

4. Development Proposals



View of building looking south east

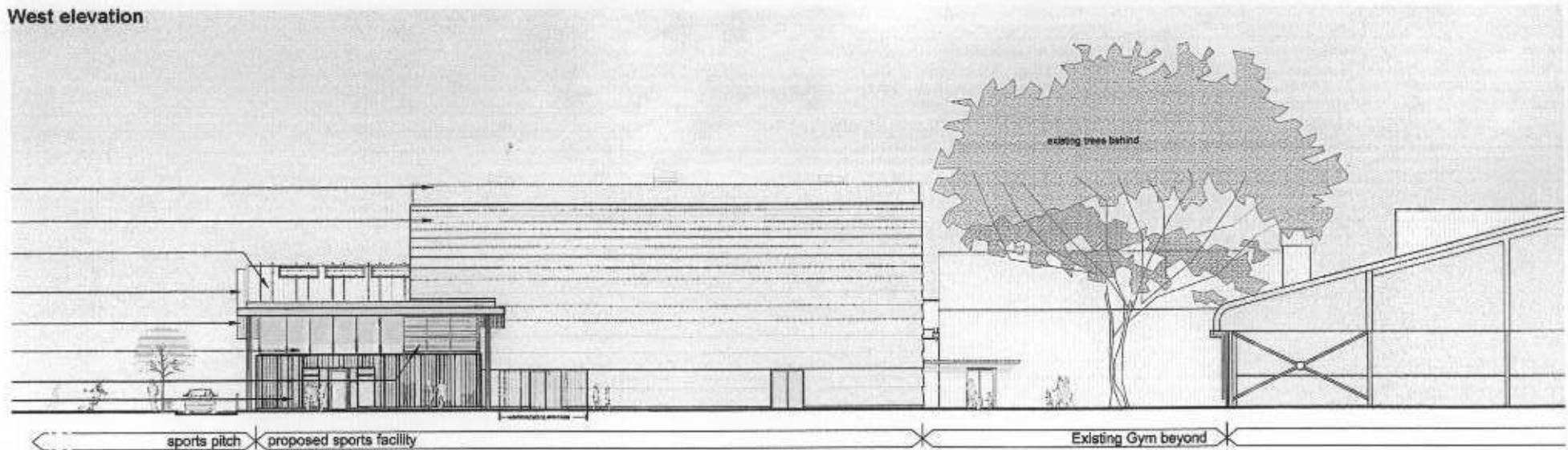
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East elevation

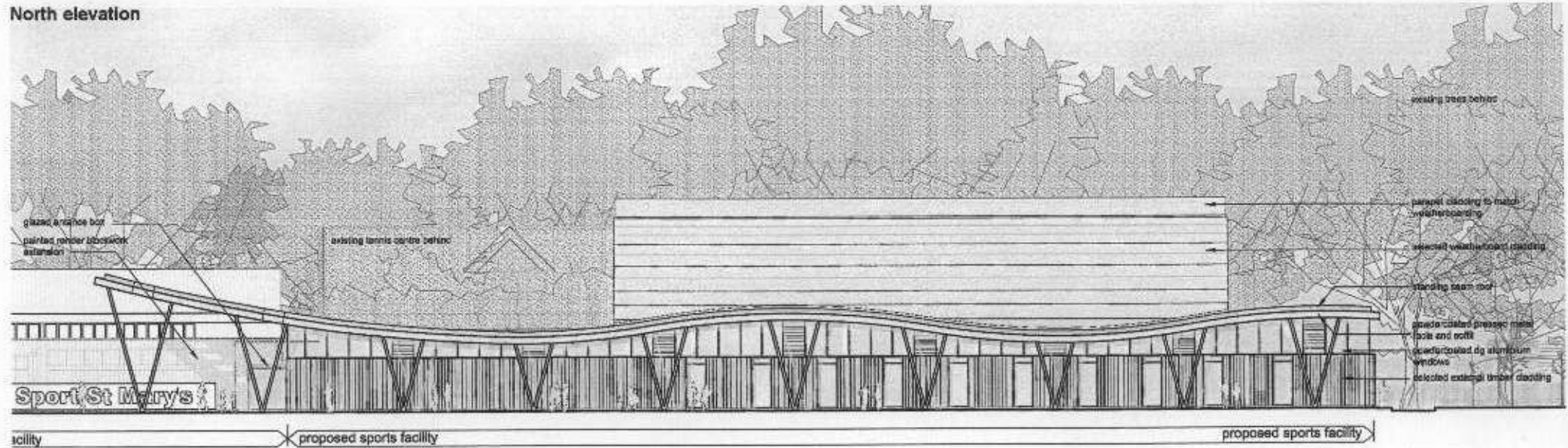


West elevation

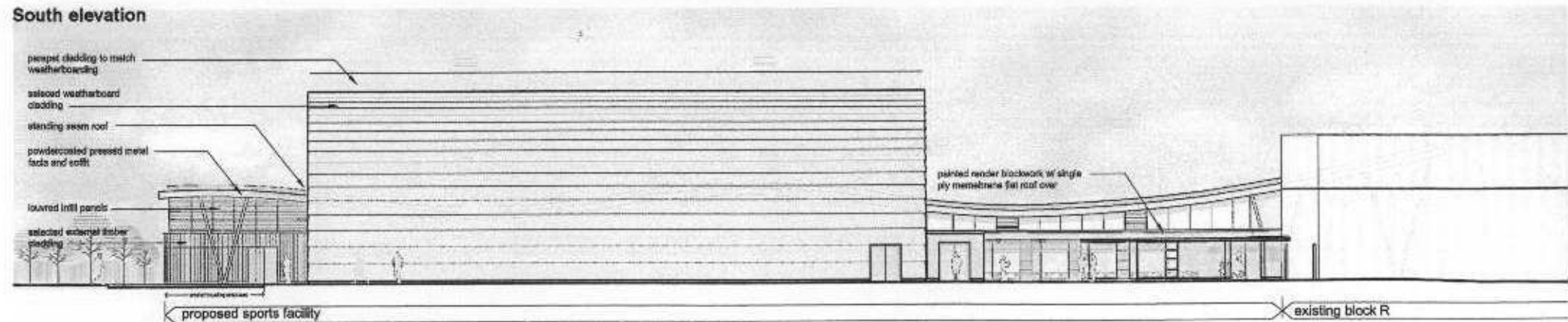


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North elevation



South elevation



4. Development Proposals

4.6 Schedule of Areas

A schedule of areas is indicated here. The gross internal area of the new building is 1,950m² and the refurbishment 2,050m².

		Area / m ²		
New Build Accommodation	Sports Hall	Sports hall Storage	945.0 37.0	
	Strength & Conditioning	Strength and conditioning suite Reception & lifting platforms Offices	308.0 incl above 17.0	
	Changing	Outdoor changing Team A Outdoor changing Team B Indoor changing Team A Indoor changing Team B Referee/ Disabled changing/ first aid Toilets Cleaner's store	30.7 30.7 30.7 30.7 9.1 34.5 4.1	
	Entrance & Reception	Store Toilets Offices Reception/ entrance Plant Room Circulation / entrance space	12.3 7.1 31.5 192.6 13.1 incl above	
	EIS	EIS dedicated space	150.0	
		Subtotal (Net Area)	1894.1	
		Subtotal (Gross Internal Area)	1936.0	
	Refurbishment		EIS remodel Gym1 Gym2 Sports Science Lab Sports Rehabilitation	385.0 196.0 328.0 148.1 148.1
			Dojo 1 Dojo 2 Additional space (undefined) Circulation	108.0 270.0 164.0 142.0
			Subtotal (Net Area)	1889.2
		Subtotal (Gross Internal Area)	2032.0	
		Total Net	3773.3	
		Total Gross Internal	3968.0	

5. Landscape Proposals

5.1 Landscape Design

Introduction

The proposals detailed in this report show how through careful and considered design, the new sporting facilities can significantly enhance both the immediate campus setting as well as the wider surroundings and in particular Waldegrave Road.

The landscape strategy has been prepared by Martin Bhatia of Colvin & Moggridge who has 10 years experience of working closely with architects to integrate new buildings into sensitive landscapes.

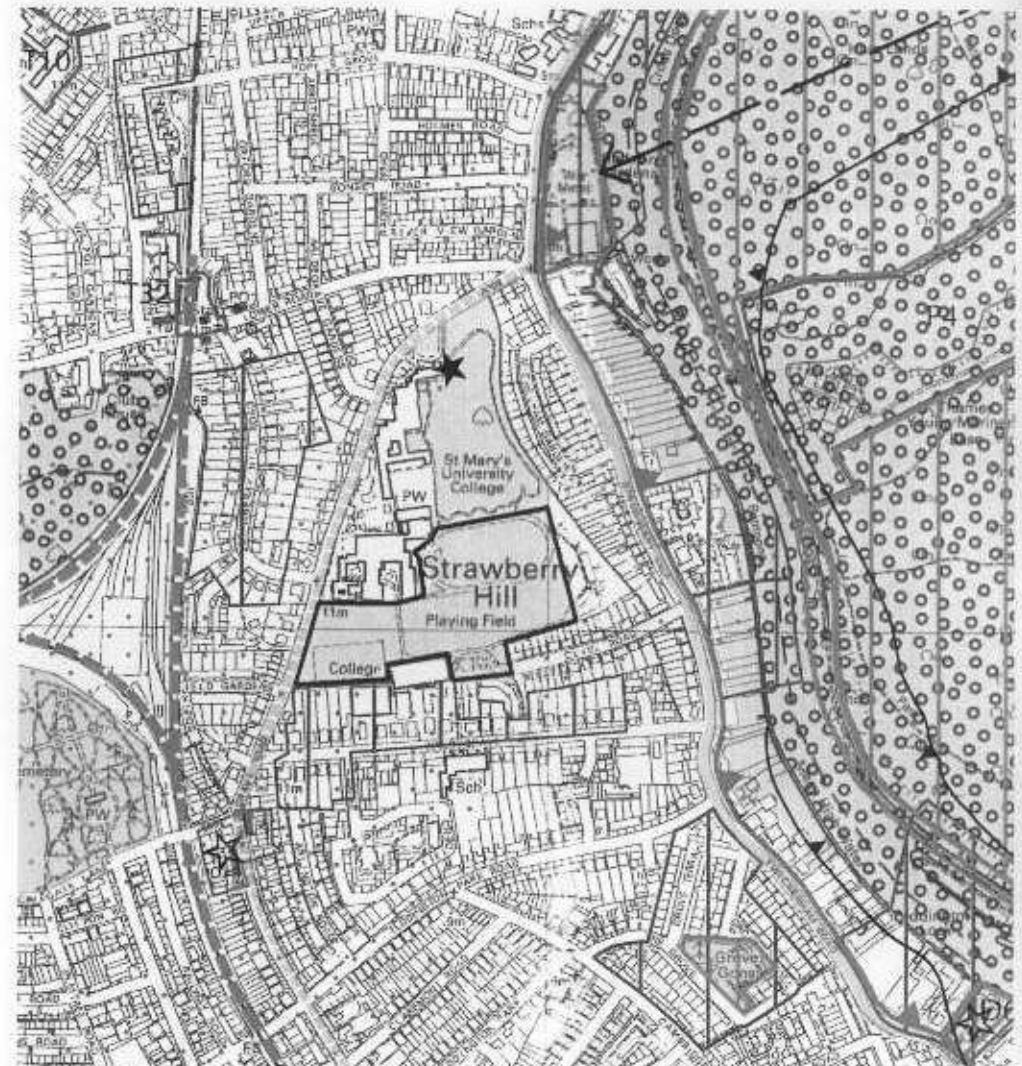
Quaife Woodlands Arboricultural Consultants have prepared the arboricultural survey and Developable Area report that has informed the position of the building from the Root Protection Area of the avenue of mature Chestnut trees to the south of the site. Quaife Woodlands' full report is appended to this report.

Baker Shepherd Gillespie Ecological Consultants have carried out the Phase 1 habitat survey and bat roost assessment report and have advised on mitigation measures incorporated into the masterplan proposals. BSG's full report is also appended to this report.

Landscape designations

The whole application site is designated as Metropolitan Open Land (MOL) in the London Borough of Richmond upon Thames's UDP. There is a presumption that Metropolitan Open Land is protected, conserved and kept in predominantly open use. The landscape strategy seeks to establish an open parkland character that greatly enhances this area of the MOL for the long term with enhanced visual access from Waldegrave Road. The special circumstances for the net reduction of MOL are set out in the Planning Statement.

There are no designated footpaths or bridleways across the site or along its boundaries, although the pavement along Waldegrave Road is an opportunity where the public could look into and across the site. At present a 2m high solid fence prevents views onto the site. The principal and secondary routes for vehicular and pedestrian traffic are unaffected by the location of the new building.



London Borough of Richmond upon Thames Unitary Development Plan

5. Landscape Proposals



Views into the site

There are very limited views into the site because of the timber fence along the western boundary. Properties facing east on Waldegrave Road look across the site. Where views into the site are obtainable, they are of such poor quality that they add little to the surrounding area.

Views within the site

The open nature of the site results in a lack of notable views within the southern half of the campus with the exception of the view from the terrace of the new College café across the running track where high performance athletes in training provide interest within a featureless low quality landscape setting.



Ground level view into site

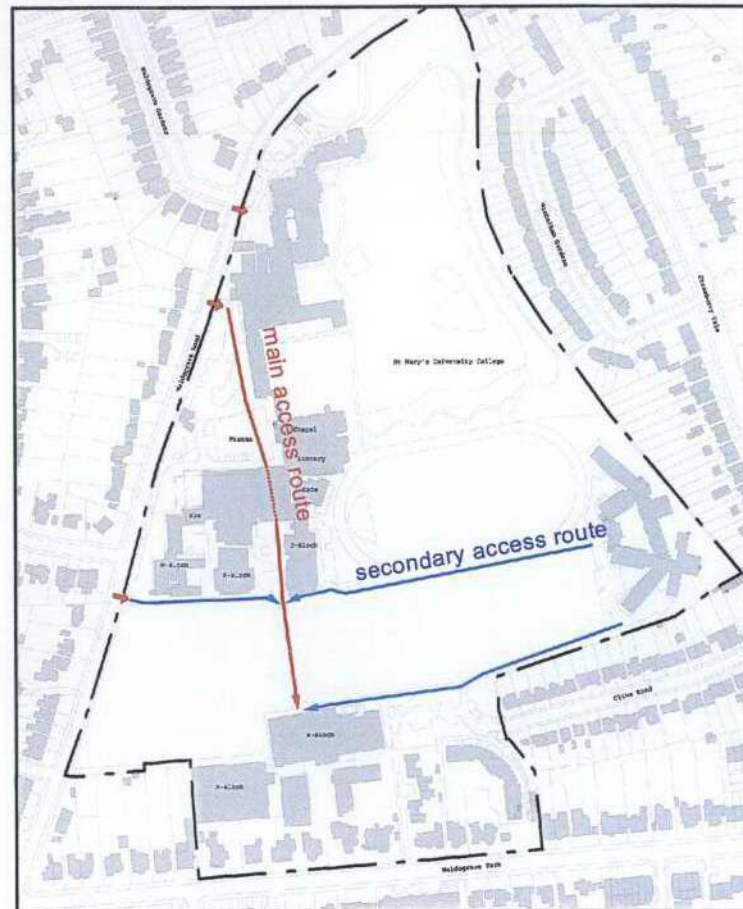


View across site standing on 1m high garden wall

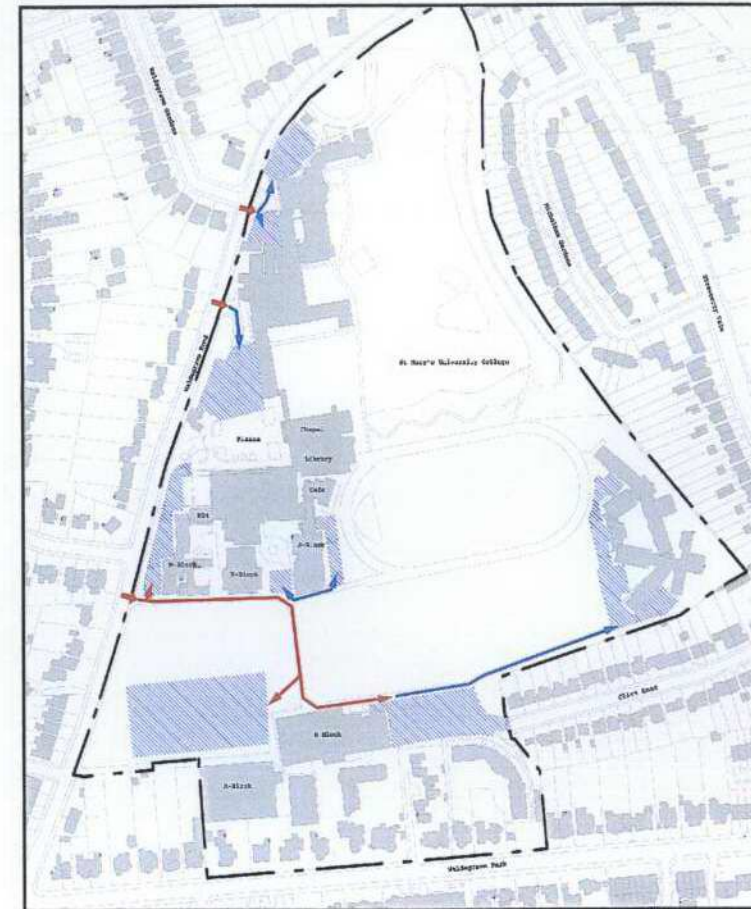


View across site looking over timber fence along Waldegrave Rd

5. Landscape Proposals



Existing pedestrian circulation



Existing vehicular circulation and car parking areas

Circulation

The circulation diagrams above describe the existing principal and secondary routes for pedestrians and vehicles. The proposals do not affect the circulation routes.

5. Landscape Proposals

Landscape Design Proposals

General

The landscape design proposals area aimed at enhancing the southern half of the campus which at present is dominated by buildings over looking a flat feature less expanse of sports pitches.

Our proposals have drawn upon the much richer landscape character in the northern half of the campus where spaces and the skyline is dominated by trees. By introducing woodland planting around the periphery, and parkland planting within the central open spaces, the landscape character of the southern half of the campus will in time come to match more closely the treed landscape of the northern half and provide a strong landscape setting for the provision of high quality sports facilities that the College is known for and specialise in.

Viewing terraces

Spoil generated by the proposed scheme will be added to the existing mound of spoil left over from an earlier development and sculpted to form viewing terraces with a flat plateau for more leisurely use by students. This reduces lorry movements from the site during construction, reduces landfill and creates a positive landscape feature over presently derelict land.

Waldegrave Road Boundary

Along the Waldegrave Road boundary, the existing solid timber fence is replaced by 1.1m high metal railings that allow views into and across the site. This more open boundary treatment extends the effect of the open space across Waldegrave Road for the benefit of those who live opposite as well as those who travel along the road by car and on foot. The proposed native tree planting along this boundary will be designed to create framed views into the site. Only low groundcover understorey planting is proposed to ensure these views remain open.

A low 500mm high hedge wraps around the building to create a soft boundary to the parkland character area being created to the north which also contains a training pitch for football. Individual trees within the hedgeline break down the mass of the new hall but allows the feature roof to be read in the background. Trees are held back from the dramatic rise of the roof over the entrance area so that this can achieve the design intent of being a focal point within the parkland

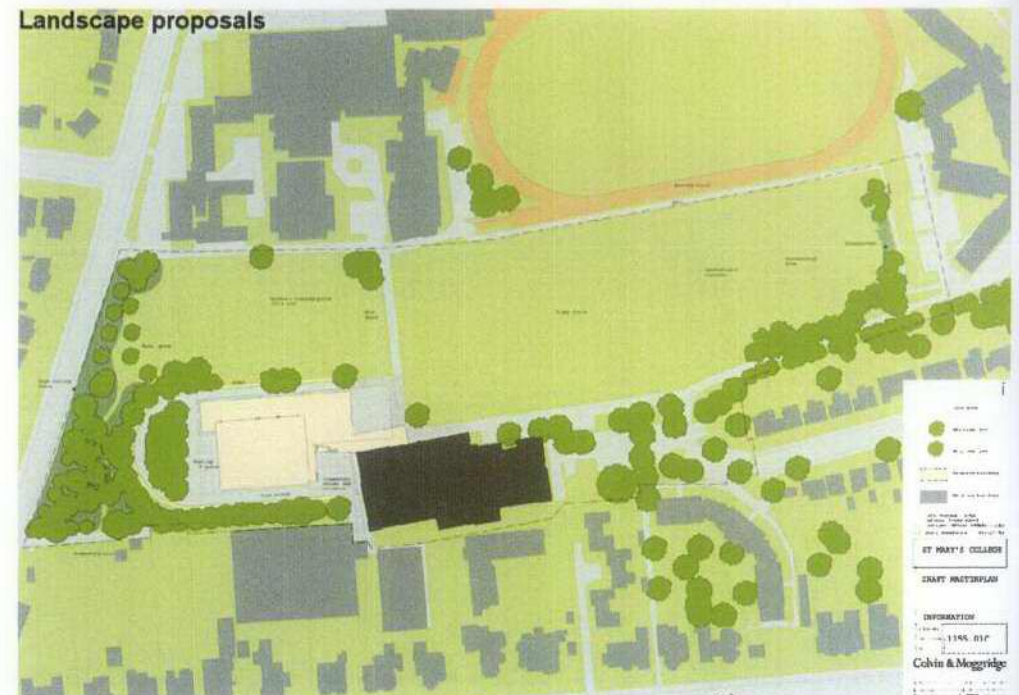
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area.

A gravel access road will be provided for servicing and fire access as well as for a limited parking area for nine cars. The road will be no-dig construction where it is within the Root Protection Area of the Horse Chestnuts as defined by Quaife Woodland Arboriculturists.

A small courtyard is proposed in the junction between the new hall and the refurbished R-Block as a break-out space for tutorials or between classes.

Composting on site will continue in its present location to the south west of the proposed new hall beyond the retained Chestnut avenue.



5. Landscape Proposals

5.2 Ecological statement

Methodology

During February 2007, consultant ecologists from Baker Shepherd Gillespie undertook a Phase 1 habitat survey and a bat roost assessment of the southern half of the St Mary's University College campus.

A desktop study was also undertaken utilising data from Greenspace Information for Greater London (GIGL) records centre which holds records of open space and biodiversity within Greater London. Data was requested from within a kilometre radius of the site to determine the extent of pre-recorded nature conservation interest close to the site.

Ecology Report

Baker Shepherd Gillespie's report is submitted in full as a supporting document and presents the results of the surveys, describes the habitat characteristics of the site, highlights any areas of conservation concern and identifies any evidence of, or potential for, protected species and their habitats. The report also discusses the need for further specific surveys and puts forward measures which can be taken to

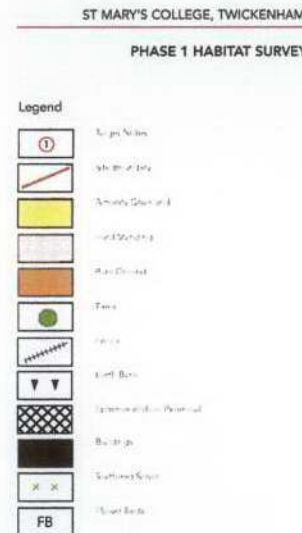
minimise adverse ecological impacts and maximise opportunities for biodiversity enhancements as part of the proposed development.

Statutory designations

The desktop survey revealed that there were no statutory designated sites within the one kilometre search area. Whilst one Local Nature Reserve (LNR) and five non-statutory designated Sites of Importance for Nature Conservation (SINCs) were identified within the search area, no direct or indirect impacts are expected to affect these sites as a result of the proposed development, since they are well buffered by the surrounding suburban area and the River Thames

Habitats

The habitats recorded during the field survey included amenity grassland, trees and hedgerows, ephemeral shortperennial/ ruderal vegetation and scrub. These habitats and the species they support are widespread and common, and not of conservation concern. The internal refurbishment of R-Block is not expected to have any impact on the habitats within the site. The construction of the new building is to be within the footprint of the existing Redgra pitch, which has extremely limited biodiversity value, and beyond the Root Protection Area of the



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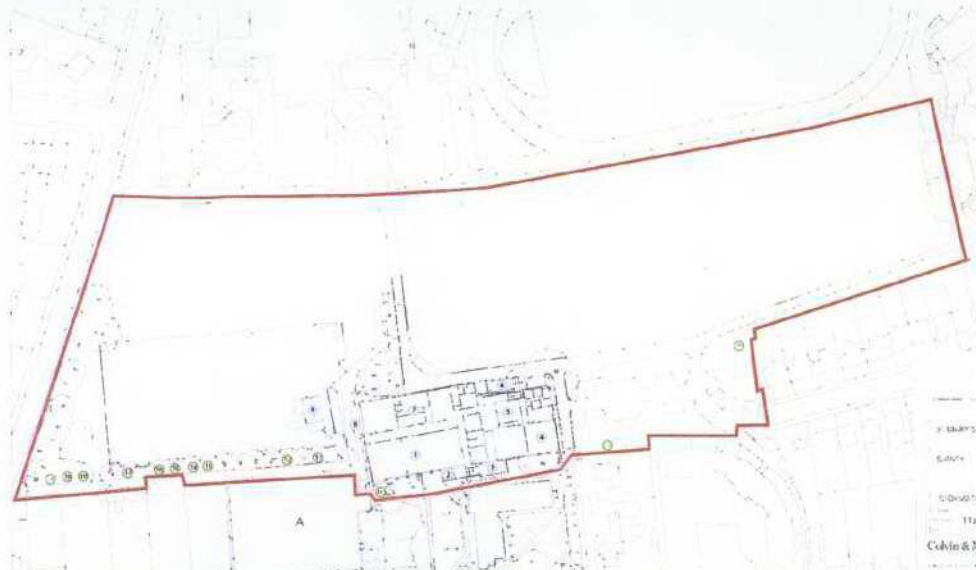
row of Horse Chestnut trees to the south.

Species

A variety of protected and notable species records for the plants, invertebrates, reptiles, birds and mammals were obtained from the GIGL records centre. Of most significance were records for bats and stag beetle, since potentially suitable habitat for these species exist in close proximity to the proposed development site.

However, since the scope of the proposed development will not affect these habitats, direct impacts are not expected to affect these species. Some indirect impacts may affect roosting bats if they are present within the trees adjacent to the Redgra pitch: however, these can be reduced through appropriate mitigation and are not viewed to be significant constraints to the development.

The bat roost assessment established that there was no evidence for bats and little or no potential for roosting bats found in any of the surveyed buildings that make up R-Block. Thirteen trees were assessed as having varying potential to support roosting bats, the majority of these were within the row of horse chestnut trees to the south of the site.



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Habitat suitable for breeding birds was recorded on the site, predominantly within mature trees which are outside of the proposed development footprint. A small number of semi-ornamental trees close to R-Block which will be lost to the development also have some limited potential to be used by nesting birds and should be checked for nests by an appropriately qualified ecologist prior to their removal. The subsequent habitat enhancement will more than compensate for the loss of these trees.

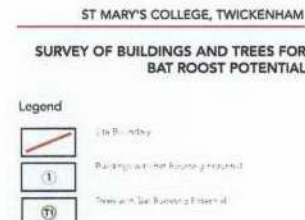
Recommendations

Mitigation recommendations include minimising potential indirect impacts on roosting bats and undertaking the removal of potential breeding bird habitat outside of the breeding bird season.

Enhancement opportunities include planting trees and species rich hedgerows throughout the overall site, with species selection being preferential for native species. It is also recommended that bird and bat boxes be put on suitably sized trees and new buildings. Sympathetic management of the site for stag beetles could also be put into place as an additional means by which the value of the site to notable wildlife can be maximised.

Conclusion

Overall it is considered that the negligible impact to the existing habitats on site, which are of low conservation value, is greatly offset by the benefits the development will bring. In particular, the proposed new trees, the new woodland copse and native parkland trees will enhance the ecology of the site and bring a net gain for biodiversity. This will benefit a wide range of species including protected species, since there will be an increase in the area over which birds can forage and nest, bats can forage and roost, and potential stag beetle habitat.

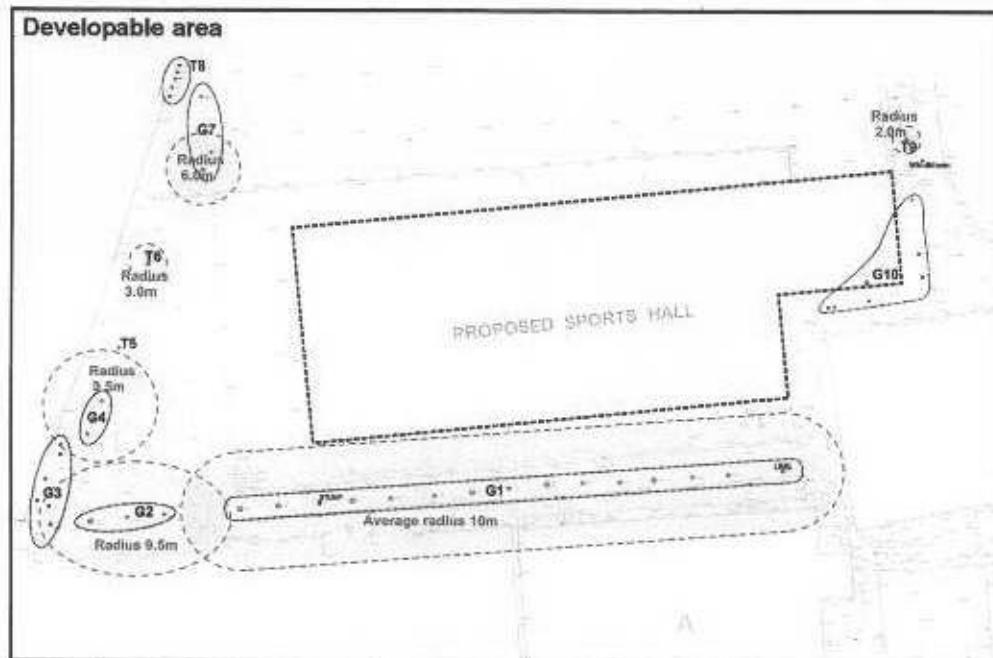


5. Landscape Proposals

5.3 Arboricultural statement

All trees that are proposed to be removed are small ornamental or semi-ornamental trees near the existing entrance to the R-Block buildings with negligible ecological or amenity value.

The Developable Area plan shows the extent of Root Protection Area around the existing tree which has informed the position of the new building as well as the detailing of hard surfaces around the building.



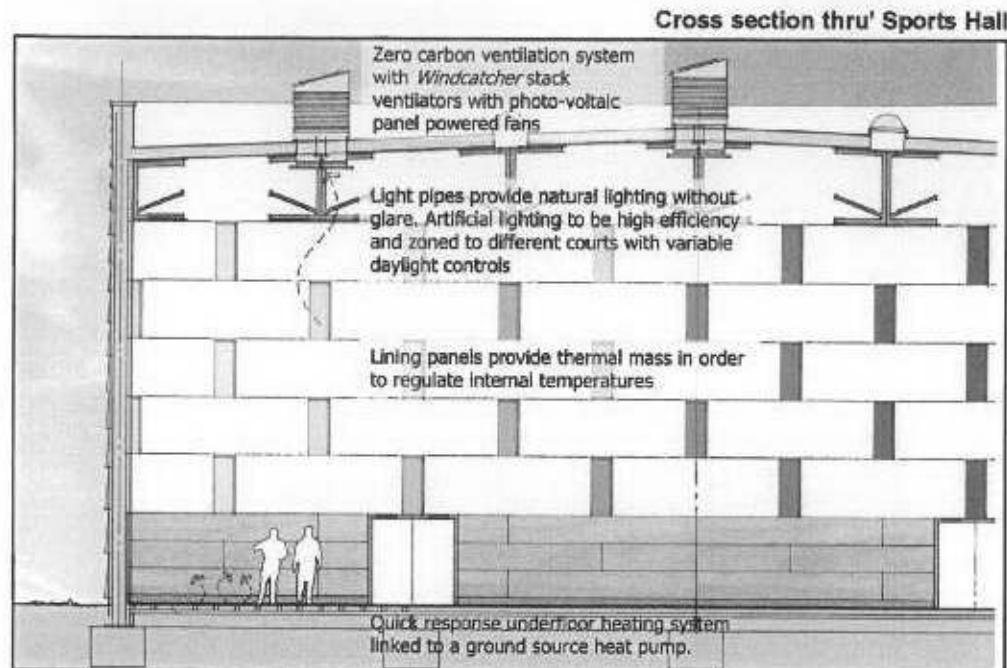
6. Environmental Impact

6.1 Environmental strategy

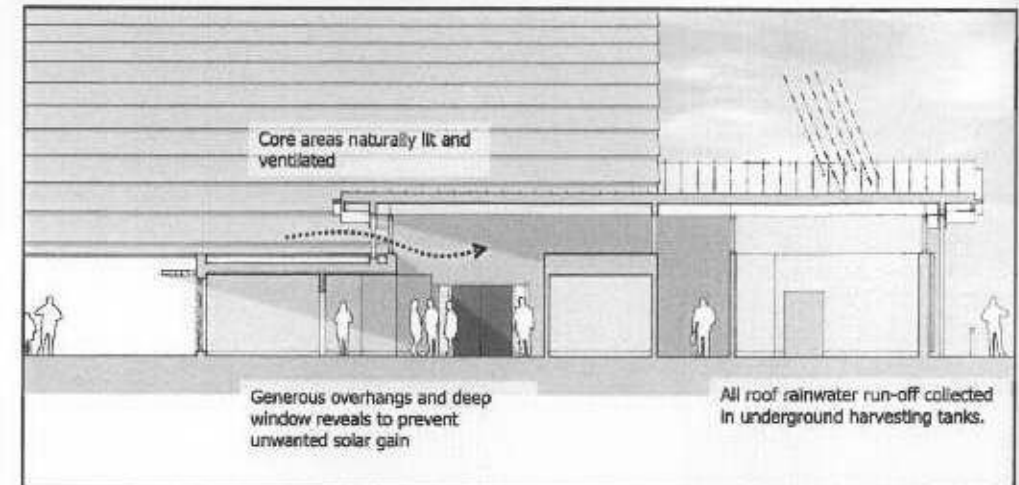
The building has been designed to be an exemplary low energy sustainable development. Contrary to most buildings of this type, there will be no air conditioning plant and renewable energies are being utilised in order to provide over 10% of the power and heating requirement.

Renewable energies

A ground source heat pump is to be used as it is ideal for this application; the ground condition and large training pitch area are suitable for a ground array. Water filled pipework utilises the differential in temperature between above and below ground for heating. This will be used for conventional underfloor heating in most areas with a quick response system in the Sports Hall located under the timber sprung floor. Only the lower part of the hall is heated and there are reduced air currents so that the flight of badminton shuttlecocks are not affected.



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Cross section thru' Entrance

The heat pump will also be used for cooling the Strength & Conditioning Suite during the summer via a fresh air supply ventilation system.

The Sports Hall, toilets and changing rooms will be ventilated with Monodraught Windcatcher roof mounted ventilators. These draw air from inside the building using a natural stack effect. Photo-voltaic cells on top of each unit provide power to fans which supplements the ventilation when required. This is a zero carbon ventilation system. The entrance, reception and offices are naturally ventilated with opening windows.

The Sports Hall is lit with Monodraught light pipes which provide daylight without the need for a blind or a diffuser. The artificial lighting will be high efficiency fluorescent, zoned to the different court configurations and provided with variable daylight controls. Natural light is utilised elsewhere in the building with all other areas benefiting from clerestory glazing. Deep window reveals prevent unwanted solar gain.

6. Environmental Impact

Solar panels mounted on the Sports Hall roof will provide a good proportion of the hot water required for the changing rooms and toilets. Heating to the Strength & Conditioning Suite fresh air supply units and the remainder of the hot water will be via a small 'A' rated condensing boiler.

Rainwater harvesting

All the roof rainwater run-off will be collected in an underground rainwater harvesting tank for irrigating the College gardens. All external hard landscaping will either be permeable or drained into a local underground soakaway. There will therefore be no net increase of surface water run-off into the mains systems.

Ground investigation

A ground investigation report has determined that there are medium dense gravels which can provide satisfactory bearing pressure for the building's foundations. No piling is required and the building can be constructed on relatively shallow concrete trench foundations. No major deep excavations are therefore required.

No ground contamination has been found and there is no requirement for remedial measures.

Structural design

The building has been designed with a steel primary structure. This means that it will be relatively lightweight, fabricated off-site and erected quickly. The wavy roof will have a steel perimeter ring beam with intermediate timber beams which are fabricated from an engineered timber called Kerto. This is produced from 3mm thick rotary peeled softwood veneers glued together to form a renewable material which is dimensionally precise and free of warp and twist.

The sports hall has been designed with a diagrid steel roof structure which is a two way spanning grillage of beams. This creates a stiff and efficient structure which is again, relatively lightweight and doesn't need additional bracing. Pre-cast masonry panels are attached to the structure in order to create thermal mass to the hall which will regulate the internal temperatures.

Construction materials

The construction materials are being selected with regard to the BRE Green Guide to Specification which provides guidance on the relative environmental impact of

elemental construction specifications. An environmental A B C rating system, where 'A' denotes the best environmental performance, is used and which is also based on Life Cycle Assessment data.

It is the aim of the project to specify as many 'A' rated materials as possible or at the very least ones which have positive green credentials (aluminium used for standing seam roofing and windows is 70% recycled and the fibre-cement weatherboarding is highly rated because of its long 60 year life cycle).

The external wall and roof constructions described in section 4 will achieve either an 'A' or a 'B' rating. The floor coverings of ceramic tiling, timber and linoleum are all 'A' rated as are the internal doors and timber wall linings. All the surface applied finishes such as paintwork and woodstains will be water borne and also either 'A' or 'B' rated.

Refurbishment of the existing building

The roof of the existing sports hall is to be replaced with a construction achieving a u-value better than 0.12W/m²K. The boilers are to be replaced with high efficiency boilers which are controlled by zone, demand and time.

6. Environmental Impact

6.2 Carbon Trust Report



The Carbon Trust have provided consultancy advice and assessment on energy saving mechanical and electrical systems for the new building together with an overview of the refurbishment and consequential improvements of the existing building. The results of this consultation have been written in a report which is appended to this document.

The objective of the consultancy has been for the development to achieve the following;

1. An 'excellent' rating from BREEAM (see section 6.3 below)
2. A minimum of 10% of renewable energies
3. A lower energy consumption than that required to comply with Part L2A of the 2006 Building Regulations

The key energy saving aspects of the scheme design have been described above.

The renewable energies that have been incorporated into the proposal are the ground source heat pump, photo-voltaics and solar panels. The estimated energy usage for the new building (based on the 2006 Building Regulations) is 759,000kWh/ year of which at least 10% will be from these renewable sources and the Carbon Trust target is 394,000kWh/ year.

All the other renewable energy sources were considered as part of the assessment process. These have been rejected for the following reasons;

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1. Combined Heat & Power (CHP)

CHP relies on static winter and summer heat load usually from a swimming pool or residential block. The hot water load would not be sufficient to provide a cost effective electrical output.

2. Absorption Cooling

Only applicable where waste heat is available or regeneration can be used as a by-product of CHP.

3. Ground Cooling

This requires an underground water source or ground air cooling where air is drawn through pipes to ventilation plant. There is no underground source on the site and the required excavation would be expensive and disruptive.

4. Biomass

Biomass boilers use woodchips, logs or pellets instead of gas or oil. There is no supply chain source near enough to Twickenham for this to be viable.

5. Wind Energy Technology

Wind turbines are not suitable for the St Mary's site mainly due to the adjacent housing and low wind speeds.

6. Environmental Impact

6.3 BREEAM Pre-Assessment Report

A BREEAM Pre-Assessment workshop was held on 24 April 2007 with Robert Diamond from Ingleton Wood who is a recognised BREEAM assessor for the education sector.

BREEAM is a voluntary scheme that aims to quantify and reduce the environmental burdens of buildings by rewarding the designs that take positive steps to minimise their environmental burdens. Projects are assessed using a system of credits which are grouped together within the following categories:

1. Management
2. Energy
3. Transport
4. Health and Well Being
5. Water
6. Materials and Waste
7. Land Use
8. Site Ecological Value
9. Pollution

This assessment process results in a report covering the issues assessed together with a formal certification giving a rating on a scale of Pass, Good, Very Good and Excellent.

The building currently achieves a score of **70**, which is a BREEAM rating of **Excellent**. All information will need to be provided with the appropriate evidence before a full assessment can be made during detailed design and implementation.

The BREEAM Pre-Assessment Report is appended to this document.

7. Accessibility

7.1 Accessibility and inclusivity

The building is being designed to meet the requirements of Sport England's Design Guidance Note for Access for Disabled People. The intention is to provide people with disabilities full access to all the sporting facilities both in the new and existing buildings. The combination of good design and good management will integrate all users and increase the independence of everyone using the facility.

The College understand that as well as being equitable, it makes financial sense to attract rather than discourage potential customers to the facility and it is Sport St Mary's aim for the facilities at Strawberry Hill to be used as a training camp for the 2012 Paralympics which will mean that exemplary accessibility measures are put in place as an integral part of the design.

The building must surpass the minimum requirements of the Building Regulations Part M, Disability Discrimination Act 1995 and the Code of Practice BS 8300: Design of Buildings and their Approaches to Meet the Needs of Disabled People.

With regard to the refurbishment of the existing building and facilities, an Access Audit will be carried out in the next stage in order to establish the current situation and inform the detailed design and development of the project. It will help create the basis for a programme of works and a written access policy which will extend into and include the new building. It will be carried out in the following order;

1. Transport links
2. External works and approach to the building
3. Entrance areas
4. Circulation areas, stairs, corridors etc
5. Changing provision
6. Toilet provision
7. Sports activity spaces
8. Staff, management and other non-public areas
9. Emergency evacuation routes and procedures
10. General management issues

The new building is single storey and is planned in a legible and straightforward way. It provides a main entrance to the Sport St Mary's facility as a whole as well as an onward route into the existing buildings.



7. Accessibility

7.2 How access will be achieved

Arriving at the facility

There will be clear signage and routes for arrival by car and also by bicycle, wheelchair and foot with particular attention given to those using public transport. There will be clear demarcation for the accessible car parking areas, drop-off point and principal entry into the facility.

The existing tarmac pedestrian route to the site is level and will be upgraded in order to give sufficient aural and tactile information which is supplemented by signage and lighting.

The entrance of the building will be recognisable and inviting. The generous roof overhang will ensure that it is easily distinguishable from the facade as a whole. The entrance doors will be of contrasting material to the adjacent walls and screens and automatically controlled with level thresholds.

Entrance and foyer areas

There will be a clear view of the reception area once users have entered through the entrance doors. The reception desk will have a low counter area with adequate space in front and behind for wheelchair users as well as an induction loop for users with hearing impairment.

Changing areas

The detail and layout of the changing rooms will ensure that disabled people can use them. An individual unisex accessible changing room with shower and toilet will be provided so that someone of the opposite sex can give assistance. The key design requirements currently being incorporated are as follows;

1. Drop down shower seat with horizontal and vertical grab rails
2. Simple, safe falls to drainage channel
3. Slip resistant flooring with level thresholds between shower and changing areas
4. Minimum 1m² per person in changing area
5. Entrance lobby provides privacy by screening the changing area but maintains a minimum clear width of 1000mm
6. 1500mm turning circle in the changing area in front of benches

7. Benches are 450mm width set at 480mm height with a smooth finish to surfaces and edges

8. Towel hooks in shower located alternately at 1400 and 1050mm

9. Adequate colour and tonal contrast between fittings, walls, ceilings and floors to assist people with visual impairment

Strength & Conditioning Suite

All fitness and conditioning equipment will be accessible to everyone and both the equipment and layout will reflect this inclusive approach.

Sports Hall

The correct selection of finishes will be made at a detailed level in order to assist people with a disability. The sports hall will have acoustic attenuation panels in order to absorb unwanted noise and the heating and ventilation equipment will not produce any discernable background noise at playing level.

There will be colour and tonal differentiation between ceilings, walls and door finishes with shiny surfaces avoided. The lighting design will avoid glare, reflection and wide variations in level.

Emergency escape

The fire plan evacuation strategy will ensure that every escape route is fully usable by everyone including those with disabilities. All fire exits will have level access.

8. Consultation

8.1 Pre-Application Consultation

The project team have consulted with representatives from London Borough of Richmond Upon Thames and the GLA. There have been a total of five pre-application meetings during the last twelve months to discuss the proposals in progressively greater detail and to receive feedback. These have also included detailed site visits.

8.2 Public Consultation Event

The College were keen that local public opinion was sought on the scheme during the design process. A Public Consultation Event was held on the evening of Tuesday 17 April 2007 with an exhibition of the proposals open from 18 to 21 April 2007. The occupants of 300 houses on the boundaries of the College site were invited to attend as well as local Richmond councillors.

Presentations were made by the College's vice-principal on the academic need for development at St Mary's and by Rivington Street Studio on the building proposals. The attendees were invited to ask questions and make comments both verbally on the night and in written form. A questionnaire was given to each attendee together with a stamped addressed envelope to return them.

A total of 26 local residents attended with four questionnaires returned. A further letter was received from a resident who did not attend the event.

The key issues recorded were as follows;

1. Whilst there were some local residents who were against development and didn't like the design of the building, this was not the sole view and 75% of the written responses expressed favourable comments.
2. The screening of the building from Waldegrave Road is very important and the new landscape should be developed in more detail. Views at street level from the boundary were requested. Some residents called for more evergreen tree planting and those who were against the development wanted there to be a high solid fence on the boundary.



St Mary's
University College
Twickenham
London



Proposals for new Sporting Facilities

You are invited to a formal public consultation in the College Coffee Bar on Tuesday 17 April at 6.30pm for 7pm. Refreshments will be provided, please come to Main College Reception.



Thereafter a standing exhibition will be held at the College Coffee Bar from Wednesday 18 April - Friday 20 April 3pm - 7.30pm and Saturday 21 April 10am - 1pm.



All welcome

For further information please contact Sara Mason on 020 8240 4036 or Jane Bennet on 020 8240 4096

8. Consultation

3. The impact of possible increased car parking on the surrounding streets was of concern.
4. Everyone welcomed the sustainability initiatives that are proposed.
5. There were concerns about the height of the sports hall.
6. There were concerns that the refurbishment plans for the existing sporting facilities did not include upgrading the facades.

As a result of the consultation, further views of the development were produced and presented again to the public on a follow-up Public Consultation Event on 11 July 2007. These show that the new landscaping will provide an effective screen to the building and that the visual impact of the new development to Waldegrave Road will be negligible. These views were well received by the local residents.

The sports hall has been reduced in height by 300mm - this is the maximum reduction possible without affecting the internal height. The Sport England brief requires a clear 9.1m internal height in order to satisfy the requirements for regional and national level badminton.

The College have also consulted the public on the Green Travel Plan implementation. This will be submitted to the local authority in a draft status.

Comments on the proposal were also received from Mark Wolfe-Cowan, the design officer from London Borough of Richmond on 16 July 2007. The building design and associated landscaping were considered to be a positive intervention. Concerns were raised on the height of the sports hall and its 'boxiness' but we have revised the parapet detail so that there is a recessed upstand set back from the main cladding line.

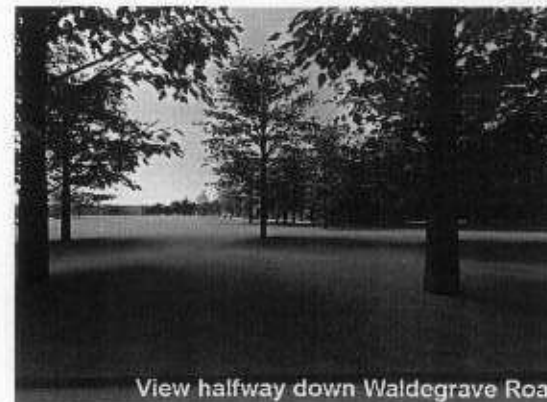
The cladding material was also questioned. We are now intending to use a timber based product which is coloured, dimensionally stable and has a matt, neutral finish. The panels remain as overlapping weatherboarding which are coursed in progressively smaller strips to give an impression of a lower mass.

Positive comments on the project have also been received from Matthew Carpen at the GLA.

New views of the building showing the impact of the proposed landscaping from Waldegrave Road. Note: Metal boundary fence not shown.



View at White Gates entrance



View halfway down Waldegrave Road



View at site corner

9.1 Transport Assessment

A Transport Assessment Report by the Transport Planning Practice (TPP) is appended to this report. It includes a study of the existing situation in terms of the site location, operations and accessibility as well as consideration of the likely impact due to the new development.

It concludes that the development aims are compatible with local, London-wide and national policies for reducing the need to travel by car and encouraging travel by sustainable modes.

The proposed development will not give rise to any adverse effect on the transport systems or highway network as it is intended for use by the existing student population.

9.2 Green Travel Plan

The College have commissioned a campus wide Car Parking Strategy and a Travel Plan which is currently being devised for the whole site. These will come into operation at the start of the next academic year in September 2007. These documents are not explicitly linked to the proposed development but both will seek to improve transport conditions within the University and surrounding community.