



Pavilions and Clubhouses [TS5]

Version 1 2009



ecb.co.uk



The Hub, Regents Park by David Morley Architects © Lukasz Kowalski

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01. Introduction

This document is one of a series of technical guidance notes for cricket accommodation and pitches produced by the England and Wales Cricket Board (ECB). The aim of this guide is to provide practical advice for cricket club officials and designers when planning pavilions and clubhouses. It applies to new buildings and alterations to existing facilities.

Planning

The information in this document is relevant when the accommodation serves cricket exclusively or as part of a mixed-sport facility. It should be read in conjunction with Sport England guidance notes and, when part of a shared facility, the guidance notes of the relevant sports national governing bodies (NGBs). The main points to be addressed when planning pavilions and clubhouses are set out and there is a mixture of information that should be followed closely and advice where the solution could be more fluid.

What makes a good pavilion?

There are many aspects to a good pavilion but mainly it should serve the current and future needs of the club, players, officials and spectators of all ages, culture, ability and gender. It should also be attractive, high quality, efficient, economical to maintain and give value for money.

Addressing issues such as design, site, orientation, composition, accommodation, size and arrangement of spaces, flexibility, sustainability, energy performance, materials, robustness, security and costs will make the best use of available money and guide the project towards a successful outcome.

Additional guidance

This document will be supplemented by a picture gallery on the ECB website (www.ecb.co.uk) illustrating different aspects of pavilions and clubhouses ranging from whole buildings in context to detailed elements within a building. The three dimensional illustrations that interpret the advice in this document and selected photos of built projects are intended to show buildings that have been well-designed to respond to local influences.

Who was involved in preparing this document

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Who develops and administers grass roots designs and programmes within the ECB's remit and its capital expenditure.

David Morley Architects

Designers with experience of multipurpose sports halls, pavilions and centres of excellence for cricket.

Club Design Limited

Experienced in sports project co-ordination, clubhouse design and applications to funding bodies.

John Austen Associates Limited

Quantity surveyors and cost consultants with experience of cricket pavilions and other sports facilities.

Paul Bedford**Former League Chairman and ECB****Head of Non-First Class Cricket**

Experienced in managing sites and sports facilities.

Chris Wood**ECB Pitch Consultant****Dr Andrew Lewry****Building Research Establishment (BRE) Sustainable Energy Group**

This document has also been circulated for comment to Sport England, the Football Association (FA) and the Rugby Football Union (RFU).

02. Planning the Project

This section provides guidance on planning and developing your project and summarises the design and building process.

Work stages

The Royal Institute of British Architects (RIBA) uses a plan of work to set out five main stages for building projects: preparation, design, pre-construction, construction and use. The main stages are sub-divided into smaller work stages A to L as summarised below. These are usually carried out in sequence.

Main Stage	Work Stage	Brief description
Preparation	A Appraisal	Feasibility study and appraisal enables a client to decide whether to proceed. See appendix A. Key requirements, constraints, procurement method and consultants are identified.
	B Design brief	
Design	C Concept	Planning applications are typically (but not always) submitted at this stage.
	D Design development	
	E Technical design	
Pre-Construction	F Production information	Detailed information for construction followed by the building control submission. Preparation of information for issue to contractors to obtain tenders. Evaluation of tenders, potential contractors and specialists.
	G Tender documentation	
	H Tender action	
Construction	J Construction mobilisation	The contractor is appointed and needs time to prepare before starting on site.
	K Construction to practical completion	
Use	L Post practical completion	

Getting started

Carefully think about the aims of your project and ways to accommodate the current and future needs of the club, including how often the facilities will be used on a weekly and seasonal basis. Organise a project group and appoint a leader to act as the main point of contact for the club. The leader will be a key decision-maker so should have sufficient time to dedicate to the project.

Preparation – work stage A: appraisal

The first stage of a project is called appraisal. It is when a club's needs and objectives are identified along with the business case and any possible constraints on the development. Feasibility studies (see appendix A) should be prepared and the options assessed by the club to enable them to decide whether to proceed. Documenting some ideas and options with approximate costs can be done relatively inexpensively.

Assemble some useful information about your club, the existing facilities and the proposed project. For example:

- Business plan
- How the project will be funded and records of consultation with funding bodies and their feedback
- The site including address, details of the boundary and any rights of way
- Details of the freehold or leasehold, length of lease and security of tenure – in some cases this can take a while to obtain

- Information about the existing buildings or facilities, mains services and utilities, pitches and ground conditions, asbestos survey
- Access audit (a review of how the existing facilities can be approached, entered and used by everyone – all ages, genders, cultures and ability)
- Contact details for key club members
- Existing and future match fixtures and programme of use
- Sports development
- Other events or sports use – if the facilities are shared with other sports then refer to the appropriate guidance notes from the other sports governing bodies
- Outline schedule of accommodation
- Facilities for car parking and public transport links
- Records of early consultation with the local authority planning department, previous planning applications, review of planning guidance documents

As a point of interest, the majority of recent cricket pavilion projects have been the development of existing facilities via grant funding.

02.

Preparation – work stage B: design brief

The second stage of a project is the design brief and this is when the key requirements, constraints, procurement route (see section 3) and consultants are identified.

The range of professional consultants and skills required will depend on the project size and its complexity. These will become apparent during the preparation stage although the design team will probably include an architect, structural engineer, quantity surveyor, mechanical and electrical services engineer. Under the Construction (Design and Management) regulations 2007, a CDM coordinator must be appointed to advise the client (the club) on health and safety issues from the design stage onwards. Some projects might also need specialist input, for example accessibility, environment, ecology, landscape architects, heritage and planning consultants or highways and transport engineers. If club members don't have sufficient time to act as the main point of contact, consider using the services of a project manager to act on your behalf. See appendix B.

Design – work stages C, D and E

Once a project is underway and consultants are appointed, the lead consultant will guide you through the subsequent work stages. All work stages require client sign-off so allow time to review the drawings and reports prepared by the design team, carefully checking your requirements against the design. Early changes and requests are much easier to accommodate whereas late changes can have cost implications out of scale with the amendments.

The design stage is divided into three: C/ Concept, D/ Design Development and E/ Technical Design. Concept design is where outline proposals, specifications and cost plans are prepared and the procurement route (see section 3) is reviewed. The design is developed further in stage D and this is also when planning applications are usually submitted. Stage E is when the technical designs and specifications are developed sufficiently to coordinate all the different elements of the project.

Pre-construction – work stages F, G and H

The pre-construction stage is also divided into three: F/ Production Information, G/ Tender Documentation and H/ Tender Action. Production information is when detailed information for construction is prepared and submitted to building control for approval (see section 3). Tender documentation is the preparation and collation of sufficient information to enable tenders to be obtained. In this instance, a tender is an offer by a contractor to execute the work at a fixed price. Tender action is when potential contractors and specialists are identified and evaluated, then invited to prepare tenders. Once tenders are obtained and appraised, the design team will submit their recommendations to the client. Compiling the list of potential contractors will often start well in advance of the tender period.

Construction – work stages J and K

The construction stage is divided into two: J/ Mobilisation and K/ Construction. Mobilisation is when the contract is let, the contractor is appointed, construction information is issued to the contractor and the site is handed over by the client. The contractor will need time to prepare before starting on site, for example they will organise their construction team, place orders for materials and arrange sub-contracts. Construction is when the contract is administered and the building is built (or refurbished as applicable). The design team will issue further information to the contractor if required and also review information prepared by the contractor or any specialists (for example specialist kitchen equipment or bespoke furniture).

Use – work stage L

The final stage is using the new facilities. The completed building is handed over to the client and the contractor leaves site. Some contract administration takes place after practical completion including making final inspections after the defects liability period. The building users might require some assistance during the initial occupation period, for example training for maintaining the building services or setting alarms. Often the design team will want to review the building performance in use or take photographs.

Getting support

The ECB Funding and Facilities Unit should be your first point of call for advice (facilities@ecb.co.uk). Make contact with them during work stage A, show them your feasibility study and gauge their support. Consulting the ECB at the earliest opportunity allows their input to be more valuable. Funding and planning permission are two important hurdles in the preparation and design stages of a project. The ECB Regional Funding and Facilities Manager will assess the proposals for technical compliance, sports development and financial affordability.

02.

Successful clients

The Commission for Architecture and the Built Environment (CABE) publication *Creating Excellent Buildings* describes how to be a successful client:

“Each development project is unique, with special local conditions for site, use patterns and social context. However, all projects need well structured project management and can benefit from the ten key ways the client can help achieve design quality.”

1. *Provide strong client leadership*
2. *Give enough time at the right time*
3. *Learn from your own and other successful projects*
4. *Develop and communicate a clear brief*
5. *Make a realistic financial commitment from the outset*
6. *Adopt integrated processes*
7. *Find the right people for the job*
8. *Respond and contribute to the context*
9. *Commit to sustainability*
10. *Sign off all key stages*

As noted before, all work stages require sign-off so allow time to review the drawings and reports prepared by the design team, carefully checking your requirements against the design.

Local community

Good communication with the local community is important. Potentially it could lessen objections to your planning application and help towards a smooth relationship with neighbours before, during and after construction. People can be sensitive to change so it's worth finding ways to keep neighbours informed. This could have surprising and beneficial results – one club arranged temporary contractor's access through adjacent land which made larger deliveries possible and shortened the construction period. Good links with the local community also provides the opportunity to make contact with new members.

03. Cost, Value and Time

Buildings have a value as well as a cost. An efficient and well-designed facility is an asset in addition to simply performing its function. Aim to get the best value by carefully balancing the desired quality of the finished building and the cost of designing, building and running it against the time taken to get from the first idea to the building being ready for use.

Since quality, time and cost are inextricably linked, avoid setting over-optimistic (or unrealistic) timescales as inevitably this will affect the project's cost or quality. It's better to spend time getting things right at the preparation and design stages as later changes to the brief will have more impact and could lead to expensive remodelling in the future.

In addition to the cost of engaging a contractor to build the pavilion, there are many other items that incur fees or affect costs. Some of these are listed below:

Phasing

It is possible to plan a small pavilion with scope for future expansion, or to carry out the work in several phases but this should be appraised in the preparation stage and feasibility studies.

Maintaining use of existing facilities

If you intend to maintain use of existing facilities while extensions or alterations are carried out, the cost of phasing the project and any temporary accommodation, screens or hoardings and other health and safety measures should be

taken into consideration. Alternatively, if you move off-site during the works and the construction programme overlaps with the cricket season, you could consider either missing a season or consult the league regarding the possibility of sharing premises elsewhere.

Surveys

A topographic survey and measured survey of the existing facilities will be required in some cases. These could be carried out during the preparation stage if funds are available, or at an appropriate time in the design stage. Site levels can be used advantageously to enhance the design.

Site investigations

Abnormal ground conditions will affect the foundation design and costs. The structural engineer will advise if trial pits are required in the design stage.

Professional fees

Professional fees should be budgeted to cover the services of a design team and specialists – see appendix B.

03.

Planning approval

Planning applications incur a planning fee which is payable on submission to the local authority.

Planning requirements

Check if the local authority has planning requirements with cost implications. Some local authorities have a policy to reduce carbon dioxide emissions and require a percentage of the proposed building's energy supply to be provided by on-site renewable energy. This is known as the Merton rule – see section 7 sustainability.

In conservation areas there is often a requirement to protect or enhance the surroundings which could influence the building form or selection of proposed external materials.

Building control

Building regulations approval can be obtained via the local authority building control department or through an independent approved inspector. The local authority has a plan charge payable with the building control submission and a separate inspection charge that will be invoiced during construction.

Upper floors

There are costs associated with having upper floors including lifts and stairs or ramps with handrails as well as emergency exit for from the upper floors. The structure supporting upper floors requires fire protection.

Furniture, fixtures and fittings

Changing room benches and coat hooks on rails are normally sufficient for changing rooms in cricket pavilions and clubhouses. If lockers are required then the cost and space requirements should be accounted for. Bear in mind the cost of loose furniture such as tables and chairs.

Refreshments and catering strategy

The specification of bar and kitchen equipment will depend on the catering strategy – a full bar with cellar and a commercial kitchen is quite different in scale and equipment to a drinks fridge and domestic-type kitchen suitable only for preparing hot drinks and serving pre-prepared food so should be considered carefully at the outset. Bear in mind the cost of crockery, glasses, cutlery, pots, pans and other kitchen equipment.

Alcohol license

Under the Licensing Act 2003, licensing authorities in England and Wales (usually the local authority) are responsible for licensing the sale and supply of alcohol. Clubs must apply for an appropriate license (most likely a club premises certificate) if they want to supply or sell alcohol at their clubhouse. Refer to the Department of Culture, Media and Sport (DCMS) website for more information including guidance on applications, fees and annual charges. www.culture.gov.uk/what_we_do

External works

The costs of external works will depend on site levels, the extent and specification of paving, proposed fences and boundary treatment as well as landscaping and planting proposals.

Deleterious materials

Asbestos was used as a building material in the UK from the 1950s and any building built before 2000 might contain it. Asbestos comes in a variety of forms for different uses and was considered ideal for fireproofing and insulation. Other typical examples are floor and ceiling tiles, textured coatings, textiles and asbestos cement products. Asbestos materials in good condition are safe until the fibres become airborne which happens when it's damaged. Under the Control of Asbestos Regulations 2006, an organisation responsible for the maintenance of non-domestic premises has a legal duty to take steps to find out if there is any asbestos in those buildings. If so, the amount of asbestos, its location and condition should be recorded. There is also a duty to assess the risks of being exposed to asbestos fibres if it is disturbed, prepare a plan to manage the risk and to periodically monitor the plan. The club must provide this information to a contractor or anyone who is likely to work on the buildings. Refer to the Health and Safety Executive (HSE) website for more information.
www.hse.gov.uk/asbestos/essentials/building.htm

VAT

VAT is usually payable on construction costs, professional fees and building control charges and should be accounted for in the overall costs and cash flow forecast. VAT is not usually payable on alterations to listed buildings where listed building consent has been granted. The level of VAT payable might sometimes be reduced subject to the status of the club so check if there is a club VAT management plan. Don't assume all VAT will be recoverable – it is essential to obtain specialist VAT and partial exemption advice from an accountant with relevant experience.

Tax relief

The government has introduced an enhanced capital allowance (ECA) scheme to give tax incentives on water saving and improving technologies as part of its commitment to the reduction of carbon emissions. Under the scheme, businesses that pay corporation or income tax are able to claim one hundred per cent of their first year allowance against the cost, delivery and installation of water saving products, including taps and showers. All products that have the ECA water technology approved logo are eligible for the scheme.

Obtain independent advice from specialists before assuming eligibility for any tax relief schemes.

03.

Contingency

It's prudent to have a contingency allowance set aside for the design and construction stages to cover the cost of unforeseen items and design growth or changes that might arise during the project.

Funding

ECB booklets on sources of grant aid and funding can be downloaded from the ECB website. www.ecb.co.uk/funding

- Sources of grant aid funding for cricket clubs in England
- Sources of grant aid funding for cricket clubs in Wales

Procurement routes

There are three main methods of procuring buildings in England and Wales:

1. Traditional is where design and construction are separate elements. A design team prepares design and construction information. Several contractors are invited to tender and then one is appointed to build the project. This method follows the linear pattern of work stages shown in section 2. Quality control is the key strength.

2. Design And Build entails a more integrated approach as the contractors tender before the construction information is complete so become involved during the design and preparation stages. The contractor is responsible for developing the design so cost control is the key strength but this can be at the expense of quality.

The work stages shown in section 2 still apply, but are not as distinct and some are carried out in a different sequence so design can continue while the contractor is working on-site. This parallel working can save time but puts quality at risk.

3. Construction Management is when either a client or contractor assumes a central management role and responsibility.

This is a simplified explanation of procurement methods and there are many variations and hybrids of the main types including single or two stage tenders, partnering arrangements, public private partnerships and private finance initiative (PFI) or even self-build. However, self-build is only suitable if club members have sufficient building skills and qualifications and are willing and able to carry out the work. The most appropriate method will depend on the nature and scope of works, how the risks are allocated, design responsibility, coordination and the basis of costs. The final choice could also be influenced by a funding body.

04. Site Planning

Site analysis

The individual circumstances of each project will influence the design. A logical approach to site analysis should be adopted when deciding the best location for a pavilion or clubhouse. Taking advantage of the natural elements and surroundings such as trees, gradients, views and orientation will help make the most of the site. The shape and contours of the land will affect the final location, as will proximity to services and main road access. The availability of land for car parking, any future expansion and space for temporary facilities need to be taken into account during early stages.

Tenancy and ownership of the land, statutory planning restraints and rights of way are vital to early discussions and will minimise wasted time and money later on.

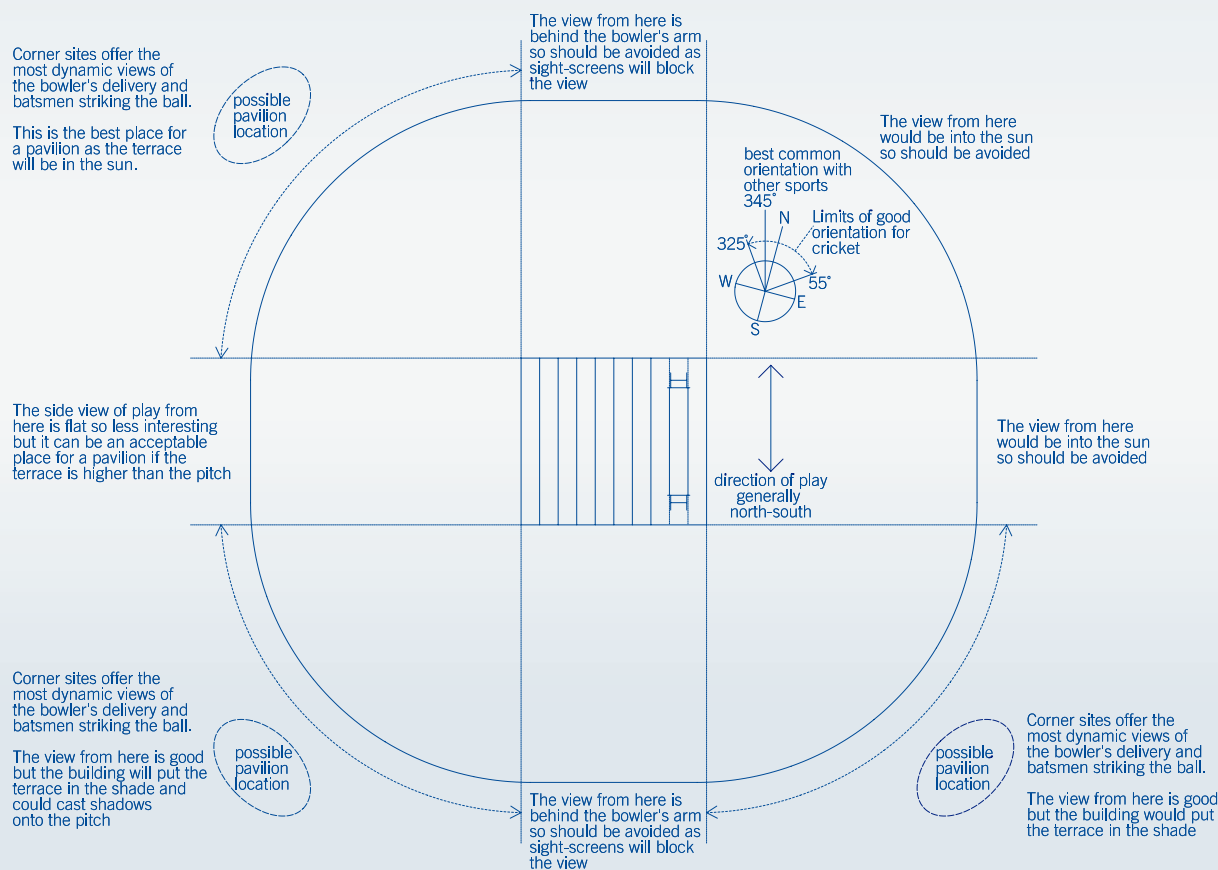
Another key item is the composition of elements, including the relationship of the cricket table to changing rooms, viewing areas, scoreboard and grounds store.

Pavilion location

Corner sites offer the most dynamic views for spectators and waiting batsmen, giving full context of the field and the best perspective for watching the bowler's delivery and batsmen striking the ball. The best one of these is the north-west corner as the area in front of the pavilion will be in the sun; parasols or awnings can be used to provide shade on hot days. The south-west and south-east corners also give great views of the game but any viewing terrace in front of a pavilion here will inevitably be in the shade of the building for part of the day. The view from the north-east corner of the pitch will be into the afternoon sun and should be avoided, but be mindful that tall buildings, hills and trees around site will affect where the sun sets.

It's not good practise to put the pavilion to the north or south of the pitch as this is directly behind the bowler's arm. Sight screens occupy the area parallel to the batting crease and are moved regularly depending on the wicket in use and the batsman's preference. As you might expect, these could obstruct the view. Other possible pavilion areas are to the east and west. These give a flat side view of the field of play so are less interesting to watch cricket from, but should not be discounted entirely.

04.



Pitch orientation

The cricket pitch orientation should generally run north-south wicket to wicket but the axis can vary from 325 degrees (west-of-north) to 55 degrees (east-of-north). The best common orientation with other sports is 345 degrees. Refer to Sport England guidance for pitch orientation when the cricket outfield is part of a multiple-sport facility as the overlap with the ideal pitch orientation for other sports narrows the zone of flexibility.

Sun

Natural light should be incorporated into the design to create a pleasant environment – having the lights turned off during the day will also reduce running costs. Take account of the path of the sun to avoid over-heating from excessive solar gain. When altering existing facilities, it's not always possible to change the building orientation but the use of roof overhangs, blinds and solar-control glass could be considered to address any problems. Plan for the future by planting trees that give shade in summer but allow light through in winter while giving focus, depth and context to views.

Wind

The pavilion should be orientated away from the prevailing wind to give protection to spectators on the terrace. Opening windows and vents for natural ventilation should be carefully placed to avoid possible sources of pollution such as car parks.

Height above pitch

In first class cricket the players are sometimes separated from the spectators in a first floor viewing gallery, but this might not be appropriate for club cricket which is often more social and inclusive. However, it is possible to use the site topography and gradient to your advantage by positioning the pavilion so it is raised above the field of play, giving advantageous views to both players and spectators while remaining welcoming and inclusive. It can also be cheaper to retain earth on site than sending it away as spoil. This should be balanced against creating easy access to the pavilion and pitch especially where wheelchair-cricket will be played. It could also be difficult manoeuvre heavy equipment up or down slopes to the grounds equipment store.

Views

Players and spectators should be able to see the pitch from the social space inside the pavilion. If the pavilion is raised up above the pitch level then consider full height glazing or a low window sill that preserves a view of the pitch. If the window sill is too high, you won't be able to see the game from inside the pavilion.

Scoreboard

The scoreboard should be visible to players, spectators, scorers and umpires. It could be an electronic scoreboard or mobile board instead of a scorers hut. Scorers need a base with good views of the pitch and umpires where they won't be disturbed.



04.

Shared facilities

Sometimes cricket clubs share their facilities with other sports: often rugby and football. Where facilities are shared, careful consideration should be given to laying out the pitches and protecting the cricket table during winter. You should also refer to the guidance notes of the relevant sports governing bodies.

Parking and arrival

The car park should be conveniently located while preventing glare from cars causing a nuisance to players and equally cars being damaged by stray cricket balls. It doesn't have to be adjacent to the road or clubhouse although there should be space for drop-off, deliveries and disabled users close to the building along with access for emergency services vehicles. If the car park is behind the bowler's arm then a suitable screen or fence will be required to minimise interruptions to play. Provide a suitable path with appropriate lighting if there is a short walk. The sequence of arrival from the road can add to the drama of the occasion – a glimpse of the building or controlled views from the road to a welcoming entrance. If signs are required, they should be clear, simple and logical. Refer to Sport England guidance on car parking and landscape design.

http://www.sportengland.org/se_facilities_carparking.pdf

Transport options

The way people travel to the ground will be influenced by the location and public transport options. It would be useful to display current public transport information at the clubhouse and on the club website if applicable. While players with large kit bags are unlikely to arrive by bicycle, it is possible that junior players, spectators and umpires will require somewhere secure to lock bikes and a gathering point for coaches could occasionally be required. The number of disabled parking bays is prescribed by the department of transport. At the time of printing, the number of disabled bays in car parks of up to 200 spaces should be three bays or six per cent of the total parking provision, whichever is greater. Always check current guidance at www.dft.gov.uk.

Landscaping

The soft and hard landscaping around the building can improve the quality of the setting and perform other functions like shelter from the wind. Plants can add texture and aroma that will give interest and delight. Sensitive landscaping with native species can enhance local biodiversity. Thoughtful selection of plants and carefully designed irrigation systems can dramatically reduce the need for watering. External surfaces in the vicinity of the building should be well drained and thoughtfully selected as light coloured paving can sometimes cause glare. Permeable surfaces will avoid problems with puddles, avoid the need for surface falls towards drains and reduce the storm-water surge in the surface water drainage system. Resin-bound gravel can be flexible enough to accommodate tree growth. Smooth surfaces are preferable for wheelchair users. Refer to Sport England guidance on car parking and landscape design.

http://www.sportengland.org/se_facilities_carparking.pdf

Advertisements

Occasionally cricket clubs raise funds by displaying advertisement boards around the pitch. The advertisement control system in England consists of rules made by the Secretary of State and falls under the Town and Country Planning (Control of Advertisements) Regulations 2007. An advertisement displayed on enclosed land is normally permitted to be displayed without an application. However, check with the local authority planning officer to confirm if consent is required especially if the proposed signs are visible from the road or public land.

Temporary accommodation for events

Consider identifying a location for temporary accommodation such as a marquee to be erected on the site that could occasionally be used for large events. Install appropriate external power and drainage connection points for convenience.

04.

The Masterplan

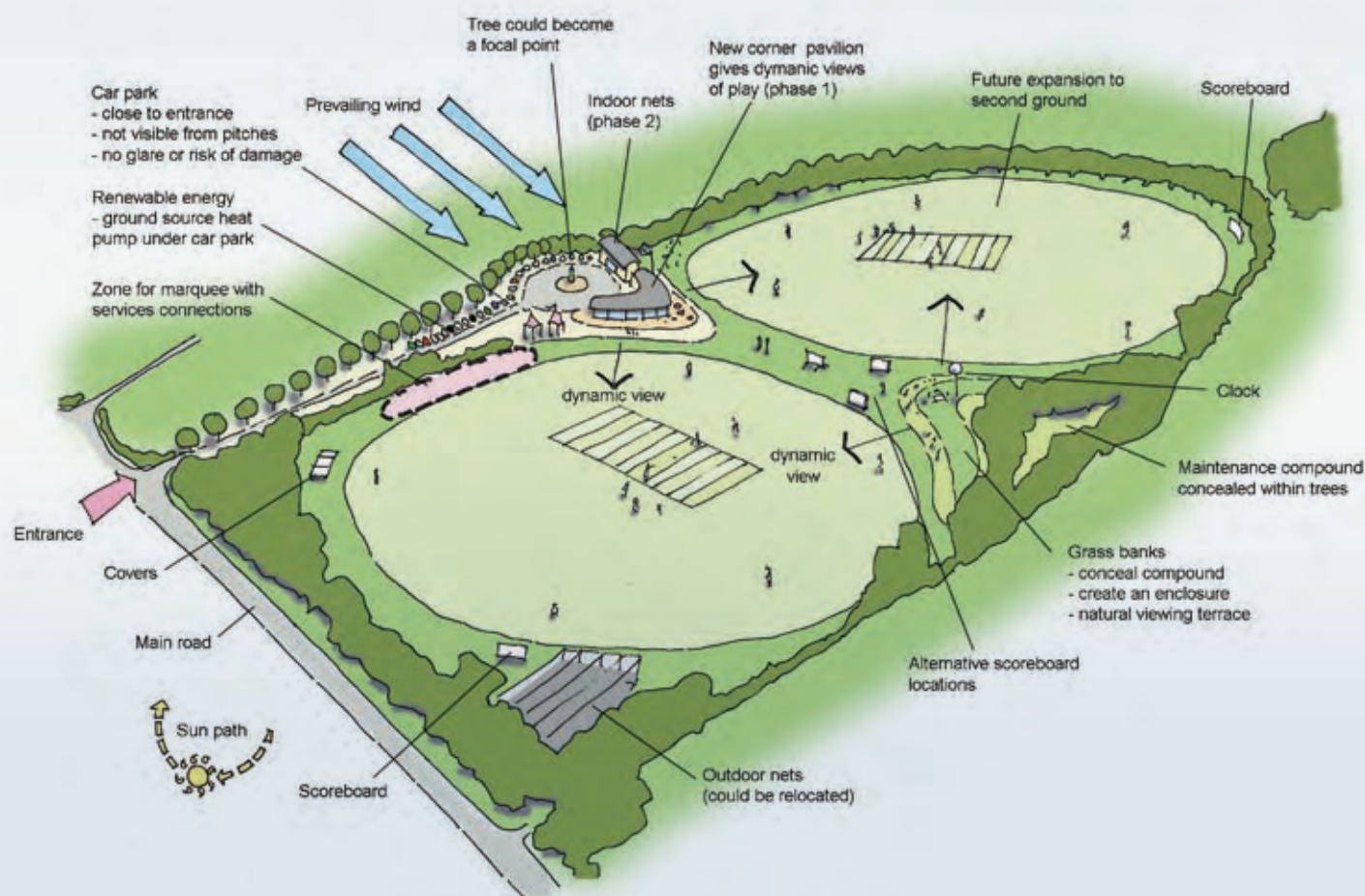
All relevant site and club issues can be addressed, combined and distilled into one masterplan. The masterplan is your opportunity to think about developing your club and site as a whole – it's the big-picture.

A masterplan is a useful tool for setting the context and guiding principles for future development, describing how you want to develop the site, the sequence of that development and how to achieve it.

The masterplan is a fluid process for gathering different opinions and provides a framework for connected thinking towards a solution. It should be reviewed and updated to accommodate future ideas, always taking the long term view.

The intention is to capture your vision for the future. The masterplan should contain a statement of your aims and objectives and how you want to get there, supported by drawings or images that will help formulate and communicate the main ideas and principles.

It will address flexibility and future changes including land for expansion, while keeping a sensible and realistic sense of scale. This should help avoid finding you have spoilt your future plans by building new nets or a car park in the perfect place for a second pitch.



05. Building Planning and Design

Why design matters

Design is important to a project's success because it provides creative and efficient solutions to complex problems. Good buildings work well in many ways: efficient use of space, rational adjacency, quality of light, thermal comfort, atmosphere and orientation. They take account of how the surrounding space is used, views in and out and form welcoming entrances. Good design takes account of what the building looks like: its symmetry and balance, composition, proportions, beauty, using materials that compliment each other and their surroundings. Good design is also concerned with economy, longevity, energy efficiency, acoustic performance, flexibility and adaptability. The design should be inclusive and provide integrated facilities for players, officials and spectators of all ages, culture, ability and gender. Good buildings should be sustainable, balancing their use of resources and minimising waste (see section 7 Sustainability).

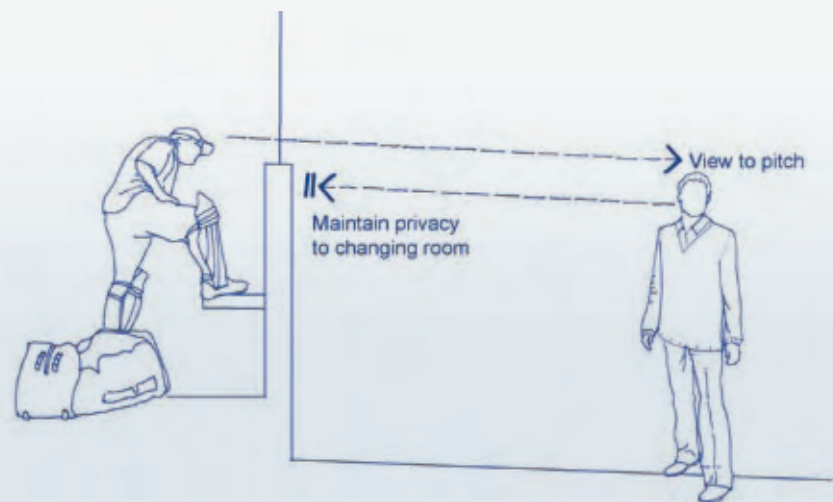
Architecture and sport

Sport is a source of delight and the architecture surrounding it should help reflect and nurture that excitement. It can promote better sporting performance through increased participation leaving a long term legacy that embraces the whole community. It is vital that sports buildings are open and accessible and well integrated with the community they serve while remaining sensitive to their context. Resources will always be limited and in many sports buildings the business plan is a delicate balancing act. This can be helped greatly by doing more with less, by getting one component of a building to play more than one role. The features that help to create a positive atmosphere in the building should not be wilful additions to the brief but a series of elements brought together so that each part serves more than one purpose. Generating an uplifting environment is a natural product of good design and doesn't need to cost any more money.

Cricket

Cricket teams use changing rooms in a slightly different way to other sports because of the pace of the game. Although the fielding side will leave the pitch together at the end of the game, the batting team often change as they come off the pitch and only pad-up shortly before they are called into bat. For that reason, it is desirable to have a visual connection between the changing rooms and the fields of play so batsmen can stay aware of progress and avoid

being timed-out while padding up. The view out from the changing rooms must be carefully balanced with maintaining privacy, which is particularly important if there are junior players. Players should also have easy access to the pitch from the changing rooms. Surveillance of the entrance is important to maintain security for valuables left in the batting team's changing room.



This example uses a change of level to help maintain privacy

05.

Traditional pavilions

Many traditional pavilions follow a tried and trusted building plan with a central entrance facing the pitch into a central social space with changing rooms either side, all with views of the pitch. The kitchen, showers and toilet facilities are located towards the back of the plan. This can work very well in practise and there are many beautiful examples.

The plan or layout of these traditional pavilions is still relevant today and often work well as buildings in use. However, the traditional design, materials and elements such as clock towers, dominant roofs and weather vanes are sometimes less relevant.



Oxford University Parks Cricket Pavilion 1881
© The Curators, Oxford University Parks



Gonville and Caius College Summerfield
© Cambridge2000.com



Wormsley Cricket Club

Contemporary pavilions

The aim of this guide is to help create contemporary pavilions with modern concepts and materials while safeguarding the traditions of cricket and therefore securing a future for the game.

Although these examples of contemporary pavilions are not all cricket clubs, they could provide club accommodation

in a similar plan layout to the traditional pavilions. Modern materials and efficient building forms and structures create robust, efficient and beautiful buildings. The plans provide the same accommodation as traditional pavilions but in a more modern way. The simple elevations and materials make very attractive, contemporary club facilities.



Stirling Cricket Club Pavilion by JM Architects
© Andrew Lee



Balornock Bowling Club by Studio KAP
© Keith Hunter



Broughton Hall Pavilion by Hopkins Architects
© Simon Miles

05.1 Accommodation

Block Diagrams

Careful planning of accommodation is essential to ensure a successful building.

One solution would be to arrange the changing rooms either side of the social space (all with views of the pitch) with other rooms towards the rear of the plan (as diagram 1).

The social space could be angled to open up and maximise views of the pitch (as diagram 2).

If the building is approached from the rear (not from the pitch side) then the social space could run from front to back giving clear views to the pitch from the entrance (as diagram 3).

Another solution would be to group the changing rooms to one side of the social space (as diagram 4).

Always consider possible future expansion at the outset, either for additional changing rooms and pitches or temporary accommodation for special events.

DIAGRAM 1

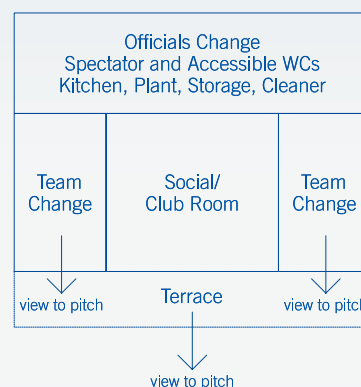


DIAGRAM 2

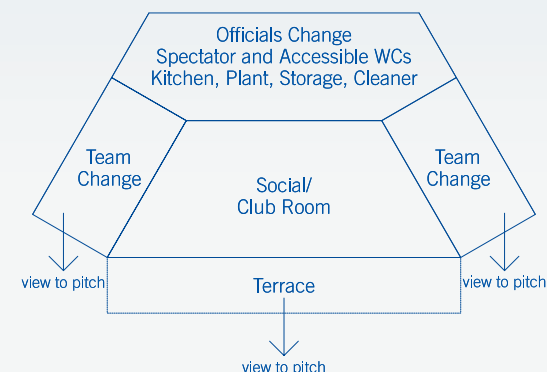


DIAGRAM 3

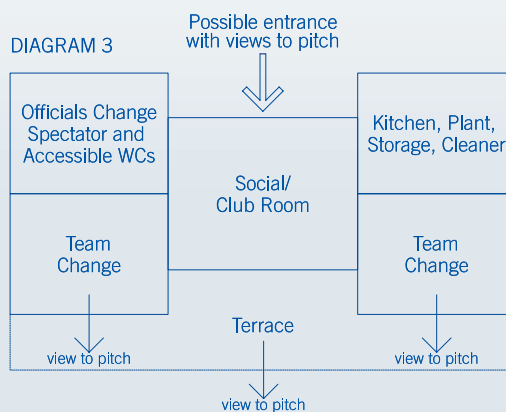
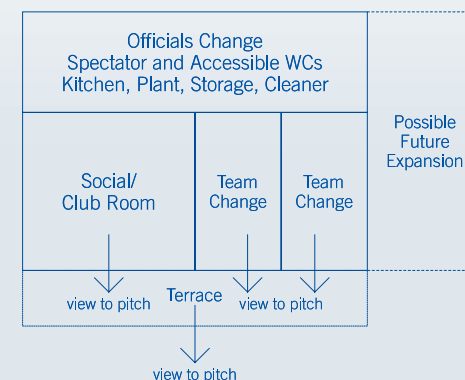
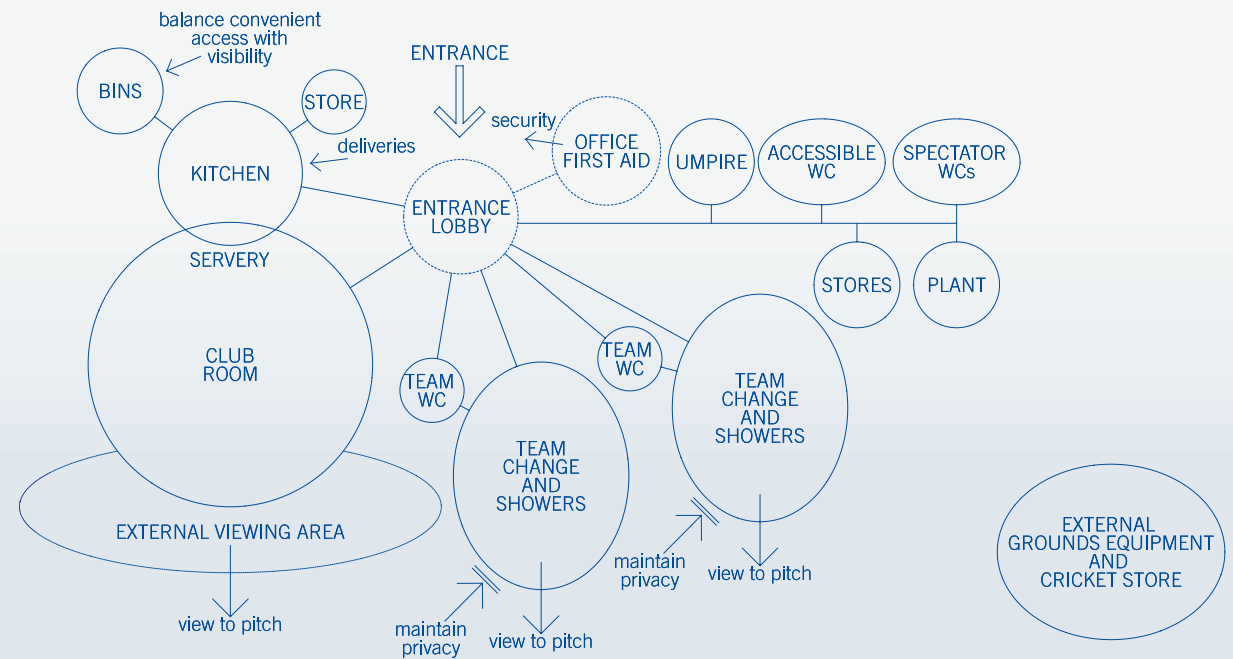


DIAGRAM 4



Adjacency

Whatever the basic block arrangement of social, changing and other spaces, the relationship of adjacent spaces should provide an efficient building and the desire for easy access and a view of the pitch must be balanced with maintaining privacy.



05.1

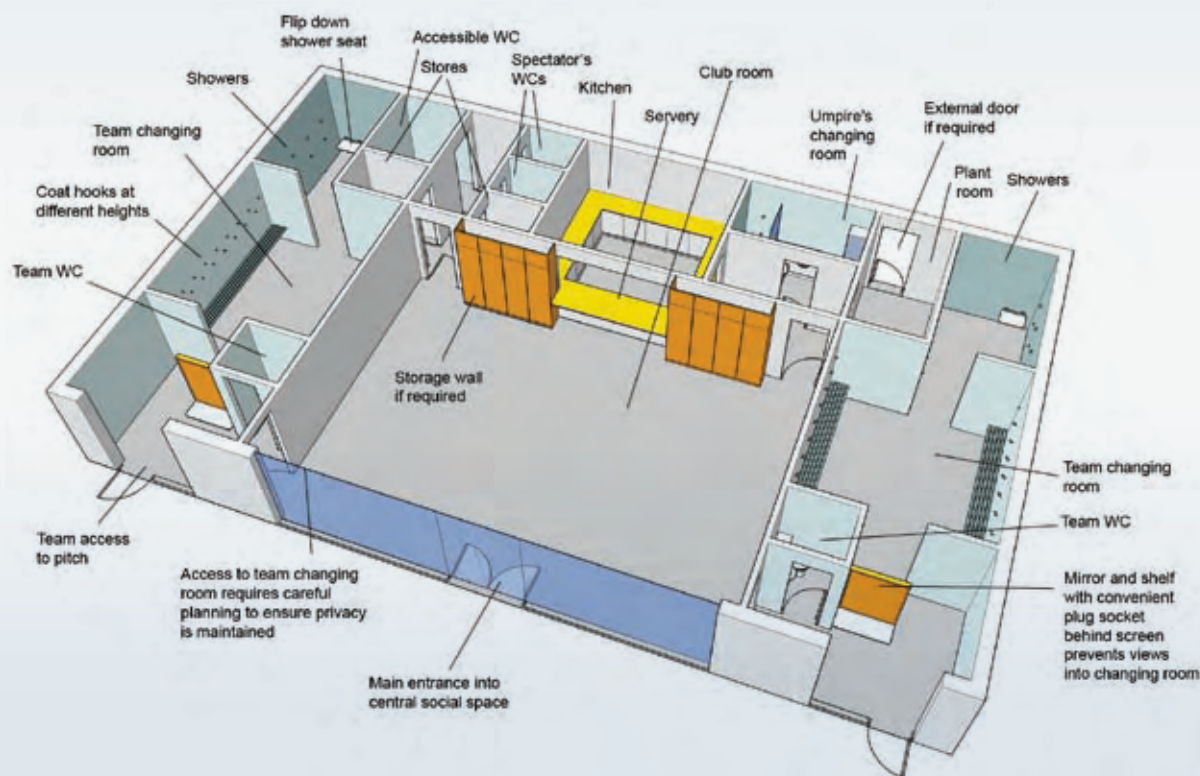
Two changing room cricket pavilion

This diagram shows a small, two changing room cricket pavilion with central social space as shown in block diagram 1 (see page 26).

This diagram only shows the essential spaces noted in the accommodation section and does not include desirable spaces such as a flexible changing room, bar, office and reception. Assume the grounds equipment store is provided elsewhere.

This follows a traditional pavilion plan with the main entrance directly into the social space and this is considered suitable for summer sports. Consider an entrance area for mixed sports clubs with winter use.

There are views from the changing room to the pitch from the padding-up bench which acts as a privacy screen to the main changing space behind.



Accommodation

The accommodation should meet the current and future needs of the club and can be considered in terms of what is essential or desirable:

Essential	Desirable
Entrance	Reception
Team changing room and showers	Office
Officials changing room and shower	Flexible changing room and shower
Toilets for players, officials and spectators	Additional umpire changing room and shower for multi sport facilities
Provision for first aid	Bar
Social and dining/ tea room	Meeting room
Club room	Secure storage for trophies
Kitchen and servery	External cricket equipment store
Storage	Refuse area
- food and beverages	
- consumables	
- cricket equipment	
- cleaner's equipment	
Plant room	
Grounds equipment store	
(this can be integral or external – see storage)	
Scoreboard	
Scorer's base	

Cricket club accommodation in England and Wales falls into planning use class D2 – assembly and leisure.

Clubs might encounter difficulty if the local planning authority is reluctant to grant permission for the social and administrative spaces in parks, open spaces or green belts.

There is positive support in current planning policy guidance PPG2 for green belts to provide opportunities for outdoor sport, but the construction of new buildings in green belts is considered inappropriate unless they are essential facilities – an example described in PPG2 is small changing rooms and unobtrusive spectator accommodation. The design and access statement (submitted with the planning application) should address the necessity for the social and administrative spaces and robustly demonstrate they are essential to the club, appropriately sized and sensitively designed for the context.

The right scale for the social and administrative spaces is influenced by site-specific factors as well as club needs. Club requirements and membership should be balanced with proposed hours of use of the social spaces and proximity to residential areas, planning restrictions, land ownership and covenants.

Early consultation with the ECB is vital as it can help towards a successful outcome.

05.1

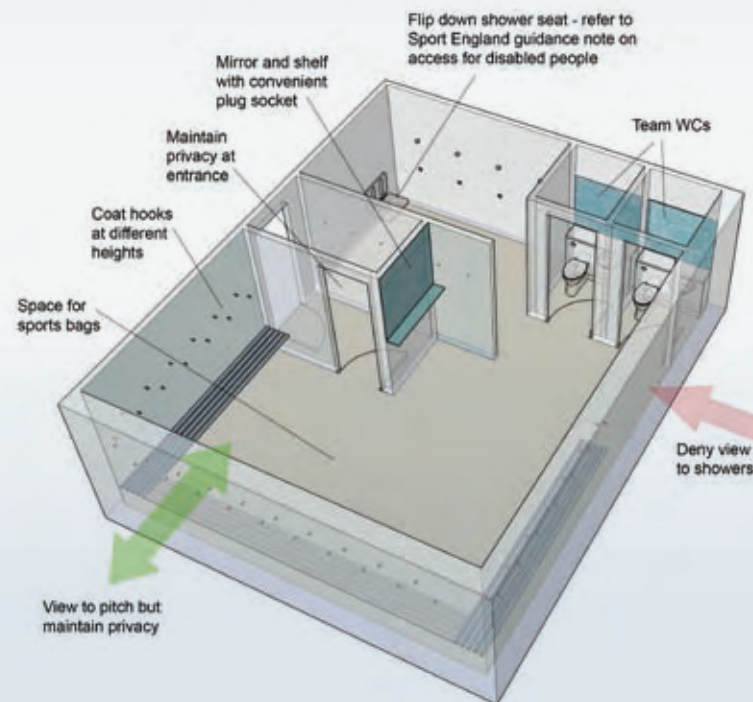
Changing for players

Team changing rooms need to accommodate the anticipated number of players, substitutes and coaching staff. The number of changing rooms provided will depend on the number of pitches in use at the same time. Communal changing rooms are a practical and cost effective way of providing facilities. Disabled players should always be accommodated within the team changing rooms. Careful arrangement of screens and doors should allow privacy for changing players while others enter or leave the room. Refer to Sport England design guidance note on access for disabled people.

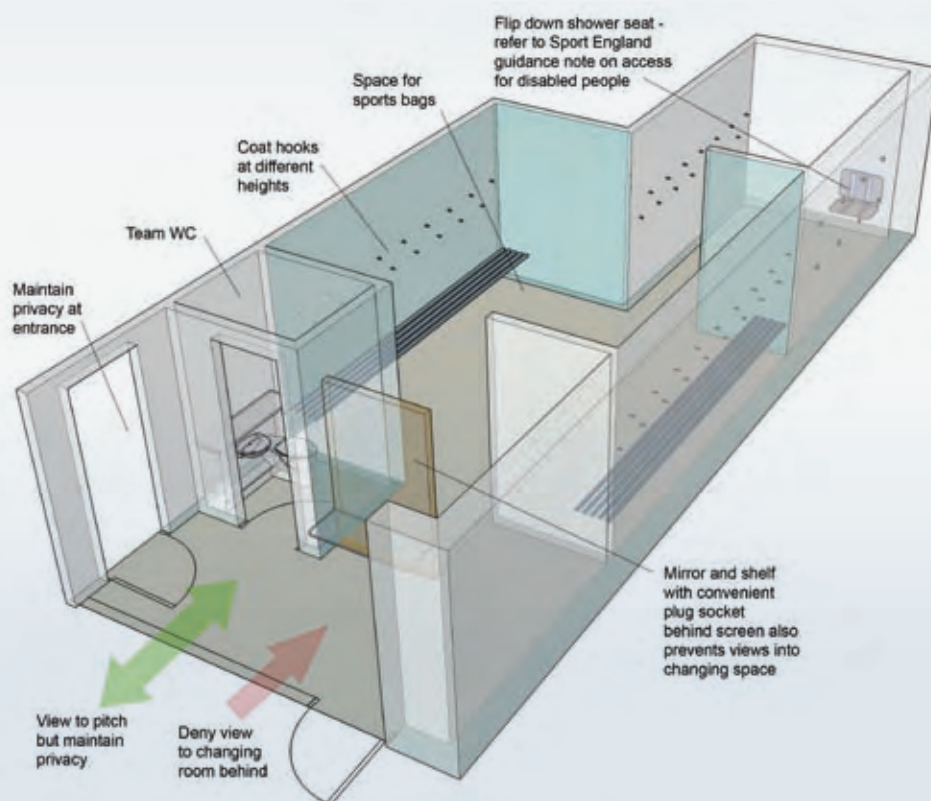
http://www.sportengland.org/se_facilities_disabled.pdf

In some cases the solution can be changed to suit the culture or multi-culture of the club, or to adhere to child protection legislation and child safety.

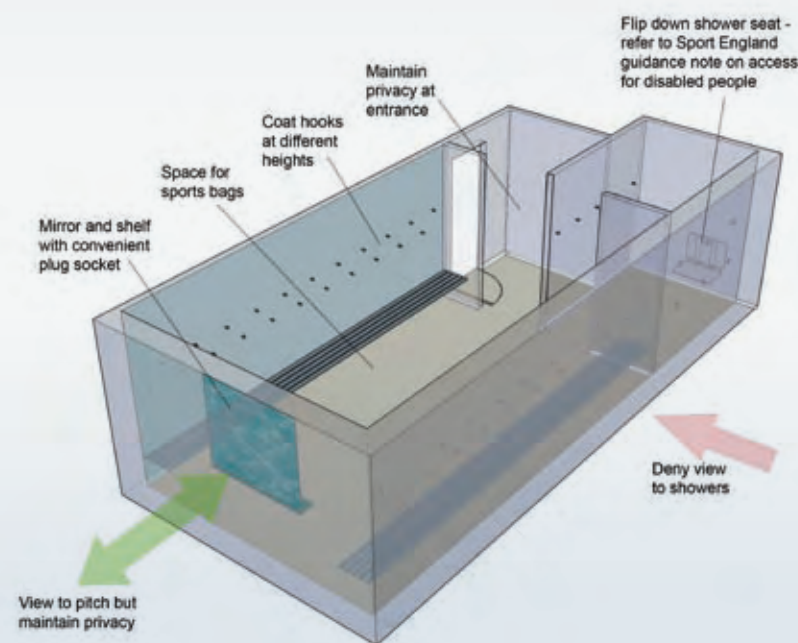
Most clubs find it sufficient to have lockable doors to the changing rooms in order to keep personal belongings and valuables safe. Lockers can be considered as an option depending on the size of the club but should be balanced against their projected use, cost and maintenance. If provided, lockers should be large enough to accommodate items likely to be stored in them – for example wallets and small items or clothes, bags and equipment.



Example of a team changing room with two team WCs



Example of a team changing room with one team WC



Example of a team changing room without integral WCs

05.1

Changing rooms	Essential for each team changing room	Desirable
Bench seating	12 spaces at 500mm wide x 450mm deep x 450mm high	600mm wide
Kit bags	12 spaces at 1200mm long x 450mm deep x 400mm high. The changing room layout should account for each player having their own kit bag or box, which can be as long as 1200mm	450mm high
Changing	Two rooms each with 20sqm for changing space, benches and bag storage with 1.8m between the front face of opposite benches	2m between the front face of opposite benches
Showers	Three shower heads per changing room at 750mm centres with 450-500mm between showers fittings and the side walls. Showers on opposite walls should be at least 2.5m apart to allow circulation. A separate dry-off area should be provided.	Four shower heads. Always check the requirements of other sports governing bodies when designing mixed sports facilities. Consider privacy screens between showers or separate cubicles.
Toilets for players	Ideally provided with convenient access from the changing room: one WC and one wash-hand basin with mirrors above. In pavilions with four or more team changing rooms, toilets for players must be integrated in the changing room and for the exclusive use of each team. This is not essential in two-changing room pavilions.	Two WCs and wash hand basins. Note that providing urinals would make the changing rooms less flexible for female use.

Entrance

The pavilion should be welcoming and accessible with a well-defined entrance that is easy to find. Pavilions that face the pitch can cause confusion if they are approached from the rear. Consider the way people will approach the building and create a sense of arrival. The entrance is the first space that visitors encounter so it's easy to create a good impression by being simple to use.

A notice-board is essential. If the pavilion is large enough to warrant it, a reception desk and small office for management staff near the entrance will provide good surveillance. Consider automatic doors if the club caters for a significant amount of wheelchair sport. The entrance area should provide good access to the social areas and changing rooms. There should be suitable security and surveillance for the batting team's changing room as this is left unlocked. Always have suitable entrance matting by the external doors. Boot cleaning facilities such as brushes or scrapers can be a good idea but are more important for facilities with winter use.

Changing for umpires

Umpires must have separate changing and shower facilities to the players. A lockable room with bench seating, coat and towel hooks suitable for two umpires with one shower, wc and wash-hand basin would be suitable for small clubs. Larger clubs should calculate the number of officials and umpires required in relation to the number of pitches and fixtures. Secure storage for valuables should be provided, possibly in the form of a lockable cupboard. A view of the pitch is desirable.

Flexible changing

The pavilion should provide flexibility for different cultures, mixed gender teams and junior players. Although suitable changing facilities can usually be accommodated by carefully programmed use of the team and umpires changing rooms, an additional small changing room and shower (similar to the umpires changing room) would give greater flexibility.

Toilet facilities

Provide suitable toilet facilities for spectators in addition to the toilets located in the players and umpires changing rooms. Careful planning and interconnecting doors could allow changing rooms to be locked while still allowing toilets to be used for evening social functions.

05.1

First aid

Provision should be made for first aid treatment. It can be combined with another room as long as space is clearly identified. A physiotherapy room is desirable but not essential, especially in smaller clubs.

Social areas

The social spaces are the heart of the club, where players, officials and spectators gather to watch matches and enjoy refreshments during and after the game. Depending on the club size and circumstances, the following spaces are required:

- Social and dining/ tea room – dual purpose room for social functions and to accommodate players and umpires for lunch and tea breaks.
- Club room – for club members or for spectators and players when rain stops play.
- Bar area – many clubs raise funds through the sale of drinks. An appropriate license to sell alcohol is required and a view of the pitch is desirable.
- Meeting room – to conduct club meetings and affairs.
- Kitchen and servery with adjacent storage conveniently located for deliveries – the scale and operation of the kitchen facilities should be considered at the outset as a commercial kitchen has different space standards and equipment requirements to a domestic operation. Environmental health regulations require a separate wash-hand basin in food preparation areas.

Some of these spaces can be combined to form one or more flexible spaces and should at least accommodate two teams plus umpires, scorers and spectators with a view of the pitch and scoreboard.

The social space should flow out to an external viewing area, with a mixture of sunny and shaded areas. Extended roof eaves will provide a shelter from rain, as would retractable awnings while temporary gazebos and parasols could be used to provide shade and create a sense of occasion.

Notice-boards are essential. Many clubs display memorabilia and photos in the social areas. Secure storage for trophies and valuable items might be required.

Scoreboard and scorer

Electronic scoreboards can be computer controlled by a wireless connection from the pavilion removing the need for a detached scoring hut. In this case the scorer will need a private room or space to work where they aren't disturbed. The scorer will need a good, uninterrupted visual connection with the umpires and pitch.

Office

The need for a staff office depends on the size of the club. These could be combined as an office and coach's room. Consider having a suitable cupboard for storing club documents and equipment if a separate room isn't provided.

Corridors

Corridors should be at least 1.5m wide to accommodate passing players with large kit bags or a wheelchair turning circle. Aim for simple circulation for all users and good access to the playing areas. Players should have easy access to the pitch through areas with floor finishes suitable for spiked shoes.

Storage

Adequate storage should be carefully planned.

- Food and beverage stores: the size and location will depend on the scale of facilities.
- Adequate internal stores for consumables and cricket kit. This could be accommodated in a storage wall instead of a store room.
- Cleaners need a lockable cupboard with adequate space for a sink, cleaning equipment and products in line with control of substances hazardous to health (COSHH) requirements
- External stores for cricket equipment and grounds equipment, machinery and supplies. These could be provided within the pavilion or as a detached hut or container concealed by a green screen, planting or fence. The relative costs of providing ground storage within the pavilion should be considered – a detached hut might be a more economical solution but it must also be secure – see security.

Plant room

The plant room should be appropriately sized and located to accommodate incoming utilities, plant equipment and boilers. Allow enough space for inspection and maintenance of the equipment. Ensure the maintenance staff are trained to operate the controls so the building and equipment runs efficiently.

Refuse area

The waste strategy should be considered at the design stage and suitable provision made for both general and recycled waste separation, storage and collection.

05.2 Furniture and Fittings

Furniture and fittings

Towel hooks are required in the shower areas along with coat hooks above changing room benches. Kit bags can be placed on the floor or a low table in the changing rooms, although care should be taken to avoid cluttering the circulation zones. Additional coat hooks and showers fixed at a lower height can be useful if junior players regularly use the facilities. Changing rooms should have a grooming or vanity area which could be as simple as a plug socket near a mirror and shelf so players can use their own hairdryer.

Suitable space for waste and recycling bins should be identified along with the requirement for vending machines, sanitary disposal bins and baby-changing facilities. Vending machines, if required, should not block corridors. Tables and chairs that can be stacked and are light enough to move around will give greater flexibility than heavy or fixed items. The choice of furniture will affect the look and feel of the clubhouse.

A sliding-folding partition could be used to open up two changing rooms or social spaces to provide flexibility.



05.3 Security

Security

Security is an important issue for cricket clubs as inevitably there will be periods when the building is unoccupied and potentially vulnerable to attack from arson, graffiti, vandalism and theft. Preventative measures include secure locks, building alarms, CCTV, security shutters, perimeter fences and also by careful design of the building, choice of materials or in some cases having a presence on site such as caretaker's accommodation. This problem is site-specific so whereas some clubs will encounter little or no trouble, others will need to give careful consideration to their security measures. It shouldn't be easy for intruders to climb onto the roof, but if they do, a solid underlay to the roof covering will make it more difficult to break-in. If there is a bar or your club routinely holds fundraising activities, you might want to consider installing a safe or lockable drawer. The police force has architectural liaison officers who will be able to comment on proposed clubhouses under their secured-by-design initiative.

The grounds equipment store could be provided within the pavilion or a separate building. However it must provide secure storage and be alarmed on the same system as the pavilion – grounds equipment and supplies are expensive and should be adequately protected.



05.4 Materials and Finishes

Materials and finishes

The materials and finishes should be selected for their robustness, appearance, sustainability, cost and ease of maintenance and repair as this will affect how well the building is looked after and therefore how long it will last. The final choice will depend on the setting, design and possibly local authority planning constraints. Glazing should generally be clear and glazed in hardwood or pre-finished

aluminium frames. The building envelope in range of the cricket pitch should be able to withstand the impact of a cricket ball or elements that could break should be easy to replace. Doors should be solid-core construction for robustness and acoustic properties and should be fitted with good quality ironmongery and kick plates. Floors where players are expected to walk should be suitable for spiked-shoes.



Lightweight furniture can give greater flexibility than heavy or fixed items.



Solid panels conceal pipe work and are easy to wipe down to keep clean.

Internal finishes for cricket only facilities

Area	Floor Finish	Wall Finish	Ceiling Finish	Skirting
Changing room	Spike resistant homogenous sheet or carpet. Ceramic tiles and laminate flooring are unsuitable.	Painted brick, block-work or plaster. Homogenous hygienic sheet. Plasterboard is unsuitable but a more robust board could be acceptable.	Painted plaster. Suspended ceilings with modular tiles are not recommended for ceiling heights lower than 2.7m. If used, tiles must be humidity resistant.	Optional.
Shower and drying area	Sheet safety flooring with welded joints or non-slip floor tiles, laid to fall towards the floor drain.	Homogenous waterproof sheet or ceramic tiles.	Painted plaster. Suspended ceilings with modular tiles are not recommended for ceiling heights lower than 2.7m. If used, tiles must be humidity resistant.	Coved skirting forming a waterproof joint between floor and wall.
Toilets	Sheet safety flooring with welded joints, preferably spike resistant.	Minimum requirement is painted brick or block-work with tiled splash-back over washbasins and behind urinals. Preferred finish is if funds are available is homogenous waterproof sheet or ceramic tiles.	Painted plaster. Suspended ceilings with modular tiles are not recommended for ceiling heights lower than 2.7m. If used, tiles must be humidity resistant.	Coved skirting forming a waterproof joint between floor and wall. Concealed pipes and WC cisterns are preferred if funds are available.
Circulation	Spike resistant homogenous sheet or carpet in areas expected to be used by players. Ceramic tiles and laminate flooring are unsuitable.	Painted brick, block-work or plaster. Plasterboard is unsuitable but a more robust board could be acceptable.	Painted plaster. Suspended ceilings with modular tiles are not recommended for ceiling heights lower than 2.7m.	Optional.
Plant Room and cleaner's cupboard	Sheet safety flooring with welded joints or floor paint to screed or concrete slab.	Painted brick or block-work with splash-back behind sink.	Painted plaster.	Optional.

06. Services

The key services required are water, heating, lighting, power and drainage. The services installation can amount to one-third of the construction costs so should be carefully designed and installed. Good services design will help provide comfortable facilities with adequate ventilation and prevent mould growth in shower areas.

Zoning

Efficient zoning and distribution of wiring, pipes and drainage can help reduce installation and running costs. All mechanical and electrical work must be carried out in accordance with building regulations and current institution of electrical engineers (IEE) regulations.

Utilities

Information on the proximity and availability of new services connections is vital as gas and electricity are not always readily available on remote sites. Alternatives such as renewable energy and bio-energy (refer to section 7 sustainability), or oil and liquefied petroleum gas (LPG) need to be investigated in conjunction with their life cycle costs, sustainability and the available space for storage and maintenance. Quotations should be sought from the relevant utility companies to establish if there is capacity for the new service connections, their costs and timescale.

Water and water saving devices

The use of low or dual-flush toilets, waterless urinals, aerating taps and showers is encouraged as they use less water without reducing performance. Taps and showers should also be thermostatically controlled. Consider having additional shower heads at a lower height if children regularly use the changing rooms. Routine observation and maintenance should be carried out to reduce wastage through leaks. Movement detectors can also be considered to shut off the water supply, preventing leaks when the building is not in use for long periods of time.

Heating

Frost protection is essential as a minimum provision, but central heating is preferred – either by radiators, ceiling panels or under-floor heating. The choice might be influenced by the heat source or boiler. Mechanical ventilation extraction is required for the showers, toilets and kitchens under the building regulations.

Lighting

Low energy lighting can reduce running costs as can proximity sensors (PIR) that will turn lights on automatically upon sensing movement and switch them off after a period of inactivity. Bear in mind external lighting will assist safe access from the pavilion to the boundary or across the car parks at night but the light fittings should be selected to reduce light pollution which can be a source of annoyance to neighbours.

Services for temporary accommodation

Consider identifying a location for a marquee or temporary accommodation to be erected on the site and consider installing appropriate external power and drainage connection points that could occasionally be used for large events.

Drainage and rainwater harvesting

The drainage design and proximity of suitable foul and surface water drains should be addressed early in the design stages. Rainwater can be discharged into the local surface-water drainage system but some clubs face large annual charges to do so. If the ground can't cope with the rainwater run-off, an alternative solution would be to have a soak-away or to collect the rainwater and use it for flushing toilets and watering the pitches and landscaping.

If there aren't sufficient falls across the site to sustain a gravity drainage system then a pump and chamber will be required together with a high pressure pumped drain to a discharge point. In the absence of a suitable discharge point a septic tank or sewage treatment plant will be required and must be sized to suit the proposed building occupancy.

The main principle of sustainable urban drainage systems (SUDS) is to deal with storm water on sites rather than discharging it into the drains or a watercourse to help prevent flooding. This can be done by infiltration or attenuation. An infiltration system (or soakaway) is when stones or water cells are wrapped in a geotextile sheet below ground - the rainwater collects there before slowly infiltrating into the surrounding soil. Attenuation is the temporary storage of rainwater below ground level. The stored water is gradually released in a controlled manner into a drainage system or watercourse. In both cases, a permeable surface is required to allow the rainwater to drain through.

07. Environmental Sustainability

The current focus on the environmental impact of buildings is not a new trend and has always been an inherent feature of good design. An approach that takes every opportunity to do more with less and to reduce construction and running costs has sustainability as a natural bi-product.

Sustainable development has been defined as meeting the needs of present generations without compromising the ability for future generations to meet their own needs. In practise, this means minimising the environmental impact of buildings by efficiency in the use of space, energy and materials, but it also applies to the wider environment such as the construction process, demolition, waste, water use, pollution, employment, transport, building use, flexibility and adaptability.

Climate change

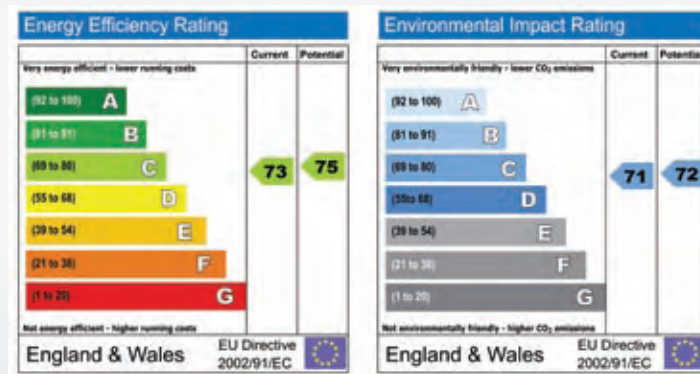
The climate is thought to have changed many times over millions of years but when people talk about climate change nowadays they are generally referring to the changes in temperature that have happened in the last hundred years. During this time the average temperature of the atmosphere near the earth's surface has risen by 0.74 degrees Celsius, the average sea level around the UK is about ten centimetres higher than it was in 1900 and ten of the hottest recorded summers have occurred since the early 1990s. In contrast, recent UK summers have enjoyed much less sunshine than average whereas rainfall and flooding have been more extreme.

What has the Government done?

The UK signed both the United Nations framework convention on climate change in 1992 and the Kyoto protocol in 1997 that set targets for reducing greenhouse gas emissions. The 2006 Stern report on the economic impact of climate change found that the costs of inaction far outweighed the costs of action. In 2007, the Government published the draft climate change bill which aims to set legally binding targets for reducing carbon dioxide emissions from a 1990 baseline by 20 per cent by 2010, 30 per cent by 2020 and 60 per cent by 2050. It has also set a timetable for carbon neutral development by proposed revisions to the Building Regulations in stages with a 25 per cent improvement in 2010, 44 per cent improvement in 2013, zero carbon for homes in 2016 and zero carbon for potentially all non-domestic buildings in 2019.

Energy performance certificates

Energy performance certificates (EPC) have been introduced to help improve awareness of the energy efficiency of buildings. From October 2008 all cricket pavilions will require one on construction, sale or rental.



Building Regulations Part L

– conservation of fuel and power

There are five key criteria for the conservation of fuel and power under the building regulations:

1. Achieving acceptable building carbon dioxide emissions
2. Limits on design flexibility such as U-values, air-permeability, heating controls, lighting efficiency and pipe-work insulation.
3. Limiting the effect of solar gain for example by shading and orientation
4. Quality of construction and commissioning, for example, continuity of insulation and correct settings of boilers to ensure efficiency
5. Providing information in the form of a building manual to help users understand the systems and carry out maintenance and monitoring of energy consumption.

07.

The Merton Rule

Some local authorities have a planning policy that requires a percentage of a proposed building's energy use to be provided by on-site renewable energy in order to reduce annual carbon dioxide emissions. This is known as the Merton rule because it was first implemented by the London Borough of Merton. Many other planning authorities have adopted similar policies or are considering their implementation. Refer to the Merton rule website for more information. www.themertonrule.org

It follows that a more energy efficient building will require less renewable technology (solar thermal panels/ ground source heat pumps) to meet the prescribed percentage of on-site renewable energy required.

How does this affect cricket pavilions and clubhouses?

The Government estimates that buildings are responsible for almost half of the UK's energy consumption and carbon emissions. The type of construction, building use, heating, cooling, ventilation, hot water systems and lighting are key factors affecting the energy performance of a building. The main way to help tackle climate change through building design is to reduce the amount energy consumed by using building materials and forms of construction that are efficient, sustainable and reduce waste.

It can be useful to describe the methods for doing this in terms of light green and dark green. At one end of the scale are passive light green measures (low-cost/ high-value) that needn't cost any more money and should be done, such as building form and orientation. At the other end of the scale, dark green measures have associated costs and need careful consideration of their financial viability, such as photo-voltaics.

Passive (or light green)

The first step is to use passive or light green measures to reduce the energy required to run the building, for example a highly insulated envelope, thermal stability, sunlight and daylight control and natural ventilation. Look at what is available from the site and the brief by exploiting placement, form and orientation to harness the free resources of sun and air, and to eliminate waste and unnecessary reshaping of the site. Pavilions and clubhouses are relatively small buildings so they can be naturally lit and ventilated by windows, louvers, roof-lights or sun-pipes. A well ventilated space will smell fresh while roof lights and high level windows let in daylight and can improve the stack-effect of natural ventilation. North facing windows will let in daylight but prevent too much solar gain. When buildings are lit during the day without using artificial lights, it can save energy, prevent heat gain from light fittings and make a more enjoyable space.

Passive methods tend to work well under most conditions but can struggle to cope with extreme cold snaps in winter and the peaks of summer. Thermal mass can be exploited by exposing concrete soffits or masonry walls – this will slow down the rate at which the building heats up and cools down, creating a more stable temperature and reducing the temperature peaks and lows.

Improving the performance of the building fabric will reduce the amount of energy required for heating or cooling. High levels of insulation will minimise heat loss and efficient appliances will also lower energy use and costs. The insulating performance of windows will also help prevent excessive heat loss.

Grouping services into efficient zones and using presence sensors can allow lights to be turned on and off when not required. Naturally ventilated buildings also avoid the high maintenance costs associated with air conditioning.

Other important steps are to use less water. Low or dual-flush toilets, waterless urinals, taps and shower aerators all use less water without reducing performance. If less water is used, then it follows that less water heating is needed which reduces running costs.

07.

Materials

The choice of building materials can affect the performance and environmental impact of the building. There is a huge variety of building materials available, new and recycled, traditional and innovative all with different properties, sustainability, performance and costs associated with the energy consumed in their production, delivery to site, installation and demolition.

For example, timber products act as a carbon sink throughout their life, have low energy consumption and low carbon dioxide emissions which make it a very attractive building material. The programme for the endorsement of forest certification (PEFC) and forest stewardship council (FSC) both have schemes that certify timber comes from a sustainable source by monitoring its chain of custody. Timber frame technology can allow walls and floors to be manufactured off-site which can reduce site waste. It can also be a rapid and efficient form of construction. However, careful design and specification is required to ensure robust details that prevent deterioration, especially in changing rooms.

Thermal insulation is also very important. Some forms of insulation (such as mineral wool) require a lot of energy in their manufacture but this is compensated by the energy saved when installed and it also performs well in fire. Other forms of insulation are considered better-than-zero-carbon, for example hempcrete is made from hemp grown in the UK and mixed with a lime based binder to form a composite building material.



Green walls and roofs

Green walls and roofs might not be appropriate for all building types but could be suitable in some areas, possibly where there are sensitive planning issues. There are many benefits to using them on existing buildings or new developments:

- Reduced surge from storm water run-off and there is potential for harvesting rainwater
- Cooling: hard dry surfaces get hot in the sun whereas plants cool themselves very effectively.
- Reduced thermal load on the building fabric
- Air filtration from the plants by removing volatile organic compounds from the air
- Noise attenuation from the soft plant surface
- Encourages biodiversity and creates ecological microclimates
- Green walls provide an uplifting environment for building users and passers-by

The building must be designed to take the load of the plants and soil or growing material plus the water they hold. The watering and maintenance requirements must be carefully considered to ensure the green wall or roof thrives and prevent dying plants becoming an eyesore.

07.

Renewable energy (or dark green)

Once passive energy design measures have been incorporated to minimise the energy requirements, the need for generating renewable energy (micro-generation) on the site can be assessed. Buildings inevitably will require some energy in use and on-site renewable energy is the next step towards zero-carbon. A number of systems are available although the initial costs sometimes outweigh the savings in use so they should be considered carefully.

Solar thermal hot water

Solar thermal systems use energy from the sun to pre-heat water for hot water or space heating by using solar tubes or flat plates to collect sunlight. These can typically provide 60 per cent of the hot water heating requirement for homes over the year, performing better in summer than winter. This is one of the more appropriate systems for cricket clubs. Consider protection of the panels from damage by cricket balls or vandalism.

Inter-seasonal Heat Transfer

Inter-seasonal Heat Transfer (IHT) is a patented system that captures surplus summer heat from the ground and stores it to be used in winter. It is efficient because it captures and stores then releases heat as heat, avoiding losses through converting energy from one form to another. It is buried underground so doesn't have any visual impact and is not vulnerable to vandalism. It can also be reversed in summer to provide some cooling. This is one of the more appropriate systems for cricket clubs.

Ground source heat pumps

Similarly, ground source heat pumps take advantage of the relatively constant below-ground temperature to provide heating. A pipe full of water and anti-freeze is used to capture ground heat which is transferred to an under-floor heating system or radiators. This is one of the more appropriate systems for cricket clubs.

Wind turbines

Wind turbines use the wind to rotate blades that turn a rotor to generate electricity. Small-scale wind power can be suitable for remote locations but requires an annual average wind speed of at least six metres per second to be viable. The ideal site is a hill with a flat, clear exposure, free from strong turbulence and obstructions such as large trees or buildings, so it could be suitable for some cricket grounds. The visual impact and noise must also be considered.

Bio-energy

Bio-energy is when organic matter is burnt to generate heat. The carbon dioxide released when the fuel is burnt is balanced by the carbon dioxide absorbed during the fuel's production so is considered to be carbon neutral. As an efficient alternative to an open fire-place, small-scale biomass boilers typically burn wood pellets to provide heating and hot water, although they can also burn other fuels. It's important to have storage space for the fuel and a local supplier. This could be ideal for remote clubs that don't have gas supply.

Combined heat and power (CHP)

CHP or co-generation is when heat and electricity are produced at the same time from a single fuel. It saves energy by harnessing the heat produced when electricity is generated and is an efficient way of using fossil fuels as it avoids the transmission losses when electricity is provided from a remote power station. Micro-CHP is a miniature CHP unit designed to heat and power a building in place of a conventional boiler. The predicted heat and power requirements need to be checked carefully as CHP isn't suitable for all projects and the best sites are usually those where there is a year-round heat demand.

Solar photo-voltaics

Solar photo-voltaic (PV) systems use energy from the sun to generate electricity. PV requires daylight rather than direct sunlight and the power can be used straight away or linked back into the power grid. They can be expensive to install compared to the electricity they generate so the financial viability should be carefully reviewed. However, if the cost of electricity increases in the future and PV technology becomes more affordable it could be worth designing the building to allow for future installation. PVs are available in a wide variety of forms, shapes and colours.

08. Regulations and Guidelines

Building Regulations
Town and Country Planning act 1990
Construction (Design and Management) Regulations 2007 (CDM)
Disability Discrimination Act (DDA)
Child Protection
Sport England
Other relevant sports National Governing Bodies guidelines
Secured by Design
BS 8300 2001 Design of Buildings and their Approaches to Meet the Needs of Disabled People.
DCLG Fire Safety Risk Assessment: Small and Medium Places of Assembly 2006
BRE Digest 209: Site Layout Planning for Daylight and Sunlight' 1995
BS EN 12193:2007 Light and Lighting: Sports Lighting Publication 31 January 2008
CIBSE SLL Lighting Guide 4: LG04 Sports 2006
Licensing Act 2003

08.1 References and Bibliography

ECB publications

- TS[3] Facility briefs and guidance notes for indoor sports halls with cricket provision
- TS[5] Pavilions and clubhouses

Sport England publications

- Pavilions and clubhouses
- Access for disabled people
- Floor for indoor sports
- Changing rooms and lockers 2005
- FAQs Autumn 2007
- Car parking and landscape
- Environmental sustainability

Sport Scotland publications

- Sports pavilions and team changing accommodation

Football Foundation

- Facilities data sheet 1: Planning your facilities project
- Facilities data sheet 4: Changing rooms and clubhouses

Football Stadia Improvement Fund (FSIF)

- FSIF data sheet 1: Planning an improvement project

Rugby Football Foundation

- Community rugby facilities guidance note 5: Changing rooms and clubhouses

CABE publications

- Sure start every building matters
- Creating excellent buildings

HM Government

- Website www.direct.gov.uk/en

Environmentandgreenerliving/index.htm

- Energy performance certificates (EPC) and non dwellings: A guide for building owners, landlords and tenants
- Improving the energy efficiency of our homes and buildings: Act on CO2

Communities and Local Government

- Outdoor advertisements and signs – a guide for advertisers
- Sustainable designs
- Improving the energy efficiency of our buildings: A guide to EPC for the construction, sale and let of non-dwellings

Health and Safety Executive

- Website www.hse.gov.uk
- A short guide to managing asbestos in premises UK Green Building Council
- Website www.ukgbc.org
- Zero carbon task group report

RIBA Publications

- Website www.architecture.com
- Commissioning Architecture leaflet
- Clients guide to engaging an architect
- Job Book
- Which Contract by Hugh Clamp, Stanley Cox and Sarah Lupton

09. Appendix A - Feasibility Study

In addition to the useful information to assemble listed in Section 2 preparation, items to include in the feasibility study are:

Site analysis

Existing plan and analysis

Photographs

Outline schedule of accommodation

Sketch options:

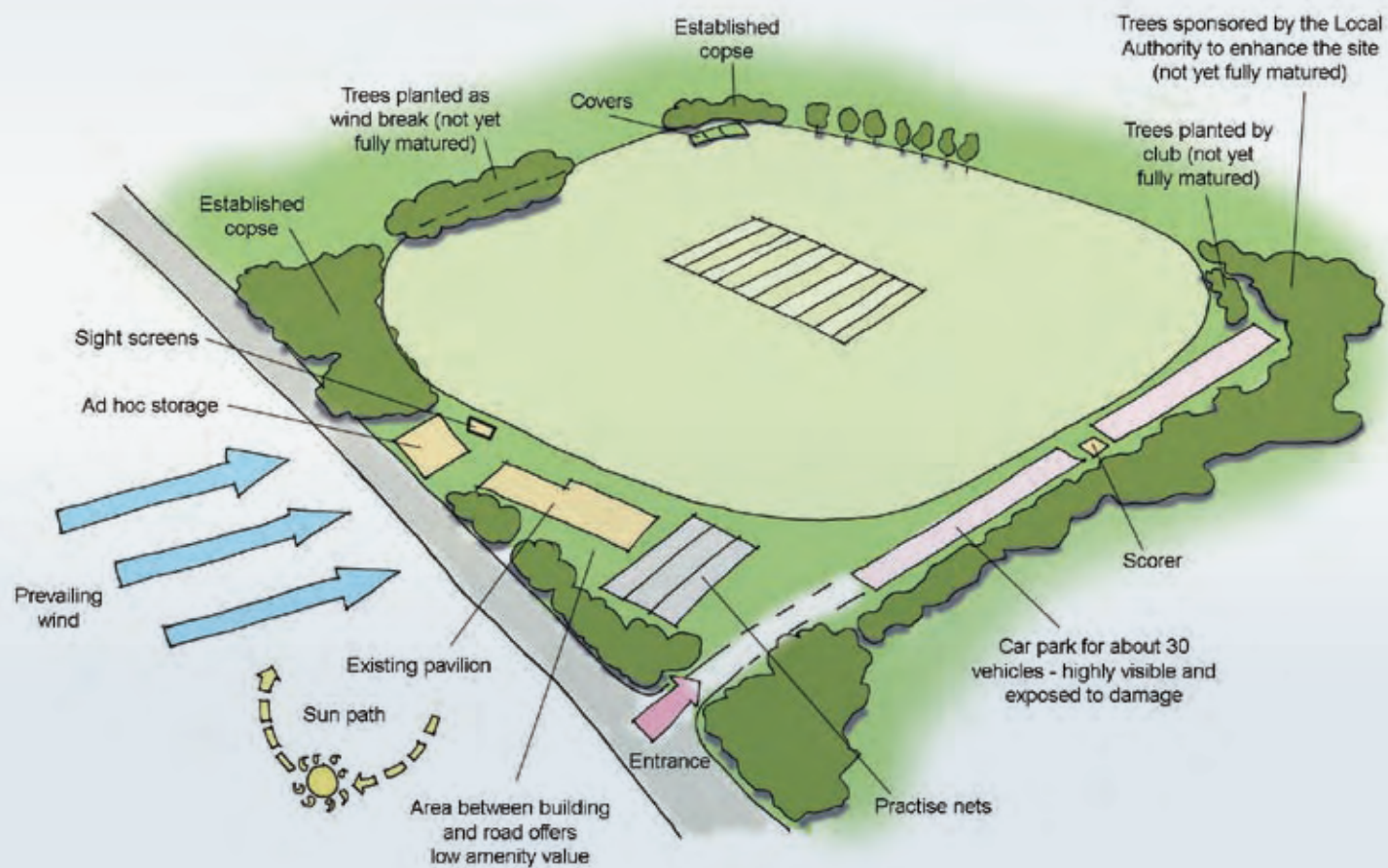
- Refurbishment and extension or new build
- Where the new building should go
- Buying or leasing new land

Outline costs and funding

Appraisal of options

Outline programme and key dates

Appraisal of sustainability and renewable energy options



10. Appendix B - Consultants Glossary

Architect

Architects design new buildings and the spaces around them and alterations to existing buildings. They also advise on the restoration and conservation of old buildings, layouts for groups of buildings and most of what is referred to as the built environment. They liaise with current users, clients, and construction specialists and their designs take account of information about cost, safety and social factors from other specialists in the team. They advise clients on the practicality of building projects and seek permission and approval to see if the proposals can be put into practice. Once building starts they can co-ordinate and administer the building contract through to completion. Refer to RIBA Commissioning Architecture leaflet and website www.architecture.com/UseAnArchitect

Structural Engineer

Structural engineers design and calculate the building structure and foundations. They sometimes also design below ground drainage. Refer to www.istructe.org

Mechanical and Electrical Services Engineer

M+E services engineers design and coordinate the services of buildings including gas, electricity, heating, lighting, ventilation, water and renewable energy. They sometimes also design the drainage. They calculate the proposed energy use of the buildings. Refer to www.cibse.org

Quantity surveyor

Quantity surveyors measure, estimate and advise on the cost of the designs produced by architects, structural engineers and services engineers. www.RICS.org

CDM Coordinator

CDM coordinators advise clients on health and safety issues, risks and the competency of the design team. They must be appointed by work stage C/ concept design.

Other specialists

Some projects might also require further specialist input during the design stage which will become apparent during the preparation stage:

- Access consultants advise on designing inclusive buildings for people of all abilities
- Environmental consultants and ecologists advise on environmental issues which might be required if the site is a natural habitat for protected species
- Heritage and conservation specialists advise on preserving historic buildings and restoration
- Highways engineers design and advise on new roads or alterations to the public highways
- Landscape architects design the spaces and landscape around the buildings including details for hard and soft areas, trees and pitches.
- Planning consultants provide specialist advice when preparing planning submissions or appeals in areas with sensitive planning issues
- Project managers take responsibility for planning and facilitating a project. They can act on the client's behalf providing advice and be given responsibility for making key decisions.

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