

St Mary's University College
New Sporting Facilities



Planning Design Report

November 2007

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1. Introduction

1.1 Introduction

This document is an integral part of the Planning Application for the extension and enhancement of sporting facilities at St Mary's University College.

St Mary's is a higher education college offering under and post graduate degrees. It currently has approximately 3,000 students and 390 full time staff. Whilst it has halls of residence in central Twickenham and sports fields in Teddington Lock, the main campus is located off Waldegrave Road in Strawberry Hill, Twickenham. This campus includes the historic Walpole House which is positioned at the northern end of the site.

St Mary's is a High Performance Centre for sport, and the largest and busiest centre in London for the English Institute of Sport. Over 100 performers from around 15 sports access the sports science and sport medicine facilities and services offered at St Mary's, and there is a wide range of links and partnerships with national governing bodies and major sporting organisations. The College is home to the UK Athletics National Endurance Centre and is accredited by BASES for sport science support and physiotherapy. The College also hosts local school and community events and competitions.

The tremendous opportunities beginning to unfold in light of the successful London bid for the 2012 Olympic and Paralympic Games means that the demand for places on sport-related programmes and the pressure on accommodation is increasing.

The aim of this project is to improve and enlarge the existing accommodation for Sport. The existing buildings are inadequate and dilapidated and have been extended over the years in a piecemeal way. This proposal is to provide approximately 1,950m² of new build accommodation and 2,050m² of remodelled space.

Fundamentally, the College is committed to enhancing the appearance of the campus in order to make it a more attractive place to study and visit.



St Mary's student Harry Aiknes-Aryeetey.
Winner of the 100m at the Junior World
Championships in Beijing 2006

This report has been prepared on behalf of St Mary's University College by

Rivington Street Studio	Architects
Colvin & Moggridge	Landscape Architects
Transport Planning Practice	Transport Consultants

with additional design guidance from;

Dobson White Boulcott	Project Managers & Cost Consultants
Gerald Eve	Planning Consultants
Michael Barclay Partnership	Structural & Underground Drainage Engineers
Michael Jones Associates	M&E Services Engineers
Ingleton Wood	CDM Coordinators

2.1 Background

The Brief for this project is the result of a number of converging issues and initiatives:

1. The poor quality and functional failings of the existing indoor sports facilities at the College both within R-Block and R1-Block (the Tennis Hall)
2. The need to expand space to provide for expanding academic programmes - specifically Sports Science and Education.
3. The need to expand and enhance the 'offer' to partner groups and clubs ranging from local schools through amateur and semi-professional sports clubs to professional and elite teams and athletes.
4. The need to enhance facilities for sports for all students and staff at the College

.... under the umbrella of **'Sport St Mary's'**

In addition, the College is well-placed to make a significant contribution to the London 2012 Olympic and Paralympic Games on its own and in partnership with the London Borough of Richmond and is also the core component of one of two South London Partnership clusters for preparation and holding camps.

Following a feasibility study and review of costs, the College confirmed a scheme with the main focus being on the provision of a new sports hall extension, associated changing rooms, reception and a new strength and conditioning area.

Some allowance for re-modelling within the existing buildings has been made in order to provide more sprung floor space, English Institute of Sport (EIS) expansion, Sports Rehab expansion, a new lab, and performance space for Martial Arts.

2.2 Current Brief

New Sports Hall

A number of options were explored for the proposed new sports hall to cater for badminton, basketball, netball, volleyball, 5-a-side football and cricket nets and to meet Sport England Guidelines and the London 2012 Pre-Games Training Camps Guidelines.

The preferred option includes all of the required courts and is configured into a square plan form which provides area efficiencies around court markings. The dimensions of the hall is determined by the regional standard space requirements for six badminton courts.

Changing Rooms

The Changing rooms must replace those currently in Portakabins and must serve external sports as well as the new internal facilities.

Reception and Admin

The brief requires provision of a new main entrance with reception which can control access to all three buildings, office space and an onward covered route to connect the extension with R block and the Tennis Hall.

Strength & Conditioning

The brief requires a space for general fitness plus dedicated therapy work by Elite Performers in three sections:

1. Cardiovascular machines
2. General strength equipment
3. Heavy lifting area

EIS Dedicated Space

Additional office and treatment space are to be provided for exclusive use by the English Institute of Sport.

2. The Brief

Gym

The College has a pressing need for more sports spaces with sprung floors. A decision was taken at an early stage to provide this within the remodelled existing sports hall and thus the area is defined by the limits of the existing enclosure. The space is to be subdivisible with an acoustic sliding/folding partition.

Sports Rehab

The College requires a large single volume flexible space which can be used as a treatment room and lecture space.

Martial Arts

A new first floor construction over the existing sports hall will provide performance and competition space for Martial Arts.

3. Existing Site and Buildings



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3.1 Overall site context

St Mary's University College campus in Twickenham consists of a linear arrangement of buildings ranging from the beautiful historic Walpole House at the northern end, through varying quality buildings in the centre of the campus to the existing sports facilities in the south with halls of residence positioned along the eastern boundary of the campus.

There is a broad range of building stock which varies in terms of age, appearance and quality. There are however, no consistent themes or pervading materials as the development of the College has taken place in a relatively piecemeal manner.

The 18th Century Georgian Gothic Walpole House is located at the northern end of the campus and is surrounded to the east by the mature landscape. A series of buildings which contain classrooms and staff offices lead from here to the College's main reception and car park and onward to a pedestrian piazza which has large raised brick planters in the four corners along its north and south edges.

The piazza is fronted by the College's Chapel which was designed by Albert Richardson and built in 1963. The chapel is an imposing brick building which is raised over a library crypt with passage aisles set into thick internal buttressing. This has recently been Grade II listed. Opposite the Chapel and located adjacent to the campus boundary and amongst trees is the diminutive Chapel-in-the-Woods. This is a small rendered polygonal building with a carved stone front built in the 18th Century for Horace Walpole.

The main part of the campus fronts the southern side of the piazza. It consists of largely undistinguished sixties buildings which have been adapted over time to suit function and need. This includes the single storey refectory (N-Block), the theatre, the three storey teaching buildings (L & M-Blocks), the student union building and the School of Education (K-Block). A new two storey refectory extension building is currently being constructed adjacent to N-Block. To the east of these buildings is Rivington Street Studio's timber clad café pavilion which overlooks the running track.

The sports pitches provide a green swathe which has been designated as Metropolitan Open Land (MOL) to the southern part of the site. This is bounded by

3. Existing Site and Buildings



the sports buildings (collectively known as R-Block) and the College's brick halls of residences on the eastern perimeter. R-Block comprise a number of one and two-storey brick buildings together with the steel clad Tennis Hall (R1-Block) behind. R-Block has a number of Portakabin temporary buildings positioned around its edges which provide additional space for storage, offices and changing rooms.

There is an existing Redgra all-weather pitch to the west of R-Block (shown in yellow on the plan opposite) which is not used for sport due to poor drainage and currently provides overflow car parking space.

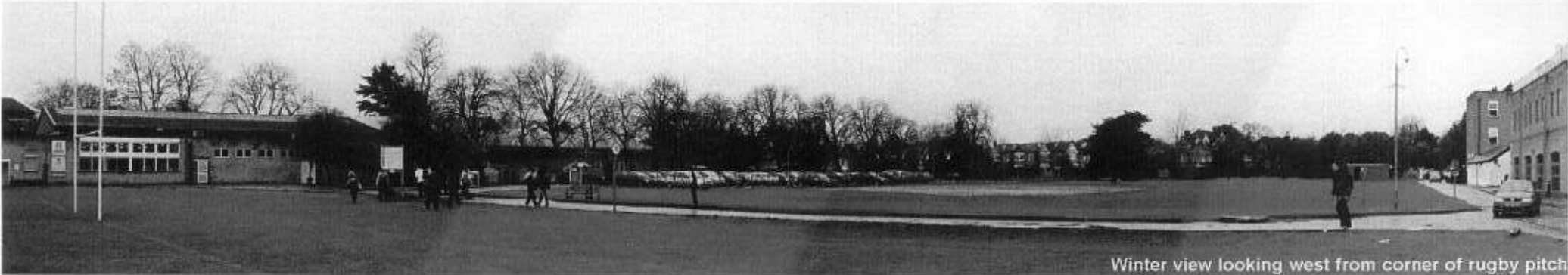
The western side of the campus is bounded by Waldegrave Road and the boundary planted with evergreen trees and a solid timber fence. There are generally no views through to the site. The southern boundary is formed by the backs of gardens to the residential properties on Waldegrave Park and Clive Road. Views are generally obscured into the College by fences, mature planting and trees.

There are two key vehicular entrances to the site (marked with arrows on the plan). One is the College's main entrance and the other the 'White Gates' entrance which is adjacent to the MOL. There are other subsidiary entrances to the north of the site, but these are only for staff parking and access.

3. Existing Site and Buildings



Winter view looking east from vehicular entrance



Winter view looking west from corner of rugby pitch

3. Existing Site and Buildings

3.2 Archaeological assessment

An archaeological desk-based assessment of the site area has been carried out by the Museum of London Archaeology Service. The full document is appended to this report.

The development site lies within an Area of Archaeological Priority. The site has an uncertain but possibly moderate potential to contain archaeological remains, especially evidence for field systems and rural settlements dated to the prehistoric and Roman periods. Excavated evidence from other sites on both sides of the river between Richmond and Teddington suggest that any such remains would probably take the form of widely scattered cut features such as ditches, gullies, pits and postholes. The site has low potential to contain archaeological remains dated to the early medieval, later medieval and post-medieval periods.

The decision on the archaeological response to this assessment rests with the Local Planning Authority and their designated advisor. However, given the substantial size of the proposed development area, its location on a well drained river terrace near the River Thames and its archaeological potential it is likely that some sort of archaeological evaluation will be required.

Detail from John Rocque's map of 1746

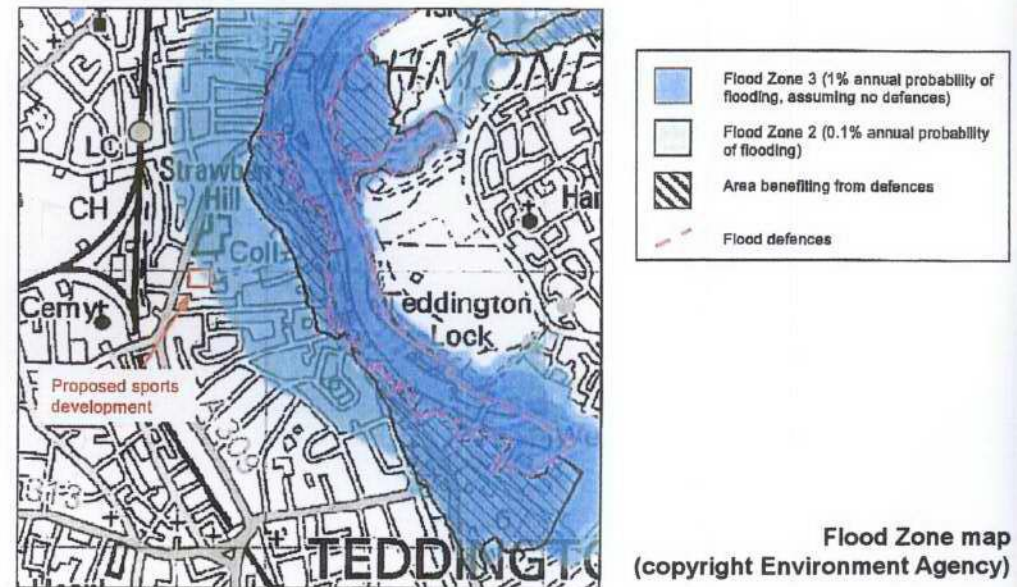


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3.3 Flood risk assessment

A Level 1 desktop flood risk assessment has been carried by Hydro-Logic Ltd which is appended to this report.

The proposed development is considered to be 'appropriate' under PPS25 as it lies predominantly in Flood Zone 1 and partially into Flood Zone 2. Fluvial flood risk to the development is minor and impacts on flood flow paths and floodplain storage considered to be insignificant. Run off from the site will be reduced as a result of the development.



3.4 Ground condition

A full ground investigation report is also included as an appendix to this report. The results reveal a surface layer of made ground across the development site up to 1.2m thick with underlying gravel suitable for traditional ground bearing building foundations. No contaminants or gases were found.

3. Existing Site and Buildings

3.5 Existing sporting facilities

The existing main sports facilities are a haphazard collection of sports buildings which have been built at varying times, none of which present an attractive or impressive face to the College. The existing Sports hall has a pitched corrugated cement roof which is uninsulated and in need of replacement. The remainder of the buildings have flat roofs with rooflights and a mixture of fenestrations and elevational treatments.

The buildings provide changing rooms, gym, sports hall, strength and conditioning suite, dance studio, sports rehabilitation accommodation as well as the Strawberry Hill Practice which is a partnership between practising doctors and the College which provides both training and treatment for St Mary's students.

There is an acute shortage of space within the facilities as the demand is very high as all of the sports related activities are very popular and key to the academic programme.

R1-Block, also known as the Tennis Hall, was built just over 10 years ago. It comprises a single large volume sports hall and small store within an 'industrial' style enclosure. Whilst not particularly attractive, it is discretely located behind an avenue of mature Horse Chestnut trees.



3. Existing Site and Buildings



R-Block entrance external view with EIS portacabin



R-Block entrance internal view



Treatment room



Green-gym (Note lack of storage space)



Dance studio (also used as examination room)



First floor Sports rehab space

3. Existing Site and Buildings



Strength and Conditioning Suite



Sports Hall (note failing roof fabric)

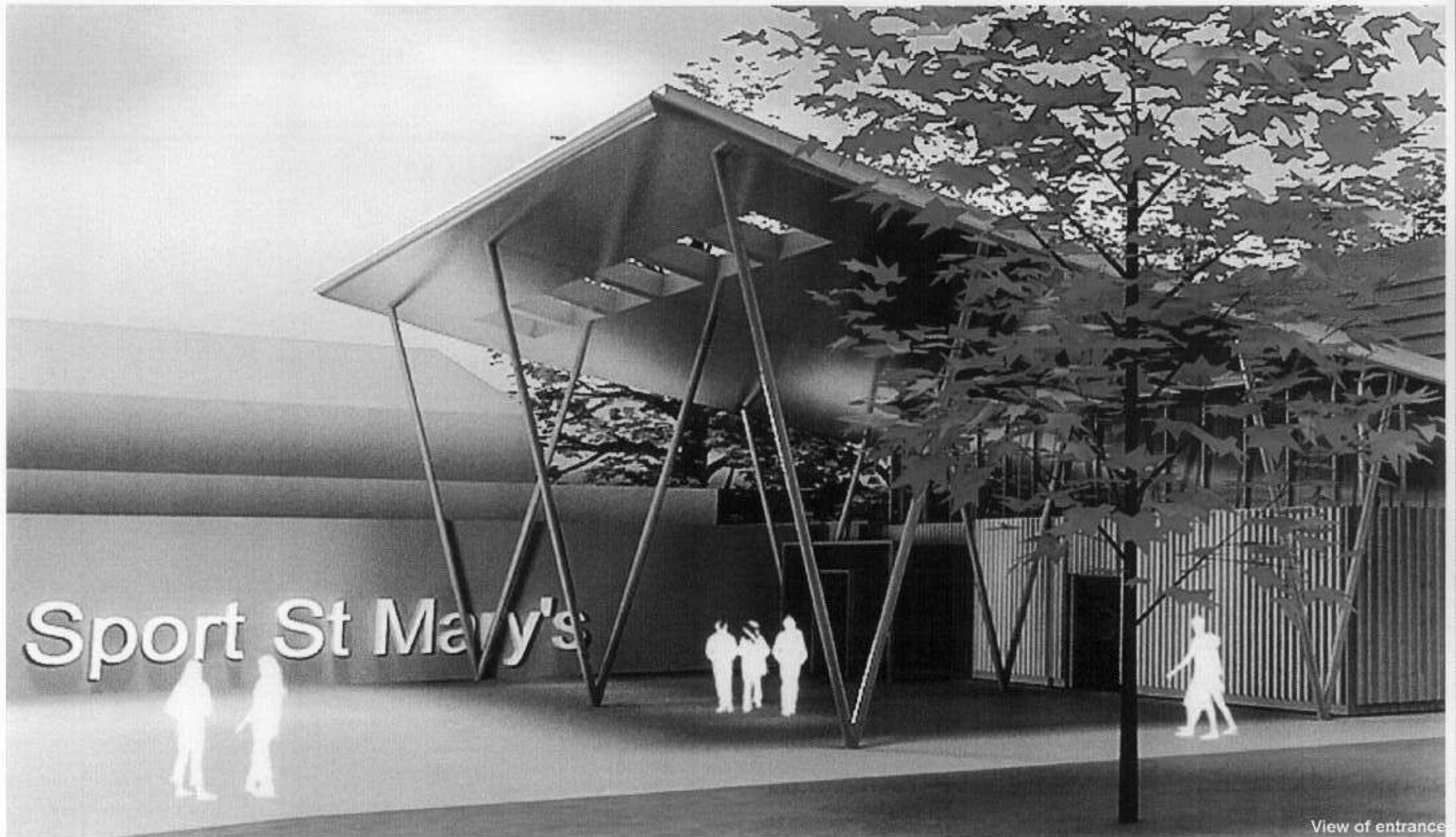


External changing rooms in portacabins



Storage space in portacabins

4. Development Proposals



View of entrance

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4. Development Proposals

4.1 Site Options

At feasibility stage, a number of options were explored in order to determine the most appropriate strategy for locating the new accommodation defined in the brief. These were as follows;

Option 1.

Demolish existing buildings and construct a larger facility on the same site

The existing space in R Block amounts to approximately 2,600m². If it were demolished, this space would need to be re-provided along with the additional 2,000m² proposed enlargement. This option was rejected because the existing site is not large enough to construct it as a single storey development. This is also an expensive option which would also mean that the College would need to construct temporary facilities whilst construction was being undertaken.

Option 2.

Use an alternative site within the College campus outside of the MOL area

This was rejected because there are no other sites on the campus which would allow a development of circa 2,000m². The campus buildings are well used and the existing spaces between the buildings required for amenity. There would also be planning issues with constructing a relatively large building so close to one of the three listed buildings on site. The College also require the new development to be adjacent to both the existing facilities, playing pitches and running track.

Option 3.

Use an alternative site outside of the College grounds

There are no other available local sites which are close enough to the campus which can provide sufficient area for the development. There are covenants on the Teddington Lock training pitches which prevent development altogether. Again, the College also require the new development to be adjacent to both the existing Strawberry Hill facilities, playing pitches and running track.

Option 4.

Extend onto the external tennis courts south of R Block

This was rejected as an option because the site is not large enough to provide amount of space needed and it is also within a Conservation Area. The tennis courts are surrounded on all four sides by buildings and a development here may

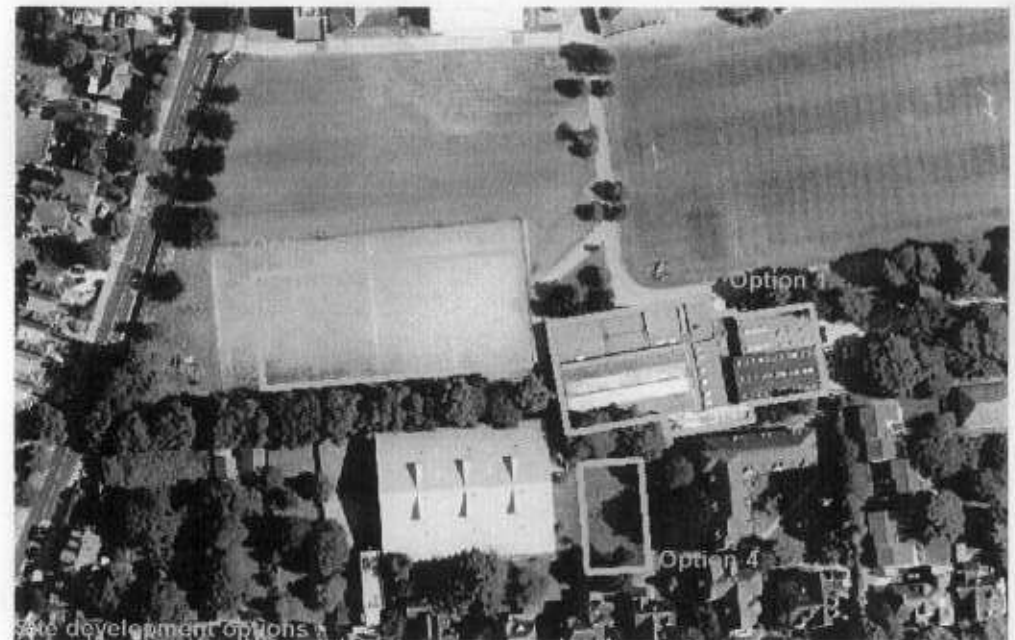
be considered as inappropriate.

Option 5.

Construct new building on the site of the disused Redgra surface

This site is large enough to provide sufficient space for the new development, is of very poor quality and is only currently used as an overflow temporary car park. The new building can be constructed with only minimal disruption to the existing sporting facilities and is directly accessible from the existing roadway and pedestrian pathways. It is however located within the Metropolitan Open Land (MOL) designated area.

It is clear that this option represents the only viable option in terms of site size, adjacency and phasing and a case can be made to build on the Metropolitan Open Land. The Redgra is a very low quality open space and the new extension can be limited to its site in order to avoid any impact on valuable open green space which is of greater quality and value to both College and community.

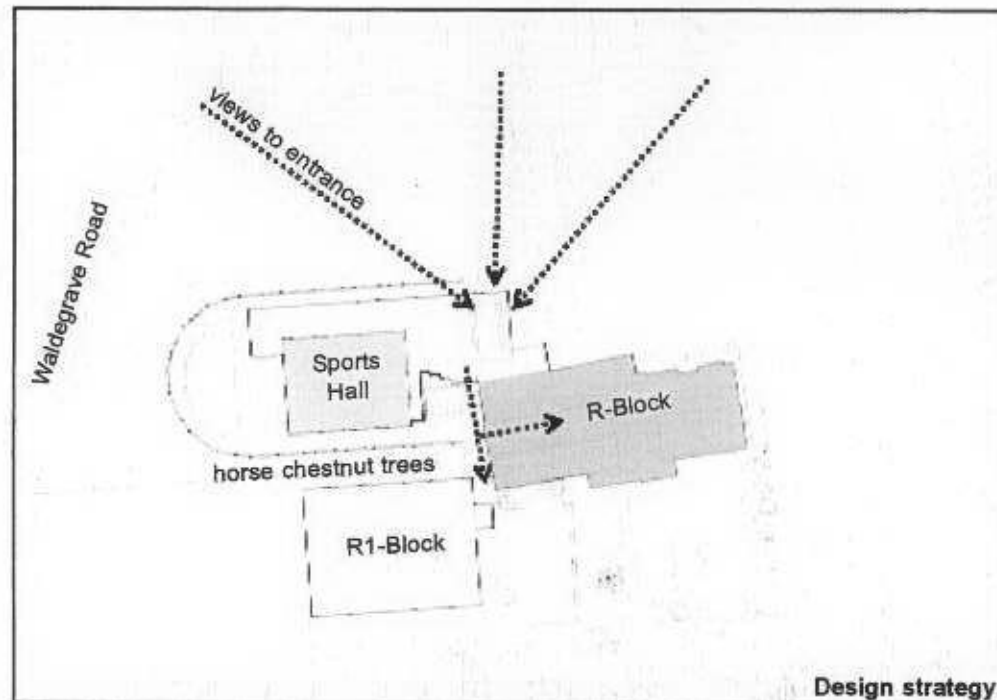


4. Development Proposals

The impact of the development to Waldegrave Road is minimised by the existing mature landscaping and new tree planting. Visualisations of the view from the site boundary to the proposed building are included within this report and show that there will be little visual impact.

Similarly, the views from Waldegrave Park, which is to the south of the site, toward the proposed building are obscured by existing mature trees and the existing St Mary's R1-Block (Tennis Hall).

The proposals therefore address the relationship of the development site to the nearby residential areas and ensure that a landscape strategy is both wide reaching and is integral to the architecture of the new building. The design is of a high architectural quality in order to create a positive impact and to enhance the southern end of the campus as well as being an exemplary sustainable development.



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4.2 Response to site context

The new Sports Hall forms the anchor and dominant element to the development. It is a large volume; 35m long x 27m wide with a minimum internal height of 9.1m. It is set back as far as possible on the southern boundary of the site in order to minimise its impact whilst providing a 10m clearance to the existing avenue of mature Horse Chestnut trees. This protects the treeroots and leaves space for fire engine and maintenance vehicle access to all three sports buildings.

The Sports Hall is also located as far away from Waldegrave Road as possible to lessen impact from the boundary.

The balance of the accommodation is arranged along its north and east facades. The long resultant north elevation (containing the Strength and Conditioning suite and changing rooms) is articulated under a dynamic roof form which extends to create a canopy over a new main entrance courtyard. This creates a strong positive dynamic entrance point and softens the mass of the Sports Hall.

The entrance canopy opens up to the St Mary's campus and provides a focal point to views from the White Gates vehicular entrance, the north-south pedestrian route and the outdoor pitches and running track.

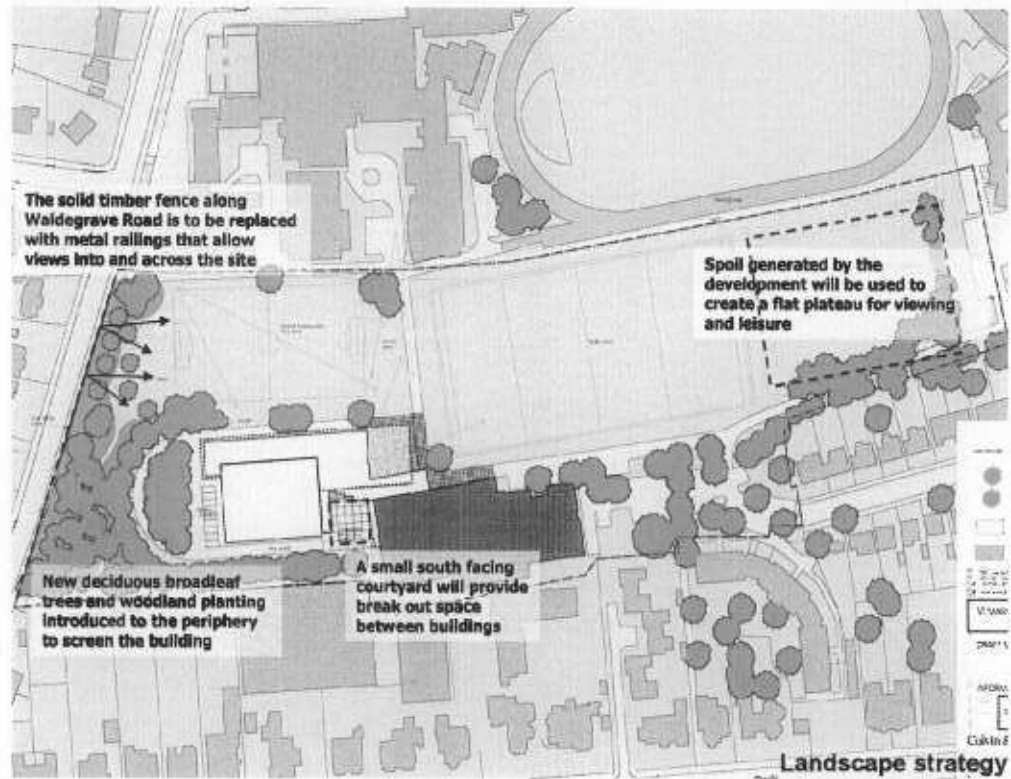
The entrance itself is in an ideal location to provide a single access point to the new extension, and also an onward route to the existing accommodation in R and R1-Blocks. The scheme includes a new corridor route within the existing remodelled R-Block which will allow the existing entrance to be limited to EIS staff and visitors.

The new Sports Hall will be as neutral as possible. Its façade will be simple weatherboarded panels.

Our landscape strategy provides a green screen to the new building via trees to along the Waldegrave Road boundary. Additionally more trees are proposed at the end of the large mowed grass area to the north to provide a visual 'stop' to the MOL.

Further description is given in Section 5 *Landscape Proposals*.

4. Development Proposals



4. Development Proposals

4.3 Setting of a Conservation Area

The Waldegrave Park Conservation Area borders the site to the south (refer to UDP in Section 5 for boundary line). It includes all the residential properties on the north side of Waldegrave Park which are fine detached brick villas. The gardens and street landscaping are mature and provide an effective screen to the accommodation within the St Mary's campus.

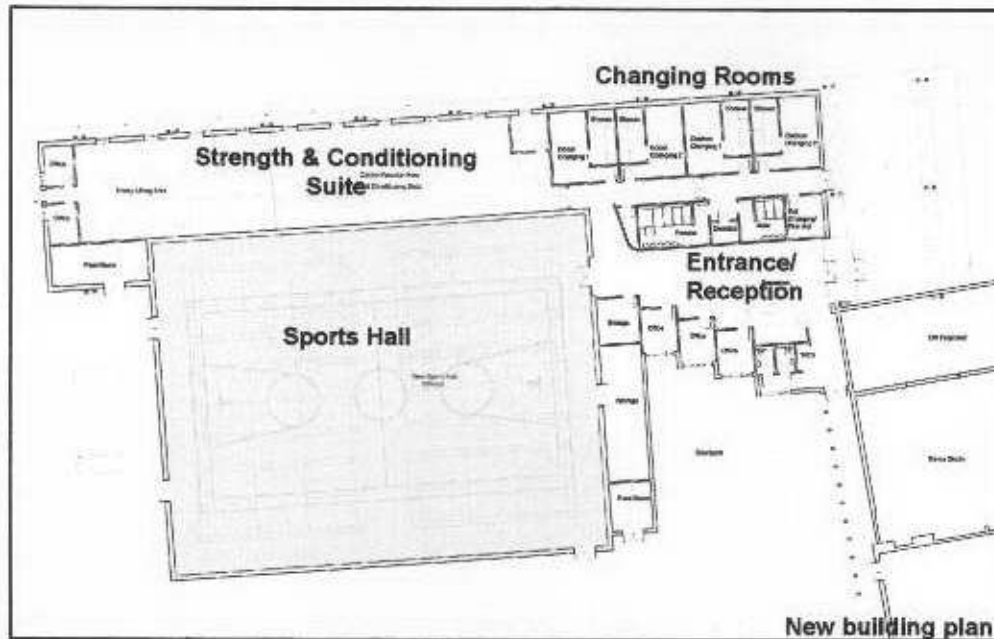
The mass of the R1-Block is not evident from the street. The proposed development sits beyond this building and will therefore not be visible. The new sporting facilities will therefore not affect the setting of the Conservation Area.

View from Waldegrave Park looking toward tennis courts



View of the external tennis courts, R1-Block and the south elevation of the existing R-Block Sports Hall

4. Development Proposals



4.4 Functional arrangement

New Building

The arrangement of functions has arisen out of the need to balance new build functions with conversion of some elements in the existing R-Block whilst trying to solve access issues and relationship problems between spaces.

The size and nature of the new Sports Hall clearly dictates its location within the extension as described above.

The new changing facilities are located in the north-east corner of the building so that they can serve the new spaces as well as being directly accessible from outside for those using the sports pitches and running track.

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The Strength and Conditioning suite is a relatively large linear facility which can be flexibly zoned and/or sub-divided to cater for simultaneous use by different groups. As a key component of Sport St Mary's, it is located within the new building in order to create a good modern smart space without the inevitable limitations of the existing building volumes.

A further part of the new build is for EIS expansion; this element has been placed against and in front of the existing R-Block to provide good functional links to the EIS re-modelled space and to act as a positive 'screen' which leads the eye towards the new main entrance.

Finally the extension contains a new main entrance foyer, reception, admin office space, toilets, sports hall equipment store and plant rooms.

Refurbishment of R-Block

By building a new Sports Hall, the existing hall is available for alternative use as well as creating the potential for a new corridor route to the extension thus connecting all of the sports spaces together in a more coherent way. Given its volume, we have chosen to refurbish the hall to provide a new floor at a first floor level together with a sprung floor space at ground floor which can be subdivided with an acoustic folding/sliding partition. Whilst this work is relatively extensive it is partly justified by the need to carry out significant improvement works to the building fabric and specifically the existing uninsulated asbestos roof.

The relocation of the Strength and Conditioning suite allows its existing spaces plus adjacent existing EIS spaces and the vacated reception area to be remodelled to create an expanded and enhanced set of spaces for EIS.

No work is required to the Tennis Halls (R1-Block), but the new development will improve its external access and make a better connectivity with the other facilities.

4. Development Proposals



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4. Development Proposals

4.5 Appearance

The aim of the new development is to unite the disparate elements of the existing sports buildings with a new identity and entrance for the whole facility. The building is intended to become the new focus for Sport St Mary's with the other buildings receding into the background. The new single storey building is formed by two basic components; the orthogonal sports hall and a linear block which wraps around it which is topped by a sinuous wavy aluminium roof. The architectural form is therefore legible and easily understood as a backdrop to the sports activity on the pitches.

The roof lifts up to its highest point at the building's eastern side in order to signify the entrance. By doing this, it addresses the whole St Mary's campus and is visible from all the key approach points within the College. This includes the athletics track, rugby pitch and the major north-south pedestrian route through the campus as well as the vehicular route.

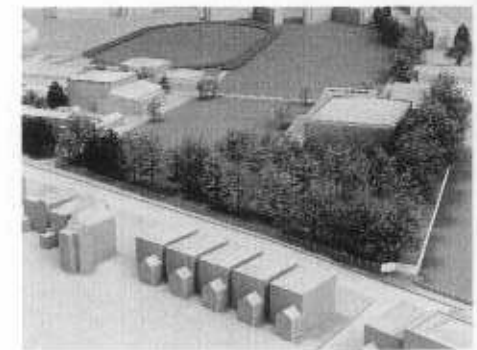
The mass of the Sports Hall is dictated by the internal dimensional requirements of the sports being played within it. It has some roof mounted equipment (ventilation windcatcher turrets and solar panels) which is to be hidden by a parapet. The steel structure is to be clad with matt grey fibre cement boarding fixed as overlapping weatherboarding. The panels are coursed in progressively smaller strips toward the top of the hall in order to give a visual impression of a lower mass.

It should be noted that the height of the Sports Hall is about the same as the apex

of the existing R1-Block Tennis Hall and is some eight metres lower than the mature Horse Chestnut trees behind it.

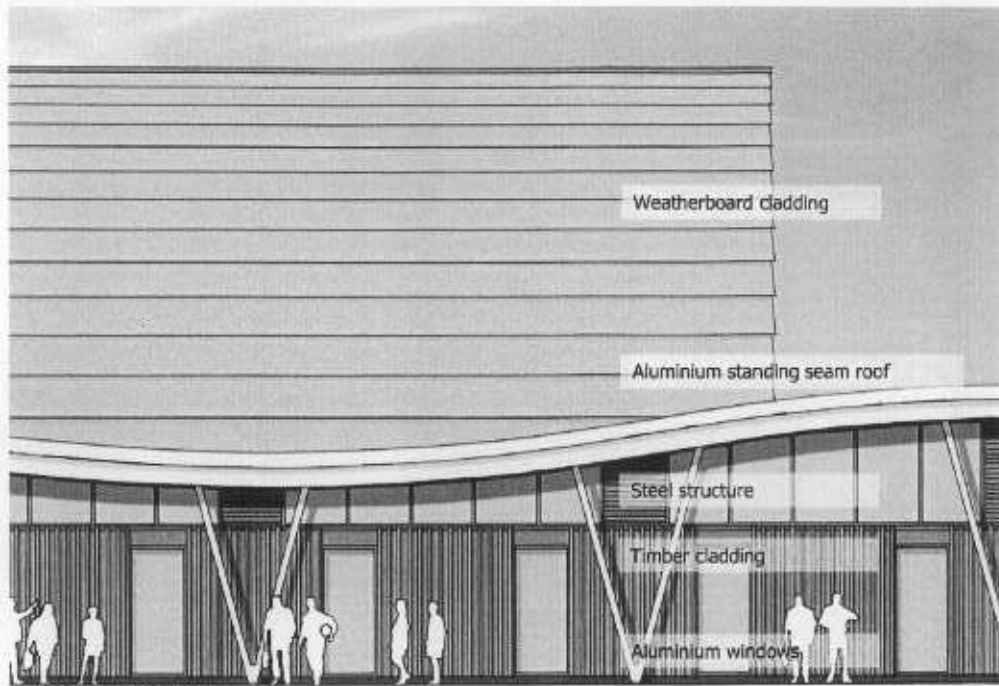
The cladding is intentionally matt and neutral. Sunlight will not be reflected off it. The focus of the building will therefore be on the wavy roof below.

The gentle curve of the overhanging roof softens the orthogonal Sports Hall and provides a covered entrance area for the whole facility. The roof is supported by angled vee columns which add a dynamism and interest to the elevation. The rhythm of the structure concludes at the covered entrance at the eastern edge. The covered entrance area has two rows of rooflights and the intention is to make photovoltaic cells mounted over the rooflights viewable from the ground.



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4. Development Proposals



Detailed elevation

The linear section of the building is clad in timber and arranged in alternate sections on edge in order to give it depth. This will also provide a sufficiently robust profile in case of ball strikes. The warm texture of the timber will compliment the refined crisp detailing of the aluminium windows and steel structure around it.

Full height windows are inserted into the north elevation to give views out from the Strength and Conditioning Suite

There will be careful detailing at the head of the vee columns so that the connections appear to be lightweight and delicate. The underside of the eaves will reveal a timber support structure and the true depth of the heavily insulated roof will be hidden at the roof edge with a series of angles and a flashing.

A glazed entrance lobby will protrude from the timber cladding in order to signify the building entrance. The view into this area will be 'stopped' by a rendered wall with large Sport St Mary's lettering mounted on it.

The roof overhang will provide sufficient undercover area for cycle parking and amenity space.

The admin offices and reception area will create a courtyard area to the south which is bounded on the west by the new Sports Hall and on the east by the existing building. It is hoped that this will be a suntrap with paving and low level planting in order to make it an attractive place to sit.

