



8303 Synthetic Turf

Revision 10/09/2025

8303.1 Introduction

This supplementary specification refers to the supply and installation of synthetic turf including the civil works and activities associated with and inclusive to complete such works to the locations and specifications as detailed on the Drawings, and in accordance with manufacturer’s specifications.

This specification should be read in conjunction with MRC Supplementary Specification 8511 “Rubber Softfall” and its Annexure and referenced where softfall layering is incorporated into the project design i.e. park playgrounds.

8301.1.1 Definitions of Terms

This section describes any term which are specific to this specification or requires clarification due to an ambiguous understanding.

Term	Definition as Applies to this Specification
Synthetic Turf	As relates to this specification synthetic or artificial shall mean any surface which replaces natural turf with a synthetic surfacing which has an appearance of mowed lawn or grass.
Manufacturer Certification	Certification of the manufacturer that the product meets all requirements of the specification including Australian Standards.
Supplier Certification	Certification of the supplier with the artificial turf industry.
Rubber Soft Fall	Proprietary product - Softfall rubber mix surfacing.
Shockpad	Polymerically bound recycled rubber underlay of varying thickness dependent on the critical fall height requirement, installed under the rubber soft fall surfacing.
Critical Fall Height	The maximum free height of fall for which a surface provides an acceptable level of impact attenuation.
Impact Attenuation Zone	Zone under and around equipment minimising serious head and other injuries in the event of a fall.

8303.2 Referenced Documents

This supplementary specification shall be read in conjunction with the following:

- MRS01 “Introduction to Specifications”;
- MRTS01 “Introduction to Technical Specifications”;
- MRS03 & MRTS03 “ Drainage Structures, Retaining Structures and Embankment Slope Protections”;
- MRS04 & MRTS04 “General Earthworks”;
- MRS05 & MRTS05 “Unbound Pavements”;
- MRS07B & MRTS07B “Insitu Stabilised Pavements using Cement or Cementitious Blends”;
- MRS50 & MRTS50 “Specific Quality System Requirements”;
- MRS70 & MRTS70 “Concrete”;



- MRC Std Drawing A3-09729, “Playground Softfall Treatment Artificial Turf”;
- MRC Std Drawing A4-00584 “Typical Playground Edging to Softfall Rubber”;
- MRC Supplementary Specification 8511 “Rubber Softfall”;
- MRC Supplementary Specification 8204 “Hand placed fibre reinforced concrete paving”;
- MRC Supplementary Specifications 8320 “Landscape Footings”;
- MRC Supplementary Specifications 8349 “Playground Drainage”;
- MRC Supplementary Specifications 8107 “Subsoil Drainage, Type C”;
- Australian Standard AS 4685 “Playground Equipment and Surfacing”;
- Australian Standard AS 4422 “Playground Surfacing – Specifications, requirements & test methods”;
- Australian Standard AS3541.1 Synthetic Sporting Surfaces Part 1 – General Principles;
- Australian Standard AS2983 Testing of Synthetic Sporting Surfaces;
- BS EN 15330-2 Surfaces for sporting areas, synthetic turf and needle-punched surfaces;
- BS EN 15330-4 Specifications for Shockpads Used with Synthetic Turf
- ISO 19721 Plastics - Abrasion Test Method for Synthetic Turfs Using Combined UV Exposure and Mechanical Wear;
- Manufacturer’s specifications;
- Other specification and standards as referenced throughout this supplementary specification; and
- the project Drawings.

8303.3 Description of Work

Work items incorporated by this supplementary specification are identified in Section 8303.6 and 8303.7 with individual activities/tasks for measurement and payment sourced from the Bill of Quantities and listed in MRC Supplementary Specification Annexure 8303_1 Section 1:

8303.4 Quality Systems Requirements

The Contractor shall submit a Quality Plan compliant with MRTS50 a minimum four (4) weeks prior to site works commencing. The following requirements of Clauses 8303.4.1/4.2/4.3 shall be included as a minimum.

8303.4.1 Std Test Methods (Testing Regime)

The following minimum testing regime applies to this specification:

Unless otherwise stated the manufacturer and supplier certification of the synthetic turf shall form the basis of compliance to the material and testing requirements of the table listed in 8303.5.

Civil works activities associated with the subgrade/floor of excavation, subsoil drainage installation, base course and crusher dust installation shall be tested as per the relevant MRTS specification MRTS03, MRTS04, MRTS05, and MRTS70 unless otherwise approved by the Superintendent.

8303.4.2 Hold Points, Witness Points and Milestones

The following table represents the minimum inspection requirements for this specification;

Activity	Inspection Type	When
Material Certification	Milestone	4 Weeks prior to works commencing
Construction procedure and other required submissions as per Clause 8511.5	Milestone	4 Weeks prior to works commencing



Works Procedure	Milestone	4 Weeks prior to works commencing
Personnel Qualifications	Hold Point	Minimum 4 weeks prior to works commencing and 10 days prior to undertaking works.
Inspection of delivered items	Hold Point	At delivery time for each item.
Final location of synthetic turf	Hold Point	During site survey layout.
Excavation of materials (unsuitable)	Hold Point	At completion of excavation
Bed/Subgrade Excavation Floor proof roll	Hold Point	At completion of excavation and compacting
Sub soil drainage installation (as required)	Hold Point	At completion of installation of sub soil drainage prior to backfilling
Concrete edging prepour (as required)	Hold Point	Prior to pouring concrete
Approval to strip formwork (as required)	Hold Point	After 70% strength gain
Approval to backfill to kerb	Hold Point	7 days after stripping and prior to installation of base course against kerb
Base course proof roll	Hold Point	After compaction
Installation crusher dust levelling layer, finished surface to level and compaction requirements	Witness Point	After base course proof roll approval to proceed
Crusher dust levelling layer geometrics compliance	Hold Point	Prior to the installation of the softfall layer
Installation of softfall layer (as required)	Hold Point	In compliance with MRC Supplementary Specification 8511
Installation of synthetic turf	Hold Point	Prior to commencing final backfilling operations
Clean up and Backfilling against kerb completed to geometrics requirements	Witness Point	At completion of all works
Works as Executed documentation	Hold Point	Minimum 14 days prior to practical completion being requested.

8303.4.3 Construction Tolerances

Unless otherwise approved by the Superintendent the following construction tolerances shall apply to this Specification;

- General Drainage tolerances in accordance with MRTS03 Drainage Structures, Retaining Structures and Embankment Slope Protections;
- Playground drainage tolerances shall be in accordance with MRC Supplementary Specification 8349 Playground Drainage;
- Earthworks tolerances in accordance with MRTS04 Earthworks General;
- Pavement tolerances in accordance with MRTS05 Unbound Pavement;
- Concrete tolerances in accordance with MRTS70 Concrete
- Where fibre reinforced concrete is proposed tolerances shall be in accordance with MRC Supplementary Specification 8204 Hand Placed Fibre Reinforced Concrete Paving.



Tolerances specific to the project are detailed on the design drawings and are included in Clause 2 of MRC Supplementary Specification Annexure 8303_1.

8303.5 Preliminary

Samples and certificates of compliance to the material requirements must be submitted for approval a minimum 4 weeks prior to ordering of materials. Council takes no responsibility for ordered materials which have not been approved for use.

MILESTONE

The Contractor is to submit for approval by the Superintendent the following documentation four (4) weeks prior to a prestart meeting being conducted:

- Material/Product Certification and any test result requirements;
- Endorsed report for critical different fall heights for approved materials (as required);
- Construction and installation procedure;
- Contractors personnel experience, qualification, skills and training (10 days prior to undertaking work on site) for carrying out the various work activities in installation of synthetic turf;
- Quality Plan;
- Environmental Plan, including Erosion and Sediment Control Plan;
- Traffic management Plan (as required);
- Workplace Health and Safety Plan;

Other requirements unique to the project will be listed in the MRC Supplementary Specification Annexure 8303_1 Synthetic Turf .

MILESTONE

8303.5.1 Materials

The following table outlines the Technical Information and product specification required for the synthetic turf to be supplied unless noted otherwise on the project Drawings.

Technical Information & Product Specification Synthetic Turf	
Turf Pile height	23-30 mm
Colour	Bi-colour Filaments/tufts
Turf use requirement	Outdoor certified with UV stabilisation for North Queensland weather conditions

The following Standards and their referenced standards shall be utilised when procuring the synthetic turf:

Standard	Description
AS 3541.1	Synthetic Sporting Surfaces Part 1 – General Principles
AS 2983	Testing of synthetic sporting surfaces
BS EN 15330-2	Surfaces for sports areas. Synthetic turf and needle-punched surfaces primarily designed for outdoor use
ISO 19721	Plastics — Abrasion test method for artificial turfs using combined UV exposure and mechanical wear
AS 4422	Playground surfacing – Specifications, requirements and test method



Artificial turf industry certification of the supplier and the product shall be obtained for the proposed use and integrity of the turf.

The Contractor shall use a bi-component polyurethane adhesive suitable for use in the prevailing climate and installation weather conditions;

- In conjunction with seaming cloth to join and fix the synthetic turf. Joining tape is not to be used.
- To fix the synthetic turf to the softfall rubber (as required by the design drawings).
- To fix the edges of the synthetic turf to the concrete edging

All adhesives and cloths shall be stored in accordance with manufacturer's requirements.

Subsoil drainage materials shall comply with MRC Supplementary Specification 8107 Subsoil Drains and 8349 Playground Drainage.

Crusher dust shall comply with MRC supplementary Specification 8408 Crusher Dust, where the design drawings require stabilisation of the crusher dust this shall comply with MRTS 07B Insitu Stabilised Pavements using Cement or Cementitious Blends.

Where the design drawings require flexible pavement materials these shall comply with MRTS05 Unbound Pavements.

Any variation to materials from design drawings or manufacturers requirements must be approved by the Superintendent prior to any alternative materials are procured and bought on site. Council will not be responsible for costs associated with procuring and supplying non-conforming materials.

8303.5.2 Works Procedure

The Contractor shall prepare a works procedure for all activities required under this specification which also address WH&S specific requirements for the site, this shall include but not be limited to the following;

- i. Site setup, including traffic management and public consultation;
- ii. Identification of underground utilities and parks/road furniture which impact the works and the proposed treatment to address the impacts;
- iii. Individual activity construction procedures (underlayers, drainage, softfall as required, synthetic turf, concrete works), including testing and inspections;
- iv. Timeline of works;
- v. Collection of "As Constructed" data.

The works procedure shall be submitted to the Superintendent for approval four (4) weeks prior to site works commencing.

MILESTONE

8303.5.3 Personnel

Personnel, sub-contractors and suppliers utilised in the installation of synthetic turf shall have a minimum of 5 years' experience in all facets of installation, including;

- Sublayers – softfall rubber, bedding/base course installation
- Sub soil drainage
- Concrete works

The Contractor shall provide documented evidence for the Superintendent's approval to demonstrate the experience, qualification, skills and training of proposed personnel, sub-contractors and suppliers a minimum four (4) weeks prior to site works commencing and then at least 10 working days prior to the relevant personnel, sub-contractors and suppliers undertaking works on the project.

HOLD POINT



8303.6 Construction

This section lays out the work operations with more detail based on specific requirements of this supplementary specification. Some activities may appear to include items which are stated within other specifications the purpose is to reinforce that requirement specific to this supplementary specification.

Specific construction requirements associated with these works is detailed in MRC Supplementary Specifications 8303_1 Synthetic Turf Annexure Section 5

8303.6.1 Work Operations

Work operations incorporated in this item are those included in Clause 2.1.5 of MRS01 ‘Introduction to Standard Specifications’ and the following work scope activities and associated sub activities.

8303.6.1.1 Work Scope

The scope of repair works (including all associated sub activities) covered under this specification is as follows:

- Procure, supply, and store all materials;
- Site Layout with Superintendent;
- Carry out excavation;
- Utilising or disposing of excavated materials;
- Preparation of excavated floor;
- Supply and Install subsoil drainage (if required);
- Set up and pour concrete edging (if required);
- Supply and install compacted unbound base course;
- Supply and install crusher dust bedding;
- Supply and install softfall layer (as required);
- Supply and install synthetic turf;
- Clean up and backfill against edging, including turfing (as required).

8303.6.2 Procure, Supply, and Store all materials.

Type and supply of synthetic turf will be nominated in the Design Drawings. All materials, plant, and labour required to carry out the works under this Specification is to be supplied by the Contractor, unless otherwise stated in the design drawings, refer to MRC Supplementary Specification Annexure 8303_1 Synthetic Turf Annexure.

Where the synthetic turf is Principal supplied the designated storage site will be the point of supply for the purposes of this Specification, delivery to site will be the Contractors responsibility and cost. Other associated materials but not limited to adhesives and joining cloth, formwork, reinforcing steel, concrete, sub soil drainage, and underlying base materials shall be supplied by the contractor at their cost.

Materials shall be stored in accordance with the manufacturer’s requirements and specification.

All items shall be inspected at delivery to site prior to use. Any items which are damaged are not to be used and are to be returned to the supplier.

HOLD POINT

8303.6.3 Site layout with superintendent.

The final location and extent of the synthetic turf and associated components is to be marked out on site and shall be inspected by the Superintendent and approval to proceed granted prior to excavation



commencing. This is to ensure the dimensions are correct to the plans and site layout complies with the design drawings and purpose of the artificial turf.

HOLD POINT

8303.6.4 Carrying out Excavations and Installing Sub Soil Drainage.

Excavation of material to level and grade as per design plans, vertical tolerances shall not exceed +5mm/-10mm. If not specified on design drawings excavation depth to be as per MRC Std drawing A3-09729 "Playground Softfall Treatment Artificial Turf".

Bed/Subgrade is to be inspected for areas of unsuitable material. If unsuitable material is identified this is to be removed and replaced with approved material as per the instructions of the Superintendent.

HOLD POINT

8303.6.4.1 Utilising or disposing of excavated material;

Excess excavated materials shall be disposed of or utilised as per Superintendents instructions. Material stockpiled shall ensure that all Environmental ESC measures are in place and maintained. The Contractor shall dispose of excess materials as nominated in the approved Environmental Plan.

8303.6.4.2 Bottom of Excavations Compaction.

The bottom of the excavation shall be compacted to 95% MDD and tested at a frequency of 1/200m².

All loose material is to be removed from floor of excavation. Bottom of excavation is to be presented for inspection and proof rolled in the presence of the Superintendent prior to sub soil drainage being laid and concrete edging being poured.

HOLD POINT

8303.6.4.3 Supply and Installation of Subsoil Drainage (as required).

Where design drawings show subsoil drainage requirement this shall be supplied and installed as per design drawings, in the absence of detail MRC Std drawing A4-00584 shall apply. This includes connection to a point of discharge outside of the synthetic turf area, refer to MRC Supplementary Specification 8107 for general subsoil installation and MRC Supplementary Specification 8349 for playground drainage.

All testing, inspections and tolerances shall comply with the relevant specification that applies to the project location site.

HOLD POINT

8303.6.5 Installation of Concrete Edging (as required)

Prior to setting up the formwork the Contractor shall install and compact the bed for the concrete kerb/edging to be placed on, this shall be in accordance with the design drawings or where there is a lack of detail MRC Standard Drawing A4-00584.

Formwork is to be supplied and installed in accordance with AS3600 and AS3610 and the design drawings. Installed formwork shall be installed to project drawings line, levels and shape, positional tolerance Horizontal +25mm/-5mm, Vertical +/-5mm's.

Reinforcing shall comply with project drawings and AS4671, in the absence of detail MRC Std Drawing A4-00584 shall apply. The Contractor shall ensure the approved construction procedure to place and restrain the formwork during pouring is followed.

Approval to proceed by the Superintendent shall be granted following satisfactory inspection of bedding, reinforcing and formwork prior to pouring.

HOLD POINT



All concrete is to be batched, transported, placed, and compacted in accordance with MRTS70 including all required testing unless otherwise specified in MRC Supplementary Specification 8303_1 Synthetic Turf Annexure.

Finishing of the concrete is to be in accordance with the design drawings.

Construction and Contraction/Expansion Joints are to be incorporated as per the design drawings or as per the Superintendents instructions.

Immediately after the initial set of the concrete curing shall commence and continue for a minimum of seven (7) days. Plastic sheeting shall not be used as part of the curing process.

Formwork is not to be stripped prior to 70% strength being gained or as approved by the Superintendent.

HOLD POINT

Unless approved by Superintendent further works (including the laying of base course) against the kerb or edging must not occur until after seven (7) Days of stripping, curing is to continue for this period.

8303.6.5 Supply and Installation of Pavement Layer and Crusher Dust Layer

Prior to the installation of the base layer the Contractor must backfill and compact against the outer side of the kerb, the Superintendent shall be informed of the Contractors intent to proceed with the base course placement.

WITNESS POINT

8303.6.5.1 Supply and Installation of Compacted Base Course Layer (as required)

Base course shall only be installed and compacted as required by the design drawings, where the base course is not considered to be required or not included in the design drawings the crusher dust layer shall be placed directly on the subgrade at the specified levels and thickness.

Upon the Superintendents approval to proceed with the base course the contractor shall supply, place, and compact the road base course in accordance with MRTS05 including testing with the layer depth as per the design drawings.

The contractor shall make arrangements for the Superintendent to inspect the finished base course and carry out a proof roll. The contractor shall be responsible for any damage caused to the concrete edging as a result of construction works installing and laying the base course and carrying out the proof roll.

HOLD POINT

8303.6.5.2 Supply and Installation of Crusher Dust Layer (Levelling Course)

A levelling course of crusher dust shall be supplied, placed, and compacted in accordance with design drawings. All construction works are to be performed in accordance with MRTS05 including testing, with the following requirements applying;

- Minimum 100mm thickness;
- Compacted to 98%MDD;
- Testing frequency shall be 4 tests per 500m² or part thereof.

WITNESS POINT

Cement stabilising shall only be carried out where the design drawings have included stabilising as a treatment for the crusher dust levelling course. The percentage (%) of stabilising agent shall be as indicated in the design drawings.

The Contractor in conjunction with the Superintendent shall inspect the levelling layer prior to proceeding with further layers. The Contractor shall submit test results and geometrics of the crusher dust layer to



the Superintendent for review prior to approval to proceed with the softfall layer or synthetic turf installation.

HOLD POINT

8303.6.6 Supply and Installation of Soft Fall Layer (as required)

Where the project requires the supply and installation of softfall layer the Contractor shall refer to and comply with MRC Supplementary Specification 8511 Rubber Softfall.

All testing, inspections and tolerances shall comply with the requirements of MRC Supplementary Specification 8511.

HOLD POINT

8303.6.7 Supply and Installation of Synthetic Turf

Synthetic turf is to be laid as soon as possible where a softfall layer has been laid. Turf is to be laid as per the project-specific design drawings or in the absence of detail, MRC Std A3-09729 'Playground Softfall Treatment Artificial Turf' shall apply. The artificial turf to be laid in the direction indicated which is in an opposite direction to the joins within the softfall layer, and all joins in the artificial turf are to be located as per the project-specific design drawings.

In the absence of this detail, the manufacturers requirements shall apply. The Contractor is to request clarification from the Superintendent before issuing instruction regarding the direction for laying the turf and location of joins where no details are provided.

HOLD POINT

The turf edges shall be adhesive fixed to vertical sides of concrete edge; the Contractor shall provide a construction procedure from the manufacturer for fixing of the synthetic turf to the concrete edging and all works shall be compliant with this procedure.

All adhesives and seaming cloth shall be as approved and compliant with the manufacturer's specifications.

8303.6.8 Clean up and backfilling against kerb.

Backfilling to kerb is not to occur until after curing has occurred. Where backfilling and turfing is required, it shall be left 10mm below level of concrete finished level unless otherwise specified in the design drawings or Annexure 8303_1 Synthetic Turf Section 5.

WITNESS POINT

Prior to the "on maintenance" inspection being carried out the site is to be cleaned of all debris, excavated material, and construction materials, and where turf has been laid, establishment has occurred, with water runoff from the surrounding area visibly directed around the soft fall area.

8303.7 Post Construction

8303.7.1 Collection and submission of all As Constructed data including QA data requirements.

The Contractor is to supply and submit Works as Executed documentation as required by MRC *D20 - Drawings and Documentation* for approval by the Superintendent 14 days prior to requesting a practical completion inspection.

HOLD POINT

Format of submitted "As Constructed" documentation shall be compliant with MRC Supplementary Specification 8919.



8303.8 Measurement and Payment

Provision for these works shall be included in the scheduled unit rate for the items show in Clause 8303.3 of this Supplementary Specification and annexure. No separate payment will be made for the works specified within this Supplementary specification or it's annexure.

Version Control:

Version	Description	Reviewed / Endorsed	Date
1.0	Original issue		05.08.2014
2.0	Review of specification	C. Sultana	13.03.2024
2.1	Minor clarification of terms and materials	C. Sultana	10.09.2025