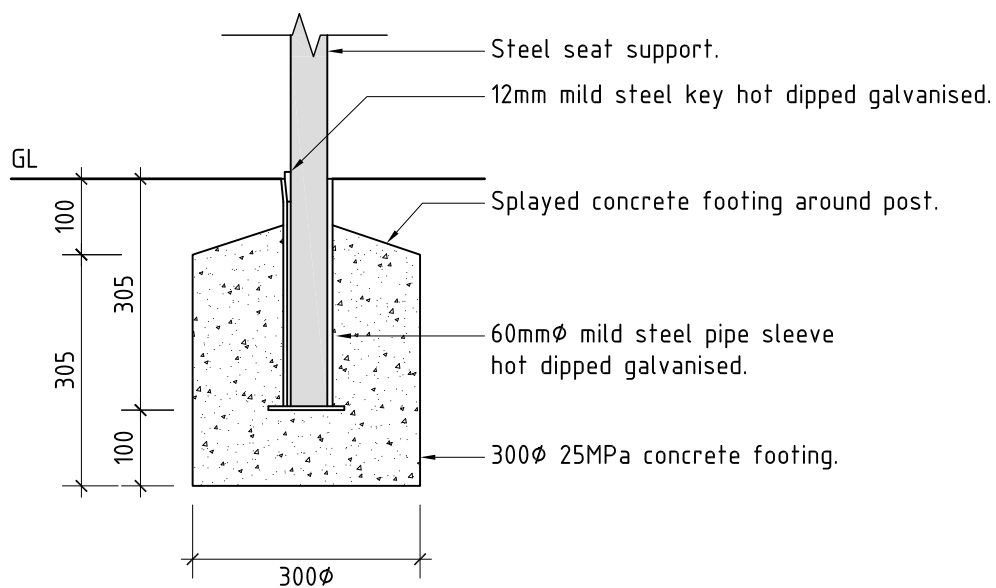




Suitable Locations	<ul style="list-style-type: none"> ▪ Activity Centres & Streetscapes
Common Locations	<ul style="list-style-type: none"> ▪ North Ringwood Shopping Centre ▪ Heathmont Shopping Centre
Dimensions	<ul style="list-style-type: none"> ▪ 615x2000x810mm above ground.
Material	<ul style="list-style-type: none"> ▪ Mild steel hot dipped galvanised and powdercoated to Council request. ▪ 12mm galvanised mild steel key and 60mm OD steel pipe sleeve. ▪ Armrests optional.
Installation	<ul style="list-style-type: none"> ▪ Seat is supplied fully assembled. ▪ Install steel pipe sleeve into concrete footing as shown in Installation Detail.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required. ▪ Paint to be touched up when chipped or damaged.
Product & Supplier	<ul style="list-style-type: none"> ▪ GOV26 by Furphy Foundry.



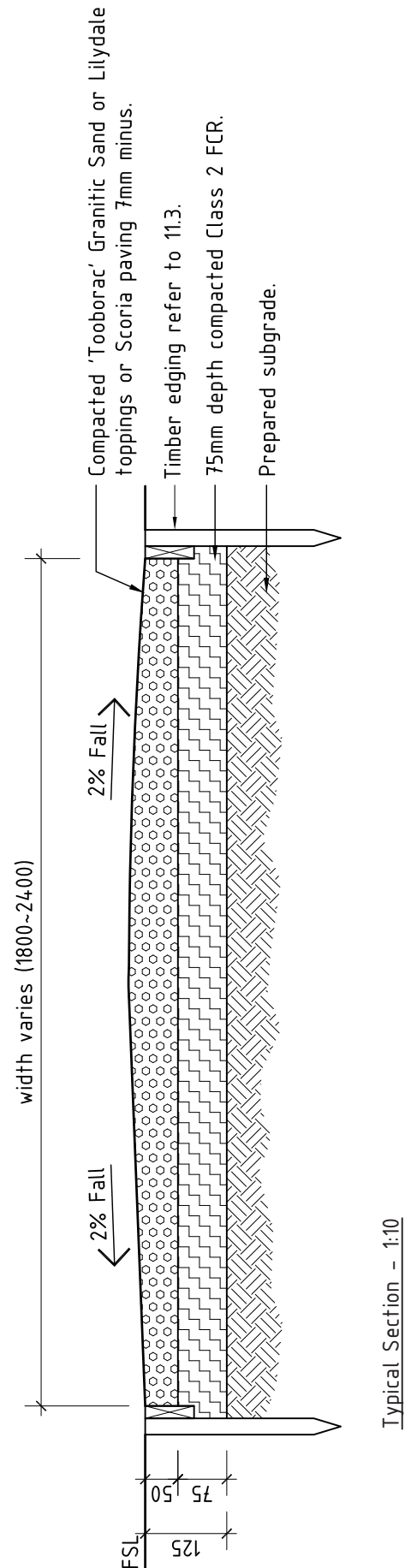
Elevation 1:20



Installation Detail - Section 1:10

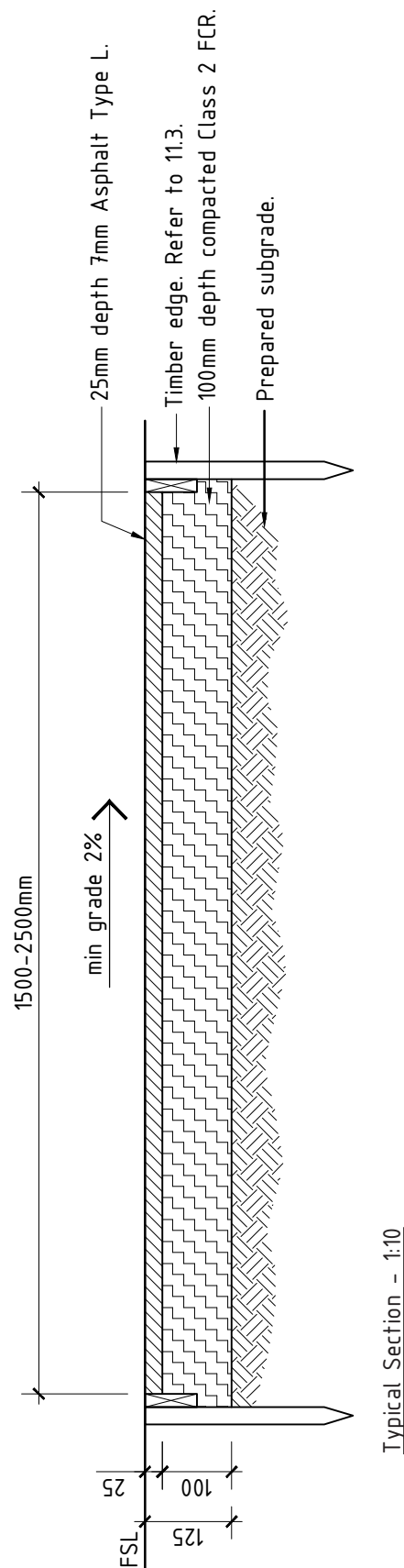


Suitable Locations	<ul style="list-style-type: none">▪ Significant Parks & Gardens▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves▪ Bushland & Natural Areas
Common Locations	<ul style="list-style-type: none">▪ Douglas Maggs Reserve
Dimensions	<ul style="list-style-type: none">▪ 1800mm wide typically.▪ 2500mm wide for Shared Use Paths.
Material	<ul style="list-style-type: none">▪ 50–75mm 'Tooborac' Granitic Sand, Lilydale toppings or Scoria.▪ 75mm depth Class 2 FCR.▪ Timber edging (refer to 11.3 Path Edging).
Installation	<ul style="list-style-type: none">▪ Prepare subgrade to specified level.▪ Install timber edging as specified in 11.3 Path Edging.▪ Compact toppings layer over compacted Class 2 FCR.
Product & Supplier	<ul style="list-style-type: none">▪ Many suppliers available.





Suitable Locations	<ul style="list-style-type: none">▪ Significant Parks & Gardens▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none">▪ Arrabri, Town Park, McAlpin Reserve
Dimensions	<ul style="list-style-type: none">▪ 1500–2500mm wide typically.
Material	<ul style="list-style-type: none">▪ Refer to Engineering Standard Drawing SD-F01.
Installation	<ul style="list-style-type: none">▪ Prepare subgrade to specified level.▪ Install timber edging as specified in 11.3 Path Edging (Optional).▪ Compacted Class 3, 100mm FCR layer over prepared subgrade.▪ Compacted 30mm Asphalt Type L over FCR layer.
Product & Supplier	<ul style="list-style-type: none">▪ Many suppliers available.





Timber Edge



Metal Edge



Recycled Plastic Edge

Suitable Locations

- Significant Parks & Gardens
- Informal Parks & Community Recreation Reserves
- Sporting Reserves

Common Locations

- Douglas Maggs Reserve, Ringwood Lake, Brentwood Park

Material-Dimensions

Timber

- Timber edge board: 19x75mm.
- Long timber pegs: 25x75x300mm.
- H4 minimum CCA or ACQ Treated Pine timber.
- 40mm F.H. galv nail (2No. per peg).

Metal

- Rolled edge galvanised steel with steel stakes

Recycled Plastic

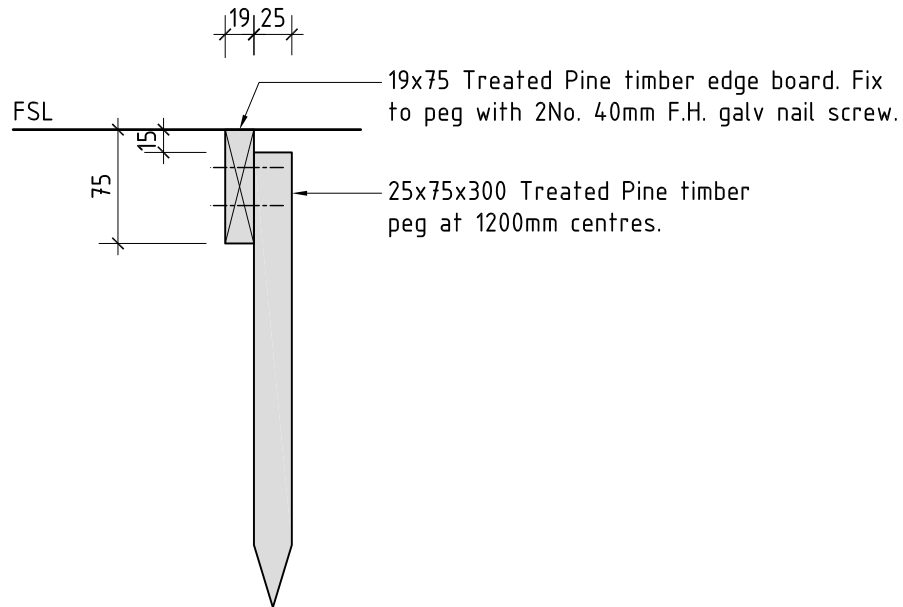
- 200mm x 20mm with recycled plastic stakes

Installation

- Drive pegs into ground @ 1200mm centres.
- Fix edge board to pegs with galvanised nails or screws.

Product & Supplier

- Many suppliers available.



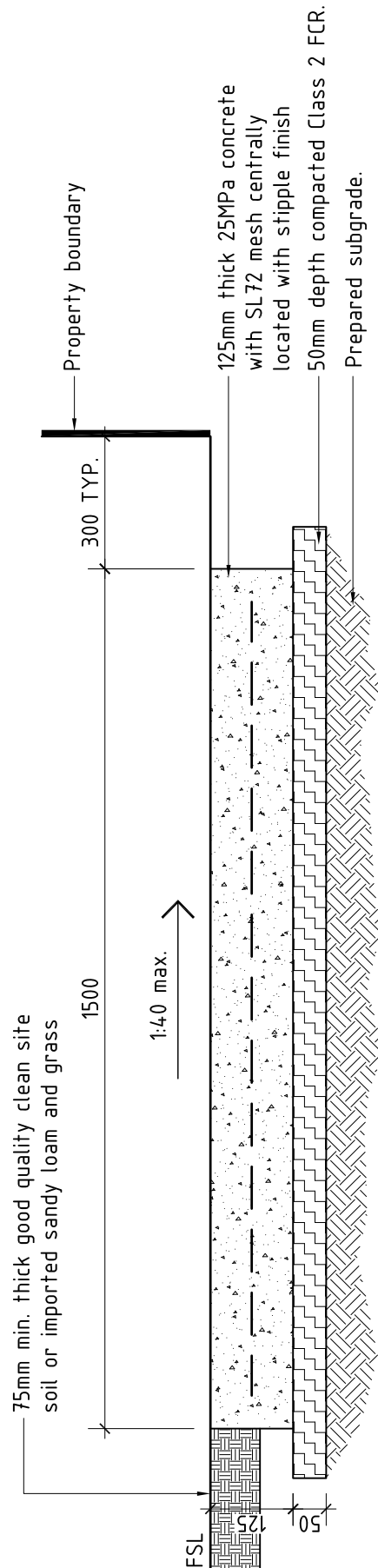
Installation Detail - 1:5



Suitable Locations	<ul style="list-style-type: none">▪ Activity Centres & Streetscapes▪ Significant Parks & Gardens▪ Informal Parks & Community Recreation Reserves▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none">▪ Common to all areas.
Dimensions	<ul style="list-style-type: none">▪ 1500mm wide or as appropriate.
Material	<ul style="list-style-type: none">▪ Refer to Engineering Standard Drawing.
Installation	<ul style="list-style-type: none">▪ Prepare sub-grade.▪ Pour concrete over FCR layer.▪ Install weakened plane joints and expansion joints as specified.▪ Edge of slab shall be finished with a suitable edging tool to provide a 40mm smooth border completely around each slab.
Maintenance	<ul style="list-style-type: none">▪ Replace if damaged.
Product & Supplier	<ul style="list-style-type: none">▪ Many suppliers available.

11.4 Concrete Path (1500mm)

Detail

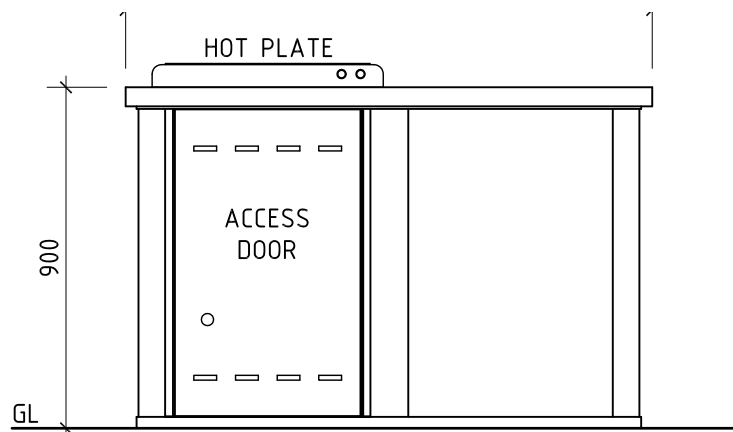


Notes:

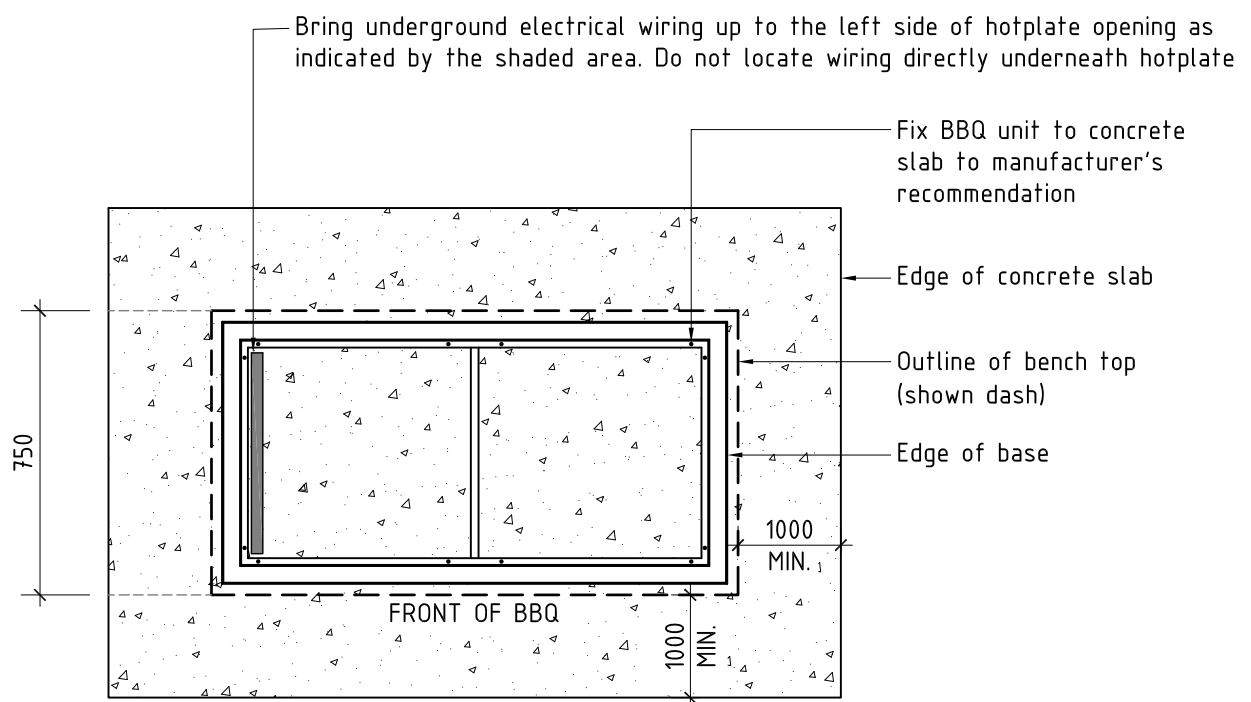
- Expansion joints to have 4No. 450mm long N12 tie bars installed at 300 max. centres commencing 150mm from edge at each expansion joint.
- Expansion joints to be installed at 18m centres and at the start and end of newly constructed footpath sections.
- Expansion material to be polyethylene expansion foam, resin based cork strip or approved equivalent.
- Weakened plane joints (5mm wide x 10-15mm deep) in concrete footpath to be installed at 1.5m intervals and made with a 'T' iron at time of construction
- Where crossovers are constructed, adjacent footpath panels must be thickened in accordance with the appropriate vehicle crossing standard (see SD-H series)
- Form work timber to be minimum 90mm deep.
- Footpath to be broom finish with no highlights



Suitable Locations	<ul style="list-style-type: none"> ▪ Significant Parks & Gardens ▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none"> ▪ Croydon Park
Dimensions	<ul style="list-style-type: none"> ▪ 1390x750x900mm above ground (hot plate 965mm above ground).
Material	<ul style="list-style-type: none"> ▪ Bench: Reinforced stainless steel ▪ Hot plate: Stainless Steel, electric powered with safety timing control. ▪ Frame: High strength custom aluminium extrusion, powder coated 'Aztec Silver'. ▪ Access door: Stainless steel powder coated 'Aztec Silver' ▪ Cladding: Compressed fibre cement backing panels with decorative fascia panels in 'Aztec Silver' powder coat finish. ▪ Baffled fat collection tray. ▪ Concrete Pad (if required): 150mm thick 25MPa 'Abilox' CAF-X2 Black, dosage rate 4.15% in grey cement. Finish: 'Broomed' unless otherwise noted. Refer to Concrete pad notes and installation detail.
Installation	<ul style="list-style-type: none"> ▪ Fix BBQ unit to concrete slab to manufacture's recommendation. ▪ Installation of all electrical components shall be performed by a licensed electrician. ▪ Bring underground electrical wiring up to the left side of hotplate opening looking from the front. Do not bring wiring up directly from below hotplate or run any wiring below hotplate.
Product & Supplier	<ul style="list-style-type: none"> ▪ Modular Double Installation Kit with 1 x CCQ Electric by DA Christie.



Elevation 1:20



Plan 1:20

Concrete Pad Notes:

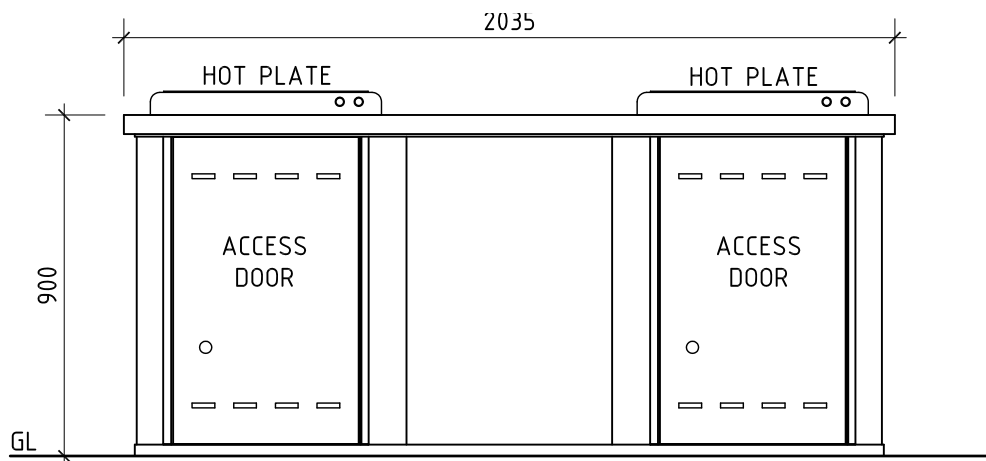
The 'Abilox' brand of fine colouring pigment powder shall be added to the transit mixer truck containing all of the pre-mixed concrete raw materials. The total contents from one (1x12.5kg) sack of the CAF-X2 Black pigment powder shall be added to every cubic metre of the non-set plastic pre-mixed concrete, which shall then be efficiently mixed in the stationary transit truck for 10 minutes at the fastest transit mixers barrel speed so that the pigment particles are uniformly dispersed. The resultant 'Abilox' coloured plastic concrete shall then be placed, jointed and completely cured.



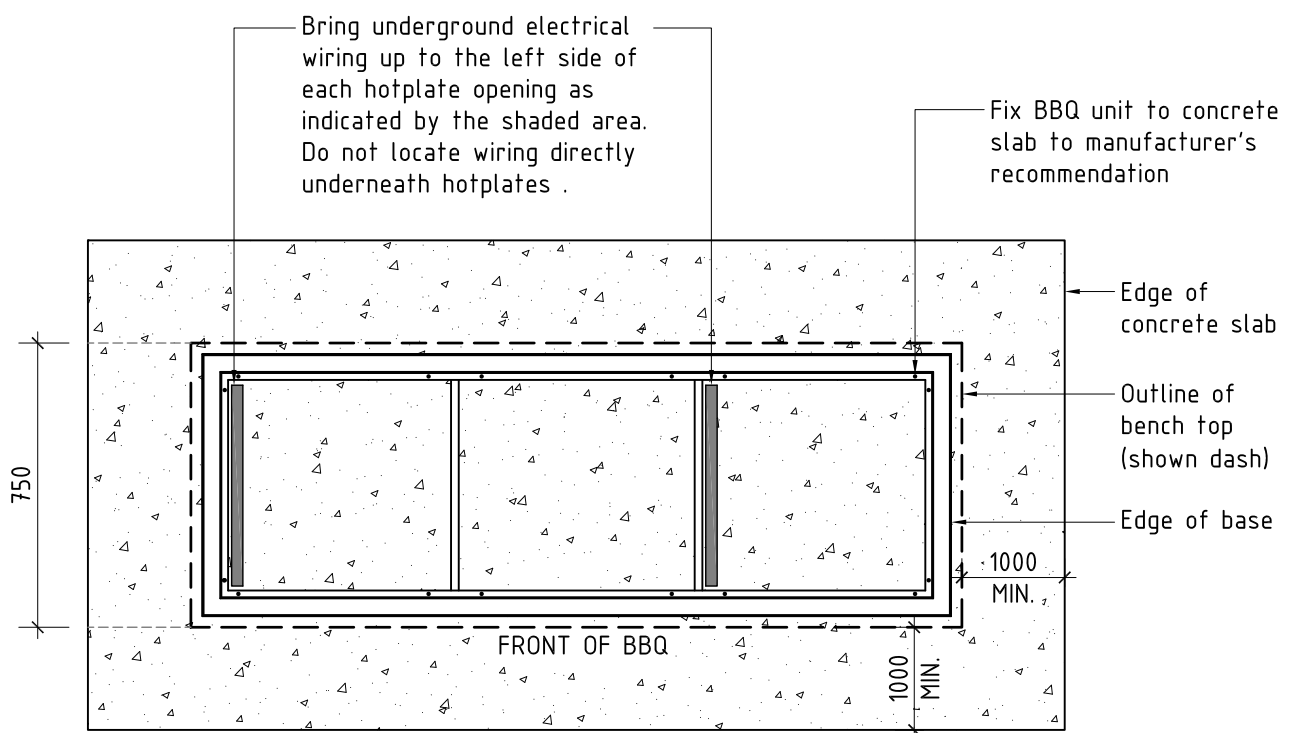
Suitable Locations	<ul style="list-style-type: none"> ▪ Significant Parks & Gardens ▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none"> ▪ Jubilee Park & Ringwood Lake Park.
Dimensions	<ul style="list-style-type: none"> ▪ 2035x750x900mm above ground (hot plate 965mm above ground).
Material	<ul style="list-style-type: none"> ▪ Bench: Reinforced stainless steel ▪ Hot plate: Stainless Steel, electric powered with safety timing control. ▪ Frame: High strength custom aluminium extrusion, powder coated 'Aztec Silver'. ▪ Access door: Stainless steel powder coated 'Aztec Silver' ▪ Cladding: Compressed fibre cement backing panels with decorative fascia panels in 'Aztec Silver' powder coat finish. ▪ Baffled fat collection tray. ▪ Concrete Pad (if required): 150mm thick 25MPa 'Abilox' CAF-X2 Black, dosage rate 4.15% in grey cement. Finish: 'Broomed' unless otherwise noted. Refer to Concrete pad notes and installation detail.
Installation	<ul style="list-style-type: none"> ▪ Fix BBQ unit to concrete slab to manufacture's recommendation. ▪ Installation of all electrical components shall be performed by a licensed electrician. ▪ Bring underground electrical wiring up to the left side of hotplate opening looking from the front. Do not bring wiring up directly below hotplate or run any wiring below hotplate.
Product & Supplier	<ul style="list-style-type: none"> ▪ Modular Triple Installation Kit with 2 x CCQ Electric by DA Christie.

14.2 Double BBQ Unit

Detail



Elevation 1:20



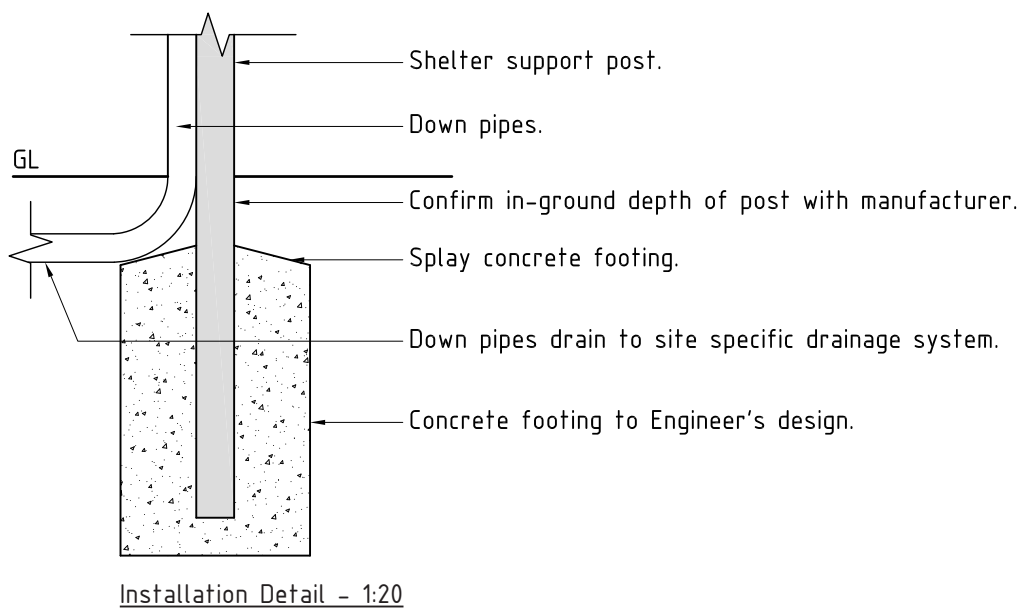
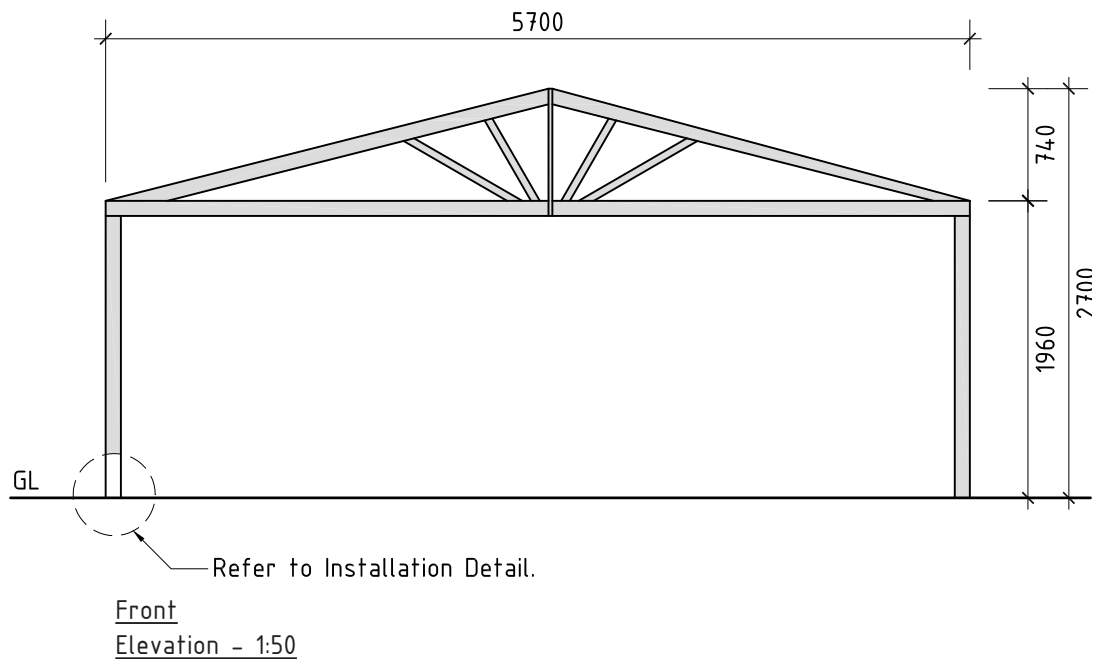
Plan 1:20

Concrete Pad Notes:

The 'Abilox' brand of fine colouring pigment powder shall be added to the transit mixer truck containing all of the pre-mixed concrete raw materials. The total contents from one (1x12.5kg) sack of the CAF-X2 Black pigment powder shall be added to every cubic metre of the non-set plastic pre-mixed concrete, which shall then be efficiently mixed in the stationary transit truck for 10 minutes at the fastest transit mixers barrel speed so that the pigment particles are uniformly dispersed. The resultant 'Abilox' coloured plastic concrete shall then be placed, jointed and completely cured.



Suitable Locations	<ul style="list-style-type: none"> ▪ Informal Parks & Community Recreation Reserves ▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none"> ▪ Grayswood Reserve & Town Park
Dimensions	<ul style="list-style-type: none"> ▪ Single: 5700x3000x2700 above ground. ▪ Double: 5700x6000x2700 above ground.
Material	<ul style="list-style-type: none"> ▪ Frame: Duragal mild steel powdercoated black. ▪ Roofing & Gutters: Colorbond 'Mist Green' ▪ Downpipes: Powdercoated to match frame.
Installation	<ul style="list-style-type: none"> ▪ Roof section is supplied fully assembled. ▪ Install supports into concrete footings to Engineers Detail. ▪ Provide in-ground drainage connections from downpipes on opposite sides of roof to legal point of discharge. ▪ Supplier to provide Engineering certification, computations and shop drawings.
Maintenance	<ul style="list-style-type: none"> ▪ Robust, low maintenance. ▪ Touch-up paint as required.
Product & Supplier	<ul style="list-style-type: none"> ▪ Maroondah Design by Alltek Welding



Notes:

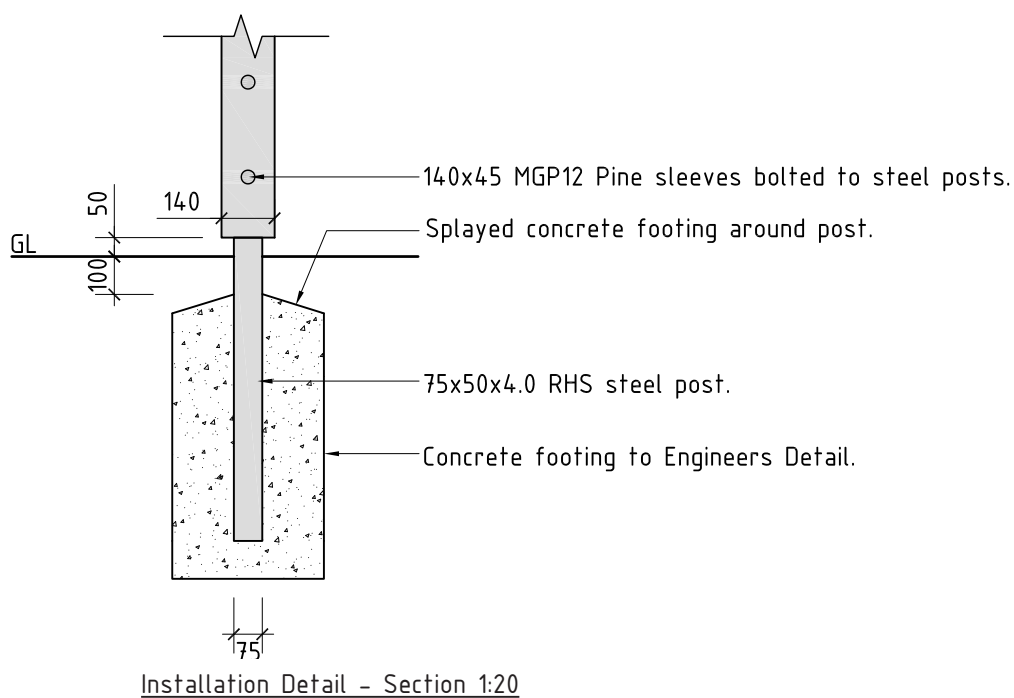
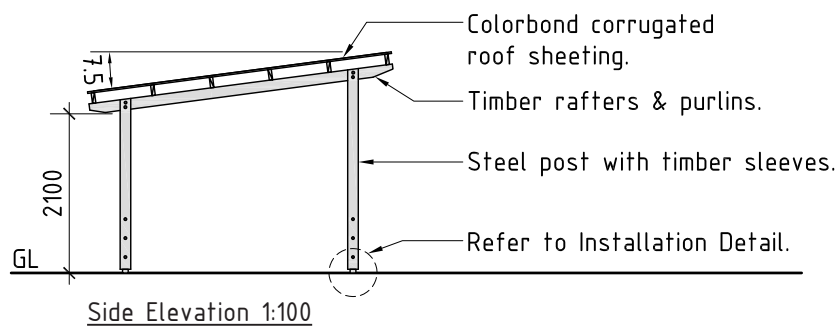
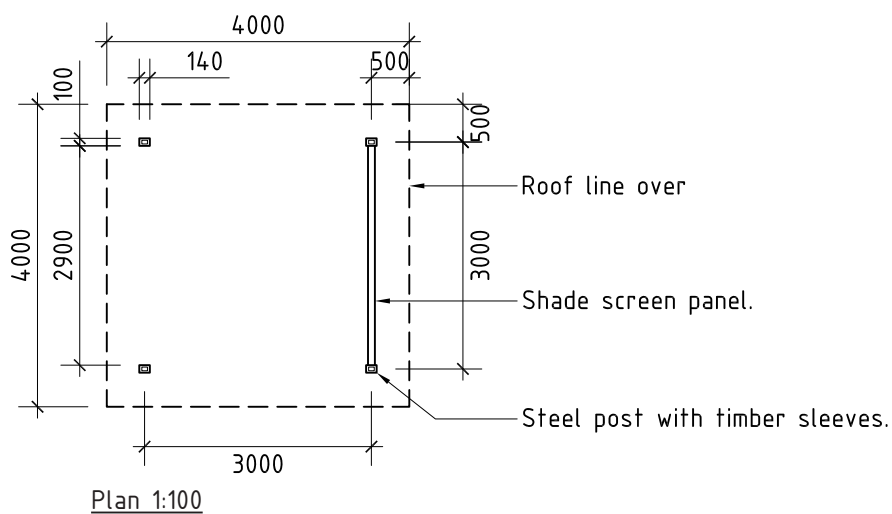
All steel to be zinc coated prior to powdercoat.

Gutter lengths to extend to end capping.

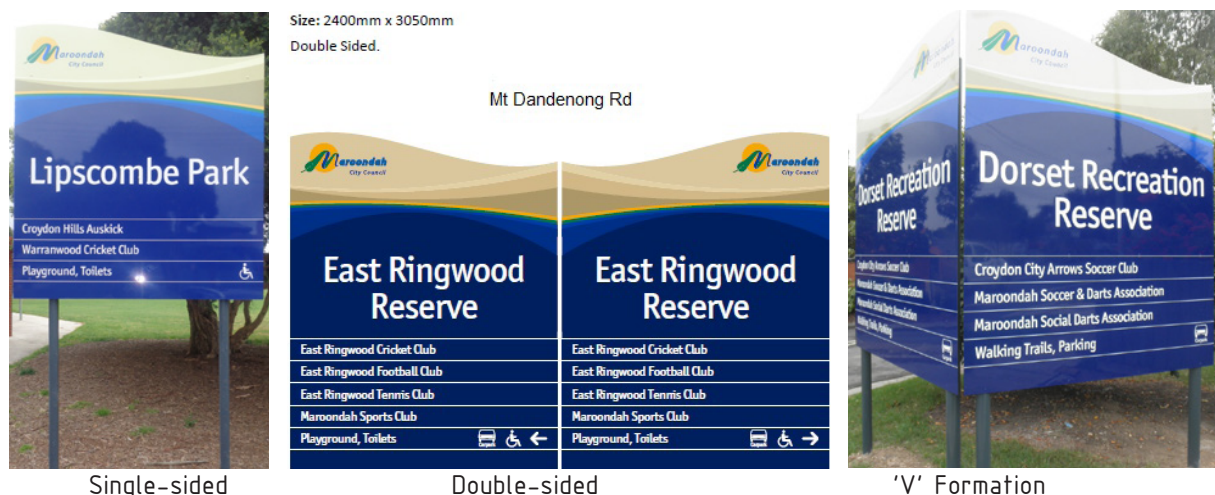
Pins on post for footings to be clear on downpipe areas.



Suitable Locations	<ul style="list-style-type: none"> ▪ Informal Parks & Community Recreation Reserves ▪ Bushland & Natural Areas
Common Locations	<ul style="list-style-type: none"> ▪ Warriem Reserve and BJ Hubbard Reserve.
Dimensions	<ul style="list-style-type: none"> ▪ 4000x4000x2900 above ground.
Material	<ul style="list-style-type: none"> ▪ Pre-fabricated kit form LOSP treated & stabilised plantation hoop pine with oil based stain timber work. ▪ Pre-cut colorbond custom orb corrugated steel. Colour: 'Mist Green' ▪ Shade screen front panel. ▪ Hot dipped galvanised fixtures.
Installation	<ul style="list-style-type: none"> ▪ Fix posts into individual concrete footings as shown in Installation Details. ▪ Assemble shelter to manufacturer's instructions. Manufacturers also provide installation service. ▪ Supplier to provide Engineerings certification, computations and shop drawings.
Product & Supplier	<ul style="list-style-type: none"> ▪ K302 Inskip Shelter by Landmark Products Ltd. ▪ 4x4 Skillion Shelter by GR Design and Construct.



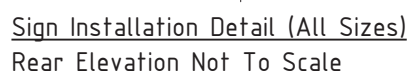
16.1 Council Property Identification (Multi-colour Sign) Description



Suitable Locations	<ul style="list-style-type: none"> ▪ Significant Parks & Gardens (A) ▪ Informal Parks & Community Recreation Reserves (B) ▪ Bushland & Natural Areas (C) ▪ Community Centres (D) ▪ Council Facilities (E)
Common Locations	<ul style="list-style-type: none"> ▪ (A) Ringwood Lake, H.E. Parker Reserve & Cheong Park. ▪ (B) Heathmont Reserve. ▪ (C) Wombolano Reserve ▪ (D) Glen Park Reserve ▪ (E) Croydon Depot
Dimensions	<ul style="list-style-type: none"> ▪ Sign size, position and text composition are to be determined by the Open Space Coordinator (Maroondah City Council). ▪ Large Signs -Locations: A, B (Community Recreation Reserves only) & D. <ul style="list-style-type: none"> -Road Frontage Type: min. 70 km/h or multi-lane roads. -Board Size: 2200mm long x 2063mm min. (1 text line) – 2983mm max. (7 text lines) high. ▪ Medium Signs -Locations: B (Community Recreation Reserves only) & E. <ul style="list-style-type: none"> -Road Frontage Type: 60 km/h or single lane roads. -Board Size: 1500mm long x 1404mm min. (1 text line) – 1779mm max. (7 text lines) high. ▪ Small Signs -Locations: B (Informal Parks only). <ul style="list-style-type: none"> -Road Frontage Type: 50 km/h or local streets. -Board Size: 1200mm long x 1125mm min. (1 text line) – 1625mm max. (7 text lines) high. ▪ <u>Posts Size</u>: -Large signs are to be fixed to 104mm dia. frangible galv. posts. 4.0m long above frangible joint. 1.0m added below joint for in-ground installation. Joint to comprise 2x12mm plates. -Small & Medium signs are to be fixed to 60mm dia. galv. posts, 3200mm long (can be trimmed to suit smaller signs).
Material	<ul style="list-style-type: none"> ▪ 4mm Aluminium Composite Panel with 0.3mm skin. Background Finish: Painted Pantone 'Maroondah Blue'. Text & Logo: Printed Poly U400. Printed on 'Long-Life Cast Vinyl'. Coated with 'Poly U400' Clear Anti-graffiti UV stabilised finish. Rear painted Dark Grey. ▪ Posts painted Dark Grey.
Maintenance	<ul style="list-style-type: none"> ▪ Graffiti removal and touch-up paint.
Product & Supplier	<ul style="list-style-type: none"> ▪ Form A Sign.
Note	<ul style="list-style-type: none"> ▪ Refer to: Maroondah Signage Style Guide and Maroondah Outdoor Signage Policy.

Detail

- Unistrut fixing system with P4000 Heavy Duty Unistrut Channel ('5/6' aluminium rivets to rear of sign panel). Attach 2-3 Unistrut channels horizontally.
- Position rivet/channel to avoid crossing text lines on face of panel.
- Attach channel to post with cast aluminum brackets, 2-piece Artstrut brackets and spring nuts (double-sided sign panels).
- Fix posts into individual concrete footings as shown in Installation Details.



16.2 Council Property Identification (Blue Sign)

Description



Post Mounted

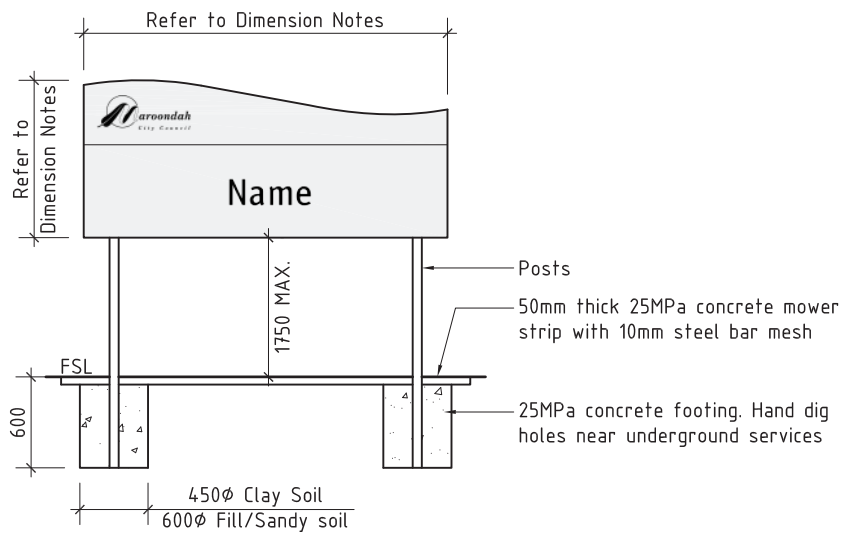


Wall/Facade Mounted

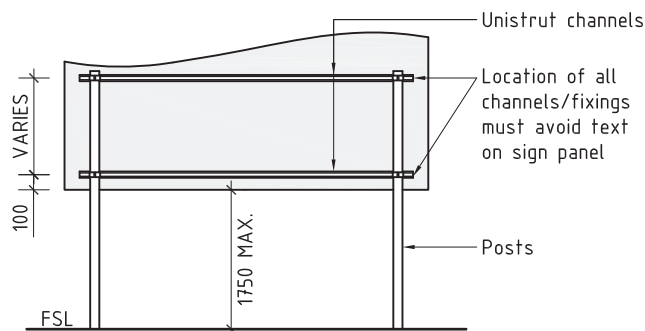
Suitable Locations	<ul style="list-style-type: none">▪ Council Buildings & Facilities▪ Named & Memorial Sites▪ Community Centres▪ Sports Clubrooms
Common Locations	<ul style="list-style-type: none">▪ Croydon Park, James N Stevens Memorial Lawn & Council Buildings.
Dimensions	<ul style="list-style-type: none">▪ Sign size, position and text composition are to be determined by the Open Space Coordinator (Maroondah City Council).▪ Large Sign (multiple tenants) 2400mm long x 1300mm high▪ Large Sign (single tenant) 2400mm long x 950mm high▪ Medium Sign (single tenant) 1800mm x 712.5mm high▪ Small Sign (facility identification) 1500mm long x 550mm high▪ Post Mounting: 60mm dia. galv. posts. Height of post varies to suit location & orientation.
Material	<ul style="list-style-type: none">▪ 4mm Aluminium Composite Panel with 0.3mm skin. Background Finish: Painted Pantone 'Maroondah Blue'. Text & logo: Printed Poly U400. Printed on 'Long-Life Cast Vinyl'. Coated with 'Poly U400' Clear Anti-graffiti UV stabilised finish. Rear painted Dark Grey.▪ Posts painted Dark Grey.
Installation	<ul style="list-style-type: none">▪ <u>Post Mounting</u> with P4000 Heavy Duty Unistrut Channels ('5/6' aluminium rivets to rear of sign panel). Attach 2 Unistrut channels horizontally. Position rivet/channel to avoid crossing text lines on face of panel. Attach channel to post with 2-piece Artstrut bracket. Fix posts into individual concrete footings as shown in Installation Details.▪ <u>Wall/Facade Mounting</u>. Sign to be supplied with 25 SHS aluminium frame riveted to rear of sign panel. Attach 25 EA aluminium bracket to wall with Chemset Anchor (brick or concrete), wood tek screws (timber) or roofing screws (metal panels). Attach sign panel frame to bracket with 4mm tek screws top and bottom.▪ <u>Fascia Mounting</u> to be determined on site by Supervisor.
Maintenance	<ul style="list-style-type: none">▪ Graffiti removal and touch-up paint.
Product & Supplier	<ul style="list-style-type: none">▪ Form A Sign
Note:	<ul style="list-style-type: none">▪ Refer to: Maroondah Signage Style Guide and Maroondah Outdoor Signage Policy.

16.2 Council Property Identification (Blue Sign)

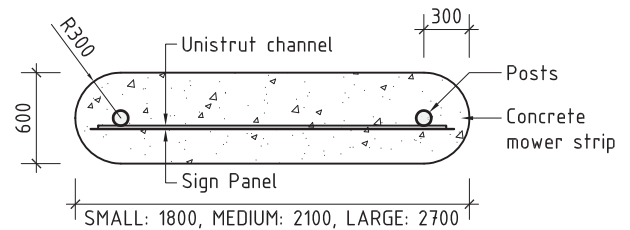
Detail



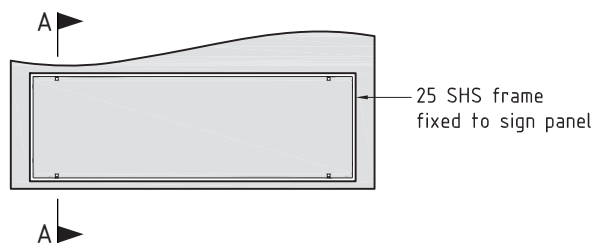
Sign Installation Detail - Section 1:50



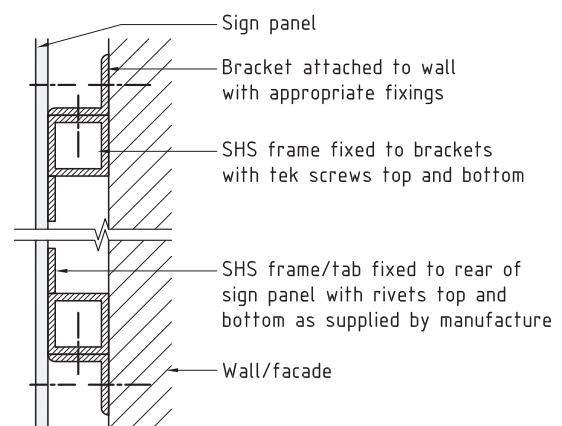
Sign Installation Detail (Post Mounting)
Rear Elevation 1:50



Mower Strip Detail - Plan 1:50



Sign Panel for Wall/Facade Mounting
Rear Elevation 1:50



Sign Installation Detail (Wall/Facade Mounting)
Section A-A 1:2.5



Totem Sign



Finger Board



Plank Sign

Common Use

- Dandenong Creek Trail
- Mullum Mullum Creek Trail
- Tarralla Creek Trail

Position

- Locate beside trail.
- Minimum offset 1000mm from trail edge.

Description / Dimensions

- Finger Board: 150x700mm long double-sided aluminium extrusion boards mounted on 60mm dia. galv. pole. 2.8m high above ground. Colour: Non-reflective 'Brunswick Green' powder coated or digital print blade. All text and chevrons to be white. Anti-graffiti coating to be applied (Routes to a named trail are guide sign blue background.).
- Totem Sign: 200x75mm, 1.0m or 1.5m high above ground. Colour: Green totem. Plastic symbol inserts.
- Plank Sign: 125x1975x1000mm high above ground with double or triple planks (Plank: 40x200mm). Single or double-sided options. Colour: Green sign with white text and plastic symbol inserts.

Installation

- Fix post(s) into concrete footing as shown in Installation Detail.

Maintenance

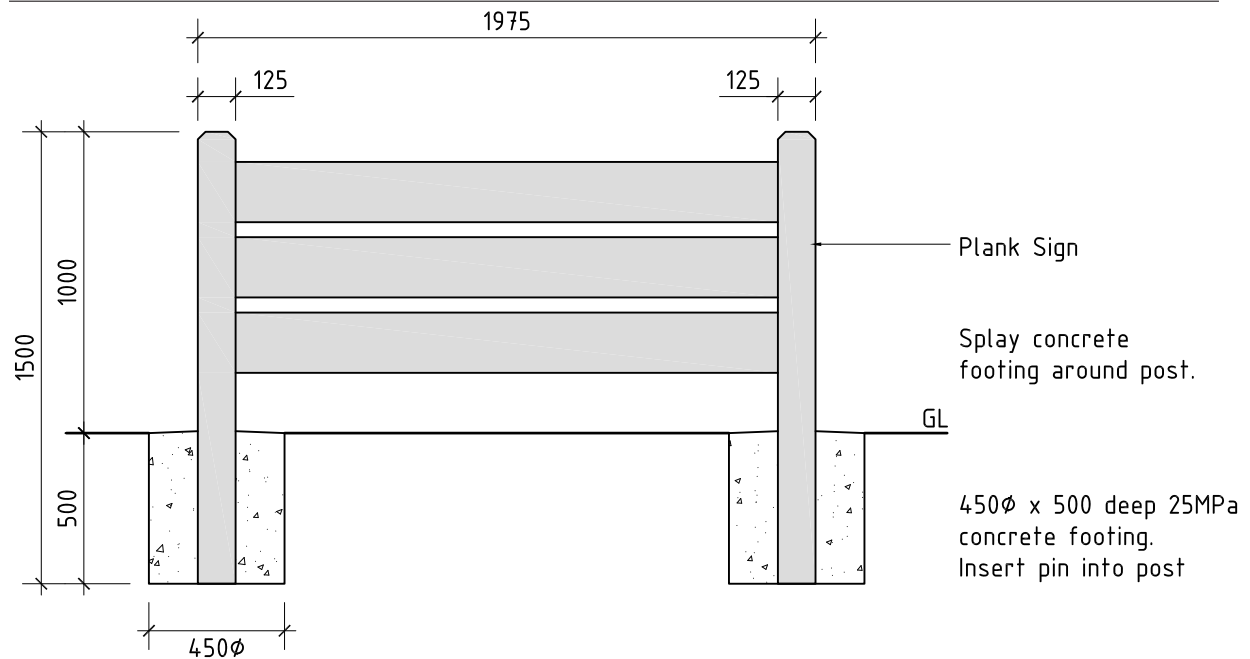
- Graffiti is removable from plastic elements with 'Solvit Citrus Clean'.

Product & Supplier

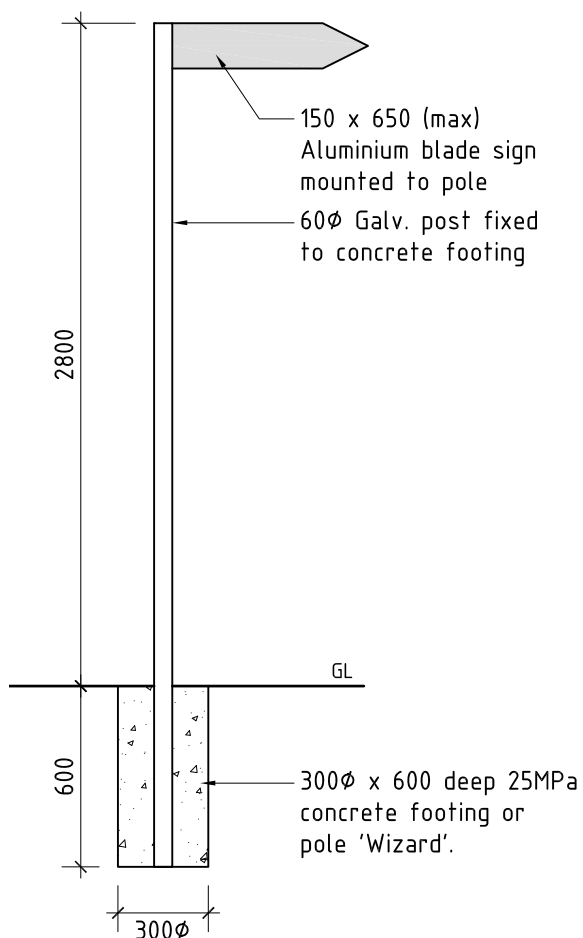
- Totem and Plank signs by Replas.
- Finger Board signs - multiple suppliers.

Note

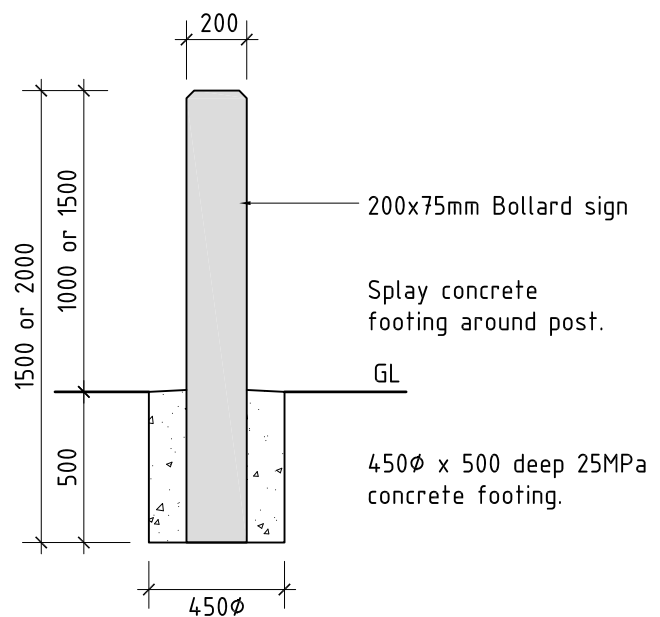
- Refer to: Maroondah Signage Style Guide and Maroondah Outdoor Signage Policy.



Plank Sign: Installation Detail - Section 1:25



Finger Board: Installation Detail - Section 1:25



Totem Sign: Installation Detail – Section 1:25



Suitable Locations

- Activity Centres & Streetscapes
- Significant Parks & Gardens
- Informal Parks & Community Recreation Reserves
- Bushland & Natural Areas

Common Locations

- Mullum Mullum Cultural Trail, Maroondah Federation Estate & Croydon X/Y Space

Dimensions

- Post: 50x50x845 (above ground).
- Plaque: 296x210 or as specified.

Material

- Black RHS or SHS post. If plaques are larger than 750x500 2No. posts will be required. Posts to be hot dipped galvanised and powdercoated or custom frame
- Plaque - 1.6mm aluminium bonded to 5mm aluminium back plate.

Installation

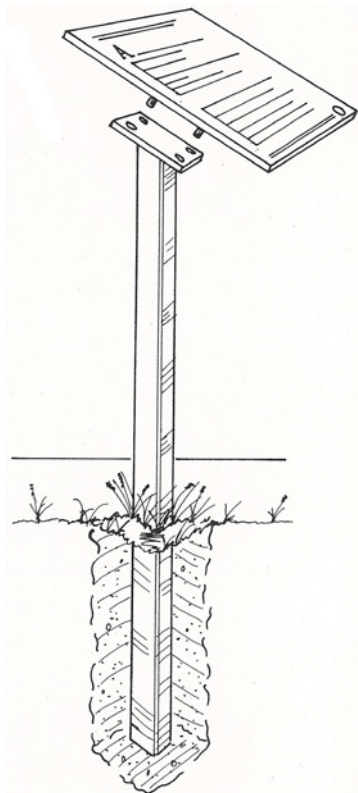
- Fix post into concrete footing as shown in Installation Detail.
- Attach plaque to post with bolts and nuts (tamper proof) provided by supplier.

Maintenance

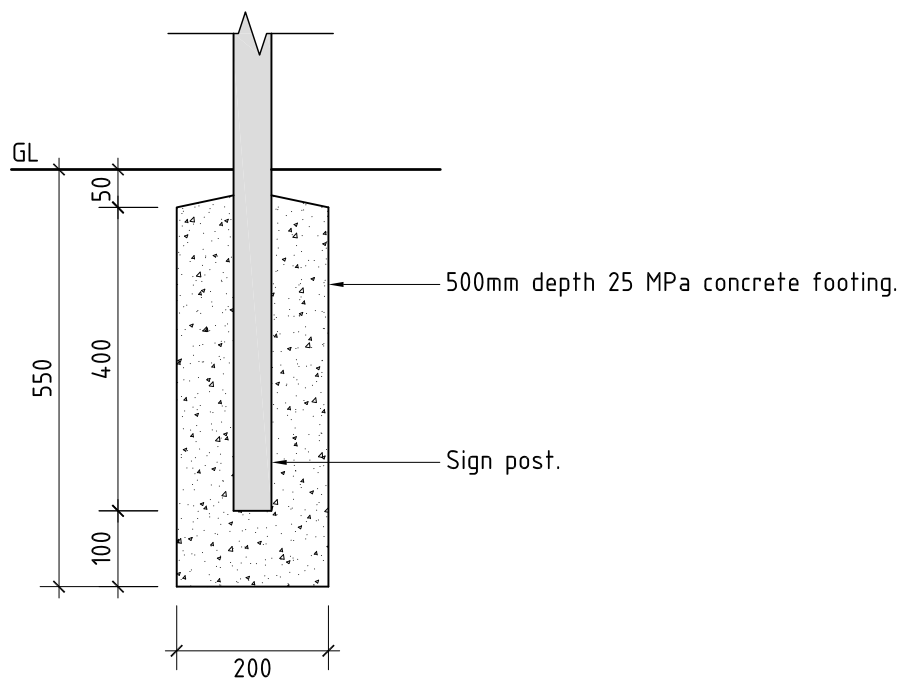
- Clean as required.
- Paint to be touched up when chipped or damaged.

Product & Supplier

- MS-48 or MS-49 Sign with Backing Plate and a Pedestal Post by Armsign.
- Custom Frames by JSP Engineering.



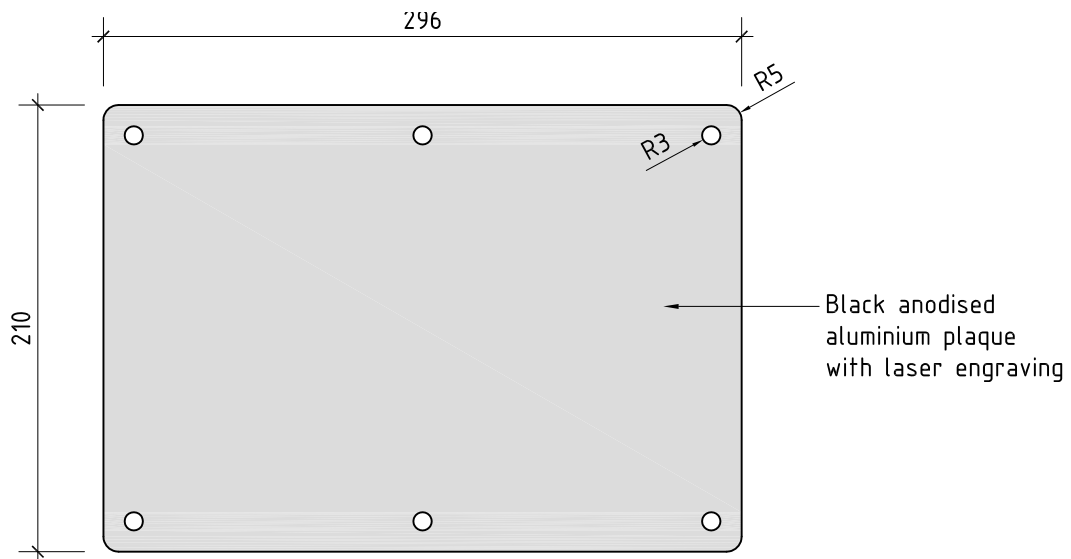
3D View - Not to scale



Installation Detail - 1:10



Suitable Locations	<ul style="list-style-type: none"> ▪ Activity Centres & Streetscapes ▪ Significant Parks & Gardens ▪ Informal Parks & Community Recreation Reserves ▪ Bushland & Natural Areas
Common Locations	<ul style="list-style-type: none"> ▪ Ringwood Lake Park ▪ Croydon X Space
Dimensions	<ul style="list-style-type: none"> ▪ 296x210x1.6 thick or size as specified. ▪ 6 dia. pre-drilled holes.
Material	<ul style="list-style-type: none"> ▪ Black anodised aluminium plaque with laser engraving.
Installation	<ul style="list-style-type: none"> ▪ Attach plaque to structure with tamper proof fixing either with tamper proof, self tapping and stainless steel penta screws (to steel & timber structures) or stainless steel chemset anchor with stainless steel dome head nut (to concrete or brickwork)
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none"> ▪ Small Plaque by Sign & Badge Centre.



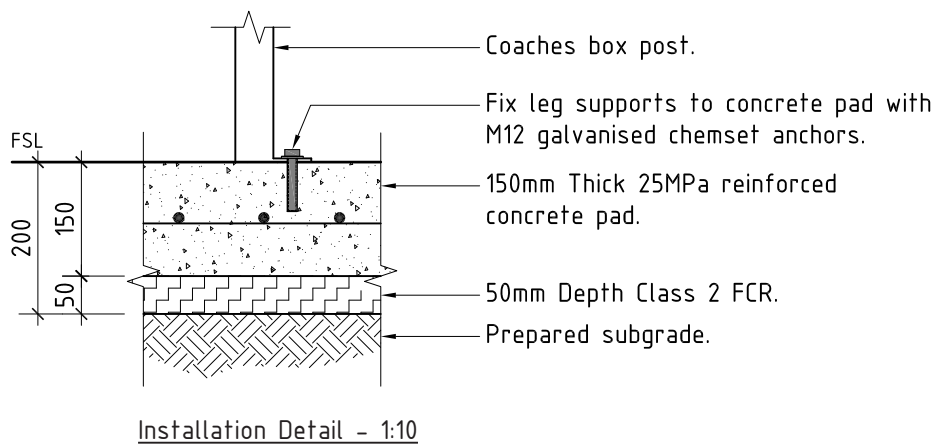
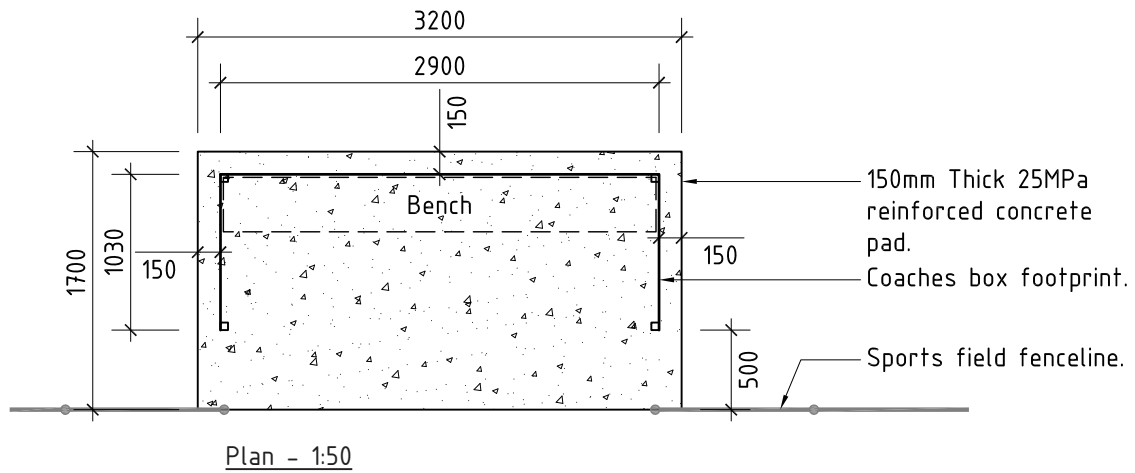
Plan - Not to Scale

Notes:

- 6 No. 6mm dia. holes for 296x210 or larger.
- 4 No. 6mm dia. holes for 148x105 or larger.



Suitable Locations	<ul style="list-style-type: none"> ▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none"> ▪ Glen Park & Fred Geale Ovals
Dimensions	<ul style="list-style-type: none"> ▪ 1600x3200x2540 approx. (above ground).
Material	<ul style="list-style-type: none"> ▪ 150mm Thick 25MPa concrete pad. ▪ Steel shelter with Colorbond roof (green). Steel slat bench is 475mm above concrete pad.
Installation	<ul style="list-style-type: none"> ▪ Install concrete pad as shown in Installation Detail. ▪ Attach base plates of shelter onto concrete pad with M12 chemset anchors. Tack weld fixings discretely as required to increase theft and vandalism resistance. ▪ Anti-graffiti coating can be applied, refer to 10.1 Anti Graffiti.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none"> ▪ BSH-104 Coach Box by Urban Renewal Street Furniture or Alltek Welding.

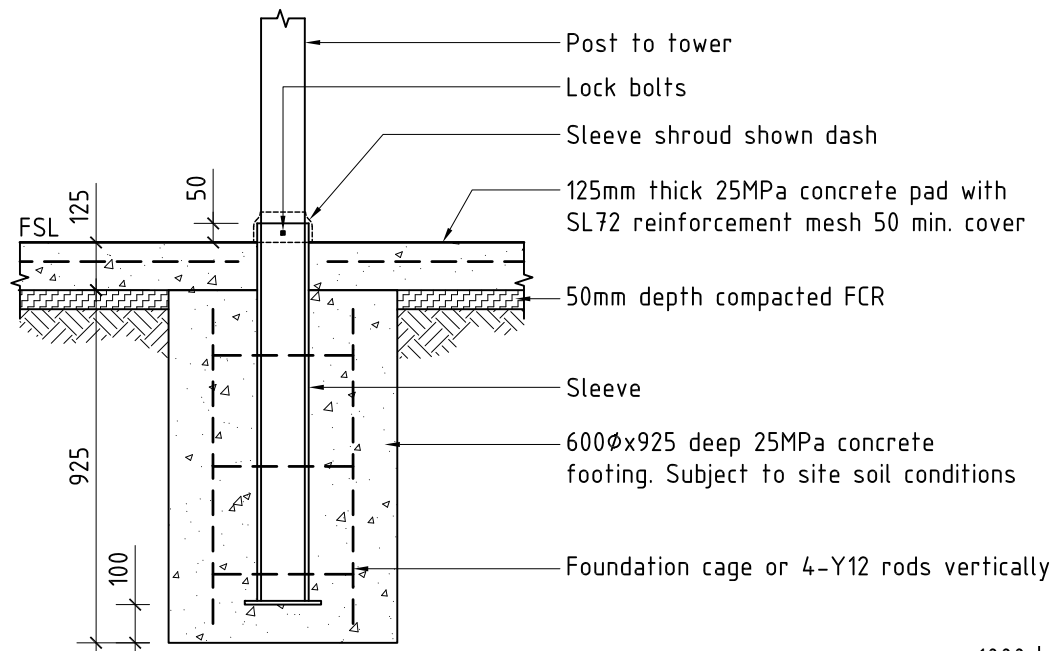




Suitable Locations	<ul style="list-style-type: none"> ▪ Significant Parks & Gardens. ▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none"> ▪ Grayswood Reserve, Evelyn Road Reserve & Ainslie Park.
Dimensions	<ul style="list-style-type: none"> ▪ Ring: 3050mm high above ground. ▪ Backboard: 1800mm wide x 1050mm high. (Standard) ▪ Tower post: 115 dia. with 1.2m/1.8m outreach to backboard depending on run off space. ▪ Concrete pad: 5x10m (Basketball/Netball Tower) or 5x7.5m (Basketball only). Refer to installation details and notes.
Material	<ul style="list-style-type: none"> ▪ Hot dipped galvanised steel tower and sleeve. ▪ Powder coated rings, no net. ▪ Fibreglass backboard (non-standard).
Installation	<ul style="list-style-type: none"> ▪ Encase steel sleeve in concrete footing. Ensure sleeve is set plumb. ▪ Slip ring and sleeves must be fitted prior to attaching tower to sleeve. ▪ Install concrete pad as shown in Installation Detail.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none"> ▪ Basketball Tower (24222 with 1.2m/1.8m outreach) by Truline. ▪ Basketball/ Netball Tower (24234 with 1.2m/1.8m outreach) by Truline. ▪ Ground sleeve (24223) by Truline.

17.2 Basketball/ Netball Tower and Pad

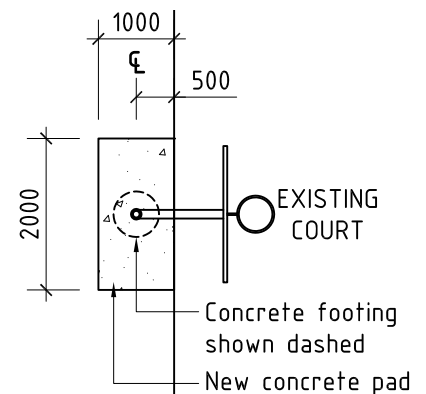
Detail



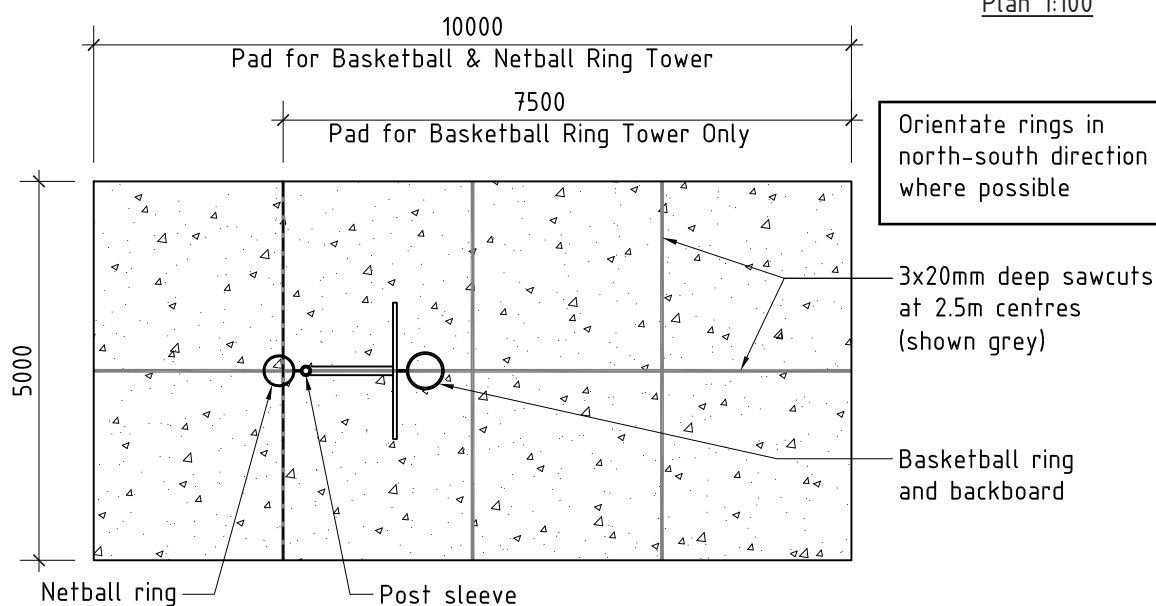
Installation Detail - Section 1:20

Concrete Pad Notes:

- Unless otherwise noted concrete colour for pad construction is to be grey cement. Cement shall comply with AS 1315
- No construction joints are required within pad (sawcuts only). 1:50 cross fall shall be integrated into pad construction.
- Unless otherwise noted, the pad surface is to have a 'broomed' finish.
- N.B. On days of high temperature, measures must be put in place to ensure that the concrete doesn't dry too quickly.



New Tower To Existing Court
Plan 1:100



Concrete Pad - Plan 1:100



Suitable Locations

- Significant Parks & Gardens
- Informal Parks & Community Recreation Reserves
- Sporting Reserves

Common Locations

- Douglas Maggs Reserve

Dimensions

- 250mm minimum depth soft fall mulch.

Material

- 'Fine Pine Mulch' (shredded pine wood) specifically produced for playground soft fall use & tested to comply with requirements for impact absorbing ground surfacing material. AS/NZS 4422:1996.
- H4 minimum ACQ Treated Pine timber edging.
- Concrete edge plinths.
- 'Bidim' A24 Geo-textile fabric.

Installation

- Prepare sub-grade.
- Install edging as required, shown in Installation Details.
- Place soft fall mulch on top of Geotextile fabric.

Maintenance

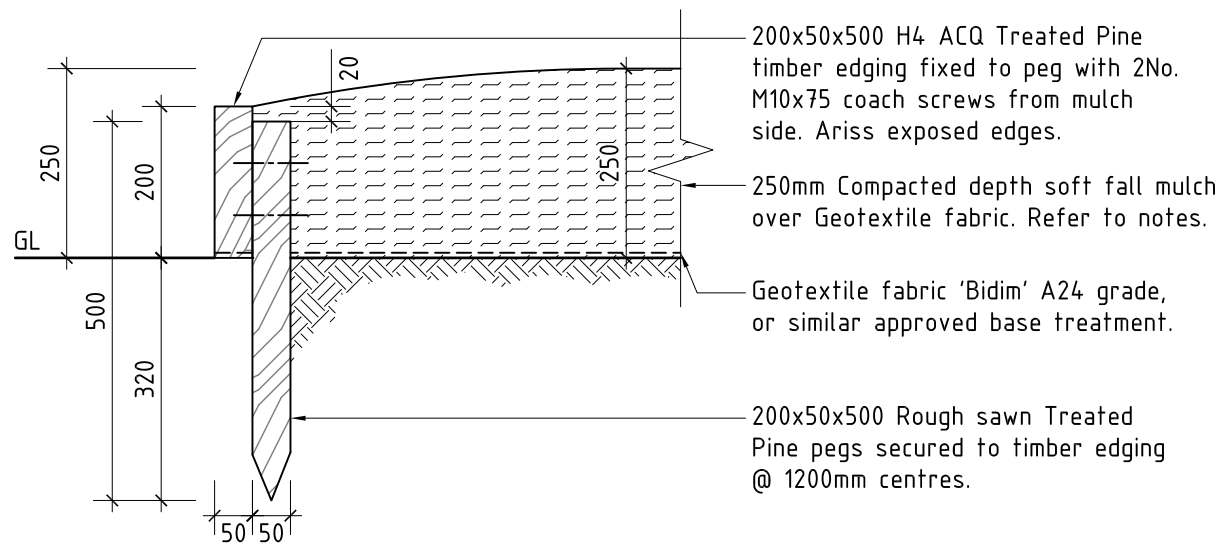
- Replenish soft fall mulch as required.

Product & Supplier

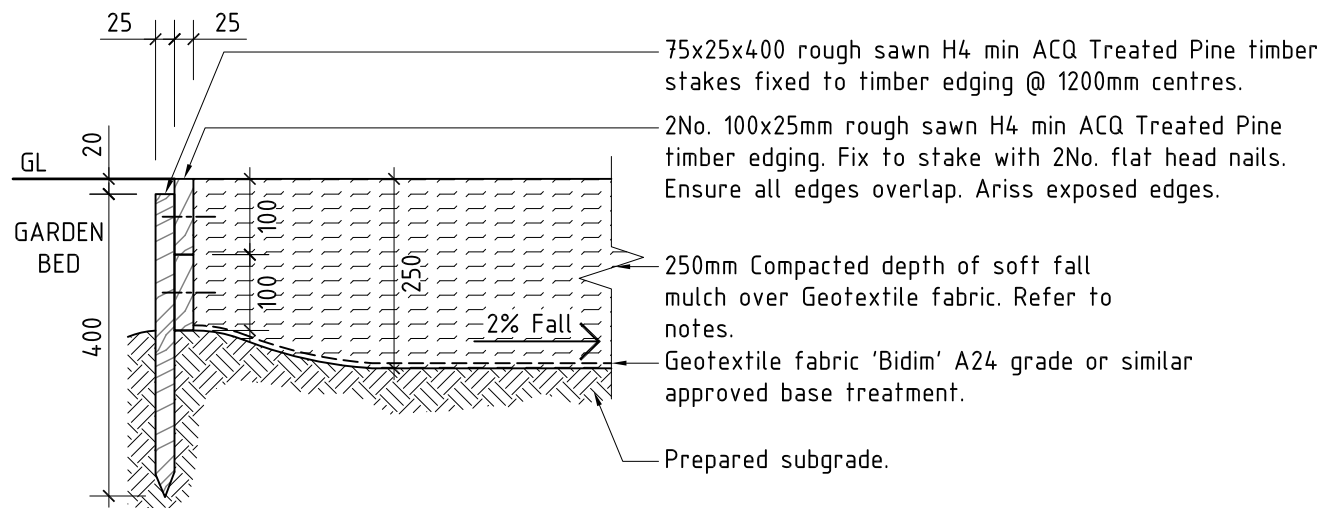
- Many suppliers available.

18.5 Playground Soft Fall Mulch & Edging

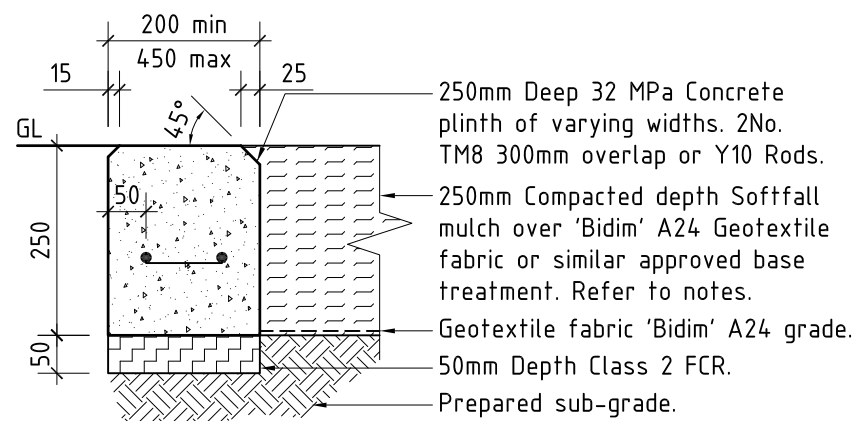
Detail



Above Ground Timber Sleeper Edge: Installation Detail - 1:10



In-ground Timber Edge: Installation Detail - 1:10



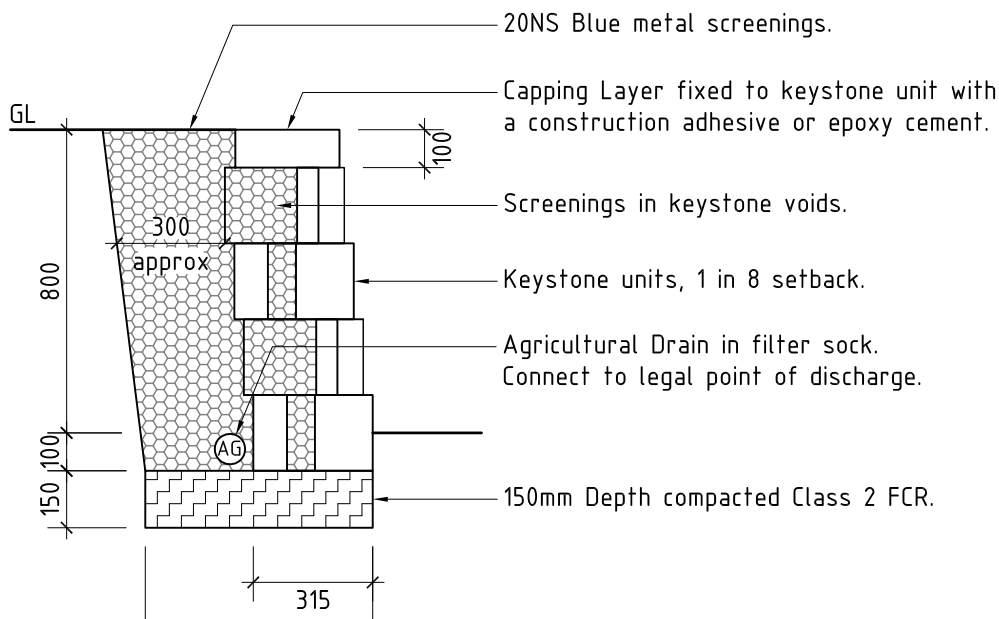
In-ground Concrete Edge Plinth: Installation Detail - 1:10

Notes:

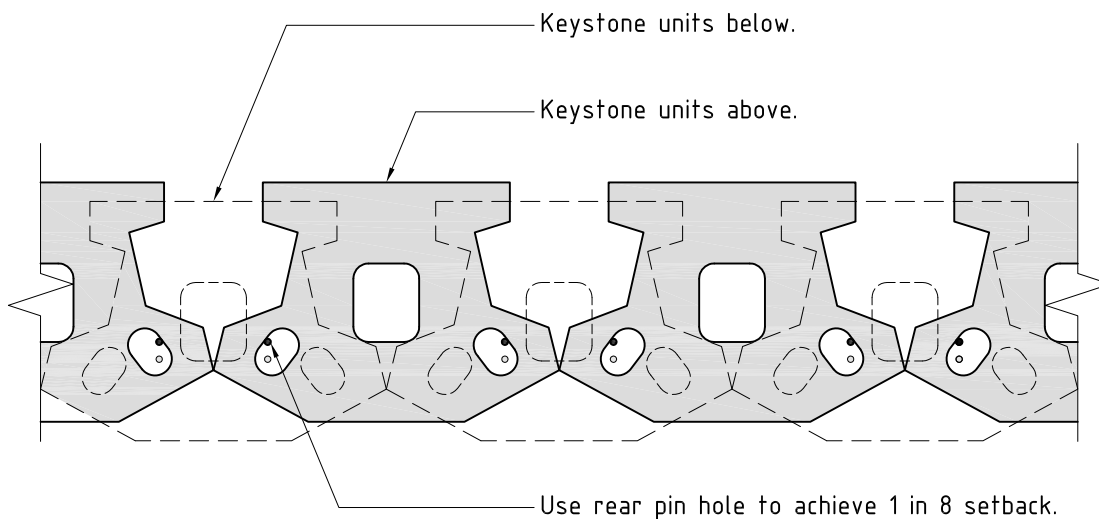
Soft fall mulch shall be approved 'Fine Pine Mulch' (shredded pine wood) specifically produced for playground soft fall use & tested to comply with requirements for impact absorbing ground surfacing material. AS/NZS 4422:1996.



Suitable Locations	<ul style="list-style-type: none"> ▪ Significant Parks & Gardens ▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none"> ▪ Mullum Mullum Reserve
Dimensions	<ul style="list-style-type: none"> ▪ 800mm max (above ground).
Material	<ul style="list-style-type: none"> ▪ Keystone units and capping layer. ▪ 20NS blue metal screening. ▪ Class 2 FCR.
Installation	<ul style="list-style-type: none"> ▪ Actual design of wall should be referred to an Engineer before construction. ▪ Create a 600x250mm trench. Fill with 150mm depth compacted Class 2 FCR. ▪ Lay first course of units on top of FCR layer. Place connector pins into each unit. Use rear holes to achieve 1 in 8 setback. Install Agricultural Drain in filter sock connected to legal point of discharge behind wall. Place screenings behind each course. Ensure all voids inside and between the units are filled and thoroughly tampered down. Place backfill if required behind drainage zone. Use a layer of filter fabric if the backfill is fine silt or soil. Repeat for additional courses. ▪ Lay capping units as for full units. Backfill and compact to required grade. Fix capping units with a construction adhesive or epoxy cement.
Maintenance	<ul style="list-style-type: none"> ▪ Clean as required.
Product & Supplier	<ul style="list-style-type: none"> ▪ Keystone Retaining Wall Systems (Standard Unit and curved cap) by Boral.



Installation Detail - Section 1:20



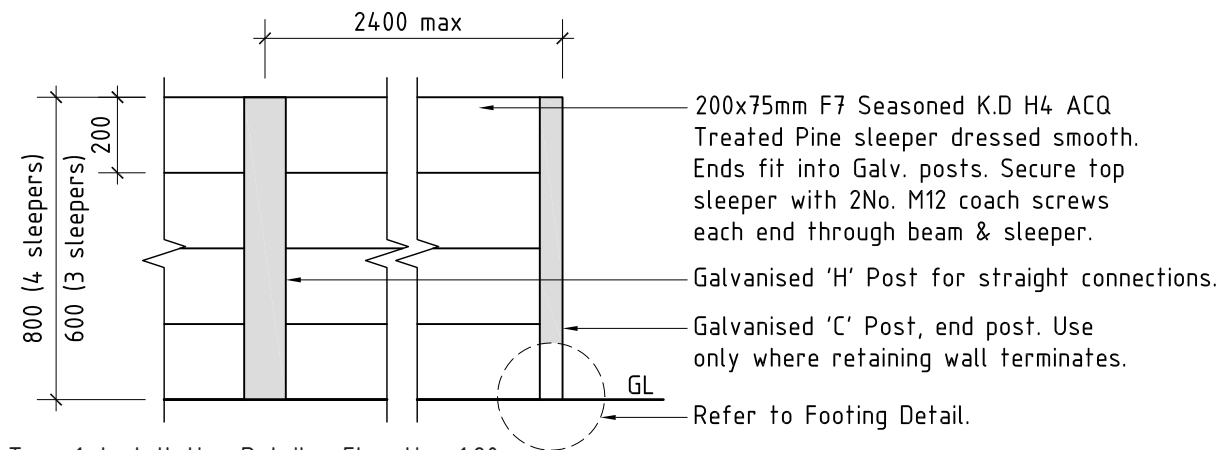
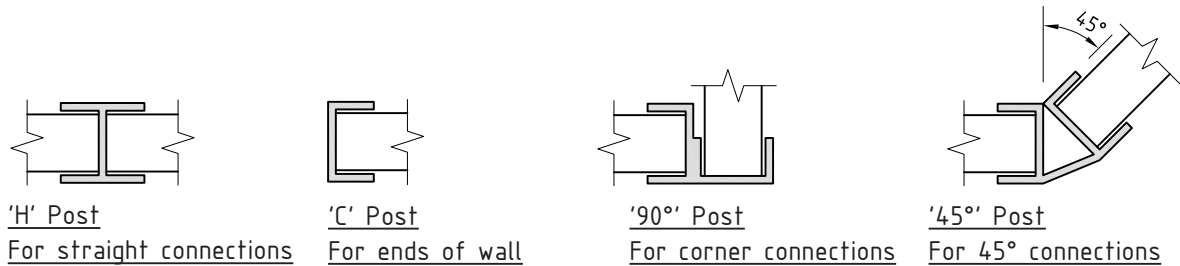
Installation Detail - Plan 1:10



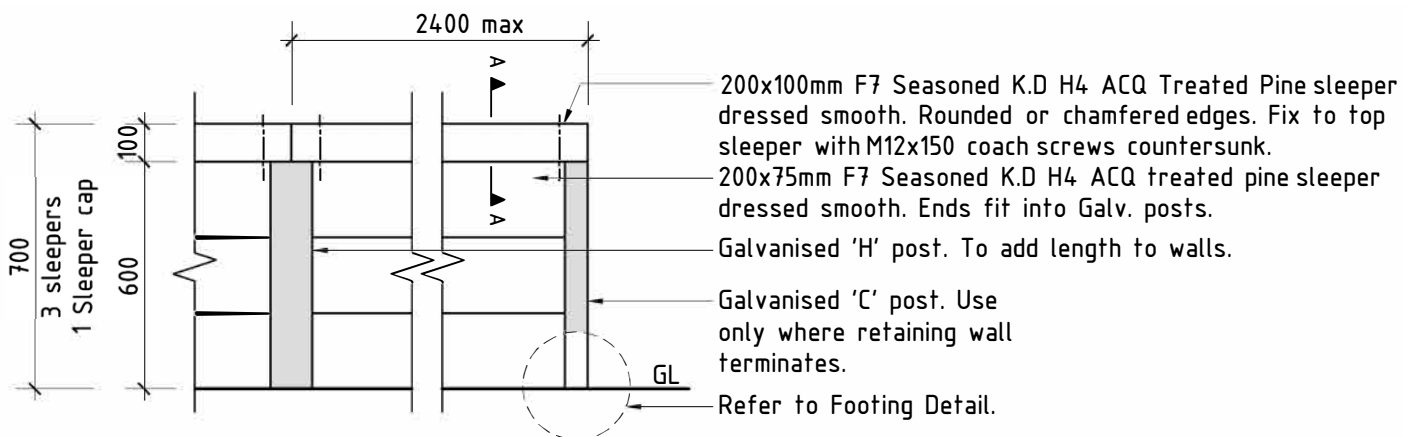
Suitable Locations	<ul style="list-style-type: none"> ▪ Informal Parks & Community Recreation Reserve ▪ Sporting Reserves
Common Locations	<ul style="list-style-type: none"> ▪ Mullum Mullum Reserve
Dimensions	<ul style="list-style-type: none"> ▪ 800mm max above ground.
Material	<ul style="list-style-type: none"> ▪ 200x75x2400 max F7 Seasoned K.D H4 ACQ Treated Pine sleeper dressed smooth. Optional concrete sleepers. ▪ 200x100x2400 max F7 Seasoned K.D H4 ACQ treated pine sleeper dressed smooth. 'Type 2' only, refer to Installation Detail. ▪ Galvanised 'H', 'C', '90°' or '45°' posts, refer to Details.
Installation	<ul style="list-style-type: none"> ▪ Fix posts into concrete footing as shown in Installation Details. ▪ Fit timber sleepers between posts. ▪ Secure sleepers with fixtures as shown in Installation Details.
Product & Supplier	<ul style="list-style-type: none"> ▪ Many suppliers available.
Note	<ul style="list-style-type: none"> ▪ Design should be site specific and checked by a structural engineer. Walls above 1000mm require a building permit and possibly a hand rail.

19.4 Timber Sleeper & Steel Beam Retaining Wall

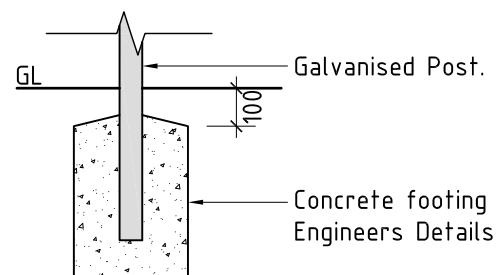
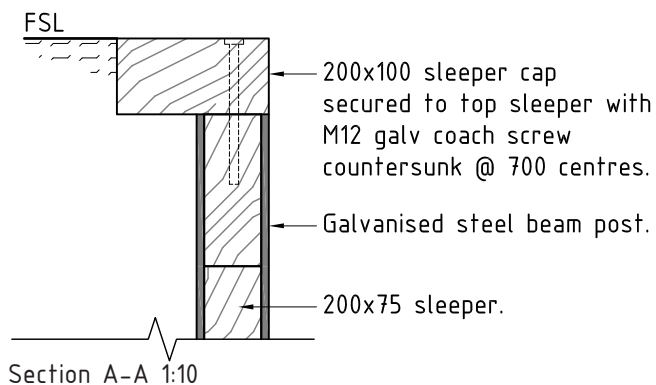
Detail



Type 1: Installation Detail - Elevation 1:20



Type 2: Installation Detail - Elevation 1:20



Footing Detail - Section 1:20



Suitable Locations

- Activity Centres & Streetscapes
- Significant Parks & Gardens
- Informal Parks & Community Recreation Reserves
- Sporting Reserves

Common Locations

- Common to all areas.

Dimensions

- 1800~2500 above ground.

Material

- Semi-advanced specimen tree.
- 2No. 50x50x1800 min hardwood stakes.
- Canvas ties.
- Mulch
- Optional wire mesh cage

Installation

- Hole to be three times width of rootball.
- Backfill with approved site topsoil firming progressively.
- Mulch clear of tree trunk to avoid collar rot.

Maintenance

- Regular watering during establishment period.
- Stakes to be removed once tree is established.

Product & Supplier

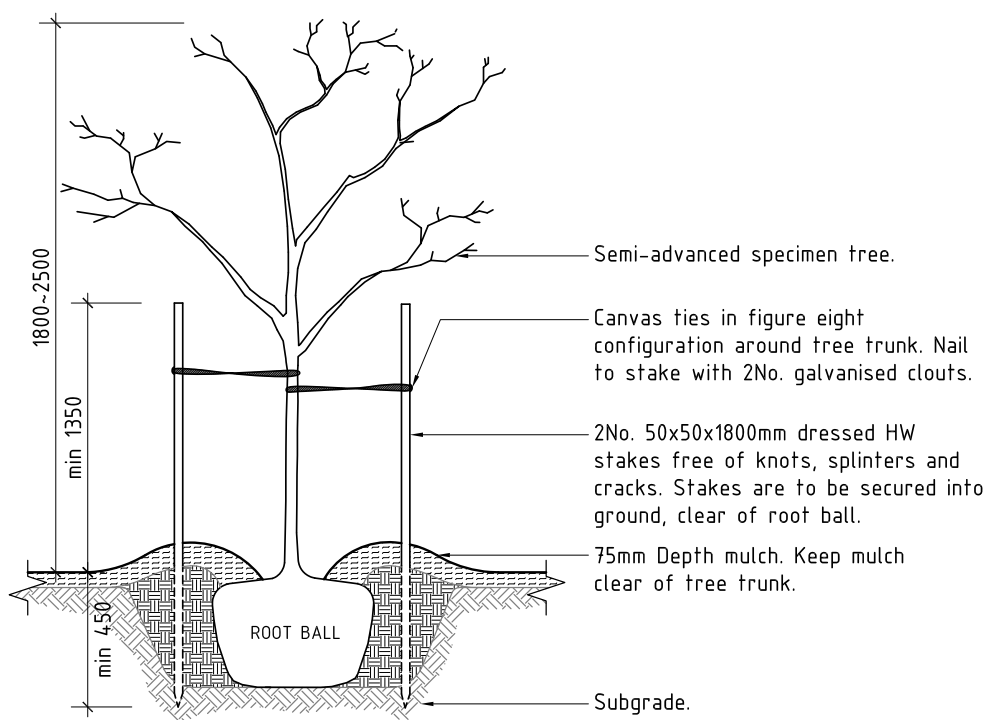
- Many suppliers available for trees.
- Willunga 1600mm tree guard by Arborgreen Landscape products

Note

- Refer to Maroondah Tree Planting Guidelines, Maroondah Tree Maintenance Guidelines and Maroondah Tree Protection Guidelines



Plan - Not to Scale



Installation Detail - Not to Scale