

DESIGN REPORT eSEPP Design Quality Principles

MAJOR ALTERATIONS & ADDITIONS TO THE STEVENSON LIBRARY SSD 8922

Prepared for: THE SCOTS COLLEGE

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DESIGN REPORT: Design Quality Principles – Schedule 4

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DESIGN REPORT: Design Quality Principles – PRINCIPLE 1 CONTEXT, BUILT FORM & LANDSCAPE

The aim of this report is to describe how the proposal addresses the Design Guide for Schools and the Design Quality Principles set out under Schedule 4 of the Education SEPP.

This report provides an outline of & the thinking behind the design decisions to renovate the current building.

Principle 1 – Context, Built Form & Landscape

(i) Context

Cadigal land of the Dharug clan extended across Bellevue Hill and Woollahra and prior to European settlement used the land for fishing, collecting shellfish and managing the local vegetation.

Aboriginal communities remained in the area throughout the days of the Cooper Estate and have been recorded in a number of historical sources: it was noted that in 1845 approximately twenty Aboriginal people were recoded as living in Double Bay.

Established in 1893, The Scots College relocated from its Brighton Le Sands premises in 1895 to St Killians, Victoria Road Bellevue Hill. Founded by the Reverend Ashworth Aspinall as a Presbyterian school for boys, much of the enrolment were sons of pastoralists of primarily Protestant Scottish descent. On his retirement in 1915 the building was renamed Aspinall House.

Rapid expansion followed the appointment of James Bee with the construction of the Middle School Building, and the purpose-built boarding houses Macintyre House and Kirkland House. The building stock increased to reflect a growing enrolment, with an expanded main school building housing an auditorium and gymnasium opened in 1939. The post war period saw the College continuing to expand with construction of the chapel (1956), the senior studies building (1965), and a new Aspinall boarding wing, kitchen and dining room in 1966.

A fire in 1975 led to partial destruction of the Main School Building with the resultant rebuilding of the auditorium, foyer and a new terrace. More recently, the Stevenson Library was completed in 1988 followed by the Centenary Building (1999), the Graeme Clark building in 2009, and the most recent building, the Lang Walker Business Centre was completed in 2016.

The Scots College has long recognized the historical relationship with the traditional owners of the land upon which it stands, enrolling its first indigenous student in 1902. More recently in 2006, an indigenous program was launched which has seen 45 boys, from regional and remote Australia, move through the College where today 26 are enrolled, all fully supported by a variety of scholarships and bursaries funded by charitable entities and benefactors. Mentored by parents and staff the program has now matured with tangible benefits for both indigenous and non-indigenous boys. The indigenous

boys and the program have recently been commemorated by an Indigenous Sculpture Garden. This installation, at the southern end of the recently completed Lang Walker Business Centre, based upon a bronze figure of an indigenous student wearing the kilt, tells the story of the program and acknowledges the boys and benefactors (Fig 1). Opportunities exist in the upgraded Stevenson Library to incorporate story lines with integrated text about the local indigenous people through engravings or inlays to reinforce the historical connection and enhance visitor experience on the main terrace.



Figure 1: Indigenous Recognition Sculpture at TSC – Photo: Five Spaces Design

(ii) Built Form

The Library building can be described as being in a Neo Brutalist style, with exposed concrete frame & slab, insitu concrete & concrete blockwork infill panels, contrasted with steelwork awning shade structures & dark metal framed glazing, banded horizontally across the principal [Oval] elevation.

Design work began in 1986 by the architects Budden, Nangle, Michael & Hudson, who had designed earlier projects for the College including the swimming pool & Royle House.

It is a five storey, 'muscular' & squat structure & is sited within the embankment along the edge of the Oval, adjacent to Aspinall House and presents as a fairly blank, un-articulated composition, albeit for some large, vertical insitu concrete blades which project eastwards. Refer Figure 2.



Figure2: Neo Brutalist Style & Robust Detailing, Stevenson Library 2018. Source TSC

Its inclusion within the heritage precinct is somewhat incongruous in that it 'jars' with the adjacent & adjoining heritage listed structures which it sits between. These are delicately detailed, particularly Aspinall House, in stark contrast to the 'robust' detailing of the Library. Refer Figure 3.



Figure 3: Aspinall House, Italianate Style b 1883. Source TSC 2018.

The Library building has been assessed as not meeting any of the criteria for listing as an item of local significance, refer Heritage Impact Statement, *John Oultram Heritage & Design, April 2018*.

Woollahra Municipal Council LEP 2014 lists the following heritage items under Schedule 5 Environmental Heritage:

The Scots College—the building known as “Aspinall House” and interiors, with palm trees, sandstone gateposts (3 sets), gate and fencing to Victoria Road, and the adjoining stone wall surmounted by iron railing; the school building with clock-tower and interiors

Aspinall House built 1883 in the Victorian Italianate Style, sits on an elevated platform whose main elevation addresses Victoria Road and not the Oval whereas the **Main School Building** built 1914, enlarged and remodelled in 1938 in the Georgian Revival Style, sits within the embankment and set the precedent for subsequent buildings to be placed around and thus address the Oval.

The design and siting of the Library follows the pattern established with the Main School Building of structures sat within the embankment addressing the Oval. It is of a commensurate scale as the existing buildings, but lacks the richness in detailing and composition of those buildings.

Its siting has truncated the circulation pathways across the site on top of the embankment & along the Oval [north to south], which it simply blocks & re-directs pedestrian movements around the various ground levels abutting the building envelope. Refer Figure 4.



Figure 4: Stevenson Library North East Corner & Aspinall Embankment 2018. Source TSC

The building does not have a main entrance or ‘front’ door, but it is entered from the Quadrangle [main point of entry off Victoria Rd] by descending a few steps before entering a concrete [fire] stairway leading up or down to the its various floor levels. Currently the second floor level is the main circulation route through the building and is positioned 2.0 metres above the Quadrangle.

The building has no lift and few if any accessible or inclusive provisions.

Services are well past their shelf life, with air handling being provided by a series of individual/stand alone condensers, the electrical supply has little spare capacity as the main switch board is fed from a board in another building and the distribution boards it supplies are at max capacity.

Spatially the Library no longer provides areas which support the College educational vision, pedagogy or strategy for collaborative learning & student support.

The Library proper occupies the upper level and mezzanine.

Design

The College has undertaken various studies to refurbish parts of the building, however these have been abandoned as 'band aid' solutions to fundamental difficulties which require a complete re-evaluation.

The Principal Dr Ian Lambert enunciated a vision for the Library as a new 'hub' for the College, a central point for students, staff & visitors as both a Library, a teaching & learning resource and a place to bring counselling staff together and create a Student Support Centre.

That vision also saw the building as an embodiment of a tradition, underscoring a cultural identity and a rich Scottish heritage.

The Scottish Baronial Style is placed correctly between the Italianate Style & Georgian Revival periods and creates a sensitive link which gives the precinct a historical neat fit, representing the association with Scottish history, Scottish values & traditions which are at the core of the Scots culture.

It is important to recognise that the Scottish Baronial Style was never associated with defensive structures and became popular in the mid to late Nineteenth Century as a style for large houses [for wealthy industrialists].

While it referenced traditional Scottish tower houses it borrowed heavily from the French Renaissance.

Refer Figure 5.



Figure 5: Craigends House date unknown. Source Dr A. Disley

The style was exported to North America & Australia and its use was usually associated with people of Scottish descent. Overnewton in Melbourne is a well known example.

Its application for the renovation of the Stevenson Library is appropriate in that it underscores the College heritage & cultural link with Scotland, while the scale, composition & treatment is far removed from being an institutional form.

The proposal is deliberately articulated as a large house, unambiguously Scottish in origin, fitting within a pattern of buildings more 'domestic' & human in scale and detailing, as they were from the outset in 1895 at St Killians. The architectural approach has been carried out in collaboration with a Scottish architectural historian [Dr Alastair Disley, an expert in Scottish Baronial architecture, particularly the work of David Bryce] to ensure that the composition, massing & approach to detailing remains true to the general principles underlying the style.

The design process involved frequent reference to Bryce's work to consider his response to and resolution of complex design matters, which has in turn informed the approach here. A report prepared by Dr Disley can be found in Appendix 1. Also provided in Appendix 2 is a summary of refinements made to the design following consideration of the Disley report in Appendix 1.

It also responds to the intangible cultural significance of the place, with its principle elevation formally addressing and overlooking the Oval. It deliberately provides a series of vantage points from external terraces to large bay windows to afford continuous views of that space.

The Oval is a significant place and has a long association with the cultural, social & sporting activities at the College. For more than a hundred years the Oval has played a central part in the boys experience at The College. It is a social space for recreation & play, a cultural space for the Parade of Remembrance & a sporting venue for its proud cricket & rugby tradition.

The Burra Charter notes that managing a place should be based upon an understanding of its cultural significance. Refer Figures 7, 8, 9 & 10.

In relation to intangible cultural significance Jean-Louis Luxen Secretary General of ICOMOS (1993-2002) noted that:

'physical heritage only attains its true significance when it sheds light on its underlying values' while 'conversely, intangible heritage must be made incarnate in tangible manifestations'.

He highlighted a number of non literary cultures when describing & acknowledging the *'human occupation of a natural site....public areas....in which forms of popular culture are expressed'.*

Measured against these terms the Oval [the place] has been almost continually occupied since the sub division of the Point Piper estate & construction of St Killian's in 1883. A photograph from that period describes a large turfed terrace below the house prior to The College relocating there in 1895. Refer Figure 6.



Figure 6: St Killian's, date unknown c1883. Source TSC Archives

While the College archives holds a range of photographs depicting activities on the Oval, refer Figures 7, 8, 9 & 10.



Figure 7: Physical Drill on the Oval date unknown c1915. Source TSC Archives



Figure 8: Helping with Air Raid Shelter construction, the Oval 1942. Source TSC Archives



Figure 9: Boys from the Preparatory School visiting the Oval 1963. Source TSC Archives



Figure 10: Parade of Remembrance, the Oval, c 2015. Source TSC Archives

The building will be an embodiment of a tradition, underscoring a cultural identity & a rich Scottish heritage. Unambiguously Scottish in origin & identity, it resonates with the values embodied in 'Brave Hearts Bold Minds' and is the tangible manifestation of that significant link to place, experienced by many generations of Scots students, staff and parents.

The Proposed Renovation

The proposed renovation of the Stevenson Library is part of a broader strategic context developed by the College in: *'2016-2025 Brave Hearts, Bold Minds: The Vocation of a School'*, underpinned with a vision to be 'recognised globally as a leading, caring school for boys', being developed through a master planning process. The proposal is the foundational piece which integrates a Student Support Centre bringing pastoral care & support services boys need together in one place, from counselling to chaplaincy to allied health.

A key aspect is the creation of a focal point within The College and one which directs movement via the Mullens Gate off Victoria Rd, across the Quadrangle to a new main entrance.

The building is intended to be the hub and heart of the College to which students, staff & visitors gravitate.

The Black Watch Café is to remain at the Oval level, though expanded across the floor plate & refurbished so that it continues as a focal point for the student body throughout the school day.

Active learning environments are established throughout the building [refer Principle 5 – Amenity] based upon the Colleges recent experience where it has started a move away from the traditional classroom arrangement and develop activity based learning environments which see a variety of collaborative learning spaces in which students move between group or individual settings following an introductory class briefing.

Improving cross campus circulation routes improves connectivity between Departments & buildings and is a priority to help unify & integrate the College.

Students moving north and south along the edge of the Oval are now brought within the building. Those crossing the Quadrangle enter at the main entry level and can move up or down the building in a new large stair along the west wall. It provides unfettered connection & access between levels to simplify student movement.

The pathway from the Graeme Clark Centre to the north will extend across the top of the [adjoining] embankment to lead students through new doors in the north elevation, and into the main entry level.

The overarching goal is to create better links across the campus by improving external circulation between buildings, simplifying levels & entry points in order that directions are obvious & movement more natural & fluid. Creating better physical & visual links between this building and others will be critical for the success of the project.

The lower levels are seen as the vibrant hub with students constantly moving through, the upper levels are quieter learning & support spaces. The stairwells & multi storey oriel bay windows are the physical & visual link between these floors ensuring that the facility is interconnected & intertwined with student life.

Better connectivity will enhance links to other programs across the College campus.

Student services & student support are to be a focal point in the facility with counselling brought to the forefront, as opposed to being tucked away. The intention is to bring Counselling staff out of a 'clinic' style environment into a circulation hub to encourage interaction & to normalise access to such care.

Boys who may be reluctant to seek counselling help for fear of stigmatization will benefit as staff will be part of the building mix intermingling with student activities at all levels.

Architectural Approach

One of the greatest exponents of the Scottish Baronial Style was David Bryce (1803-1876), an Edinburgh based architect who designed many houses as well as buildings in most of the prominent towns throughout Scotland.

They include Craigends House, Renfrewshire & Fettes College in Edinburgh.

Refer Figure 11.



Figure 11: Illustration of Craigends House. Source Dr A. Disley

His work is of particular interest for the renovation of the Library:

- many were large houses - *of a similar scale & of a similar mass to the Library*;
- they were dramatic & sculptural asymmetrical compositions – *the style enables the renovation to address main entry & access on multiple levels, while formally addressing the Oval*.
- unambiguous 'Scottish' with traditional references & fusion of styles - *underscores the rich heritage & cultural identity of The College*.

The approach enabled the Library design work to explore & apply a range of forms, modelling & massing compositions without being tied to a rigid symmetrical arrangement.

This design to successfully addresses the links with different eternal ground levels around its perimeter, to create an arrival point & a main entrance in the south west corner [where previously there was none] noting that none could be achieved centrally across the main eastern elevation [addressing the Oval].

Features of the composition include a small tower to mark the entry; grand oriel bay windows to take advantage of views to the Oval & beyond while flooding the interior with daylight; a small tourelle to mark the NE corner & large windows looking along the embankment to the north: castellations surround the upper terrace. A small tower element completes the roof profile.

Treatments towards the north west are more subdued in reference to Aspinall House, ensuring that the building neither detracts nor overwhelms its heritage significant neighbour.

Three large arched openings create a colonnade along the ground floor & provide a clear and simple link on to the Oval for the students.

Refer Figure 12.



Figure 12: Illustration of Proposed Renovation. Source JCA Architects

(iii) Landscape

The site has been heavily terraced which appears to have started at the construction of St Kilian's after the sub division of the Point Piper estate. Refer Figure 6.

The Library building follows the pattern of earlier buildings placed around the main [Oval] terrace. The Oval comprises of the Main Oval, Kirkland Oval & MacIntyre Tennis Courts.

The site has been extensively landscaped, both hard & soft and none of the scrub bush depicted in the 1883 photograph remains, refer Figure 5.

The site falls away to the east along Cranbrook Lane, & is defined by a sparsely wooded embankment beyond the Oval. It falls to the north where the Gymnasium & Pool have been built along its perimeter & form a step down to the lower level & Aston Gardens.

The Oval is set down below Victoria & Cranbrook Roads, while Aspinall House enjoys an elevated position above an embankment and addresses Victoria Rd.

Planter beds are associated with individual buildings, particularly so in front of the main north & western facades of Aspinall. Refer Figure 2. Its palms, gates & fencing form part of the heritage listing under Schedule 5 Environmental Heritage, Woollahra LEP 2014.

The Library is approached from the main entry off Victoria Rd and through the Quadrangle.

Part of the Quadrangle surface is to be lowered around the new entry to provide an accessible & inclusive pathway to enter the building.

The Dining Room courtyard to the rear [west] is to remain unchanged as is the grassed Oval directly in front to the east.

Steps connecting pathways along the Oval & the embankment are to be reconfigured to provide new entry points along the north facade & ground floor, first floor & second floor levels.

The proposal has limited impact upon the existing landscape other than to improve pedestrian amenity.

SUMMARY

The Principal Dr Ian Lambert enunciated a vision for the Library as a new 'hub' for the College, a central point for students, staff & visitors with an array of functions brought together to create a Student Support Centre.

It is the first piece in a strategic initiative: *'2016-2025 Brave Hearts, Bold Minds: The Vocation of a School'*.

The proposal was conceived as an embodiment of a tradition, underscoring a cultural identity & a rich Scottish heritage. The building renovation will create a sensitive link giving the precinct a historical neat fit, representing the association with Scottish history, Scottish values & the traditions which are at the core of the Scots culture.

The renovation is an opportunity for a timely upgrade of all infrastructure & services, all of which are well past their 'shelf life' & will be designed from first principals with a view to future proofing the building for upcoming technological changes. The experience of the past twenty years has seen a rapid expansion of IT & communication services and their impact on building infrastructure. Service delivery has demonstrated that buildings need to provide greater flexibility to enable services to adapt & change as technologies roll out.

The proposal will improve connectivity between the Library and other departments & fields while broadening student support services.

The building shall be accessible to all, regardless of physical condition.

The proposal will give the building a new lease of life as a central, vibrant hub at the heart of The College.

It is the embodiment of a tradition, underscoring a cultural identity & a rich Scottish heritage.

Unambiguously Scottish in origin & identity, it resonates with the values embodied in 'Bolds Hearts & Brave Minds' and is the tangible manifestation of that significant link to place, experienced by many generations of Scots students, staff & parents. Refer Figure 13.



Education | Conservation | Residential
PO Box 156 Double Bay
NSW 1360 Australia

T 02 9327 6706
E info@jica-architects.com.au
W jica-architects.com.au

JCA Architects Pty Ltd ABN 53 139 457 784
Nominated Architect
John Cockings NSW AR66055 AIA



Figure 13: Illustration of Proposed Renovation. Source JCA Architects

SEPP Principle 2 SUSTAINABLE: Schedule 4 Schools – Design Quality Principles

The aim of this report is to outline the passive design principles considered to generate a positive environmental impact and operational performance of the Stevenson Library Building. The design aims to improve occupants' experience of the space, by encouraging and rewarding initiatives and measured outcomes relating to attributes that enhance the comfort and well-being of occupants.

1. Sustainable Design

The three pillars of sustainability are recognized as environmental, social and economic factors contributing to the overall sustainability of the design.

1.1 ENVIRONMENTAL IMPACT

The sustainable initiatives to be incorporated include:

- **Natural cooling + cross ventilation:**

Through orienting the windows to the prevailing North-Eastern cooling sea breezes, the incorporation of natural ventilation ensures comfortable internal conditions are met. Ventilation will be provided by operable external windows/doors on the open east façade of the building, reducing energy and running costs. Air vents on the Western façade of the building at high level allow heat to escape above the main access stairs. With no internal walls to compromise successful cross-ventilation, a highly efficient and sustainable natural cooling system is achieved. This is the best option for natural ventilation for this type of building. Night-purge ventilation shall be achieved through opening the windows at night flushing out hot air and bringing in cooler air, so cooling the thermal mass ready for the next day.

Refer Figure 1.

- **Indoor Air Quality:**

The ventilation systems are designed for ease of maintenance and cleaning. Air intakes shall be located away from specific potential outdoor contaminants and are designed to mitigate the entry of pollutants to occupied spaces. Sources of pollutants shall be compliant with minimum emissions standards and outdoor air is aimed to provide a nominated area at a rate so that CO₂ concentrations are maintained below 800ppm controlled by CO₂ sensors.

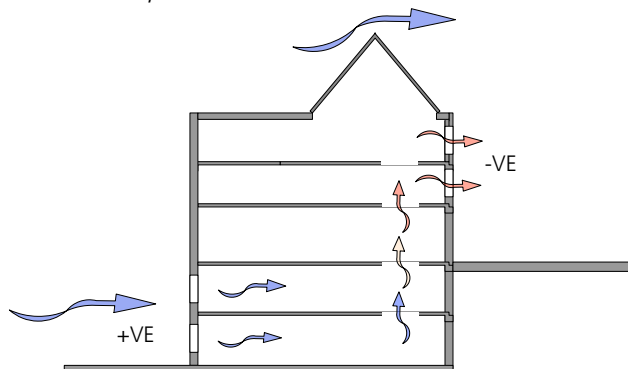


Figure 1 Section BB Cross Ventilation Diagram

- **Passive thermal controls:**

The design aims for a high degree of thermal comfort within the space, equivalent to 80% of occupants being satisfied in the thermal environment. The occupants shall be able to control the blinds, operable windows and turn on/off HVAC.

- **HVAC System:**

The new library will be provided with a high efficiency chilled water air conditioning system integrated with the provision for natural ventilation to the perimeter and parts of the centre part of the building. The ventilation system will take advantage of the buildings location this being adjacent to the open areas of the playing fields and favourable orientation being ideal to take advantage of prevailing winds.

The chilled beam system eliminates excessive fan reliance on reheating and cooling, to move the same quantity of cooling by water than by air transport is about a 10:1 ratio. Relative humidity will be aimed to be controlled between 40% - 60% and the air velocity will not exceed 0.2m/s and no supply directed at occupants.

Refer: **Appendix 3.**

- **Building Management System:**

To ensure an efficient air conditioning system and avoid inappropriate heating/cooling, the natural ventilation system will be interlocked via the Building Management System (BMS) to ensure the A/C systems are turned off during periods of natural ventilation. The windows and doors will incorporate proximity switches which will, via the BMS, shut off the appropriate heating/cooling valves and stop the supply air fans from operating.

Refer **Figure 2.**

In addition, control limits for the room internal temperatures will be installed in the BMS to limit the natural ventilation should room temperatures become too hot or cold. As an additional safe guard to ensure satisfactory internal conditions are maintained for occupancy, carbon dioxide (CO2) detection will be monitored via the BMS to override the natural ventilation and utilise the mechanical air conditioning system.

It is recognised that there will be special seminar and teaching rooms that cannot be adequately served by natural ventilation and they will continue to be treated during occupied times with the mechanical air conditioning system. During periods of high or low external temperatures or during periods of unsuitable climate conditions the natural ventilation system will be closed and the main building air conditioning system will take over.

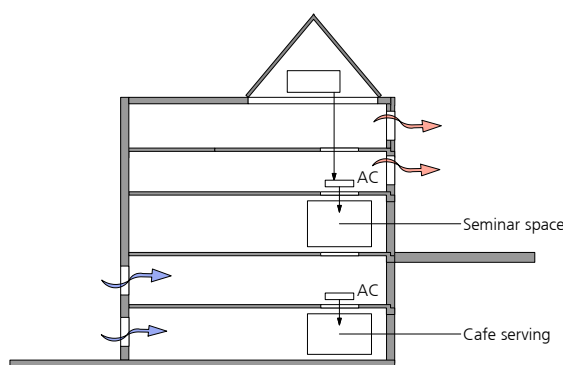


Figure 2 Building Management System

- **Thermal Mass + Building Facade:**

The thick masonry walls of the building will act as thermal mass with a high resistance to change in temperature. The walls act to absorb and store heat energy during the day, allowing the building to stay cool and reradiating the heat at night.

Refer **Figure 3**.

The design shall use glazing with a total U-Value of 0.3 or lower. The maximum solar heat gain through the glass shall be no greater than 250W/ square metre at peak.

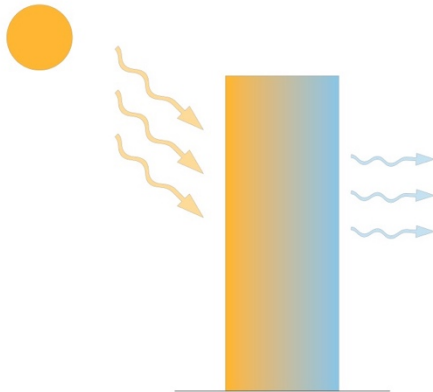


Figure 3 Thermal Mass

1.2 SOCIAL IMPACT

The design promotes sustainable and diverse social relationships to be nurtured within the space ensuring the needs of the occupants are met without compromising the ability of future occupants to meet their own needs. The design provides a Student Support Centre space that promotes well-being and a sense of community involvement for the students. The Student Support Centre offers students with services and guidance for dietary support, physical support and emotional support. The building provides open spaces for informal discussions and private spaces for focused counselling.

1.3 ECONOMIC IMPACT

The incorporation of modern and efficient energy technologies allows for reduced running costs, supported by best practice energy saving options integrated in the design. This contributes to lower long-term future energy bills. The aim is to use the existing infrastructure omitting costs of upgrade.

Furthermore, the use of a building management system (BMS) ensures the control of the building's mechanical and electrical equipment such as ventilation, lighting and power systems. This reduces the economic impact of the building through ensuring energy is not wasted providing heating, cooling or lighting to an occupied space.

2. Energy Consumption

2.1 PHOTO VOLTAIC SOLAR ENERGY SYSTEM

The new Stevenson Library Building shall incorporate modern and efficient renewable energy technologies achieved through integrating:

- solar power, photovoltaic, roof tiles
- solar power, photovoltaic, glazing panels

Both of which will generate energy during the day during peak demand period and store and release energy through the use of Super-Capacitor banks provided on site. This will help to reduce max load of the building and reduce overall consumption.

Refer: **Appendix 3.**

2.2 NATURAL LIGHTING

The use of large windows allows for natural lighting to be available throughout the day for most of the space, reducing reliance on artificial lighting. In spaces relying on artificial lighting, the occupants will have the ability to control the lighting in their immediate environment. A sensory control system will automatically turn lighting off when spaces are unoccupied. Lighting installed in the project shall achieve appropriate lighting levels that, on average, achieve 'best practice' illuminance as defined in AS 1680.

LED lighting will be used to support:

- **Low energy consumption.** LEDs use almost half the energy of other types of light bulbs.
- **Low heat.** LEDs don't have this same amount of heat loss, thanks to their efficient design and lack of filament.
- **No harmful materials used in construction.** LED lights do not contain any harmful chemicals or materials.
- **Waste reduction.** Since LEDs last so long (up to 20 years or more) and are more durable than other types of bulbs, fewer dead LED bulbs find their way into the trash.
- **Recyclability.** LEDs are made of recyclable materials.

3. Water Management

The new Stevenson Library Building will retain the existing on-site water retention and re-use systems.

4. Waste Reduction and Recycling

4.1 GENERAL WASTE

A sufficient provision of bins or containers shall be provided for general use which allow for separation of the applicable waste streams. Recycling will continue and is encouraged by all students. During the construction phase the building will aim to minimize waste sent to landfill through encouraging recycling and reuse of waste on site.

Refer: **SLR Waste Management Plan.**

5.1 RE-USE OF EXISTING STRUCTURE

The current main structural element of the existing Stevenson Library Building are horizontal slabs of steel reinforced concrete. When considering all the processes associated with production and assembly of the existing structure, such as manufacturing and transport of materials for a building of this scale the embodied energy is high. For these reasons, the proposal for a renovation considers a life-cycle approach and hence re-use of the existing structure. The re-use of the structure has a positive environmental impact through preventing high amounts of energy that would be associated with the demolition phase and the repurposing of a non-biodegradable material for road base or other recycling options.

5. Adaptable Design

The design adopts processes that support best practice sustainability outcomes throughout the Stevenson Library Building's ongoing operational performance. The design of the Stevenson Library Building will ensure spaces may be repurposed to suit future needs.



Education | Conservation | Residential
PO Box 156 Double Bay
NSW 1360 Australia

T 02 9327 6706
E info@jca-architects.com.au
W jca-architects.com.au

JCA Architects Pty Ltd ABN 53 739 457 784
Nominated Architect
John Cookings NSW ARB6055 AIA

DESIGN REPORT: Design Quality Principles - PRINCIPLE 3 ACCESSIBLE & INCLUSIVE.

The aim of this report is to describe how the proposal addresses the Design Guide for Schools and the Design Quality Principles set out under Schedule 4 of the Education SEPP.

Principle 3 – accessible & inclusive.

The site is accessed from the main gate off Victoria Rd. It is a memorial gate known as the 'Mullins Gate' and is locally heritage listed.

The existing Library building is set back from & below the level of Victoria Road and can only be entered by descending to the Quadrangle via steps or ramp from the footpath.

The Existing Building

From the Quadrangle a flight of steps can be taken either up or down to enter the building as there is a stairwell in the south western corner servicing most of the building. The Quadrangle is at a mid point between the first & second floors, a separate external flight of steps provides entry to the lower first floor & ground floor levels, with the latter arriving at the Oval then leading via a concrete path to the Library.

There is no accessible path of travel from the Quadrangle to the building from the main point of entry. Refer Figure 1.



Figure 1.

Main entry off Victoria Rd leads down to Quadrangle, steps lead from there both up & down to points of entry in the Library

There is a secondary point of access at the second floor level into the building through the Dining Hall courtyard. The courtyard is arrived at via successive flights of steps & uneven gradients/pathways. Refer Figure 2.



*Figure 2.
A rear access at the
second floor level from the
[Dining Hall] courtyard can
only be reached via steps
or uneven pathways
across the embankment*

Vertical circulation within the building is via stairs located at the north west & south west corners. There is no lift servicing the building nor ramps, inclinators or platform lifts.

It is not known whether corridors, door widths, clearances or pathways comply with AS1428.1-2009. Given the age of the building and lack of amenities include accessible WC's, TGSi's compliant handrails and the like, the authors conclude that they do not.

The current building is neither accessible nor inclusive, provides no path of travel to it, nor within it & does not provide any related amenities.

The Proposed Renovation

The proposed works have been designed in consultation with an accessibility consultant with the objective of upgrading the facility so that it is both accessible & inclusive beginning at the point of entry and continuing throughout the facility.

The development strategy for accessible compliance includes:

- Create an accessible pathway from the main campus entry off Victoria Rd to the Library's main entrance off the Quadrangle. This involves lowering the courtyard so that it matches the proposed main entry at the first floor level, the lower level will be accessed via a platform lift located within the alignment of the new flight of steps. The lift is set out close to the bottom of the existing ramp off Victoria Rd & will discharge directly into the external entry foyer so that all visitors to the building will arrive at & enter through the new main entry. Refer Figure 3.
- The main entrance including door, threshold & clearances shall be compliant.

- An accessible lift complying with AS1735 part 12 is proposed to provide inclusive access to all levels of the building
- Doorways, corridors & clearances shall be designed & set out to ensure that they provide appropriate widths, wheelchair turning space & controls.
- Sanitary compartments have been provided so that there is a Unisex Accessible WC provided at each level in association with a bank of toilets. Refer Figure 4.
- One unisex accessible WC shall be designated for & restricted for use by the students in accordance with child protection provisions.
- Male & Female ambulant WC cubicles have been provided throughout the facility.
- Signage including wayfinding signage shall be set out & installed to comply with AS1428.1-2009 and Specification D3.6.

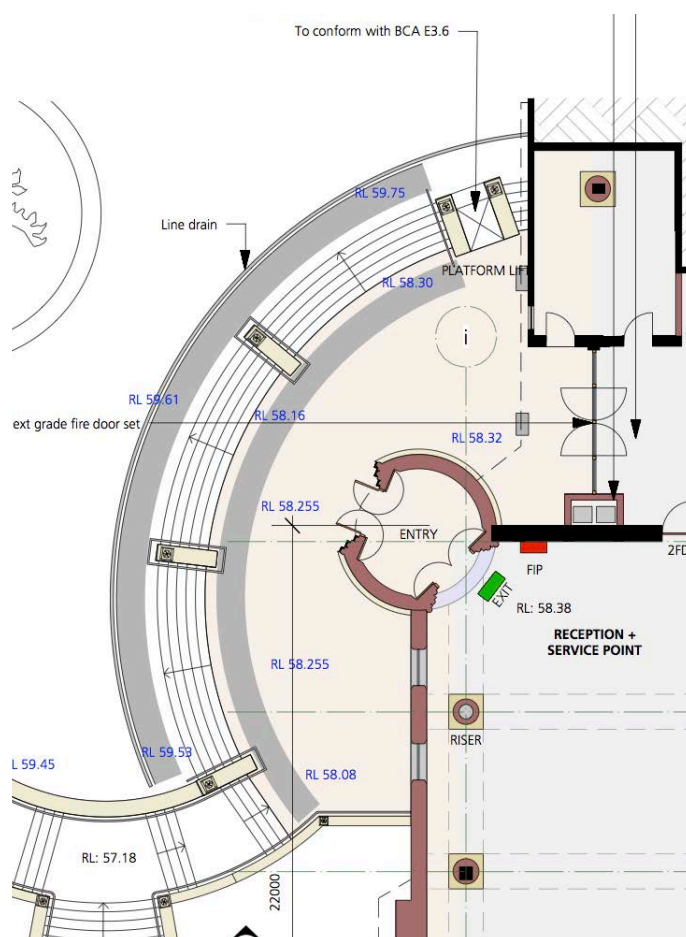


Figure 3.
An accessible & inclusive pathway
& entry to the building shall be
created from the Quadrangle.

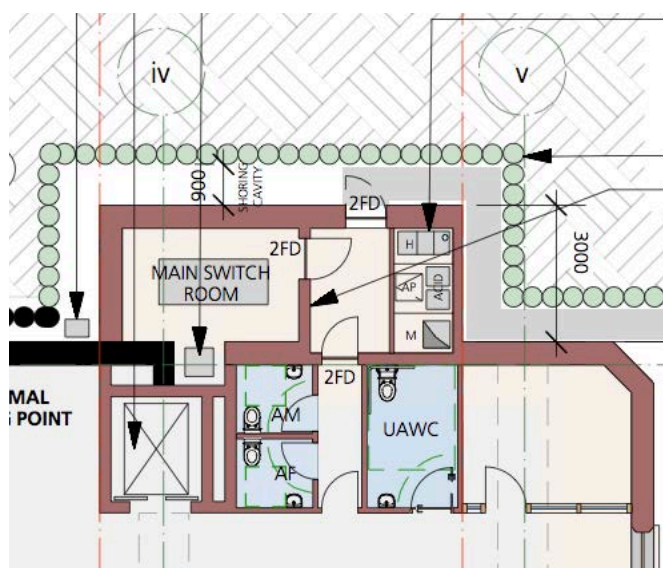


Figure 4.
Accessible amenities shall be
provided in accordance with
As1428.1-2009 & BCA 2016
Part D3 & Specification D3.6.

SUMMARY

The proposed renovation shall include a significant upgrade to all aspects of the current building including servicing and accessibility. As an existing building it is anticipated that some existing constraints may impact upon an compliance strategy which will need to include management plans as well as physical upgrade work.

The current building is neither accessible nor inclusive, provides no path of travel to it, nor within it & does not provide any related amenities.

Proposed Works Shall Comply with both the DDA & AS1428.1-2009.

The design process has reviewed the relationships between the Library and other buildings as well as external areas and approaches from the north.

While the situation shall be greatly improved there are still a number of accessibility issues to be addressed within the campus which are by their nature & extent beyond the scope & curtilage of the proposed alterations & additions to the Stevenson Library.

Those works shall form part of the masterplan development & should include a campus wide accessibility masterplan which reviews accessible entry & paths of travel to individual buildings & between them as well as inclusive accessibility for all new proposed works. Opportunities to upgrade existing facilities & amenities including those within buildings shall be identified & described during that process.

DESIGN REPORT: Design Quality Principles - PRINCIPLE 4 HEALTH AND SAFETY

The aim of this report is to describe how the proposal addresses the Design Guide for Schools and the Design Quality Principles set out under Schedule 4 of the Education SEPP.

This report provides an outline of & the thinking behind the design decisions & measures taken to improve the health and safety of the current building.

Principle 4 – Health and Safety.

Good school development optimises health, safety and security within its boundaries and the surrounding public domain, and balances this with the need to create a welcoming and accessible environment. The design aims to improve occupants health, safety and security through detail design, improved amenity, greater access to health services, the design of the internal environment with particular attention to spatial planning, improved entry, accessible and inclusive circulation routes, as well as the appropriate provision of services & amenities.

The design has been a collaborative effort involving an extensive team of consultants, which include accessibility, servicing, environmental performance consultants as well as specialist architectural design & heritage input.

Health:

An integral vision of the Stevenson Library is to provide health and wellbeing services that are accessible to the greater Scots community. These services include:

- Counselling services for students
- Counselling services for staff
- Counselling services for Old Boys and parents
- Learning Enrichment staff
- Sports management
- Careers

Refer Fig 1



Fig 1 – Counselling spaces for students, staff and parents are proposed

These are underpinned by a strategic context which places the facility at the centre of the Colleges 2016-2025 strategic vision. This vision is to be “an integrated multi-campus web of active learning opportunities recognised globally as a leading, caring school for boys”. In achieving this, The College seeks to build expert communities of knowledge, practice and formation in:

- Character and Care: Educating for the character and care of fine Scots boys
- Holistic Development: Encouraging physical, mental and spiritual wholeness

The proposal involves a significant upgrade to all aspects of the current building amenity including spatial, service, environmental and operational. The careful placing & orientation of glazing will flood the interior with daylight while all levels are interconnected by the new central stair. The spaces are to be predominantly open plan with a limited number of ‘closed’ environments. Learning is to take place everywhere and opportunities for boys to study individually, collectively or in a range of group sizes has been considered from the ground floor upwards. The space is to be a welcoming, fun and happy place where all boys and teachers are welcome to enjoy the facilities. The atrium links sports fields and the Blackwatch Café, establishing a link between play and socialising.

Via improved air quality, increased natural sunlight and ventilation, greater balcony spaces and an open plan internal arrangement, the Stevenson Library shall become an example of exceptional health and amenity quality.

Safety and Security:

This chapter outlines the objectives and general requirements of safety and security in relation to the proposed works at The Scots College. This chapter seeks to promote the creation of safer places through environmental design in the planning, design, and management of the proposed works.

The objectives of lighting as a general issue is to promote legitimate activity in public spaces after dark, thereby providing a safe and secure environment. Areas that are intended to be used at night shall provide appropriate lighting. Lighting shall also be used in heavily used spaces such as major pedestrian routes, entries to the proposed building, as well as areas that surround the building. Security lighting is to be consistent with AS 4282 (2009).

Furthermore, 'safe routes' shall be created, whereby pedestrian pathways and directional signage shall be illuminated at night to ensure legitimate pedestrian activity – refer Fig 2

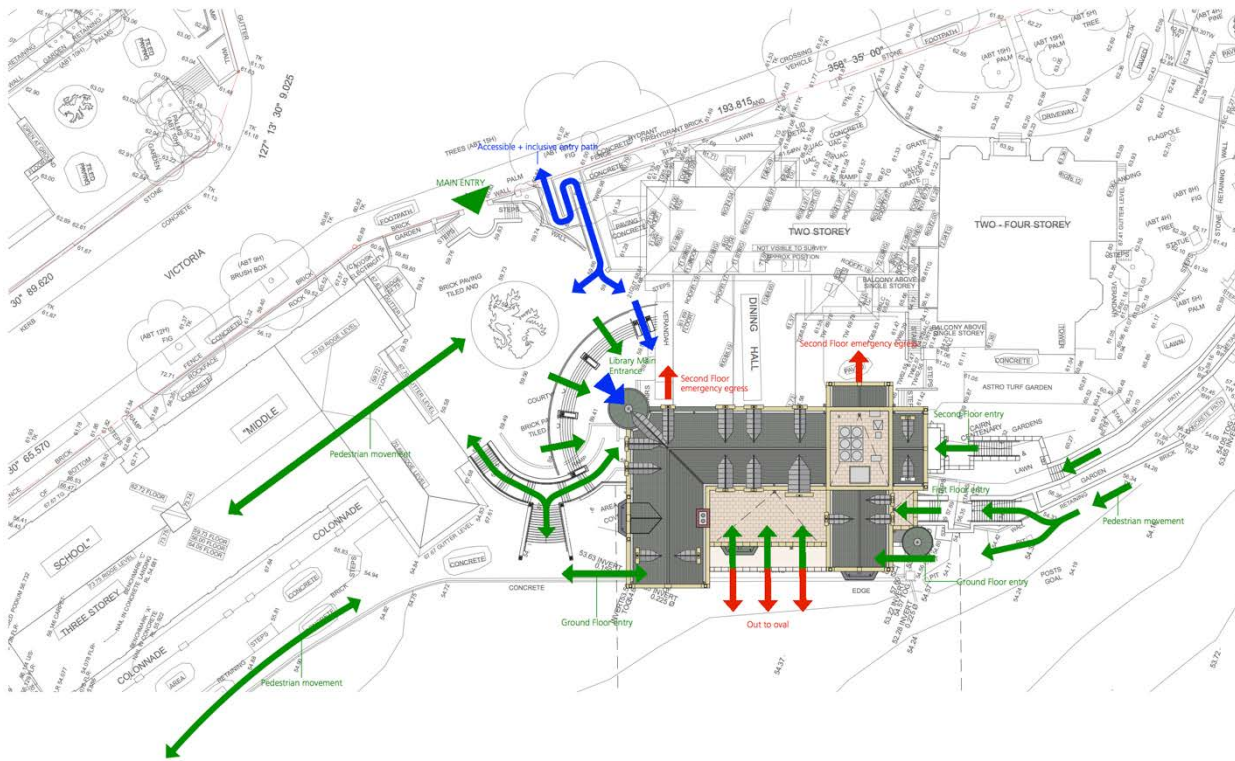


Fig 2: Diagram indicating well lit, clearly visible 'safe routes' for the proposed Stevenson Library

The objectives of natural surveillance and sightlines is to encourage buildings and the public realm to be designed to maximise the potential for public surveillance. This shall be achieved by providing unimpeded site lines, particularly along pedestrian ways, as well as improving natural surveillance through increased legitimate use of spaces. As the proposed renovations allow the Stevenson Library to be used for a whole range of programs and functions, during and outside of typical school hours, natural surveillance and legitimate activity is increased as more people inhabit the building and space around it. The proposed Stevenson Library fronts the main entrance way, provides site lines over the oval across the campus, as well as overlooking Victoria Rd. Refer Fig 3

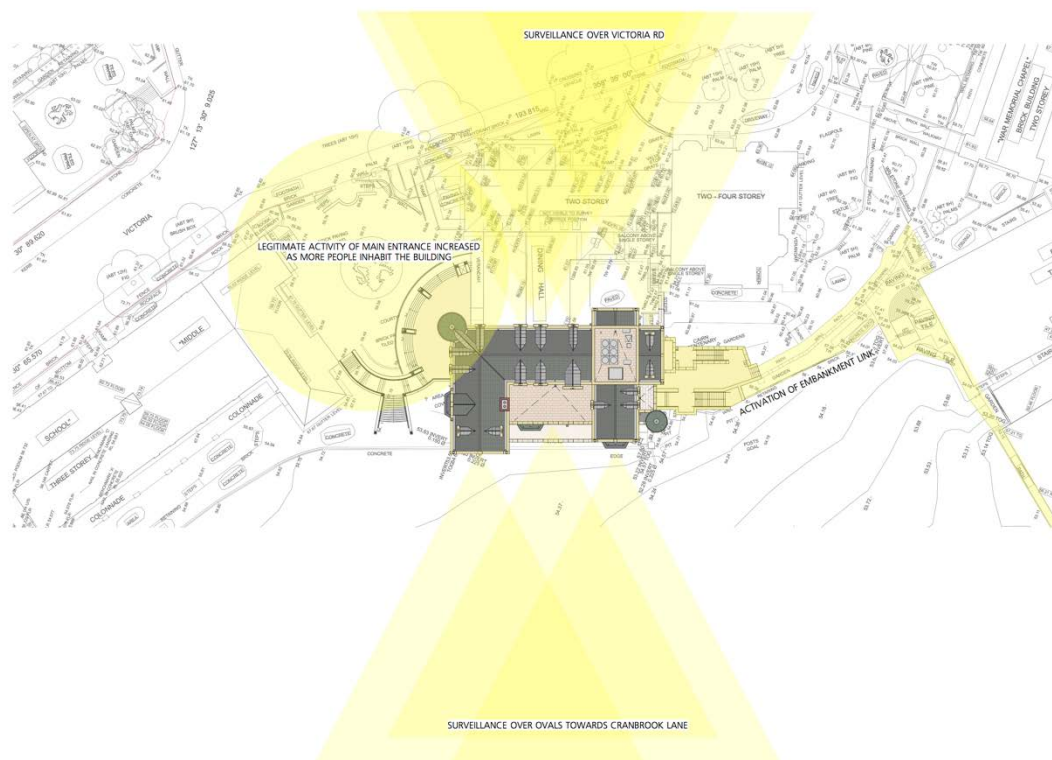


Fig 3: Diagram indicating increased natural surveillance around the proposed Stevenson Library

The proposed Stevenson Library is located within the greater Scots College Campus, which currently has a Secure Schools Program in place. The secure schools program includes fencing around the entire campus, with controlled and restricted entrances and gates – refer Fig 4. Access to the Stevenson Library will be predominately via the quadrangle, which is the main entry to the campus and is an already heavily occupied area, with passive security from the Middle School Building, boarding house, dining room and admin offices. Furthermore, Access Control + Intruder Detective systems, including CCTV systems and alarms, are currently in place in buildings around the college, and shall also be installed within the proposed Stevenson Library.



Fig 4: Diagram illustrating the Secure Schools Program, including a network of fences

Welcoming + Accessible:

The proposed Stevenson Library shall improve current accessibility issues pertaining to the main entrance and circulation routes, and in doing so formalise a welcoming and inclusive entranceway to The Scots College.

Currently, there is no accessible path of travel from the Quadrangle to the Stevenson Library - Refer Fig 5.

Fig 5: Diagram illustrating no clear entrance, nor an accessible route to the Stevenson Library



Vertical circulation within the building is via stairs located at the north west & south west corners. There is no lift servicing the building nor ramps, inclimators or platform lifts.

It is not known whether corridors, door widths, clearances or pathways comply with AS1428.1-2009.

Given the age of the building and lack of amenities include accessible WC's, TGSi's compliant handrails and the like, the authors conclude that they do not.

The current building is neither accessible nor inclusive, provides no path of travel to it, nor within it & does not provide any related amenities.

The proposed works have been designed in consultation with an accessibility consultant with the objective of upgrading the facility so that it is both accessible & inclusive beginning at the point of entry and continuing throughout the facility.

The development strategy for accessible compliance includes:

- Create an accessible pathway from the main campus entry off Victoria Rd to the Library's main entrance off the Quadrangle. This involves lowering the courtyard so that it matches the proposed main entry at the first floor level, the lower level will be accessed via a platform lift located within the alignment of the new flight of steps. The lift is set out close to the bottom of the existing ramp off Victoria Rd & will discharge directly into the external entry foyer so that all visitors to the building will arrive at & enter through the new main entry. Refer Figure 6.
- The main entrance including door, threshold & clearances shall be compliant.
- An accessible lift complying with AS1735 part 12 is proposed to provide inclusive access to all levels of the building
- Doorways, corridors & clearances shall be designed & set out to ensure that they provide appropriate widths, wheelchair turning space & controls.
- Sanitary compartments have been provided so that there is a Unisex Accessible WC provided at each level in association with a bank of toilets. Refer Figure 6.

- One unisex accessible WC shall be designated for & restricted for use by the students in accordance with child protection provisions.
- Male & Female ambulant WC cubicles have been provided throughout the facility.
- Signage including wayfinding signage shall be set out & installed to comply with AS1428.1-2009 and Specification D3.6.

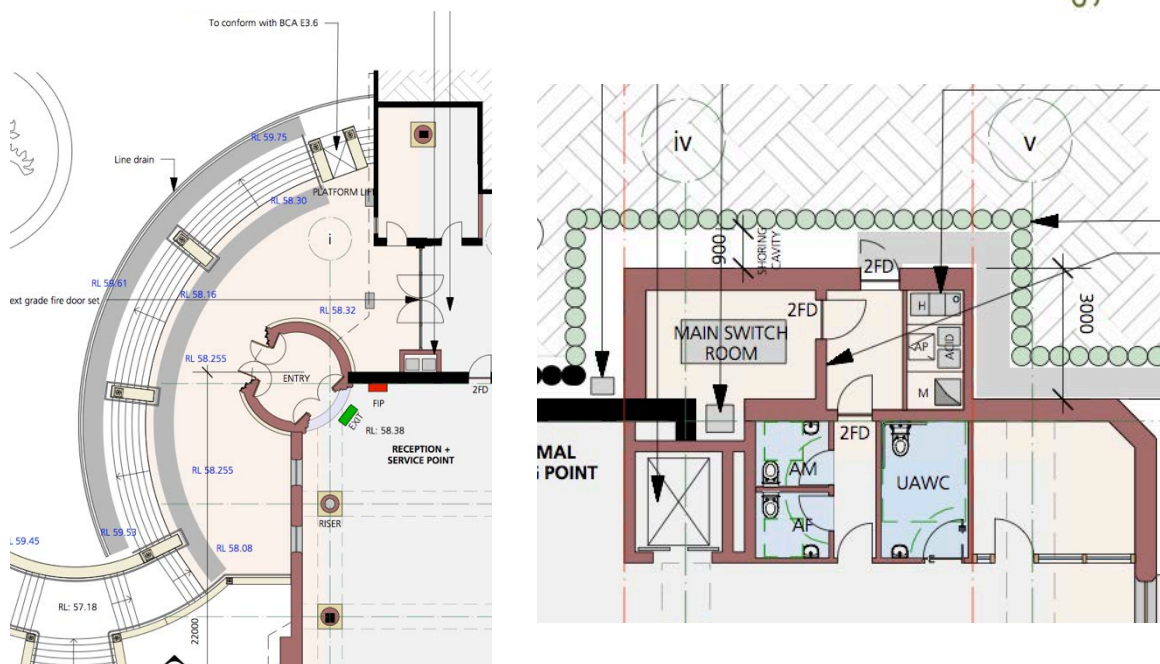


Fig 6: Diagram illustrating proposed accessible pathway and entrance, as well as accessible amenities

SUMMARY

The design aims to improve occupants' health, safety and security through detail design, improved amenity, greater access to health services, the design of the internal environment with particular attention to spatial planning, improved entry & accessible and inclusive circulation routes, as well as the appropriate provision of services & amenities. This chapter has outlined how the proposed Stevenson Library will greatly improve the health and security of all those who occupy it.

DESIGN REPORT: Design Quality Principles - PRINCIPLE 5 AMENITY

The aim of this report is to describe how the proposal addresses the Design Guide for Schools and the Design Quality Principles set out under Schedule 4 of the Education SEPP.

This report provides an outline of & the thinking behind the design decisions & measures taken to improve the amenity of the current building.

Principle 5 – Amenity.

The design aims to improve occupants' amenity, comfort and well-being through detail design, specification of materials & finishes, the design of the internal environment with particular attention to spatial planning, entry & circulation as well as the appropriate provision of services & amenities.

The design has been a collaborative effort involving an extensive team of consultants, which include accessibility, servicing, environmental performance consultants as well as specialist architectural design & heritage input.

The limitations of the existing structure, spatial provision & services provided challenges during the design process.

College stakeholders were engaged very early in the process to identify user groups, articulate a vision for the project & develop the brief as a student centre engaged with:

- Character & care – educating for the character & care of Scots boys
- Experiential education – engaging with society & the world
- Design thinking – enabling design thinking & creativity
- Holistic Development: encouraging physical, mental & spiritual wholeness; and
- Entrepreneurship – promoting entrepreneurship & social leadership

The initiative is informed by a strategic context for the campus to establish The Scots College as an *'integrated, multi campus web of Active learning opportunities as a leading, caring school for boys', who go on to graduate as 'young men of integrity & principle'*. It shall focus on the *'diverse needs of [the] boys'* and provide a *'balance of individualisation, care and innovation'*.

The primary users of the facility will be Senior School students, other groups include:

Prep 5 & 6 boys who will access the facility on occasion.

Teaching staff, integrators & Library staff

Support staff: pastoral, learning support, counselling & chaplaincy

Parents

Alumni

Researchers

Wider community users including summers schools & external bookings for events & conferences.

Four main uses were identified in the design brief, subsequently considered & integrated into the design noting that an identified use and amenity does not always manifest itself as a fixed spatial

component, eg providing opportunities for informal interactions between staff & students which would/should occur over a range of spaces.

(i) Pastoral & Community

- Boys socialising, especially before school, during recess and lunch
- Informal meeting points for staff to discuss boys & their care
- Spaces [incl circulation routes] to encourage informal interaction between boys & staff
- Community events, including information sessions for parents

Refer Fig 1



Fig 1 – The First Floor internal arrangement provides areas where boys relax and socialise

(ii) Teaching & Learning

- Flexible & adaptive spaces for learning, that are collaborative & independent: *FutureSphere*
- Learning everywhere: all spaces used for learning/studying [eg Black Watch café to be a study space outside of the recess & lunch 'rush hours'.
- Access to physical library resources, learning commons & reading room spaces
- Integration of digital platforms [eLearning] with ICT support

Refer Fig 2

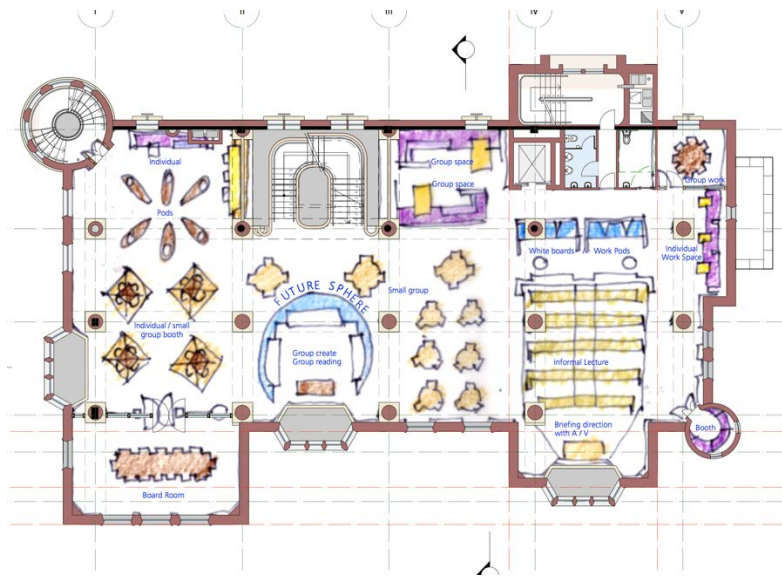


Fig 2 – A variety of flexible and adaptive learning spaces are proposed

(iii) Research & Training

- Industry & University partnerships [linkage projects]
- Staff training spaces to include teachers, allied health professionals & graduates [from Scots as well as other Schools/institutions]
- Publishing/posting/sharing research, innovation & feedback

Refer Fig 3

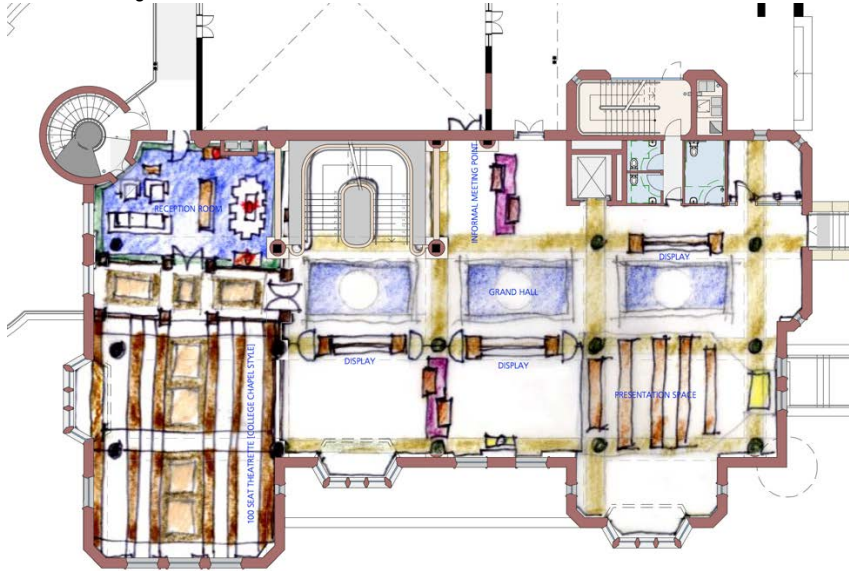


Fig 3 – A variety of presentation spaces are proposed to encourage linkage projects

(iv) Specialist Student Services

- Counselling services for students
- Counselling services for staff
- Counselling services for Old Boys and parents
- Learning Enrichment staff
- Sports management
- Careers

Refer Fig 4



Fig 4 – Counselling spaces for students, staff and parents are proposed

These uses are supported by an array of structural & environmental improvements ranging from the provision of a 'front door' to hybrid ventilation strategies, amenities, fire services, life safety & occupant discharge strategies, to a larger crowd friendly café space all within an inclusive & accessible environment.

SUMMARY

The proposal involves a significant upgrade to all aspects of the current building amenity including spatial, service, environmental and operational.

It is an initiative which establishes a Student Support Centre as the geographic & emotional 'hub', the heart & centre of a boy's daily life in the senior school.

The careful placing & orientation of glazing will flood the interior with daylight while all levels are interconnected by a new central stair. The spaces are to be predominantly open plan with a limited number of 'closed' environments. Learning is to take place everywhere and opportunities for boys to study individually, collectively or in a range of group sizes has been considered from the ground floor upwards.

It has been conceived as a multi purpose place, not simply a place.

It will specifically bring together all of the pastoral care & support services boys need - from counselling to chaplaincy to allied health – around a setting that normalises access to such care.

DESIGN REPORT: Design Quality Principles - PRINCIPLE 6 Whole of Life, Flexible + Adaptive

The aim of this report is to describe how the proposal addresses the Design Guide for Schools and the Design Quality Principles set out under Schedule 4 of the Education SEPP.

This report provides an outline of & the thinking behind the design decisions & measures taken in consideration to the whole-of-life-cycle approach to the proposed Stevenson Library, as well as the buildings flexibility and adaptability.

Future Needs – Site Wide Strategic Strategy

The TSC masterplan seeks to address the foreseeable future needs of the school and to “future proof” for those factors that are not immediately evident, these may be issues of curriculum, sport, administration, access, other facilities or community requirements. The key is to facilitate flexibility and adaptability within each building form, including the potential to modify and add services, and, also to enable potential flexibility in the relationship with adjacent facilities including access. Consideration has also be given to the potential for temporary or adapted accommodation while construction projects are undertaken within the campus. The masterplan as such is a document that itself must be periodically reviewed and adapted

Life-Cycle Approach

The current main structural element of the existing Stevenson Library Building are horizontal slabs of steel reinforced concrete. When considering all the processes associated with production and assembly of the existing structure, such as manufacturing and transport of materials for a building of this scale the embodied energy is high. For these reasons, the proposal for a renovation considers a life-cycle approach and hence re-use of the existing structure. The re-use of the structure has a positive environmental impact through preventing high amounts of energy that would be associated with the demolition phase and the repurposing of a non-biodegradable material for road base or other recycling options.

The design adopts processes that support best practice sustainability outcomes throughout the Stevenson Library Building’s ongoing operational performance. The design of the Stevenson Library Building will ensure spaces may be repurposed to suit future needs.

Environmental Performance

The aim of this report is to outline the passive design principles considered to generate a positive environmental impact and operational performance of the Stevenson Library Building. The design has been a collaborative effort involving an extensive team of consultants, which include mechanical,

electrical, and environmental performance consultants to environmental targets are met.

Sustainable initiatives to be incorporated into the design of the Stevenson Library include:

- Natural Cooling + Cross Ventilation – Refer Fig 1
- Indoor air quality systems to reduce CO2 concentrations
- Passive thermal controls, including thermal mass – Refer Fig 2
- High efficient chilled water air conditioning to supplement natural cooling where necessary working in conjunction with the Building Management System
- Photo voltaic solar energy systems
- Natural lighting
- Low energy, low heat LEDs
- On-site water retention systems

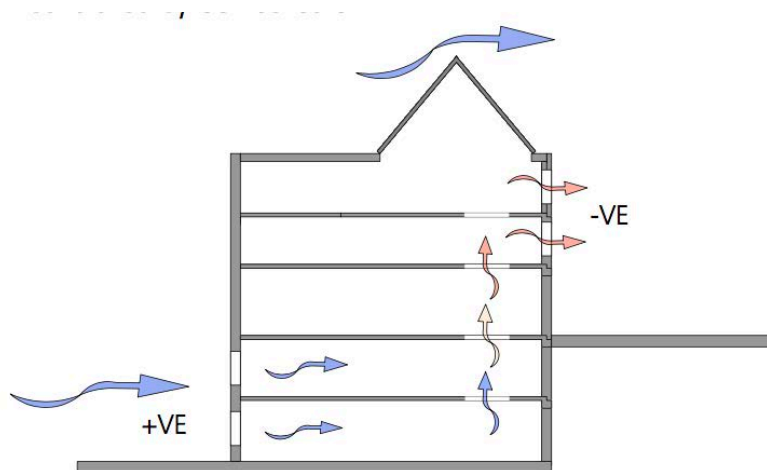


Fig 1 – Natural Cooling + Cross Ventilation techniques in the Stevenson Library

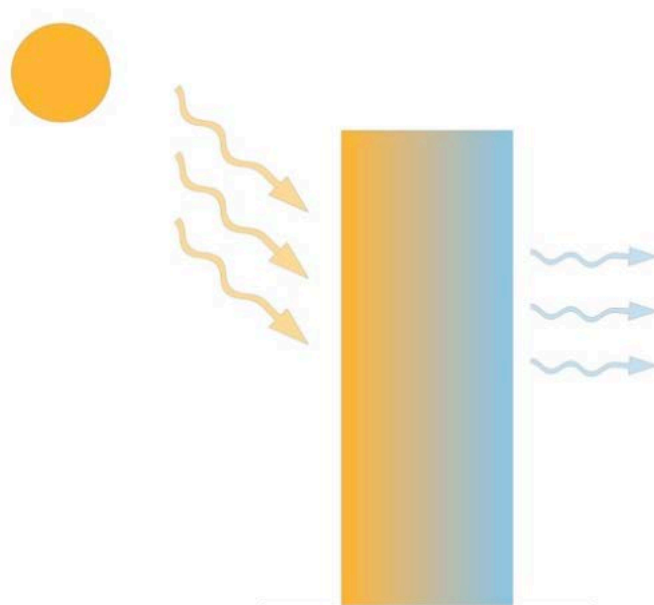


Fig 2 – Thick exterior walls of the Stevenson Library allow thermal mass and passive heating / cooling techniques

Multi-Use Facilities

The proposed Stevenson Library shall be seen as a multi-purpose place, not simply a place. It will specifically bring together all of the pastoral care & support services boys need - from counselling to chaplaincy to allied health - around a setting that normalises access to such care - Refer Fig 3. The internal arrangement of the building shall be such that they accommodate for a wide-variety of active-learning types. The space shall be open to all faculties to use. Furthermore, lecture spaces, formal and informal, are scattered around the Stevenson Library as to facilitate the strategic vision of The College to become "an integrated multi-campus web of active learning opportunities recognised globally as a leading, casing school for boys" - Refer Fig 4. Creating a variety of spaces that are multi-use is a key element of the proposed renovation works - Refer Fig 5



Fig 3 – Variety of formal and informal counselling and mentoring spaces

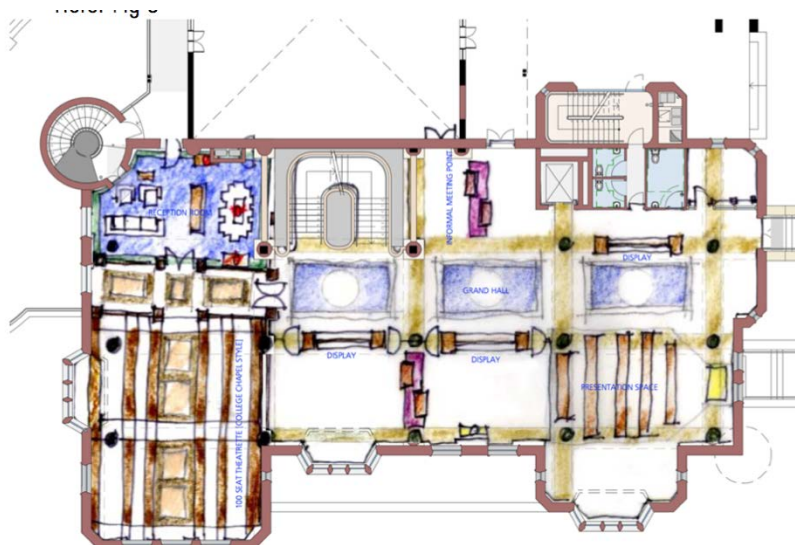


Fig 4 – Variety of presentation spaces are proposed to encourage linkage projects

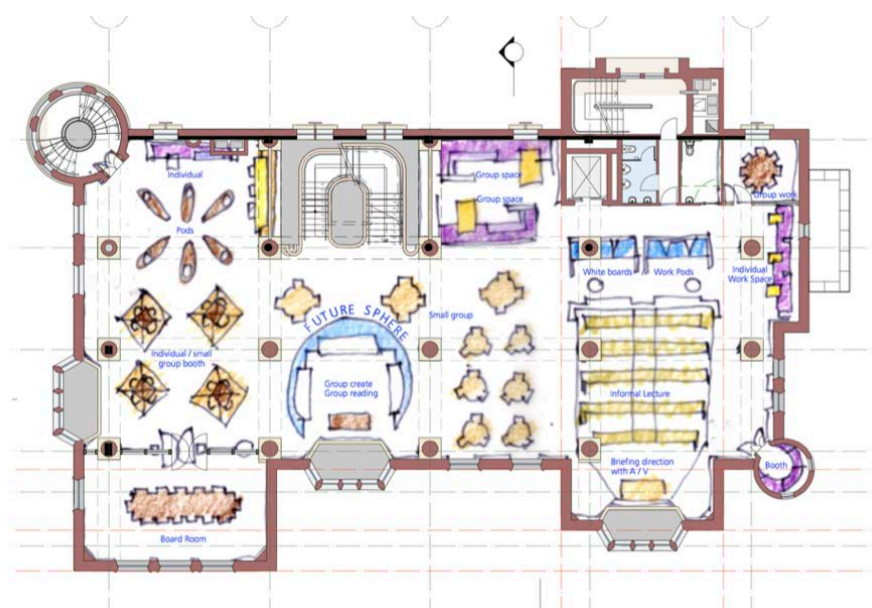


Fig 5 – Variety of active-learning multi-use spaces proposed

Summary

This report provides an outline of & the thinking behind the design decisions & measures taken in consideration to the whole-of-life-cycle approach to the proposed Stevenson Library, as well as the buildings flexibility and adaptability.

DESIGN REPORT: Design Quality Principles – PRINCIPLE 7 Aesthetics

The aim of this report is to describe how the proposal addresses the Design Guide for Schools and the Design Quality Principles set out under Schedule 4 of the Education SEPP.

This report provides an outline of & the thinking behind the design decisions to renovate the current building and improve its overall aesthetics.

Existing Library

The Library building can be described of being in a Neo Brutalist style, with exposed concrete frame & slab, insitu concrete & concrete blockwork infill panels, contrasted with steelwork awning shade structures & dark metal framed glazing, banded horizontally across the principal [Oval] elevation.

Design work began in 1986 by the architects Budden, Nangle, Michael & Hudson, who had designed earlier projects for The College including the swimming pool & Royle House.

It is a five storey, 'muscular' & squat structure & is sited within the embankment along the edge of the Oval, adjacent to Aspinall House and presents as a fairly blank, un-articulated composition, albeit for some large, vertical insitu concrete blades which project eastwards. Refer Figure 1.



Figure1: Neo Brutalist Style & Robust Detailing, Stevenson Library 2018. Source TSC

It's inclusion within the heritage precinct is somewhat incongruous in that it 'jars' with the adjacent & adjoining heritage listed structures which it sits between. These are delicately detailed, particularly Aspinnall House, in stark contrast to the 'robust' detailing of the Library. Refer Figure 2.



Figure 2: Aspinnall House, Italianate Style b 1883. Source TSC 2018.

Aspinnall House b1883 in the Victorian Italianate Style

Sits on an elevated platform whose main elevation addresses Victoria road and not the Oval.
and

The Middle School Building b1914 & renovated in 1938 in the Georgian Revival Style. Sits within the embankment, set the precedent for subsequent buildings to be placed around & address the Oval.

The design & siting of the Library follows the pattern established with the Middle School Building of structures sat within the embankment addressing the Oval. It is of a commensurate scale as the existing buildings, but lacks the richness in detailing and composition of those buildings.

Design

The College has undertaken various studies to refurbish parts of the building, however these have been abandoned as 'band aid' solutions to fundamental difficulties which requires complete re-evaluation.

The Principal Dr Ian Lambert enunciated a vision for the Library as a new 'hub' for the College, a central point for students, staff & visitors as both a Library, a teaching & learning resource & a place to bring counselling staff together and create a Student Support Centre.

That vision also saw the building as an embodiment of a tradition, underscoring a cultural identity & a rich Scottish heritage.

The Scottish Baronial Style is placed correctly between the Italianate Style & Georgian Revival periods and creates a sensitive link which gives the precinct a historical neat fit, representing the association with Scottish history, Scottish values & traditions which are at the core of the Scots culture.

It is important to note that the Scottish Baronial Style was never associated with defensive structures and became popular in the mid to late Nineteenth Century as a style for large houses [for wealthy industrialists].

While it referenced traditional Scottish Tower Houses it borrowed heavily from the French Renaissance.

Refer Figure 3.



Figure 3: Craigends House date unknown. Source Dr A. Disley

The style was exported to North America & Australia and its use was usually associated with people of Scottish descent.

Overnewton in Melbourne is a well known example.

Its application for the renovation of the Stevenson Library is appropriate in that it underscores the College heritage & cultural link with Scotland, while the scale, composition & treatment is far removed from being an institutional form.

The proposal is deliberately articulated as a large house, unambiguously Scottish in origin, fitting within a pattern of buildings more 'domestic' & human in scale and detailing, as they were from the outset in 1895 at St Killian's.

The architectural approach has been carried out in collaboration with a Scottish Architectural Historian [an expert in Scottish Baronial Architect, particularly the work of David Bryce] to ensure that the composition, massing & approach to detailing remains true to the general principles underlying the style.

The design process has involved frequent reference to Bryce's work to consider his response to and resolution of complex design matters, which has in turn informed the approach here.

A report prepared by Dr Alastair Disley can be found in Appendix 1.

It also responds to the intangible cultural significance of the place, with its principle elevation formally addressing and overlooking the Oval. It deliberately provides a raft of vantage points from external terraces to large bay windows to afford continuous views of that space.

jica
architects



Education | Conservation | Residential
PO Box 156 Double Bay
NSW 1360 Australia

T 02 9327 6706
E info@jca-architects.com.au
W jca-architects.com.au

JCA Architects Pty Ltd ABN 53 139 457 784
Nominated Architect
John Cockings NSW A/R6055 AIA

Architectural Approach

One of the greatest exponents of the Scottish Baronial Style was David Bryce 1803 to 1876, an Edinburgh based architect who designed many houses as well as buildings in most of the prominent towns throughout Scotland.

They include Craigends House, Renfrewshire & Fettes College in Edinburgh.

Refer Figure 4.



Figure 4: Illustration of Craigends House. Source Dr A. Disley

His work is of particular interest for the renovation of the Library:

- many were large houses - *of a similar scale & of a similar mass to the Library*;
- they were dramatic & sculptural asymmetrical compositions – *the style enables the renovation to address main entry & access on multiple levels, while formally addressing the Oval*.
- unambiguous 'Scottish' with traditional references & fusion of styles - *underscores the rich heritage & cultural identity of The College*.

The approach enabled the Library design work to explore & apply a range of forms, modelling & massing compositions without being tied to a rigid symmetrical arrangement.

This design to successfully addresses the links with different eternal ground levels around its perimeter, to create an arrival point & a main entrance in the south west corner [where previously there was none] noting that none could be achieved centrally across the main eastern elevation [addressing the Oval].

Features of the composition include a small tower to mark the entry; grand oriel bay windows to take advantage of views to the Oval & beyond while flooding the interior with daylight; a small tourelle to mark the NE corner & large windows looking along the embankment to the north: castellations surround the upper terrace. A small tower element completes the roof profile.

Treatments towards the north west are more subdued in reference to Aspinall House, ensuring that the building neither detracts nor overwhelms its heritage significant neighbour.

Three large arched openings create a colonnade along the ground floor & provide a clear and simple link on to the Oval for the students.

Refer Figure 4.



Figure 4: Illustration of Proposed Renovation. Source JCA Architects

SUMMARY

School buildings and their landscape setting should be aesthetically pleasing by achieving a built form that has good proportions and a balanced composition of elements. Through extensive research, consultation and design, it is the authors opinion that this has been achieved. The proposed Stevenson Library responds positively to elements from the site and its surrounding neighborhood and shall have a positive impact on the quality and character of the surrounding Scots Community. The proposed library shall respond to its existing and desired future context, and contribute positively to the quality and sense of identity of the community.

APPENDIX 1

Report – Assessment of Revised Plans.
Dr Alistair Disley, March 2018



Education | Conservation | Residential
PO Box 156 Double Bay
NSW 1360 Australia

T 02 9327 6706
E info@jca-architects.com.au
W jca-architects.com.au

JCA Architects Pty Ltd ABN 53 739 457 784
Nominated Architect
John Cookings NSW ARB6055 AIA

Proposed Renovation of The Stevenson Library for The Scots College – Assessment of the Revised Plans

Dr Alastair Disley, March 2018



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5. Revised approach

5.1. Introductory note to this addendum

Since the first part of this report was written, the proposals for the Stevenson Library have been substantially revised, and many of my previous comments have been taken on board. It is particularly encouraging to note that not only have many specific suggestions been adopted, but overall the guiding principles of Scots Baronial architecture appear to have been understood at a fundamental level. Where cost, practical constraints, or simply differences in approach have restricted what I have suggested might have been designed by Bryce or other Scots Baronial architects, most of the alternative proposals here now fit well within the developing vocabulary of this particular building.

My approach in this section of the report is therefore not to refer back to my previous suggestions for each section, but to take the entire current proposal anew and address those outstanding issues which I believe would compromise the design integrity of the project. I have primarily used the 3D visualisations as I believe these are more approachable to the non-specialist.

5.2. Materials and detailing



I want to highlight one detail of nomenclature where I may have inadvertently introduced an error in my earlier report: the definition of *tourelle*. Used interchangeably in some sources with other words such as bartizan or turret (neither of which are present in this design), I use it to mean a small round tower corbelled out from a corner, usually with a pointed roof. Where the tower continues down to ground level, such as the entrance here, it is a tower proper rather than a tourelle. We therefore have in this image a conical-roofed tower to the left or SW corner, serving as the entrance, and a tourelle, to the right or NE corner.

I would like to suggest a slightly different approach to the choice of materials here, based on historic examples. As I understand it, the proposal is that the lowest floor is in rough-faced sandstone, most of the window surrounds are in dressed sandstone, the main wall facing is smooth render with sandstone quoins at the chamfered/canted angles, and the render above the upper stringcourse is rougher harling, with the south-west entrance tower and north-east tourelle entirely finished in dressed sandstone. Two sections to the east, around the larger, flatter windows, are also proposed for dressed sandstone sections.

I suggest that a less varied approach is taken to the choice of materials. Bryce houses either used dressed sandstone throughout, or harling, with stone dressing to string courses, window surrounds and other details such as corbelling. There are very few exceptions, and none of the exceptions are like this proposal. A building of this level of detail would unquestionably have been built in smooth-faced sandstone, but this is unlikely to be affordable in the present century.

If we follow the affordable alternative of harling, this would mean that the lower rough-faced stonework, the smooth render above, and the harled render to the top, were all replaced by a single uniform material, probably smooth render but possibly harled. The use of different textures of render is never an intentional design feature in Scots Baronial architecture. I would recommend smooth render, of a natural colour similar to stonework but without any attempt to simulate stonework on its surface, as this would overall give the smooth impression of a historic stone building, particularly as it ages, and reflect local historic examples as well as Aspinall House.

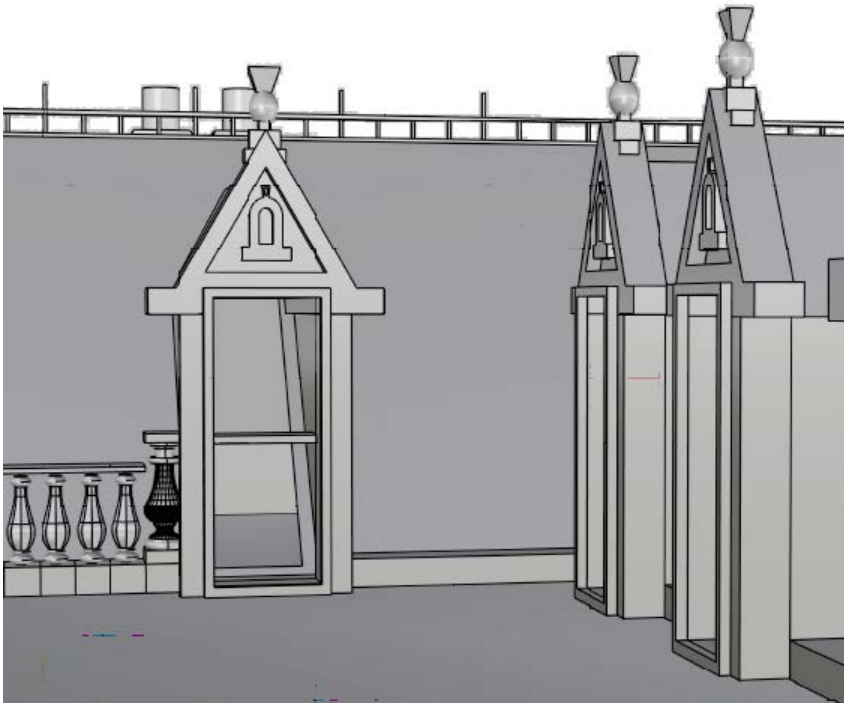
Sections of dressed stonework to the walls among this render would, I fear, create a patchwork effect that would distract from the important design features on this façade. Instead I would recommend that all windows receive a simple dressed stonework surround (the sill, rybats and lintel) but that this does not extend further. I can provide close-up photographs of historic examples should they be desired, and this is the norm in most Scots Baronial rendered buildings.

I would also suggest that the chamfered corners to the two main advanced gables on this front should not be accentuated with fully dressed stone quoins, again as this is not typical of historic examples. Where harling is used, such corners would often be curved to avoid the harling coming to an abrupt corner more likely to crack. Where sharp corners are unavoidable in harled buildings, a thin vertical line of dressed stonework is used at the corner, and I suggest that this is used here at the two corners of each chamfered section. Again I can provide photographs and dimensions of historic examples of these if desired. To avoid doubt, I am not suggesting that a curved corner should replace any of the chamfered corners here, as the overall composition works well as it is.

I would suggest that the tourelle was similarly finished in render, rather than dressed stone, to prevent it from standing out too much against the render it neighboured. Following historic precedents, I would suggest that the corbelling beneath the tourelle, its stringcourse, its immediate window surrounds, and the corbelling to its top supporting the guttering, were all stonework.

While the SW entrance tower could be similarly successfully treated in render with stonework detailing, and this is what would have been done on a Bryce building, it is also sufficiently bold a focus of the building that it could be built in stonework. If stonework is used here and on the NE tourelle (or even on the basement floor) I would draw your attention to the traditional Scottish method which does not use evenly coursed blocks, but precisely squared uncoursed blocks in what is misleadingly referred to as *random rubble*. This permits the use of trimmings and offcuts in the main face of the stonework, while preventing a regular pattern of stone courses distracting from an ideally smooth surface.

I note that on some pictures of the library, there are a number of horizontal and sometimes vertical lines on the flat surfaces. Excepting string courses and corner lines of stonework, typical Scots Baronial buildings would not deliberately have any other lines on the surface. Often drainpipes are inevitable, and sometimes trellises and similar fixings for plants are found, but never other lines such as these. They may well be artefacts of the CAD process or other devices not intended to be transferred onto the actual building exterior. If these are an unavoidable part of modern rendering/harling techniques, I suggest they are minimised as much as possible, and the notion of aligning them with existing horizontal lines of the building seems a sensible one, but they would be better avoided.



The dormers are proposed to have copper roofs and rendered sides. Copper is never found in Scots Baronial architecture. The dormer roofs are slated, although in some examples a century and more of lichen growth has tinged them a slightly copper-like colour. I suggest that copper be avoided due to its colour, and for sections where metal is required on the roof, either lead or zinc be used instead, as is typically the case in Scotland.

Bryce's dormers tended not to be visible from the side – they were masked between larger gables, and usually were not as high as these. They used stone on the side, but where Scottish dormers are more prominent, it is usual to slate the sides, and I propose that is used here for those dormers most visible on a prominent gable, such as at the SE and NW corners. I also propose reducing the size of those gables later in the report. With regard to the gables here, the pronounced surround of the window is not typical – the entire front of the dormer is often slightly proud of the surrounding wall, with decorative features, but the window is then set back within the dormer. I realise that much of this level of detail will be due to the limited resolution of the 3D images, and trust that historic examples will continue to be a useful guide through the refining of these design details. More pictures can be readily supplied.

The carved motifs atop the dormer heads are typically varied in form, and the Scots College may wish to incorporate different symbols here. Fettes College incorporated lead bees on its roof, a symbol of its motto *Industria*.

Copper is also listed as a material for guttering around the tourelle. The Scottish original would be cast iron, painted, but generally aluminium is used as a replacement now which avoids risk of rust staining. Copper, if painted, would not be stylistically inappropriate.

5.3. Massing and general form



The massing of the building has been greatly improved. Although incorporating many elements that do not follow traditional Scots Baronial forms, the alterations to roof pitch, gable treatment, tower height, and the use of a single more muscular tower all combine to form a coherent dramatic whole. Concerns over a lack of clear floor levels have been skilfully addressed, and the solution for the gables, combining a steeper pitch without an over-high ridge height, is very clever.

From a perspective of massing, only two things stand out: the newly positioned chimney, which will be discussed in section 5.4.2, and the lack of a staircase turret to the tower. Every Bryce tower has a staircase turret, often of the Pinkie type such as at Craigends and Eaglesham, and it would probably have been found on the SE corner here. The tower would also have featured a flagpole, although it may not be wished to compete with Aspinall House's existing flagpole.

5.4. Comments on specific elevations

5.4.1. Eastern elevation (over cricket oval)

This elevation is much improved. There is a balance in the asymmetry which is much like Bryce's in principle. The lower two floors now support, rather than distract from, the main upper windows, and although Bryce would probably have dropped the implied main floors and given a double attic, this works well here.

Aside from the material treatment addressed in section 5.2, I would make the following comments. The support for the oriel bay window to the right works well (and, for the avoidance of doubt,

would probably work best in dressed stonework if the remaining lower floor wall surfaces were render, as I have suggested). As the other bay window, in the portion above the balcony, does not have a support that goes all the way to the ground, and as it is at a higher level than the other two bay windows, I would suggest that the support be omitted from this one.



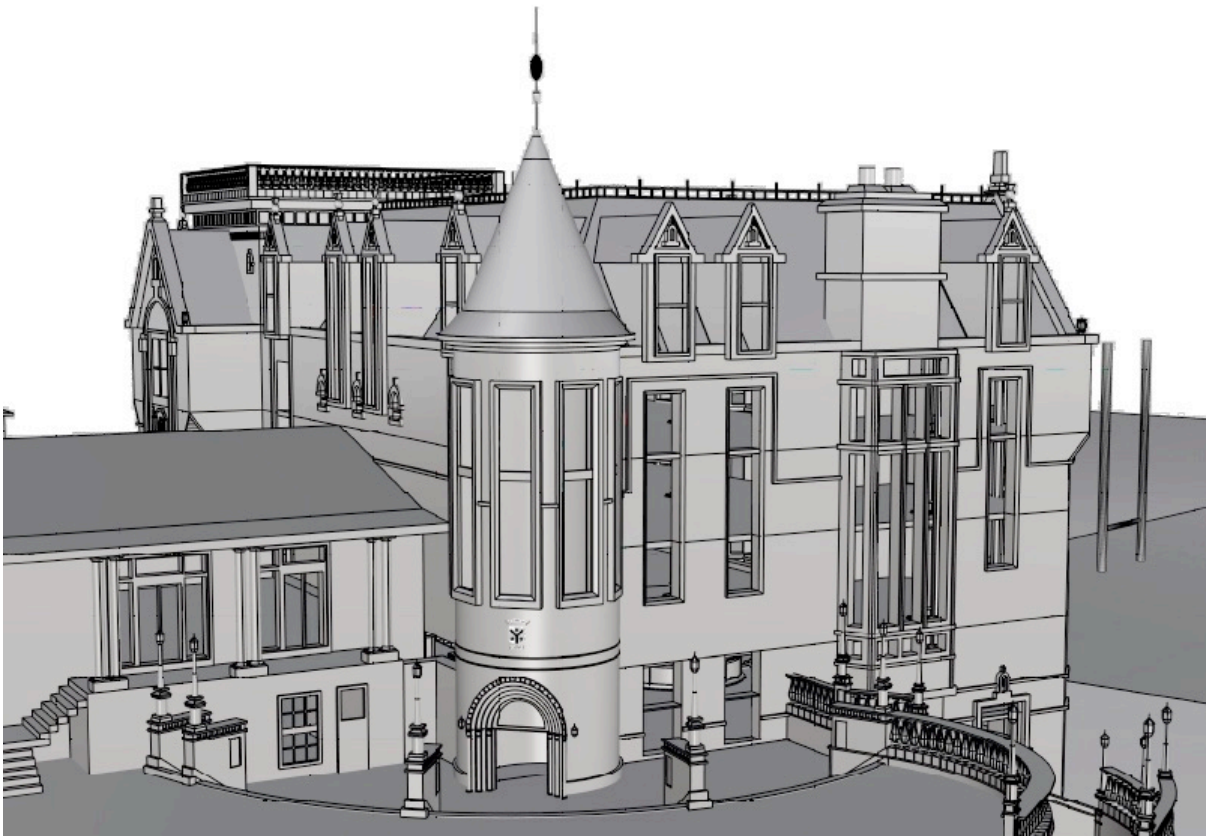
Bryce occasionally omitted the supports – in one case (Ford Castle) the window was later rebuilt not as a bay, in another the support was later added, and while unsupported ones are known elsewhere as vulnerable to collapse, modern construction techniques can allay any such fears so we are entirely considering the visual aesthetic here. I believe that omitting the support from that one central bay window above the lower balcony, but retaining it on the two others, would result in the best visual result, and one that reflects historic precedent in both cases.

The large non-bay windows to this front are atypical, but I have been searching for historic precedents to allow substantial glazing, and I have failed to find anything that offers an improvement over this solution. Their size has the advantage of more easily balancing the two storeys beneath. The heavy window ledges to the centre right pair distract my eye, and I would advise the same neat stone surround to all non-bay windows. The stringcourse should temporarily rise immediately adjacent to the oriel bay windows, in order to meet them at their transom level rather than a little below it.

The arched windows in the gables and elsewhere are not typical of Scots Baronial work, but I note the relationship with Aspinall House next door, and believe that these can contribute towards the development of this building's own stylistic vocabulary.

A Bryce tourelle is typically slightly more recessed than that shown here, although otherwise this tourelle fits the vocabulary well and I would not advocate changing the tourelle itself. Please see the picture towards the bottom of page 9 of the earlier report for a clear example, looking particularly at the corbelling to the tourelle base.

5.4.2. Southern Elevation (towards quadrangle)



Again, I believe this is a much improved elevation. The change in slope to the lower portion of the tower roof is prototypical, but it is worth emphasising that the slates smooth over this change in pitch, and a sudden “witch’s hat” change is only found in Hollywood.

For practical reasons, chimneys tend not to be above windows – fireplaces are usually on interior walls, and the structural support for a large chimney is not often practical over a bay. Here I note the location of the fireplace on the plan, and the improved treatment of it on the elevation reproduced on the next page. Given that a chimney over a window seems visually contradictory, I would recommend trying to minimise it further, perhaps by extending the treatment of the sloped section into a fully-fledged gable, complete with roof pitch behind, with the chimney as slender as possible atop this.

The right-most bay of this elevation speaks more to the eastern façade than the south-western entrance, particularly with the visual separation caused by the oriel bay, and I therefore wonder whether it should match levels with the large windows on the eastern gable front, rather than with the other pair on this elevation. The dormer window above this is also unduly prominent on the eastern façade, and I wonder if it might be set back from the façade, which might also allow a wider gable around the chimney. Once its impact on the eastern gable has been reduced in this way, a matching pair for it could be introduced on the north side of the eastern gable without significantly impacting the eastern elevation, but improving light into that room.

Concerning the fireplace inside, Bryce’s fireplaces were often surprisingly 18th century French. If a more stereotypically Scottish feel is sought, I would suggest looking at his library fireplaces for an inspiration – please ask for more guidance here if desired.



As with the eastern elevation, the stringcourse should rise immediately adjacent to the oriel bay in order to increase its height to that of the transom (which is also the internal floor level) – this would be entirely characteristic of historic string courses.

The entrance doorway to the tower (below) and the large windows to the entrance tower are variously rendered. Those that show the arch protruding from the tower create an ungainly effect, and from the plans it appears that it is intended for both the windows and the door to follow the curve of the tower, which is as would be found in historic examples. If any adaptation is required to allow a flat door or windows to sit within the curved tower, this would be much better inside the tower.

The external finish to the windows is slightly cluttered, with the string-coursing joining the windows fractionally between each light at a lower level than the internal floor visible (although the plans show a staircase here). I realise that on a tower window with at least 180 degrees of glass, the

mullions will have to be more structural than some of Bryce's, but I look back at the staircase window solutions in places like Castlemilk, and wonder if these mullions could be slimmed so that the stringcourse was not visible between the lights. Like the oriel bay windows, the string course could also be raised so that it matched the internal floor level if this was going to be particularly visible externally.

5.4.3. Western Elevation (towards attached building)



Despite the relatively low height, this elevation benefits greatly from the perceived massing given by the square tower element. At the lowest level beneath this tower, the two windows have what appears in this model to be a slim glass slot between them, and another flat window above them. The elevation and plan suggests that these are not windows but plaques or related detailing, but it is worth highlighting their incongruity in case they were intentional.

Elsewhere in the façade, the small arched windows are not traditionally found in Scots Baronial architecture, although some of these arched elements appear to draw inspiration from the use of arches around Craigends' entrance façade. They do not greatly disturb the overall form and their retention is not something I would argue strongly against.

Less successful are the three windows to the middle floor of this elevation. The string-coursing divides in two to surround these windows, which is not typical of stringcourses. The left-most middle floor window is substantially wider than the window beneath it, and I would suggest they match in width. The windows above the doors by the dining room do not have the width issues, but the string coursing should more closely follow the lintels as already done on other windows around the building. There is an implication in the 3D drawings that these three mid-floor windows protrude slightly – this should be avoided if this is the case, unless it is following good historic precedent not immediately obvious in this 3D rendering. Part of the problem with these windows is that the internal floor level implies a sash or glazing bar lower than half-way up the windows,

whereas sash bars are found either exactly halfway up, or above that level. If the glazing bar could be positioned at a higher level, the overall effect would be improved.

I would also favour the reduction in size of the left-most dormer due to its effect on the northern gable, but I will discuss that in the following section.

5.4.4. Northern elevation



This was one of the most difficult elevations due to the dramatic increase in height. Compared to the previous proposal, this is a dramatic improvement. Each element works as part of the whole, which has drama and a taut, unified tower. I will not comment on the lower portions as there are two different schemes for this portion, but I have one concern about the dormers either side of the gable adjoining the tower. While Bryce used full-height dormers such as these, he did not use them in this circumstance where the sides became a prominent part of the gable, blocking the view of the tower. I suggest for these two that they are drawn back significantly towards the ridge line, as suggested at the SE gable. This should not affect the useable space in the room, but will greatly improve the visibility of the tower from this aspect.

5.5. Conclusion

It is clear that the revised plans not only address the majority of my concerns about the detail of the previous proposals, but show a much better understanding of the principles underlying Scots Baronial architecture such as the massing and inter-relationship of elements. The way in which the complex levels have been worked around on the Northern elevation are particularly impressive. I hope that many of my suggestions for these more minor alterations to this proposal, based on historical precedent, will help to make a much improved design better still.

APPENDIX 2
Summary of Refinements
JCA Architects, May 2018



Education | Conservation | Residential
PO Box 156 Double Bay
NSW 1360 Australia

T 02 9327 6706
E info@jca-architects.com.au
W jca-architects.com.au

JCA Architects Pty Ltd ABN 53 739 457 784
Nominated Architect
John Cockings NSW ARB6055 AIA

DESIGN REPORT: Summary of refinements to the design

This summary lists the design amendments undertaken after completion of a design peer review carried out by Scotland based Architectural Historian Dr Alastair Disley.

The peer review was carried in two stages with the first undertaken at completion of concept design work. Dr Disley was engaged to review the design & prepare a report comparing the concept design against the principles of Scots Baronial Architecture, particularly as developed through the work of Scottish architect David Bryce FRSE FRIBA RSA (3 April 1803 – 7 May 1876). The report was also to provide advice on how the design could be developed 'to more closely follow certain core principles'.

The design was subsequently amended & re-issued for a further review.

Dr Disley's Addendum to the Report which reviewed these changes is attached in Appendix 1. The design subsequently underwent a second round of [minor] design development following guidance set out in that addendum. Those drawings form the basis of this submission.

STAGE ONE REFINEMENTS

General design development of massing, proportion, roof forms & fenestration.

Articulation of the ground floor as a basement level, expressed through finish treatments, materials, fenestration & colonnade.

Geometry of colonnade arches developed to more closely follow historical precedent [ie Fettes College, Edinburgh, Scotland].

Articulation of windows arrangements & composition so that the upper level appears as two levels above a basement.

Development of fenestration generally to more accurately follow precedent, including the proportion of fenestration, alignment of mullions & transoms. Stone surround detailing.

Parapet & eave level lowered to reduce the perceived wall height for those 'two' levels.

Increase in roof pitch to more accurately reflect historical precedent.

Development of dormers to establish uniform arrangement.

Raising eave height of both entry tower & tourelle so that they are above the main eave line.

Main gables stepped & articulated with parapet cappings at springing point.

Addition & expression of tower element emerging from roof.

Detailing of oriel bay windows including base detail extending to ground.

Treatment of doors including reduction in number of proposed arched doorways.

STAGE TWO REFINEMENTS

Chimney relocated to 'inner' wall of southern main gable

Gable added above oriel window where chimney relocated.

Dormers set back from the parapet & reduced in scale at key points to minimize visual impact on the main eastern gables.

Stringer course adjusted at oriel bay windows and elsewhere.

Dormers set back from the parapet & reduced in scale on the northern gable where they form part of the elevation, to improve view to the tower element.

NE tourelle recessed further into building.

Simplification of building finishes: smooth render throughout; dressed sandstone surrounds to key features.

Split face sandstone & Harling render deleted.

Sandstone quoining deleted.

Main entry tower changed to un-coursed dressed sandstone.

Dressed sandstone retained for window surrounds [sill, rybat & lintels], plinths & bases, cappings & parapet details.

Minor amendments to fenestration including slimmer stone mullions; size & detailing of three windows on west elevation.

Copper roofing omitted on dormers & replaced with standing seam lead.

Rainwater goods generally in cast iron.

Stair door detailing modified at entry from the second floor courtyard.



Education | Conservation | Residential
PO Box 156 Double Bay
NSW 1360 Australia

T 02 9327 6706
E info@jca-architects.com.au
W jca-architects.com.au

JCA Architects Pty Ltd ABN 53 139 457
Nominated Architect
John Cockings NSW ARB6055 AIA

APPENDIX 3
ACV Supporting Statement
UMEA Supporting Statement



Education | Conservation | Residential
PO Box 156 Double Bay
NSW 1360 Australia
T 02 9327 6706

E info@jca-architects.com.au
W jca-architects.com.au

JCA Architects Pty Ltd ABN 53 739 457 784
Nominated Architect
John Cockings NSW ARB6055 AIA

Ref: P4612z.docx

JCA Architects P/L
PO Box 156
DOUBLE BAY
NSW 1360
Attention: John Cockings

Tuesday, 17 April 2018

Dear Sir,

Re: Major Alterations and Additions to the Stevenson Library
The Scots College
Mechanical Services – Natural Ventilation Strategy

The new library will be provided with a high efficiency chilled water air conditioning system integrated with the provision for natural ventilation to the perimeter and parts of the centre part of the building. The ventilation system will take advantage of the buildings location this being adjacent to the open areas of the playing fields and favourable orientation being ideal to take advantage of the prevailing winds. The incorporation of natural ventilation in to the project is to ensure acceptable internal conditions are provided with an environmentally friendly solution at reduced energy and running costs.

The ventilation will be provided by openable external windows/doors on the open east façade and on the western side at high level above the main access stairs. This will provide cross ventilation through the building. Cross Ventilation is the best option for natural ventilation for this type of building.

To ensure an efficient air conditioning system and avoid inappropriate heating/cooling, the natural ventilation system will be interlocked via the Building Management System (BMS) to ensure the A/C systems are turned off during periods of natural ventilation. The windows and doors will incorporate proximity switches which will, via the BMS, shut off the appropriate heating/cooling valves and stop the supply air fans from operating. In addition control limits for the room internal temperatures will be installed in the BMS to limit the natural ventilation should room temperatures become too hot or cold. As an additional safe guard to ensure satisfactory internal conditions are maintained for occupancy, carbon dioxide (CO₂) detection will be monitored via the BMS to over-ride the natural ventilation and utilise the mechanical air conditioning system.

It is recognised that there will be special seminar and teaching rooms that cannot be adequately served by natural ventilation and they will continue to be treated during occupied times with the mechanical air conditioning system. During periods of high or low external temperatures or during periods of unsuitable climate conditions the natural ventilation system will be closed and the main building air conditioning system will take over.

Acceptable internal conditions for the occupants will be maintained at all times.

Yours faithfully

COLIN BORROWS
BSc. MIEAust. CPEng. NPER

ARCHITECTURAL DESIGN STATEMENT OF SUPPORT
FOR THE
PROPOSED RENOVATION – STEVENSON LIBRARY BUILDING

THE SCOTS COLLEGE, BELLEVUE HILL, NSW 2023.

The College has committed to a high level of environmental performance for the new Stevenson Library Building. In addition to the energy efficiency criteria required in Section J of the NCC 2016, Building Code of Australia, the College is also considering the incorporation of modern and efficient renewable energy technologies within the design of the building.

Proposals are being investigated to;

Install building integrated solar power, photovoltaic, roof tiles.

Install building integrated solar power, photovoltaic, glass panels,

Install Super-Capacitor banks, charged using energy generated from solar powered photovoltaic panels. It is anticipated to activate the super capacitors for peak power lopping thus reducing demand when the network grid is at its peak.

It is envisaged, subject to final design and building constraints, that during periods of low electricity demand by the Library that the connected renewable technology systems will have sufficient capacity to export surplus energy generated to other buildings within the College.

We are committed to delivering a sustainable urban environment and shall integrate best practice energy saving options within the design.

Yours faithfully



Manny Martin,

Director

BEng(Hons), MIEAust, CPEng. NER

28 March 2018

End of Document.

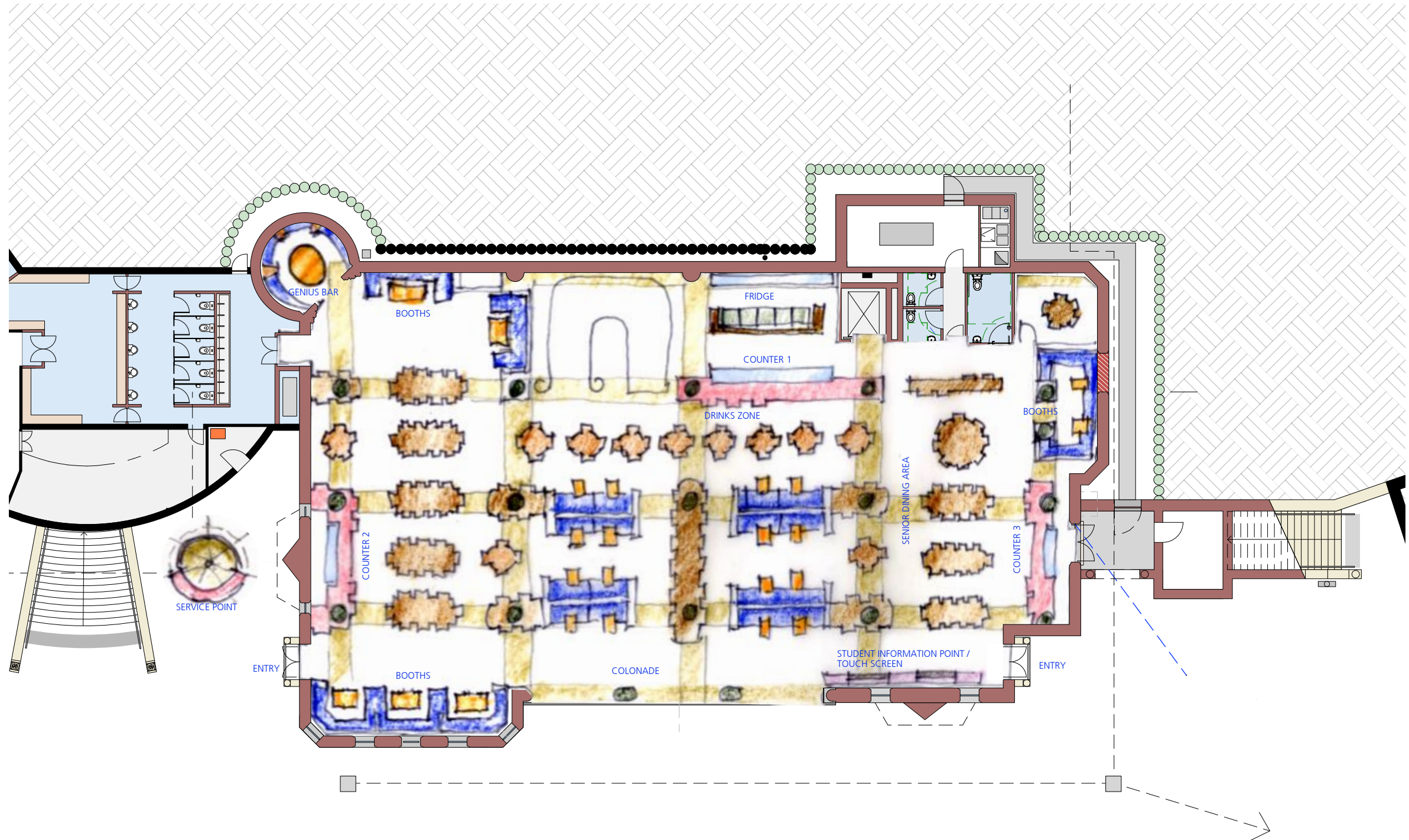
APPENDIX 4
Internal Arrangements Plans.
JCA Architects, May 2018



Education | Conservation | Residential
PO Box 156 Double Bay
NSW 1360 Australia
T 02 9327 6706

E info@jca-architects.com.au
W jca-architects.com.au

JCA Architects Pty Ltd ABN 53 739 457 784
Nominated Architect
John Cockings NSW ARB6055 AIA



1 Proposed Ground Floor Plan
Scale: 1:200. Black Watch

GFA: 635m²

GENERAL NOTES

- Consult with ALL relevant authorities prior to commencing works
- DO NOT scale. All dimensions are nominal + should be confirmed on site prior to commencement
- Obtain setting out information from architect PRIOR to commencement
- Bring discrepancies to the immediate attention of the Architect
- If unsure of any aspect of the works seek instruction from the Architect before proceeding
- All drawings must be read in conjunction with the council consent, specification, schedules, site notes + instructions issued by the Architect
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CONSULTANTS

TPGS
Quantity Surveyors

BBC
Planning Consultant

ADV
Mechanical Engineer

BGA Access
Accessibility Consultant

PSE
Structural Engineer

BCG
BCA Consultant

JCL
Hydraulic Engineer

Riley Mac
Fire Consultant

MCD
Fire Engineer

UMEA
Electrical Engineer



CLIENT
STEVEN ADAMS
THE SCOTS COLLEGE

PROJECT
MAJOR ALTERATIONS + ADDITIONS
TO THE STEVENSON LIBRARY

ADDRESS
29-53 Victoria Rd
Bellevue Hill, NSW

DRAWING TITLE
PROPOSED GROUND
FLOOR PLAN

DRAWN BY
JC, CF, JW

SCALE
1:200 @ A3

ISSUE
PRELIMINARY

REVISION
P8

DATE
MARCH 2018

DRAWING NUMBER



1 Proposed First Floor Plan
Scale: 1:200. Reception + Student Centre

GFA: 668m²

GENERAL NOTES

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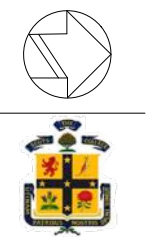
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Fire Consultant

MCD
Fire Engineer

UMEA
Electrical Engineer



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STEVEN ADAMS
THE SCOTS COLLEGE

PROJECT
MAJOR ALTERATIONS + ADDITIONS
TO THE STEVENSON LIBRARY

ADDRESS
29-53 Victoria Rd
Bellevue Hill, NSW

DRAWING TITLE
PROPOSED FIRST FLOOR PLAN

DRAWN BY
JC, CF, JW

SCALE
1:200 @ A3

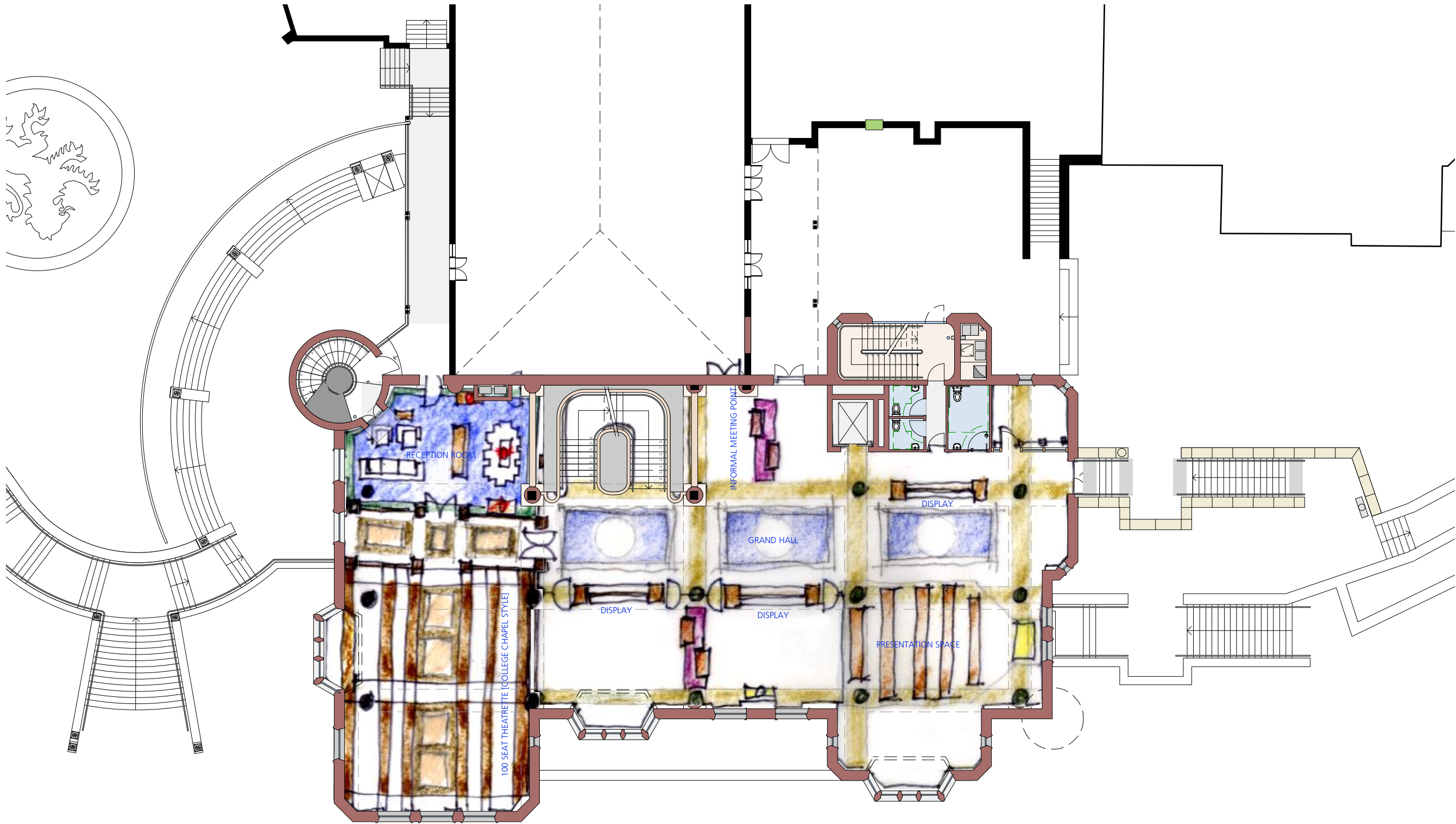
ISSUE
PRELIMINARY

REVISION
P8

DATE
MARCH 2018

DRAWING NUMBER

SSD1.02/17-202.1



1 Proposed Second Floor Plan
Scale: 1:200. Theatre + Grand Hall

Floor Area: 575m²

Education | Conservation | Residential
 PO Box 760 Broken Bay
 NSW 2263 Australia
 T 02 9227 6706
 E info@jca-architects.com.au
 W jca-architects.com.au
 JCA Architects Pty Ltd ABN 53 004 457 794
 Registered Architect
 John Cocking NSW 188685 AIA

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TPDS
Quantity Surveyors

BBC
Planning Consultant

ADV
Mechanical Engineer

BGA Access
Accessibility Consultant

PBE
Structural Engineer

BCG
BGA Consultant

JCL
Hydraulic Engineer

Riley Mac
Fire Consultant

MCD
Fire Engineer

UMEA
Electrical Engineer

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THE SCOTS COLLEGE

PROJECT
MAJOR ALTERATIONS + ADDITIONS
TO THE STEVENSON LIBRARY

ADDRESS
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DRAWING TITLE
PROPOSED SECOND FLOOR
PLAN

DRAWN BY
JC, CF, JW

SCALE
1:200 @ A3

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PRELIMINARY

REVISION
P7

DATE
MARCH 2018

DRAWING NUMBER
SSD1.02/17-203.1