

Better Places for Sport







Foreword

This document has been commissioned by Sport England and CABE and written by AMA Alexi Marmot Associates. Thanks are due to the people who have provided invaluable help and comments, in particular: Robin Wilson, Ben Woods and Ryan Adams from Sport England and Mairi Johnson from CABE. Design by Draught Associates.

Taking part in sport has many benefits. It can promote good health, reduce crime and anti-social behaviour and help to bring different communities together. Good facilities both small and large are fundamental to developing sporting opportunities for everyone, from the youngest beginner to the international class athlete. The buildings themselves can encourage civic pride and assist the process of revitalising deprived neighbourhoods.

Facilities that are well designed and built to last are a pleasure to use and add value to the time and money invested in both their construction and day to day use. At Sport England we are seeking to deliver a step change in the quality of new sports buildings and spaces. This is in line with the Prime Minister's Better Public Buildings Initiative which, was launched in October 2000, and requires that all Government Departments and their agencies aim for excellence in the buildings they procure, and appoint a senior level Design Champion.

Clients have a vital role to play. In order to be successful all projects need strong, informed leadership. This guide has been produced for clients; it sets out how design quality can be initiated and safeguarded through all stages of a project, from inception to on-going use. It is by being deliberate and educated clients that we will develop a range of sports facilities that are designed to best serve the organisations and individuals who use them.

I am delighted to sponsor the publication of this considered and useful document. I am confident that by adopting best practice we can achieve the highest standards in design for facilities that will be an asset for everyone who takes part in sport.

Patrick Carter Chairman of Sport England

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Foreword

Introduction

This document has been written to help those involved in sports projects to realise the best outcome for sport, the project, future users and wider social goals. Sport and physical activity is enjoyed in its own right and is part of the national culture, but also has a major part to play in promoting health, and can be a significant contributor to improving educational outcomes, reducing crime and fostering social inclusion.

Sport England is committed to promoting projects with high design standards. Quality is not a 'bolt-on' option, and needs clear aims, a realistic budget and the right process to carry the project through. Sport England has prepared this guide with the Commission for Architecture and the Built Environment (CABE), to help organisations planning a sports facility to develop their project and achieve the goal of good buildings and landscape design. CABE has published other guidance material containing more detail on achieving excellent projects, and indicating other sources of advice (www.cabe.org.uk).1 Technical guidance notes published by Sport England contain detailed information relevant to particular sports projects and must be consulted by designers and the sports organisation (see reference section).

Client - The client initiates the project, employs the teams, and finds the resources to realise it. The client may be called the 'employer', 'project champion' or 'manager'.

Design Champion - A person with authority, able to take responsibility for promoting high quality design throughout the project.

Stakeholders - Many people and groups are interested in a new facility and are termed stakeholders. They include, among others, users, neighbours, the local authority and sports governing bodies.

Consultants - A wide range of specialist professionals are available to help clients make decisions and achieve the finished project. They include architects, quantity surveyors, engineers for structural and mechanical/ electrical services design, project managers and planning supervisors.

Constructor - The 'constructor' is the organisation appointed to construct the building or landscape project. The role is often called the 'contractor' though other parties may hold the main contract, for example in a PFI project.

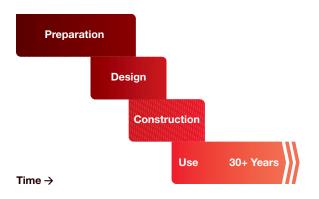
Design quality is equally important for a small clubhouse, a multi-use school sports hall, or a stadium. The funding for projects may be dependent on meeting high design standards and demonstrating value for money criteria. Many different factors contribute to good design but the client has an important impact on the final quality. At all scales of a project, quality is more likely to be achieved if the following key success factors are addressed.

Key success factors

- Have strong client leadership
- Benchmark your project with best practice
- Develop a clear, complete brief
- Select the right team
- Adopt sustainability objectives and practice
- Ensure the project responds to the context
- Adopt integrated processes to procurement
- Ensure you have client sign-off at key stages
- Make realistic financial commitments
- Provide enough time at the right time for design

Four project stages

Whether it is large or small, for a new building, an extension, a renovation, or for open spaces, a project moves through four main stages:



Each stage entails different client activity and involvement that varies according to the way that consultancy advice, the building contract and related services are tendered. This is known as the procurement route (see section 1.7). Your professional advisers may refer to RIBA work stages A to L or other project structures, which can be viewed against the four stages described here. Funding applications and decisions are needed at different points in these stages which may vary. It is best to discuss timing issues with any proposed funding body.

1. Prepare

This stage extends from the first ideas through to the point where a project takes shape with:

- a set of desired sports development outcomes
- a method to communicate with stakeholders
- a client team (which could be one person)
- a business case, (establishing a real need, a source of funds, and justifying the project)
- a statement of uses and needs based on a planned sports programme (an outline brief)
- a project team (designers and constructors)
- a decision-making structure.

The client needs to put in most effort during project preparation, has most direct influence and is likely to need the most support.

2. Design

This stage sees input from designers, and often constructors, as ideas are developed up until the start of construction. The client is central to approving or veto-ing aspects of the work and clarifying detailed requirements. The design team needs a clear understanding of the client's needs and circumstances. Initial concepts are developed, then refined into detailed drawings, models or other ways to illustrate the built project. These are tested against the client's aims and business case. Planning permission should be sought at this stage.

3. Construct

Major project expenditure takes place at this stage, when materials are bought and many people work on the building site. The client must ensure the required flow of funds is available. Most project decisions have already been taken so the design cannot be changed without disrupting the process. Specialist detailed design may be worked out during this stage. The client must finalise detailed decisions and policies for using the facility.

4. Use

When the project is ready for use, the continual process of keeping the facility fit for purpose starts. The ways in which the building and/or landscape will be maintained and managed must be considered from the earliest point and now the theory will have to be put into practice and any required modifications have to be planned. A process for evaluation and longer-term feedback needs to be set up.

The following chapters describe the four stages in greater detail.

¹These include
The Gateway Process
and Achieving Excellence
prepared by the Office of
Government Commerce,
the Design Quality
Indicators prepared by
the Construction Industry
Board, the Movement for
Innovation (M4i) and Key
Performance Indicators
(KPIs) www.kpi.zone.



opportunities to define require opportunity to increase value before the costs of change rise too high Value Time

START, STAY, SUCCEED...

Always focus on the needs of the end user Photo: Urban Parks Forum

Prepare

A well designed project will be a long term asset. It is important to get the right professional advice and make clear, well-documented decisions at the start of the project. This is a particularly busy time for the client.

1.1 Establishing sports development aims outline brief

The client must define the sports development outcomes and be clear that there is a real need for What is the problem? What is the solution? Photo: Paul Stafford

a new facility to meet them. A statement of aims and a list of the spaces needed to achieve them must be set out, usually in the form of an outline brief. Typical facilities, numbers of users, hours of operation, and all associated services must be defined in this brief. The outline brief will be expanded into the detailed design brief at the start of the design stage, most advisedly with some input from the design and construction teams.

1.2 Getting started

Decisions should be taken on the basis of as much knowledge as possible.

Building a knowledge base with your team

Look at:

- recent buildings and sites where objectives were similar
- examples of good practice design and management
- the locality you intend/hope to build in, and other facilities nearby
- details inside and outside buildings, in all types of weather
- other sources such as: CABE's digital library, books, journals, the internet, feedback literature.

Talk to:

- your sport's governing body
- your regional Sport England advisors
- clients of other sports projects
- your users and those of other projects
- designers and constructors of similar projects
- your local authority to get early input.

Ask other clients about their projects:

- their aspirations
- what does and does not work, particularly from the viewpoint of users
- experience of how design and construction teams work
- the pros and cons of different procurement routes
- how easy buildings and sites are to manage and maintain.

1.3 Stakeholders

Stakeholders - the community affected by the project - need to be identified as early as possible. They include neighbours, the general public, users and their families, and staff who will work in the new premises. Other typical stakeholders include local volunteers, the local or national sport governing bodies, schools, coaches and youth leaders. Stakeholders should be consulted so that their needs and concerns can be properly understood. Some may become partners in the project. The network of stakeholders can help establish the best way to deliver the sports development goals and consultation helps to foster local commitment to these goals. If a project is part of a wider development the stakeholders in the larger project, including their designers and constructors, may be relevant. Consultation with these groups is part of the task for the client team.

Understand the value of making decisions at the right time

Communication and consultation methods:

- face to face consultation meetings, focus groups, walkabouts, road-shows, exhibitions
- other methods questionnaires, newsletters, posters, the internet, local newspapers, television and radio

1.4 The client in-house team

Choosing the in-house project team is one of the most critical tasks and starts early. Developing a positive team spirit will help ensure that everyone gives their best efforts to realising the project aims. In a larger organisation in-house project team members may be selected from key parts of the client body, such as senior managers, or the board of trustees, or they may represent other stakeholders.

Cost

A project team needs to include someone who supports and safeguards the quality of design the 'design champion' - as well as someone responsible for the project delivery, the 'project sponsor'. In small projects the same person may hold both important roles. The design champion role focuses on achieving the goal of design quality, monitoring continually to see that it is achieved, and setting the appropriate balance between quality, cost and time. Good design does not necessarily cost more, particularly over the lifetime of running the building. Clients should aim to deliver a functional building of appropriate quality against the cost agreed for the project.

The project sponsor, responsible for the project delivery, represents the client, and should have time to devote to the project and access to facilities such as a daytime telephone and a computer. The project sponsor:

- has authority to make decisions on behalf of the client, following agreed goals
- sets priorities to meet the vision
- asks questions of all those involved in providing information





Consider possible site locations and opportunities Photo: Medway Council

- manages risks that may be implied by options considered/adopted
- develops and works in an agreed management structure
- signs off stages at agreed milestones as the project progresses
- informs the client organisation about aspects of the new building that may imply management changes.

Advice

Sport England regional offices, among others, can offer help and advise when a project is being planned. For a large and complicated project, a specialist 'client adviser' may be helpful. This role may be filled by an architect, quantity surveyor, project manager, engineer or other professional but ability to critique design is important. A client adviser may provide support at the start or throughout a project by:

- helping to make decisions in the early stages
- judging the quality of ideas and suggestions
- advising on the process of selecting project design team members – eg an architect.

Design advice is particularly important for clients with little experience of building projects, in complex projects, and where Design and Build procurement, including Private Finance Initiative (PFI) is adopted. If any stakeholders have experience of construction projects they can help develop sound procedures, and suggest how to appoint specialist advisers. It is also worth involving an experienced business manager to give advice on financial matters.

It is a legal requirement to comply with Health and Safety legislation for construction projects, so a 'planning supervisor', with responsibility for managing the health and safety of the design and of the construction process, will be required for most projects. This person will be separately appointed by the client.

1.5 The business case and feasibility

The client must develop a business case, identifying real needs and sources of funds. The business case must demonstrate that the project can deliver the sports development outcomes. The business plan should address:

- clients financial status including cash flow/ sensitivity analysis
- comparison with benefits from using funds in a different way
- the construction cost (capital costs)
- any consequent costs of running and managing the facility (revenue costs)
- whole life costs and possible benefits of higher initial cost to reduce long term running costs
- the viability of proposals in the prevailing economic climate
- sources of funds to cover capital costs for constructing the project
- sources of funds to cover revenue costs for running the finished project, including provision for long term property maintenance and repair
- long term sports outcomes and how these will be measured and evaluated.

Conduct thorough investigation and consult stakeholders
Photo: Levitt Bernstein Architects

transport links

Photo: Sport England / Alan Edwards

Develop a variety of

A formal feasibility study to test alternatives may be needed, possibly using external advice and including a realistic assessment of the number of expected users. The impact of character of the building inside and out, at all times of day and all seasons, should be reviewed. Sports development objectives depend on attracting particular groups, and can be affected by the selected location.

Important questions for a feasibility study

- What is the need, what are the organisation's sports aims and objectives?
- Is the project the best way to meet these local and wider sports development objectives?
- Is the project affordable, with funding available at the right time?
- Are there funds and management skills to operate the finished facility?
- Can time constraints be met?
- Is the organisation capable of managing the project?
- Is the proposed site or building suitable, attractive for the users and appropriate to the business case?
- Are there any potential site problems, such as poor ground conditions, inadequate infrastructure, limited access, lack of expansion space?
- Is planning permission likely to be granted?
- Are there legal problems eg easements on a proposed site?
- Is the landowner likely to agree to the plans?
- Are there likely to be problems with owners of adjoining properties?

1.6 Developing the brief

The process of preparing the brief can be time consuming but must not be rushed. Time spent in the early stages to ensure that correct and complete information is in place prior to outline design will save money and wasted effort. Changes to requirements made at later stages are much more costly, if indeed they can be achieved. A brief develops by stages, with the help and input of a number of different people. Building up the case for a funding application, for example, may require many aspects of the project to be carefully considered and described in statements:

- about the organisation
- about the project, including the sports development plan and design aspirations
- to justify the need locally and strategically
- to set out the costs.

This process provides much of the information that is needed in the brief for a design team to prepare sketch designs.

At the start there may be little or no information on some aspects that should be covered, but more detail should be added to the brief as it becomes available. The brief must be flexible enough to respond to changes in circumstances, but there must also be set points – milestones - at which decisions are 'signed off' and cannot be changed. A check-list based tool – The Design Quality Indicator - has been developed to help set values for your particular project. Information about this is available from the Construction Industry









time

cost

Time, cost and quality are closely interrelated issues.

and budget can impact on the design quality achieved.

Changes or inappropriate approaches to the project programme

quality

Investigate local planning issues Threlkeld Pavilion

Client: Threlkeld Recreational Field Trust Architects: ADK Architects

Council (www.cic.org.uk). Relative success in achieving those desired values can also be measured later using this tool during design, construction and use.

Outline Brief contents

- The organisation's overall vision and the project's role in meeting it
- Key sports development outcomes for the project to act as measures for its success
- The overall context, including any potential conflicting needs
- Project requirements setting priorities including design aspiration
- Mandatory requirements
- An outline of the spaces needed, why and how they will be used
- Sporting technical standards
- Sustainability criteria including energy efficiency, maintainable, robust, ecologically sound materials and processes
- Access for all levels of ability by different methods, inside and out
- The project budget
- A timetable giving target deadlines for key sign-off and completion
- Technical information such as surveys of existing buildings or land
- Any partners likely to be involved.

It is helpful to describe a typical day, or week in the life of the proposed facility from the view point of different users and the planned programme of use. This allows different people to have an input. Consultation with users and the public allows their experiences to be included.

Construction generates a lot of paperwork. Be prepared! Photo: Paul Stafford

1.7 Procurement

A suitable way to implement the project the procurement route - must be chosen. Historically, for small projects the traditional, designer-led approach has been used. In this method, project requirements are set out by the client team, then a designer is chosen and designs developed in consultation with the client. When designs are agreed, several building constructors submit tenders and one is chosen. The design team checks that what has been agreed is built, and acts as the link between the client and the constructor.

Other procurement routes may be more suitable or obligatory for some projects. The client adviser can describe the difference between procurement routes and how to decide which one is right for the project. Different procurement routes vary in distributing physical and financial risks between parties, in how design is controlled, and in project management. This is a detailed subject on which advice may be needed. The choice of procurement route is likely to be factor for potential funders.

It is recommended that a procurement strategy document is written to address relevant issues:

- balancing design quality, time and cost
- selection and competition methods
- project management approach
- who carries the risks of the construction process eg. problems with design, delays, supplies.

1.8 Contracts

The relationships between the client and external project team members need to be defined in legally binding contracts. It is vital that such contracts are simple, clear and unambiguous.

Standard forms should be used and should not be altered to fit a project nor should bespoke contracts be created. Advice from qualified specialists is needed to select the right contracts and understand all the implications involved (see also section 3.1).

1.9 Selection processes

Choosing the right team - designers, constructors and other consultants - for the project is one of the client's most important decisions. It is worth making special efforts to ensure a good working partnership with a design team chosen for its skills and ability to understand client objectives. For design quality, the architect or designer is the most important choice. The Royal Institute of British Architects (RIBA) Client Advisory Service can supply names of suitable designers. Regional officers of Sport England can advise on successful, completed projects that can be used as benchmarks. Other professional institutes, such as the Landscape Institute or Royal Institution of Chartered Surveyors, can suggest firms with skills in their field.

Choosing constructors is equally important. Value, not cheapness, should be the priority at all stages of selection. Construction tenders

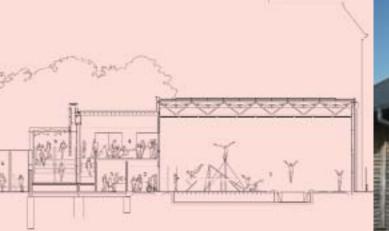
must be based on a detailed set of requirements so that everyone knows exactly what they must deliver. This will reduce the likelihood of failure to meet the project needs as a result of cost constraints.

Public sector projects beyond a certain value (currently £3,861,932, or a services contract over £154,477) will need to follow European procurement rules by advertising for consultants and constructors in the Official Journal of the European Communities (OJEC). Care should be taken in the wording of the advertisement to make it clear that a high level of design quality will be required.

There are several stages to selection of designers or constructors. Pre-qualification conditions such as intellectual, technical, physical or financial resources should be set down to decide on the candidate's competence to carry out the work. A long list should be selected of qualifying teams. This should then be narrowed down, probably with specialist advice, to a short list from which the final selection is made. Getting feedback from other projects the short list designers have carried out is important, and it can be advantageous to choose designers who have carried out similar projects.









2

Consider site context and environmental conditions
Talacre Community Sports Centre
Client: London Borough of Camden
Architects: David Morley Architects
Photo: Dennis Gilbert / View Pictures

Comply with relevant sporting standards
Photo: Roger Lyons

Develop interrelationship between internal spaces Bolton Lads' and Girls' Club Clent: Bolton Lads' and Girls' Club Architect: Michael Hyde & Associates Photo: Sport England Ensure efficient planning and use of space Talacre Community Sports Centre Architects drawing Use materials appropriately and imaginatively
Woolfardisworthy Village Hall
Client: Woolfardisworthy Sports and Community Hall
Architects: Gale & Snowden Architects
Photo: David Gale

Design

During the design stage most of the project effort shifts to the design team. The extent of constructor involvement at this stage varies according to the procurement method. By this point, a well considered process for client decision making should be in place. The success of the project still depends on client involvement, especially in keeping the focus on design quality and providing the right information when it is needed. As the design team develops its ideas, the client must check that they match the brief at the desired level of quality.

The client role in the design stage

Main client tasks

- Ensure you have all the information and access to necessary advice
- Make sure the drawings, specifications and project information are fully explained and communicated clearly
- Make sure you have carried out necessary client tasks such as seeking permissions, and appointing the planning supervisor
- Make sure someone has time and skills to manage the project, or appoint an external person
- Start the process of planning for occupation and operation of the completed facility

Developing the detailed design brief

- Work with the designer don't leave all decisions to the design team
- For complex schemes set up a team able to develop and check the large volume of detailed information needed before signing a contract
- Compile detailed information about how the facility will deliver your sports development objectives – understand the implications for building management and maintenance

Cost, risk and value management

- Ensure that the team provide timely information about cost, risk and value as they change with the progress of the project
- If the design is not going the way you want or the designer is proving hard to work with – remember that drawing back, perhaps even starting again, may provide better value than getting the wrong result

Design quality

- Review designs regularly, check plans, dimensions and technical proposals at all stages
- Consider how the design and external spaces and approaches contribute to the overall environment
- Ask the design team for a simple three dimensional model of the design
- Review support spaces carefully, including 'back-of-house' areas, storage, and spaces to house building management activities
- Look at any compromises carefully will they still allow you to achieve your outputs?
- Only sign off proposals that you have fully understood

2.1 The detailed design brief

The aim of the detailed design brief is to communicate client needs and expectations, and the client must be involved in its preparation. It is an extension of the outline brief (section 1.6) into a document that will be translated spatially and technically by the design team. It should not fix the form of the design, rather it should provide a clear framework to allow the design team to create a solution. Design teams will be familiar with government guidance and regulations. The brief should not re-state these though the client may want to list sources that are a priority, or are specifically relevant. The brief should take proper account of Sport England's technical guidance and the relevant sporting standards. Elements of the brief which directly affect the future operation of the building and external areas - eg contributing to energy efficiency - will need to be highlighted.

2.2 Checking the design

As soon as design proposals are produced they need to be monitored and reviewed for compliance with the brief, design quality and ease of construction. There should be constant reference back to the client vision and sports development objectives, the feasibility, cost and business plans. The design phase is often structured around weekly or fortnightly design team meetings. The client project team also needs regular meetings to review ideas as they take shape.

Most aspects of a project are fixed at very early stages, when design concepts are proposed. This is the crucial time to assess whether the design conforms to the brief, meets sports development objectives, is affordable, makes good construction sense, is likely to get planning permission, and is likely to be realised on time. Simple three-dimensional models are helpful even at very early stages. They can be used to check the urban design impact, the effect of the building in its context, and landscape.

Designers and cost specialists develop a cost plan and programme together with the design proposals. The client should also retain independent cost advice. The cost plan should outline cost priorities and be explicit about what is excluded or assumed. It should state whether costs cover items such as: design fees, landscaping, VAT, equipment and its installation, constricted site access or difficult soil conditions. It is essential that the client understands the likely total project costs, not just the construction costs.

The client should accept the proposed design and specification in a formal agreement – the 'sign off'. In complex projects formal sign off may be needed at several points during the design stage as designs become increasingly detailed. Little can be changed after a design has been signed off, without incurring cost or time penalties or both.



Ensure access for all

Do not underestimate storage requirements

London Regatta Centre

Client: Royal Albert Dock Trust

Architect: lan Ritchie Architects

Photo: Sond England

Plan for energy efficient services
Photo: David Gale

Ensure design is achievable within budget parameters. Diagram indicates proportion of capital budget spent on different items.

PRIL 2 3 1 2 21 ENDS 21 ENDS 3 1

Consider buildability of design within time parameters

Photo: Paul Stafford

2.3 Checking quality

There is no 'right' design but careful checking at all stages will help to achieve high design quality. Meeting the accommodation requirements in a sustainable, accessible building, for example, is only part of the story. Aspects of quality including interior space, light, volume, visibility and finishes should be assessed. In some cases successful treatment of these aspects is a matter of judgement, in others of experience. Professional help is likely to be needed, but good team communication and trust throughout are equally important for high quality and project success. At this stage Design Quality Indicators can help to evaluate the design.

CABE's document *Design Review* provides some useful questions clients should ask about design at key stages in the process.

Considerations for a Design Review

- The site, the project context, and the contribution to the local area made by the project
- Access for all abilities (not only wheelchairs)
- Landscaping and building orientation
- How well the organisation will be able to function in the building
- Sustainability/energy efficiency considerations
- Whole life costs a higher capital cost may greatly reduce revenue spending later
- How the building and site will look in various conditions of light and weather
- Adaptability, suitability for different uses
- Suitability and maintainability of materials
- Spatial efficiency, including circulation avoiding cross circulation

- Ease of running and managing the building and its equipment
- How well the parts of the building or open space relate to each other.

Fundamental characteristics for a well designed sports facility

- A location allowing convenient use of all means of transport, and clearly identifiable entrances
- Welcoming, accessible buildings which encourage both existing and new users to use the facility
- Easily understood building organisation ability to move around the building with minimal reliance on signs
- Design for clear easy, safe movement for all users of the facility
- Positive contribution to the public realm, breaking down the scale and mass, and using social spaces such as café/bar or foyers to interface with the public realm
- Good functional fit with the specific technical requirements of the particular sports use
- Ease of cleaning/maintenance robust, durable fixtures and finishes
- Easily accessible storage, including for all necessary emergency and maintenance equipment
- Careful control of daylight in internal spaces.

More detailed checklists are included at the end of the document.

2.4 Planning for occupation

Planning for occupation must start during the design phase by considering details about how the building will be used, and planning installation of furniture and equipment. Bring in any experts needed during the design stage. Anything specialised may need to be ordered early.

Emphasise that mundane details as well as the visionary concepts need to be considered in order to create a desirable building with a long and useful life. Consider sustainability and manageability (see 4.6). Ask for materials that look good in all weathers, details that can be cleaned, equipment that can be serviced efficiently, and is easily understood and operated. Using the keen eye of someone experienced in landscape and building management may help avoid problems later.

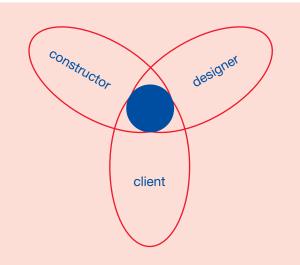
2.5 Approvals

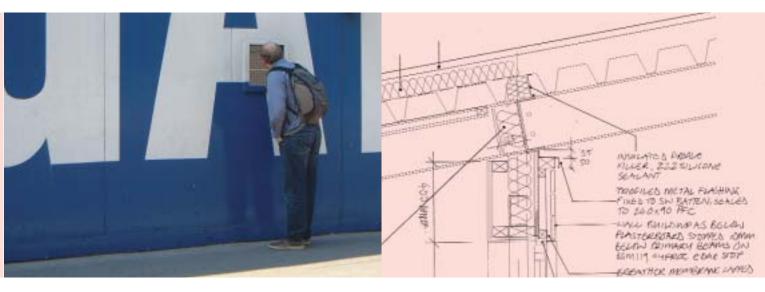
Most projects need several types of approval, some of which are straightforward, while others are lengthy, risky and may cripple the project if they are withheld eg. planning permission. The design team should be aware of the necessary building approvals and set them in motion. The client must ensure that approvals specific to their particular organisation are taken into account in the design and applied for in good time.

Examples of required approvals

Building in general	During construction	Particular building or site	Employers and building owners	Public places
D " "	 Contract law Health and Safety Construction Design and Management regulations 	 Tree preservation Listed buildings Party walls Adjoining owners' rights Archaeology Utilities companies Highways 	 Health and Safety Light levels Disability Discrimination Act Property law Facilities Management Insurance National Sports governing bodies 	Fire safetyEscapeHygieneLicences







3

Respect Health & Safety requirements on site Photo: Marcus Leith / TATE

Be an active part of an integrated team

Provide opportunities for the public to keep up to date with progress Photo: Paul Stafford Watch construction details become reality
Architects detail
Client: Ten-Em-Bee Sports Development Centre
Architect: Loates-Taylor Shannon Architects

3

Construct

The construction stage of a project begins when activity starts on site. There may be several construction phases, for example preliminary works may be needed before the start to create site access for constructors. A contract is agreed between the client and the person or company to build the project, and the contract defines who will make decisions and issue instructions on site to this constructor. Who this is varies for different procurement routes.

During construction the main responsibility lies with the constructor. Clients should visit the site regularly but only after making arrangements that suit the constructor. A site representative can keep a watch on client interests on site. The translation of the drawings and specification into the finished building must be checked and a procedure set up for notifying and sorting out defects. Unexpected problems during construction must not result in cutting corners to reduce cost as this way quality can suffer.

Client tasks during the construction stage

Handover to the constructor

- Sign contracts
- Understand the construction programme agree progress report dates
- Arrange for the erecting of signboards, acknowledging funders where necessary
- Arrange insurance for the new works and the existing building
- Check Planning Supervisor has received all necessary information

Consult and communicate with neighbours and funders

- Arrange site visits (with constructor's permission:
 Considerate Constructors Scheme)
- Communicate with stakeholders and manage their expectations

When the project is on site

- Make site visits
- Meet regularly with constructor for updates (or appoint site representative)
- Request clarification of any unclear information
- Set up and maintain clear filing system for information from site, it is often extensive
- Encourage the team
- Keep lists of key items that need to be checked and signed off as built
- If problems develop deal with them quickly to reduce undesirable consequences

Handover to the client

- Receive 'as-built' plans, specifications, supplier lists and equipment instructions
- Arrange a full briefing on all the building's systems
- Finalise 'move in' and launch plans and dispose of items that will not be needed
- Arrange insurance for the ownership and occupation

3.1 Contracts

Contracts – legal agreements – are a complicated specialised area, covered in extensive legal and contract literature. This guide does not substitute for specialist professional guidance on contracts. A project may involve several contracts with different advisers, designers and construction firms. These are designed to divide risks and responsibilities between different parties. Some, such as those with the design team and other advisers, will already be in place before construction begins. Depending on the procurement route, the main constructor may also have been chosen well before this point, though subcontractors may still need to be selected.

Contracts define a financial relationship and should set a framework for fair dealing between parties. They should not be tailored to projects, instead an appropriate version in a range of standard contracts should be used. The benefit of using a suitable interlocking suite of contracts is that they fully define everyone's responsibilities and relationships to each other for different procurement routes.

3.2 A creative opportunity

This is the period to finalise details of any organisational changes resulting from the design of the new building. New schedules, booking routines, and new staff roles may need to be defined and communicated. Site visits, explanations of drawings and models by the design team, and visits to comparable finished buildings can all help connect new ideas to the new place.

Suitable contracts are written to:

- deal with all key issues time, cost, and quality
- be clear and unambiguous
- identify all roles and the interfaces between them
- require all parties to co-ordinate effectively with the rest of the team
- balance risk, responsibility and reward
- identify the project lead manager or lead designer
- be compatible with other contracts, preferably part of a suite
- leave no loopholes for misunderstanding
- define payment conditions, times and amounts, at suitable milestones
- define time limits for any process and procedures to follow if there are overruns
- define when payments become 'overdue' and any interest charges
- define any sum to be withheld and when it will be released
- describe the defects period process
- agree how to handle changes
- define post-construction information to be supplied by the constructor – eg a full set of 'as-built' plans, manuals and instructions for all equipment, systems and landscape needs, and a health and safety file
- provide for speedy and effective resolution of disputes
- provide a procedure in the event of the insolvency of one of the parties.



All works are carefully programmed. Avoid late changes

Clients can encourage neighbours, future building users, and the public to enjoy the process of seeing the project come to light by observing its development through peep-holes in hoardings, by inviting them to site visits and parties, circulating a newsletter or creating and updating a website with photographs and information, perhaps using artists in the process. Any access on to the site needs the constructor's agreement.

3.3 Avoid late changes

3

The client should avoid introducing new ideas and demands for the building even if it seems that some features could be improved. The briefing and design process should have provided the information needed to avoid late changes. Even small changes at this stage cause damaging increases in costs and /or the length of the programme. Changes wanted by individuals in the client organisation should only be agreed to if absolutely necessary and the cost and programme implications are fully understood. Any such agreement needs to be clearly signed off and recorded. Changes may affect compliance with terms and conditions from a funding partner, so any that are proposed must be checked for this.

3.4 Handover to the client

The handover is the moment when the building or open space becomes the client's responsibility. From this time the constructor is no longer responsible for costs to the client due to any delays, and has no right of access to the building except for making good defects that

may become apparent during the defects liability period – usually a year. The client becomes responsible for insurance, security and maintenance. Any building systems, such as heating, are commissioned (started up) and tested before handover, but it may take months before they are fine-tuned to work as intended (see section 4).

The construction period is when the building is born, the end of construction is when the project starts its independent life. The client now has to take over the project and live and work with it. It should enhance the organisation, please the stakeholders, and be an asset to future generations.

There must be arrangements at handover for:

- obtaining a certificate of practical completion
- reporting defects and constructor's access to remedy them
- operating manuals and maintenance of all systems
- insurance for building, equipment and contents
- transfer of meters to the new owner after final reading
- obtaining certificates of compliance with regulations
- obtaining guarantees and warranties
- taking over loose equipment including keys
- obtaining construction record information
- health and safety files.

Publicise and launch the new facilities
Client: Marion Richardson School, Tower Hamlets
Photo: Sport England / Action Images / Richard Heathcote

Use

4.1 The first steps

Planning for use must happen before handover. The new building or facility may change many of the ways people operate within the sports organisation.

- If more staff are needed, recruitment must be organised. Their induction can be combined with training for the use of the new building.
- Security systems may have been modernised, catering or public areas may have been totally changed.
- The way users should be welcomed and how they can be made at home in the new building should be planned.
- Many people may need information about the new facility and/or new location.
 A move-in guide is useful and can be updated as required. The people who helped to define the brief can help create this guide.

4.2 The opening or launch

A successful launch or opening can help shape the reputation of the new facility.
A launch can inform the public that the building is open, and let funders and other stakeholders know that the project is complete. For a large facility a public launch must be planned with care. It should not take place too soon after hand-over. There may be

construction defects to put right and new equipment to understand. Publicity material explaining the intentions behind the new facility should be available, and people trained to show visitors around may be needed.

There may be scope for different opening events such as:

- private previews of the building, particularly for project funders
- a test opening to trial the staff routines
- events for the project team
- staff and/or stakeholder previews
- press launches
- hosting a special competition for relevant sports to attract publicity
- a main opening by a distinguished sporting champion, local dignitary or national celebrity.

4.3 Fine tuning the building

When it is handed over to the client/user the building is like a ship that has just been launched but has not yet had its sea trials. Most buildings have many systems that need to be fine-tuned – lights, security systems, heating, plumbing and drainage, lifts. During construction these will have been tested but not under normal use. People running a building must become accustomed to the systems in operation. A small, simple building with domestic scale systems will be up and



Monitor and fine tune programmes of use

Cambridge Parkside pool
Client: Cambridge City Council
Architects: S&P Ltd

Photo: Philip Mynott

running almost immediately. A complex building, with innovative systems will take at least a year to complete the commissioning stage and operate normally.

4.4 Monitoring and Evaluation

After move-in it is important to check whether the project's aims have actually been met.

- Is the new sports facility helping to meet sports development goals as planned?
- Are the intended users coming in sufficient numbers?
- Are many more users coming and if so, will the facility need to adapt to its own success?

These questions cannot be fully answered in the first few weeks or even months.

User satisfaction, energy efficiency, space efficiency, and assessment of whether the procurement process was smooth, are all measured by different means. Questionnaires, focus groups, monitoring bookings, and observation of use patterns, are all useful. Key performance indicators (KPIs) (www.kpizone.com), based on feedback from other projects, which indicate what standards can and have been achieved for example for energy use, or construction cost per square metre, are available to act as benchmarks.

Feedback allows knowledge from completed projects to benefit the next project of your own organisation or others. It throws up useful

Gather user feedback and act on the findings Photo: EDAW

information as the design is developed and constructed. It can help shape the life of the new building. Even if your organisation has no plans for further projects, other clients will benefit from your experience.

After the initial period of familiarisation, users should be asked to report back on how well the facility is working and suggest any immediate improvements. Another feedback stage comes later in the building's first year when systems are still settling down after commissioning. Small issues should be dealt with before they become an irritation. More fundamental problems should be passed to the team that has worked on the project. Feedback on project processes and on the building in use can be used for projects in later years.

4.5 User group

The same people who helped give input into the project as it was being conceived and designed, can be asked to provide feedback on its operation. They should meet from time to time, say fortnightly at first then monthly when any initial problems have been resolved. One person should be tasked to do a full building 'walkabout' regularly, to report any problems and see that action is taken to resolve them. Members of the public who are using the facility should be given an opportunity to report any issues, positive or negative. A 'comments' box at reception is one method for hearing their views.

Gather staff feedback and act on the findings Salford Watersports Centre Client: City of Salford Council Architects: City Council Architectural & Design Team Photo: Sport England

4.6 Building management

From the start, the objective has been to deliver a high-quality building and a high quality service. Part of the task, whatever its main objectives, is to produce a building or grounds that are manageable. In a small clubhouse, building management may be carried out by the club secretary, while for a large sports centre a whole facilities management team will be needed. Cleaning, minor maintenance, servicing of equipment and systems are all activities that are affected by the design and quality of the building. Some items such as spare fixings and extra replaceable finishes should be purchased as part of the construction budget and kept for use when damage occurs or changes are needed. Regular cleaning, careful maintenance and sympathetic changes are important. Respect for a good building will help retain its quality over time and ensure that people still use the facility so that sports development goals continue to be met.

Enjoy the new sporting opportunities START, STAY, SUCCEED...

Ipswich skatepark Client: Ipswich Skate Park Appeal Photo: Sport England

4.7 Sports development

The original sports development aims will need to be monitored and updated over many years. The original business case suggested target numbers of sports users, and it is essential to monitor if the predictions have been achieved, and if not why not. New users should continually be sought to help justify the facility and bring in sufficient funds for ongoing maintenance and improvements. New opening hours may be investigated to draw in different users, or discounts offered for joining. Free open days may be needed from time to time to bring in new people. Special opening hours for private groups to hire the facility should be investigated. Above all, you need to be alert to how your facility, with or without changes, can accommodate new sport development goals as they emerge.

Checklists for a successful project

	Objectives	Have designers and constructors with	h suitable
	Are the sports development outcomes clear,	skills, availability, and compatible per	rsonalities irrespective of disability or impairment,
	and consistent with strategic plans?	been selected, with due care for their	track and simple to negotiate?
	Have the relevant sporting National	record and financial stability?	Is the plan efficient, avoiding cross circulation,
	Governing Bodies, Local Authorities/	 Are there likely to be problems with a 	pprovals and wasted spaces?
	District Councils etc. been consulted?	through delays, or changes in legislat	tion?
	Has design quality been given due importance?	Is there a process for checking that cl	hanges in the right place overall and next to the
	Has a whole life cost approach been	during the project do not lead to non-	right facilities?
	incorporated?	compliance with the funding partners	s' terms,
	Are the design brief and objectives fully	or correcting any problems these may	y cause? and furniture dimensions. A model or mock-up
	thought through and clearly stated?	 Has installation of furniture and equip 	·
	Have any potential hidden agendas or	been considered early enough to mee	
	conflicting aims been resolved?	opening date deadlines?	against technical guidelines?
	Are the objectives compatible with local	3	☐ How might the building be altered or
	development plans etc, and likely to receive	Site and Location	extended in future?
	necessary permissions?	 Is the location sufficiently prominent, 	
	nooccary pormisorioner	interesting to attract the target users?	
	Use	 Should there be signage from the high 	
	Will the design produce a building that	other main roads?	including safety margins?
ш	is easy and cost effective to manage?	☐ Is the building well located for public	☐ Will special equipment or materials
	If extending existing premises, will all	access, for deliveries, maintenance a	
ш			well in advance.
	systems be compatible?	emergency vehicles?	
Ш	How much will the new facilities have to	☐ Is the land suited for development –	☐ Are 'behind the scenes' activities properly
	be used in order to cover the staff and	do any restrictions apply?	accommodated?
	running costs?	☐ Can the project be integrated into oth	
Ш	Can the business plan work if this use	community and regeneration objectiv	
	is not realised?	☐ Are there likely to be problems with so	
Ш	Does the design suggest that you will need	conditions – what if the weather is ba	·
	more staff than originally planned?	during construction?	to look into the setting sun?
	If so plan for them.	 Do the plans show landscaping and e 	·
	How does the design affect your intended	spaces that will complement the build	ding as north light) to minimise need for artificial
	programme of activities? Plan for any effects.	and car parking?	lighting and reduce running costs?
		Is the parking provision adequate bot	th visually
	Managing the project	and functionally?	Security and personal safety
	Is an appropriate management process in place,	Is there access to water, gas, electricity	ity, mains Has site security been considered –
	to provide information, check quality, manage	drainage, telephone services etc?	boundaries, external lighting eliminating
	risk, control costs and fulfil client responsibilities?		dark areas?
	Have appropriate people with enough time,	Design, appearance and image	Is a closed-circuit television system
	resources, skills and power, been selected or	 Do you like the design concept, interr 	nally as on the outside of the building or in the
	appointed for the roles of design champion and	well as from the exterior?	car park needed?
	project sponsor? (see section 1.4)	Will the new facility present a welcom	ning, Is the car park visible from the building?
	Will a client adviser be needed?	attractive image to users?	☐ Has building security been considered –
	Has the organisation got stable prospects and	☐ Will the new building enhance its surr	- · · · · · · · · · · · · · · · · · · ·
	personnel for the duration of the project?	Is the building inviting, with a clearly v	
	Has all the necessary data for a full brief been	entrance appropriate to its scale?	Storage
	assembled and checked?	☐ Are the external spaces designed to	☐ Have users been consulted about amount and
	Have funds been secured for the time when they	a high quality?	use of storage?
_	will be needed? Could fiscal, exchange rate or	····g·· 4	☐ Are large scale, hazardous, or awkward items
	other changes affect availability?	Accommodation	taken into account?
	Have a suitable procurement route and	☐ Does the building comply with relevan	
	standard contracts been chosen?	technical guidelines, and requirement	
	Will the project depend on other associated	of individual sports bodies?	This is the most common weakness in the
Ш	projects progressing to plan? What will be the	 Do the operational facilities meet hea 	
		•	design of many sports buildings.
	effect if these projects change?	and safety/Quest Standards?	

		_	
_	Maintenance and management		Drying rooms
Ш	Are durable, maintainable materials	Ш	Equipment storage and maintenance facilities
	being specified? Does the design minimise		(these may be large – eg boat house)
	future maintenance and repair costs?		Cleaner's stores
	Is there sufficient plant and access		Car, coach, and minibus parking
_	for maintenance?	Ш	Parent and child accommodation
Ш	How well are the services and structure		
	integrated?		Other support facilities if applicable
Ш	Will internal and external finished be		Creche
	easy to maintain?		Bar and bar storage, kitchen and stores
		_	Lounges and social accommodation
	Energy Consumption		Dining areas
	Has application for a BREEAM (Building	Ш	Committee rooms and offices
	Research Establishment Energy Assessment	Ш	Indoor games areas, such as table tennis
_	Method) certificate been considered?	Ш	Ground accommodation for stewards
Ш	After staff costs, heating and lighting is likely to	_	and ground staff
	be the greatest cost. Some energy saving	Ш	Security systems
	devices such as presence detectors can make		
_	large savings over time.		Opens spaces: general
Ш	Many sports buildings are used only		Many sports projects involve large areas of
	intermittently. Is the heating system cost		outdoor grounds. General characteristics of well
	effective in these circumstances?		designed open spaces should be considered at
Ш	Are there sufficient insulation and other		the briefing and the design stages. They need to
	energy-efficient measures such as effective		be compatible with the needs of pitches and
	draught proofing?		other constraints of the specific sporting use.
	Will you have hot water when you need it? What		To the Residence of the section Residence
	is the most cost effective way of providing it?	Ш	Investigate and accommodate pedestrian
	Is there proper ventilation, especially for		routes and desire lines
	showers or changing areas?		Keep full accessibility in mind Consider involving an artist on the design team
	Features that may be needed – refer to		Anticipate and out-think the vandals: lightbulbs
	Sport England Technical Guidance Notes	ш	out of reach, tough plants, cleanable or paint
	Sport England Technical Guidance Notes		resistant finishes etc.
	Sports Facilities		Don't inadvertently create undesirable
	Number and size of courts, mat areas,		opportunities, create desirable ones deliberately
	other facilities		Exploit changes of level for tiered
П	Heating, lighting, ventilation, and materials		seating/cascades etc
_	requirement		Avoid tiny areas of planting
	Access and floodlighting		More trees - fewer shrubs, do not
	Training requirements		compromise security
	Match requirements		Keep it simple, especially the floorscape
	'		Remember lighting, outdoor furniture
	Support Facilities		and signage, and keep them appropriate
	Management spaces, reception, bookings,		to the context.
	storage etc		Do not underestimate the extent of the
	Spectator facilities		landscaping requirement
	Number of team changing rooms		Storage for ground maintenance equipment.
	Number of individual changing spaces		

☐ Referee and umpire changing spaces

☐ Security in changing / locker rooms

■ Number of showers and toilets

☐ First-aid facilities

Contacts and references

Contacts

Sport

Sport England www.sportengland.org

Regional offices for East, East Midlands, London, North East, North West, South East, South West, West Midlands and Yorkshire can be contacted though the Sport England website

SPORTS GATEWAY

www.sportengland.org/gateway
gives many links to clubs and facilities, and quick
links to major sporting organisations such as:
Governing Bodies of Sport - a selected list of direct
web links to national governing body sites.
Sports-Related Organisations - link to national
sport-related sites.

Useful Sites - a selected list of organisations with an interest in sports matters.

Overseas National Organisations - links to national lead bodies in other countries.

International Organisations - a list of international sporting body websites.

Government

Commission for Architecture and the Built Environment CABE
The Tower Building, 11 York Road, London SE1 7NX T 020 7960 2400 F 020 7960 2444
enquiries@cabe.org.uk
www.cabe.org.uk

Department for Culture Media and Sport DCMS 2-4 Cockspur Street, London SW1Y 5DH T 020 7211 6000 enquiries@culture.gov.uk www.culture.gov.uk

Office of the Deputy Prime Minister ODPM Enquiry service T 020 7944 4400 F 020 7944 6589 www.odpm.gov.uk/agencies

Office of Government Commerce OGC Property and Construction Directorate Trevelyan House, Great Peter Street, London SW1P 2BY T 0845 000 4999 ServiceDesk@ogc.gsi.gov.uk www.ogc.gov.uk

Construction industry initiatives

Rethinking Construction www.rethinkingconstruction.org

Construction Best Practice Programme www.cbpp.org.uk

Construction Industry Board T 020 7636 2256 www.ciboard.org.uk

Key Performance Indicators - KPIzone www.kpizone.com

The Local Government Task Force T 020 7837 8286 info@lgtf.org.uk www.lgtf.org.uk

Movement for Innovation - M4i T 01923 664 820 support@m4i.org.uk www m4i.org.uk

Professional Bodies

The Royal Institute of British Architects (Client's Advisory Service)
T 020 7307 3700
cs@inst.riba.org
www.architecture.com

The Royal Institution of Chartered Surveyors T 020 7222 7000 www.rics.org.uk

The Association of Consulting Engineers T 020 7222 6557

The Chartered Institute of Building Services T 020 8675 5211

The Institution of Planning Supervisors T 0131 221 9959

The Landscape Institute T 020 7738 9166

The Sports and Play Construction Association T 024 7641 6316 info@sapca.org.uk www.sapca.org.uk

The Institute of Leisure and Amenity Management T 01491 874 800 www.ilam.co.uk

The Institute of Sport and Recreation Management T 01664 565 531 www.isrm.co.uk

Disability

Centre for Accessible Environments Nutmeg House, 60 Gainsford Street London SE1 2NY Tl/minicom 020 7357 8182 F 020 7357 8183 info@cae.org.uk www.cae.org.uk Disability Rights Commission DRC Helpline, Freepost MID 02164, Sratford-upon-Avon CV37 9HY T 08457 622 633 F 08457 778 878 enquiry@drc-gb.org Textphone 08457 622 644 www.drc-gb.org/drc/default

English Federation of Disability Sport Manchester Metropolitan University Alsager Campus, Hassall Road, Stoke on Trent SZT7 2HL T 0161 247 5294 F 0161 247 6895 Minicom 0161 247 544 Federation@efds.co.uk www.efds.net

Sustainability

Action Energy T 0800 58 57 94 www.actionenergy.org.uk

The Building Research Establishment Garston, Watford WD25 9XX T 01923 664000 enquiries@bre.co.uk www.bre.co.uk

Sustainable Development Commission T 020 7944 4964 F 020 7944 4959 sd.commission@defra.gsi.gov.uk www.sustainable-development.gov.uk

References

Sport

Sport England Publications, PO Box 255, Wetherby LS23 7LZ T 0870 5210 255 F 0870 5210 266 Minicom 0870 1207 405

Online ordering: www.sportenglandpublications.org.uk Downloads from: www.sportengland.org/resources/ Email (order enquiries only): sportebooks@twoten.press.net

Sport England publication topics fall into several categories such as: facilities design, facilities management, facilities planning, running sport and guidance notes

Facilities design books include:

Geraint, John and Campbell, Kit,

Outdoor sports: handbook of sports and recreational building design, Volume 1

Indoor sports: handbook of sports and recreational building design, Volume 2

Ice Rinks and Swimming Pools: handbook of sports recreational building design, Volume 3

Department of National Heritage, *Guide for* safety at sports grounds 4th edition, London: Stationery Office 1997

Football Foundation Facilities Data Sheet 1

Planning your Facilities Project - part of your
guide to the successful project
www.footballfoundation.org.uk/

Geraint, John and Sheard, Rod, *Stadia: a design* and development guide 3rd edition, Oxford: Architectural Press 2000

Office of the Deputy Prime Minister, *Planning*Policy Guidance Note 17, Planning for Open Space,
Sport and Recreation, London: TSO July 2002

Good Practice Guide 211 – 'Drawing a Winner -Energy Efficient Design of Sports Centres' 1996

Energy Consumption Guide 78 – 'Energy Use in Sports & Recreation Buildings' 2001

General

CABE Building in Context – New development in historic areas, English Heritage/CABE, London 2001

CABE/Rethinking Construction, Celebrating Innovation, CABE/Rethinking Construction, London

CABE Design Review, Commission for Architecture & the Built Environment, London 2002

CABE Digital Library www.cabe.org.uk/library

CABE & OGC, Improving Standards of Design in the procurement of public buildings, London 2002

Construction Industry Council, Design Quality Indicators – The Shape of Things to Come, CIC, London 2002

Construction Industry Board (CIB) Constructing Success, Thomas Telford, London 1997

Construction Task Force, Rethinking Construction, DOE, London July 1998

Department of Culture Media and Sport, Better Public Buildings – a proud legacy for the future, HMSO, London October 2000

OCC Gateway Review pack 2001

OGC Achieving Excellence: constructing the best government client

OGC Successful delivery toolkit

RIBA, Client's Guide to Engaging an Architect – including guidance on fees, RIBA, London. updated April 2000

RIBA, Engaging an Architect – Guidance for Clients to Quality Based Selection – RIBA Publications London1999

Strategic Forum for Construction, Rethinking Construction - Accelerating Change, SFC, London 2002

Sport England Technical Guidance Notes

<u> </u>		
Ref	Title Down avai	iload lable
2042	Access for Disabled People	Yes
0597	Aikido, karate and kendo	100
2068	Athletics	Yes
0357	Badminton	100
0358	Bowls – crown green and lawn	
0359	Bowls – indoor	
0886	Car park and landscape design	Yes
0601	Chinese martial arts, taekwondo	100
0001	and tang soo do	
2162	Construction project management	
2.02	in the voluntary sector	Yes
0365/	6 *Cricket (also refer to ECB's	100
0000,	own technical briefs)	
0368	Educational facilities – design	
	for community use	
0411	Educational facilities – managemer	nt
	of community use	
0591	Exercise studios	
0369	Financing projects	
0592	Fitness equipment rooms	
0877	Floors for indoor sports	Yes
0603	Gymnastics	
0372	Ice rinks	
0599	Judo	
0600	Ju jitsu	
N/A	A Guide to the Design, Specificatio	n
	& Construction of Multi-Use	
	Games Areas (MUGA's) including	
	Synthetic Turf Pitches (STP's)	
	(3 part document)	Yes
0920	Natural turf for sport	Yes
0798	Pavilions and clubhouses	Yes
0377	Planning permission and	
	statutory consents	
0419	Roller skating	
0583	Sailing	
0864	Sports halls – design	Yes
0383	Sports halls – lighting	
0980	Sports halls – sizes and layouts	Yes
0387	Swimming pools – building services	
0410	Swimming pools – small public indoo	r
0607	Table tennis	
0388	Tennis – indoor	
0596	Turf pitches – synthetic	
1038	Village and community halls	Yes