GRASS PITCHES FOR RUGBY

IRFU
CLUB EXCELLENCE AWARD

Introduction

An essential part of the IRFU sports development programme and objectives is the provision of well constructed and maintained grass pitches either through improvement and upgrading or new installations. The purpose of this Guidance Note is to assist rugby clubs carrying out this type of project. It identifies the process and the key issues. This includes the initial feasibility study, performance and playing standards, design and construction. The maintenance and upkeep of grass pitches is covered in guidance document Maintenance of Grass Pitches for Rugby.

The client brief

It is recommended that, except for the smallest projects, qualified, experienced and independent professionals are appointed to carry out your project. Prior to the selection and appointment of your professional advisors, a steering group of club or committee members should be brought together to provide an initial client brief and point of contact for the professional advisors, throughout the various project stages. The terms of engagement and scope of their services should be formally agreed at the time of the appointment.

The initial client brief should include:

- the likely programme of use (number of games to be played) and types of usage, e.g. matches, training and mini rugby
- floodlighting
- possible phasing and long term development plan
- other sports use, e.g. summer season usage and events
- maintenance arrangements and current maintenance budget
- funding sources and initial capital cost budget
- other new facilities, e.g. spectator accommodation, changing rooms and clubhouse

Site information and background information should also be assembled if applicable and available, including:

- a site plan showing the club's land ownership and any additional land that may be purchased, legal agreements, way leaves, covenants and rights of way
- location and layout of existing buildings, main services, irrigation, water storage, existing pitch layouts and orientation, land surveys including levels, trees, hedgerows and any special features
- local knowledge of ground conditions and site factors, e.g. history of the site, especially any knowledge of tipping and existing water courses
- any initial consultations with the Local Planning Authority, including land designation and permitted use

Feasibility study

Your appointed consultants or specialist advisors should undertake a feasibility study. Each project will have different issues, site factors, constraints and opportunities.

The following lists, whilst not exhaustive, identify key areas and considerations that may need to be addressed.

Site information

- Information assembled by the client steering group
- Site history, in particular any knowledge of tipping on, or adjacent to, the site
- Levels, trees, adjacent buildings and adjoining owners
- Ground conditions, soil surveys and hydraulic conductivity (rate at which water permeates through soil)
- Existing services
- Existing watercourses
- Town planning issues and consultations
- Consultations with other agencies, e.g. the Environmental Protection Agency and Local Authority regarding floodplain and surface water drainage proposals
- Access for construction and future maintenance

Pitch layouts

- Critical site factors
- Possible locations, pitch layouts and safety margins (options appraisal)
- Pitch size, levels and adjustments required
- Orientation
- Surface water drainage proposals
- Existing trees and shrubs
- New tree planting and landscaping
- Ecological and environmental issues
- Relationships with clubhouse, including viewing
- Access for spectators and people with disabilities
- Safety, possible fencing, etc.
- Other sports users' activities
- Player and spectator shelters
- Irrigation proposals and water storage
- Capital costs
- Programme of works
- Maintenance access routes/machinery and equipment storage
- Upon completion of the feasibility study, your steering group should be able to make informed decisions before proceeding to the next stages of your project

Orientation and siting

Wherever possible, the pitch should be laid out (end to end) with the orientation limits shown in diagram 1.

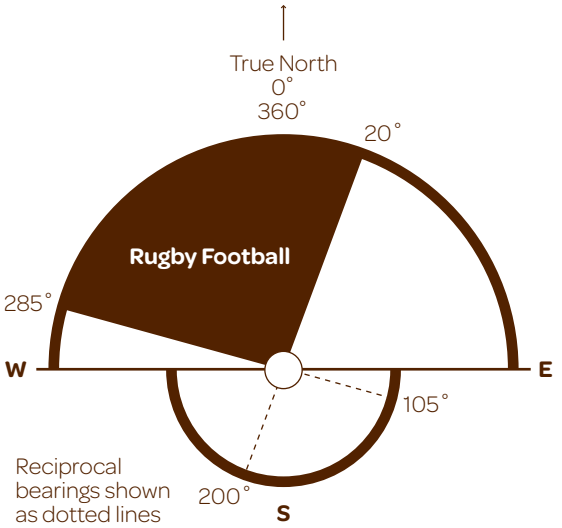


Diagram 1

Pitch dimensions

IRB Law 1 - The Ground Definitions
The 'ground' is the total area shown on the plan. The ground includes the following:

- The 'field of play' is the area (shown in diagram 2) between the goal lines and the touchlines. These lines are not part of the field of play
- The 'playing area' is the field of play and the in-goal areas. The touchlines, touch in-goal lines and dead ball lines are not part of the playing area
- The 'playing enclosure' is the playing area and a space around it, not less than 5 metres where practicable, which is known as the 'perimeter area'
- The 'in-goal' is the area between the goal line and the dead ball line and between the touch in-goal areas. It includes that goal line but it does not include the dead ball line or the touch in-goal lines
- The '22' is the area between the goal line and the 22m line, including the 22m line but excluding the goal line
- The 'plan', including all the words and figures on it, is part of the laws
- The dimensions for a 15-a-side pitch are shown in Diagram 2. These exclude line markings, which should not exceed 100mm

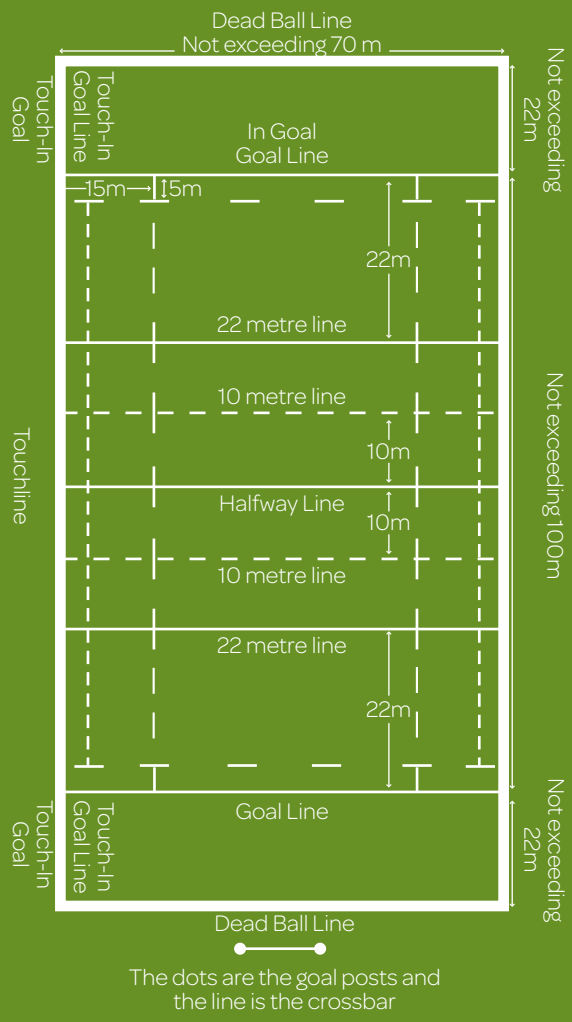


Diagram 2: The playing area

Mini/Midi rugby

- Under 7 and under 8 Mini rugby - 60m x 30m maximum
- Under 9 and under 10 Mini rugby - 60m x 35m maximum
- Under 11 and under 12 Mini rugby - 60m x 43m maximum + 5m for each in-goal

Perimeter area

Minimum end and side recommended safety areas (perimeter area) should not be less than 5m where practicable. Where floodlighting columns have been erected on the side(s) of the pitch within the recommended safety area, clubs should carry out a risk assessment and take the appropriate action. The perimeter area is defined as within the playing enclosure.

Goal posts

Minimum sizes are shown in Diagram 3. The supply and installation of goal posts, sockets and post protectors should only be arranged through a reputable and recognized firm. Protection, maintenance and inspections should be carried out in accordance with supplier's instruction. NSAI Standard IS 357:2007 applies for all goal posts.

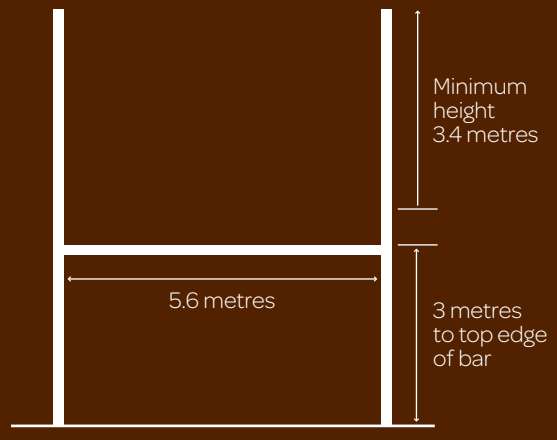
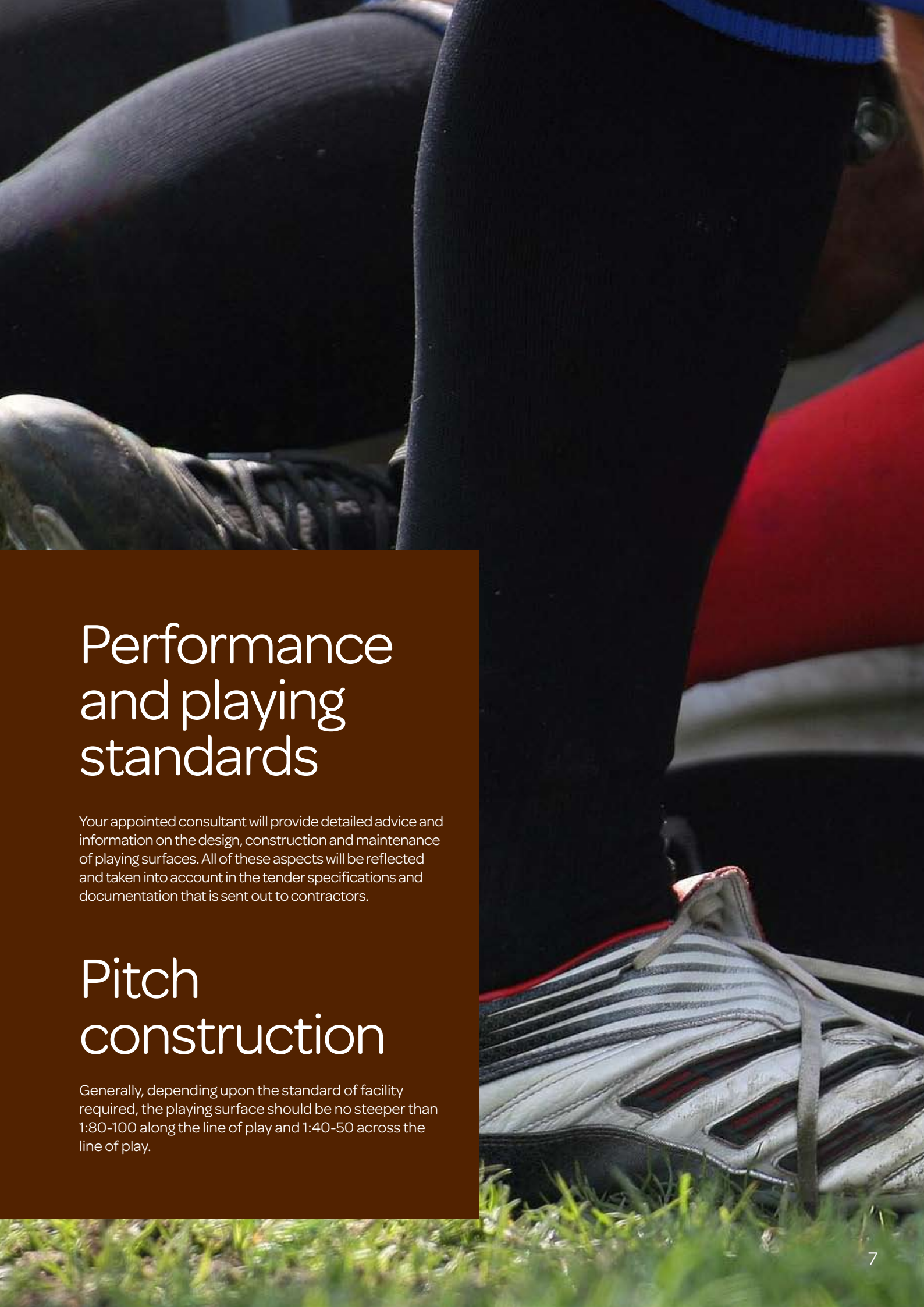


Diagram 3



Performance and playing standards

Your appointed consultant will provide detailed advice and information on the design, construction and maintenance of playing surfaces. All of these aspects will be reflected and taken into account in the tender specifications and documentation that is sent out to contractors.

Pitch construction

Generally, depending upon the standard of facility required, the playing surface should be no steeper than 1:80-100 along the line of play and 1:40-50 across the line of play.

Pitch drainage

Most grass pitches will require an effective drainage system to allow regular use throughout the playing season. The lateral drain spacing for each pitch should be calculated using the hydraulic conductivity findings from the soil surveys. There are four main types of pitch drainage that should be considered:

- **Undrained** - unlikely to be adequate for regular usage unless the subsoil is naturally well drained.
- **Pipe drained pitches** (see Diagram 4) - most common system, using perforated plastic pipes at 1:200 minimum fall laid approximately 450-600 mm below the surface in lateral gravel filled trenches to the surface. The pipes must connect to a surface water drainage system or watercourse. This system requires aeration and appropriate sand dressing to maintain its performance.
- **Pipe and slit drained pitches** (see Diagram 5) - uses the pipe drained system with additional slit drains laid across the top of the pipes. The slits are commonly 200mm to 300mm deep, filled with gravel and dressed with minimum 25mm sand. This system requires regular maintenance with frequent sand dressing to maintain the safety and quality of the surface. The surface may be uneven during the first season and may be susceptible to shrinkage in summer.
- **Suspended water table** (see Diagram 6) - the entire playing surface is constructed over a gravel base with a lateral piped drainage system. Water is held in the sand / soil "root zone" (determined by suitable laboratory testing) and this moisture helps to sustain the grass during dry weather. A fully automatic irrigation system is needed and some form of reinforcement is likely to be incorporated in the root zone. This type of construction is advisable where the subsoil is unsuitable and where a very high standard of pitch performance (including high levels of play) is required, for example at professional clubs. A suspended water table form of construction will be demanding of both management and grounds maintenance staff.

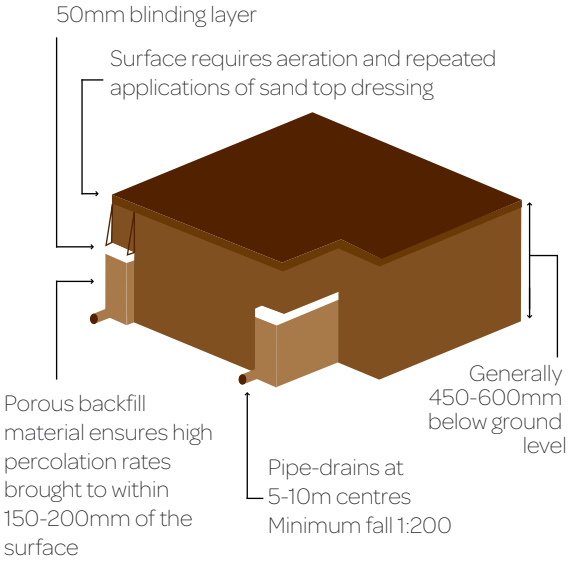


Diagram 4: Pipe-drainage construction

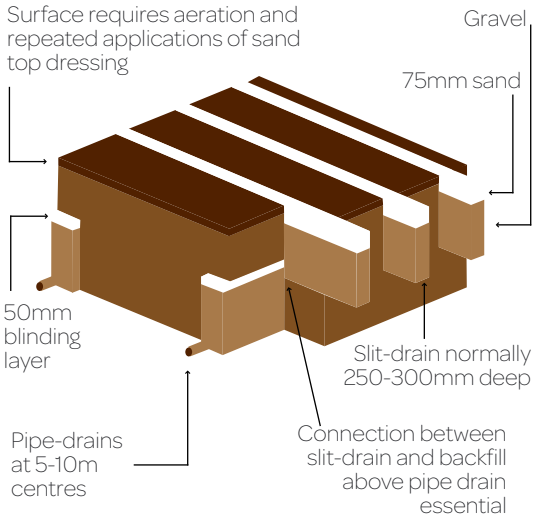


Diagram 5: Pipe-and slit drainage construction

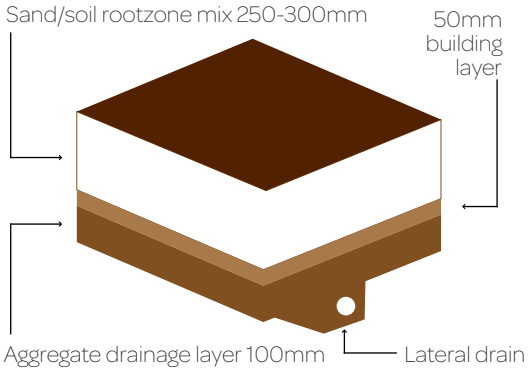


Diagram 6: Suspended water table construction. High standards of pitch performance require high levels of reliable maintenance.

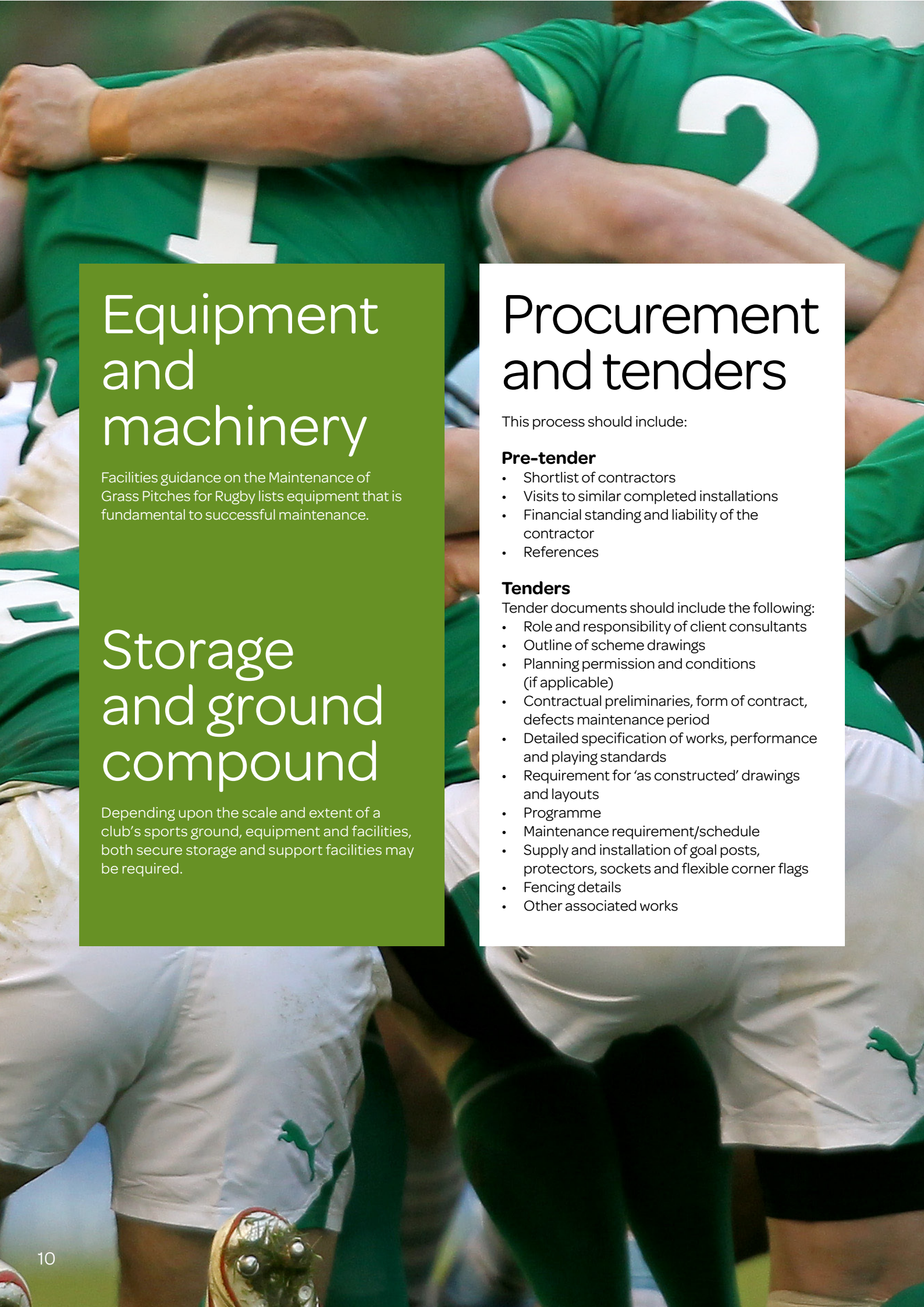
Rootzone re-inforcement

On all high wear pitches the rootzone mix of sand/soil should be amended with polypropylene fibres (Lok or Fibre sand) to a minimum 0.25% content of the surface 150mm of the profile. This will provide the extra stability of the rootzone mix to increase performance levels of the surface during the depths of winter. The benefits of using stabilising fibres are:

- Provides a surface that stays firm and level for longer periods
- Offers greater resistance to wear and tear
- Aids better drainage to reducing surface compaction
- Less divoting necessary
- Surface can be aerated and rolled after games without affecting drainage

Irrigation

Well-drained pitches will require intensive irrigation to prevent drying out during periods of dry weather and to enable rapid grass establishment. Consideration should be given to a pumped water supply and hydrant points located near the pitches. Automatic pop-up irrigation systems are recommended for higher levels of play. Wherever possible and feasible, clubs should investigate and provide water storage arrangements and recycling surface water collection.



Equipment and machinery

Facilities guidance on the Maintenance of Grass Pitches for Rugby lists equipment that is fundamental to successful maintenance.

Storage and ground compound

Depending upon the scale and extent of a club's sports ground, equipment and facilities, both secure storage and support facilities may be required.

Procurement and tenders

This process should include:

Pre-tender

- Shortlist of contractors
- Visits to similar completed installations
- Financial standing and liability of the contractor
- References

Tenders

Tender documents should include the following:

- Role and responsibility of client consultants
- Outline of scheme drawings
- Planning permission and conditions (if applicable)
- Contractual preliminaries, form of contract, defects maintenance period
- Detailed specification of works, performance and playing standards
- Requirement for 'as constructed' drawings and layouts
- Programme
- Maintenance requirement/schedule
- Supply and installation of goal posts, protectors, sockets and flexible corner flags
- Fencing details
- Other associated works

Publications

An Introduction to IOG Performance Quality Standards
Institute of Groundmanship
28 Stratford Office Village
Walker Avenue
Wolverton Mill East
Milton Keynes MK12 5TW
UK
Tel: 01908 312511
www.iog.org

Performance Quality Standards - Rugby
Institute of Groundmanship (as above)

Pitch Dimensions
International Rugby Board
Huguenot House
35-38 St Stephen's Green
Dublin 2
Ireland
Tel: 00 353 1 240 9200
www.irb.com

Natural Turf for Sport - Design Guidance Note
Sport England Publications
PO Box 255
Wetherby LS23 7LZ
UK
www.sportengland.org

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