

Sunshine Coast Open Space Landscape Infrastructure Manual

Exercise equipment

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Also see:

Information sheet	(INFO)
Technical drawings	(DWGS)



1.0 Overview

This category of the LIM has been developed to provide guidance for the design and construction of exercise equipment.

This specification section addresses the following:

- **Project specifications**

Important notes:

- This resource does not try to replicate all of the provisions of Legislation, Australian Standards and corporate documentation in words and pictures, nor does it seek to define their requirements.
- This specification does not override requirements stipulated in a development approval.
- It aims to draw attention to the fact that effectively applied technical requirements translate into desirable qualities for end users.
- Please refer to the relevant authority websites for updated information and current document distribution dates. These documents are subject to amendments from time to time.
- Product design, manufacture and installation require an appropriately qualified professional to provide site specific solutions.
- The specifications outline councils minimum acceptable standard, which may be above the expectations of current workplace standards.
- Project specific variations may be appropriate as a result of site, environmental or other constraints.
- Any variations to these standards must be approved in writing by council prior to commencement of variation works.
- This document is intended for use as a component within a contract document, however the accuracy and execution may vary as site and project specific conditions dictate.

Project specifications

1.0 Exercise equipment - Manufactured

General

- Exercise equipment to be designed and manufactured in accordance with *AS 16630:2021 Permanently installed outdoor fitness equipment - Safety requirements and test methods*
- Exercise equipment over 3.0 metres in height requires building approval
- Installation to be carried out in accordance with manufacturers instructions for assembly, erection and siting of material in accordance with *AS 16630:2021*.
- Concrete work (footings etc.) associated with the installation of exercise equipment and shade structure to engineer's specification. Footing detail to *AS 16630:2021*
- Fixtures inside the exercise area footprint to comply with *AS 16630:2021*.
- A thread locker to be used (to prevent fixings from becoming loose through vibration and movement).
- Coastal areas - All coastal locations (east of the Bruce Highway), must be constructed of coastal hardy materials and fixings such as:
 - 316 stainless steel
 - Aluminium
 - HDPE (high-density polyethylene) / Poly panels
 - Timber (appropriate species, mounted on marine grade 316 stainless steel stirrups – with approval from SCC Parks and Gardens).
 - It is preferred that timber products are to be treated with alkaline copper quaternary (ACQ), a water based wood preservative. CCA is not to be used.
- Hinterland areas - materials, finishes and fixings shall be specified as stated above, but 316 stainless steel elements are optional.
- All equipment pieces must have markings as per *AS16330:2021*:
 - Compliance ID plate should be installed on the equipment so it isn't a hazard for users, and still in range for viewing for maintenance purposes.
 - Basic level mark must be installed where loose fill material is used. It shall be marked clearly and durably.
- Ensure items of exercise equipment are placed to consider the safe movement of usage of all equipment.

2.0 Ground surface material

- Exercise equipment ground surface material must be designed, manufactured and installed in accordance with *AS 16630:2021 Permanently installed outdoor fitness equipment - Safety requirements and test methods*.
 - the area of movement for exercise equipment with a free height of fall of more than 1m and /or equipment which causes forced movement of the user, shall be equipped with an impact damping ground surface.
 - the critical fall height of ground material shall be determined by performance testing in accordance with *AS 4422 Playground surfacing – Specifications, requirements and test method (See Appendix ZZ - variations for Australia)*.

Loose fill surfacing requirements:

- Where impact dampening ground surface is required for compliance as per *AS 16630:2021*, it must meet the impact attenuation requirements of *AS 4422*. Loose bark surfacing, Takura manufactured wood (or equivalent) and sand surfacing as per compliance depth. In accordance with *AS 4422* an additional 20% is to be installed in impact risk fall zones.
- SCC specifies a minimum 400mm depth of loose fill surfacing material to allow for compaction and depletion.
- Surfacing is to be:
 - free from sharp edged parts or hazardous projections e.g. splinters or sticks
 - free of toxic substances, e.g. chemically treated wood chips
 - A Grade quality as per Test Certificate
- Takura manufactured wood is preferred over bark surfacing.
- Note: Geofabric must NOT be installed between the natural ground level and surfacing.

Unitary (rubber) surfacing requirements:

- Unitary surfacing may be specified under exercise equipment where a firm footing is required by the user, where displacement of loose fill surfacing is likely or when the equipment has moving parts.
- Where impact dampening ground surface is required for compliance as per *AS 16630:2021*, it must meet the impact attenuation requirements of *AS 4422*.
- Rubber surfacing is to be installed on a cement treated base (CTB) or concrete slab - refer drawings.
- Unitary surfacing must be installed with a concrete edge.
- Extend the edges of the unitary (rubber) surface a minimum 100mm below natural ground level and backfill. Secure as per manufacturers recommendations.
- The design of the rubber under surfacing must consider the following, but not exclusively:
 - Sub-base
 - Materials
 - Slip resistance
 - Fire resistance
 - Impact absorbency
 - Critical fall height analysis (fall heights to be identified by the exercise equipment manufacturer)
 - Fall zones
 - Colour
 - Permanency of colour
 - Wearability / maintenance in use.
- Surfacing manufacturer to liaise with exercise equipment manufacturer to obtain accurate information regarding items listed above that will affect design and installation of unitary surfacing and sub-base.

Other ground surface material requirements:

- Other material choices (such as concrete) may be specified under exercise equipment, where impact attenuation compliance is not required as per *AS 16630:2021*. These surfacing choices may be specified when a firm footing is required by the user, where displacement of loose fill surfacing is likely, or when the equipment has moving parts. These material choices must be approved and in line with *LIM Exercise equipment - Information sheet – Table 3 Ground surface materials for exercise equipment areas*.

Project specifications

3.0 Planting, shade and shade sails

- Planting and shade sails to comply with *LIM Planting* and *LIM Shade Sails*, *LIM Exercise equipment* and *LIM site set up drawings*.
- Do not select plants which have sharp thorns. Do not select poisonous plants.
- Do not select plants that will inhibit clear sightlines to and from exercise equipment when mature. Refer to Crime Prevention Through Environmental Design (CPTED) Guidelines. Ensure low profile planting to maximise safety and increase sight lines (planting to be generally below 500mm and trees to be lift pruned).
- Ensure that tree roots do not compromise the surfacing or create trip hazards in the fall zone.
- Install shade trees to the north and west to protect exercise equipment at the hottest part of the day.
- Provision should be made in each exercise equipment area/ node for areas of sun protection and shade.
- Care should be taken with respect to site equipment so that it is correctly positioned with respect to sun exposure. Uncovered platforms and some under-surfacing materials can become uncomfortably hot if exposed to too much direct sunlight.
- Provide site specific shade modelling (shade diagram). Refer *LIM Shade sails* for shade requirements.
- See LIM Shade sails for provision and design guidance.

See the following for further guidance:

- *LIM Shade sails*
- *LIM Planting (landscape)*
- *LIM Preliminaries*

4.0 Drainage

- Drainage to comply with SCC Standard landscape drainage drawings
- Install adequate subsurface and surface drainage to avoid nuisance water pooling
- A brass 'D' marker to be fitted to both sides of edging to indicate position of drainage pipes
- Site construction drawings to identify location of subsurface drainage
- Surfacing material to be free draining, sheet flow to swale run-off, to sub-surface agricultural pipe, to soakage trench or to piped gully pit system.

5.0 Edge treatment and root barrier

- Edge treatment and root barrier to comply with *LIM Exercise equipment – technical drawings*.
- Install edge treatment to surrounds of exercise equipment.
- Fall zones to comply with *AS 16630:2021* and *AS 4422* (or manufacturers recommendations whichever is the higher requirement)
- Spade cut edging to bark, Takura or sand under-surfacing
- Concrete edging for bark, Takura, sand or rubber under-surfacing
- Timber edging for bark, Takura or sand
- Concrete and timber edging to be installed flush with adjoining turf
- For any advice on tree roots and specific treatments contact project Arborist and refer *LIM Vegetation Management - Tree Sensitive Design (new and existing trees)*.

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Acknowledgements

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