CULTURE, TOURISM, EUROPE AND EXTERNAL AFFAIRS COMMITTEE

AGENDA

29th Meeting, 2018 (Session 5)

Thursday 15 November 2018

The Committee will meet at 9.30 am in the Adam Smith Room (CR5).

1. **Glasgow School of Art**: The Committee will take evidence from—

   Muriel Gray, Chair of the Board of Governors, Prof. Irene McAra-McWilliam OBE, Deputy Director (Innovation), and Liz Davidson OBE, Senior Project Manager, Mackintosh Building Restoration, Glasgow School of Art.

2. **Consideration of evidence heard (in private)**: The Committee will consider the evidence heard earlier in the meeting.

   Stephen Herbert
   Clerk to the Culture, Tourism, Europe and External Affairs Committee
   Room T3.40
   The Scottish Parliament
   Edinburgh
   Tel: 0131 348 5234
   Email: stephen.herbert@parliament.scot
The papers for this meeting are as follows—

Note by the Clerk

PRIVATE PAPER

CTEEA/S5/18/29/A

CTEEA/S5/18/29/1

CTEEA/S5/18/29/2 (P)
Culture, Tourism, Europe and External Affairs Committee  
29th meeting, 2018 (Session 5) Thursday 15 November 2018  
Glasgow School of Art

Introduction

1. The Committee will take evidence from the Glasgow School of Art in relation to their management of the Mackintosh Building.

 Witnesses

2. The Committee will hear from the following witnesses:
   - Ms Muriel Gray, Chair of the Board of Governors
   - Professor Irene McArar-McWilliam, Deputy Director (Innovation)
   - Liz Davidson, Conservation Architect for the GSA

Background information

3. The following information has been provided to inform this evidence session:

   3.1 Glasgow School of Art:
   - 3.1.1 Witness Biographies
   - 3.1.2 Written submission
   - 3.1.3 The Glasgow School of Art, Estates Options Appraisal Draft, The Bond Bryan Partnership, February 2005
   - 3.1.4 Diagram of GSA Board and Committee Structure as at 1 November 2018
   - 3.1.5 Glasgow School of Art, The Mackintosh Building, Stage 3 – Fire Protection Strategy Options Summary, Buro Happold, FEDRA, July 2006
   - 3.1.6 GSA Mackintosh Building, Property Protection Feasibility Study, Buro Happold, FEDRA, July 2008
   - 3.1.7 The Glasgow School of Art: Mackintosh Restoration Project, Project Governance and Management Structure
   - 3.1.8 The Glasgow School of Art, The Mackintosh Restoration Project, Project Governance Structure Committee Membership
   - 3.1.9 Glasgow School of Art Rebuttal Statement
   - 3.1.10 Protecting the GSA Heritage Guidelines for commercial use of the Mackintosh Building
   - 3.1.11 Accessing the Mackintosh Building, August 2016
   - 3.1.12 Estates - Site Rules
   - 3.1.13 The Glasgow School of Art: Scottish Funding Council Museums, Galleries and Collection Grant, March 2018
   - 3.1.15 Fire Safety Management and Estates Health and Safety Policy Development Plan 2017-2018
3.2 Page/Park Architects:

3.2.1 Comments on the Official Report of CTEEA Committee’s meeting on 25 October 2018
3.2.2 Follow-up questions on insulation

3.3 Roger Billcliffe and Stuart Robertson e-mail of 24 September 2018

3.4 Garnethill Displaced Residents Group e-mail of 2 November 2018

3.5 Stewart Kidd written submission

3.6 Professor Tony Jones written submission

3.7 Dr. Katrina M. Brown written submission

4. All other written submissions received can be viewed on the Committee’s website.

5. The Official Report from the Committee’s previous consideration of the GSA can be viewed via the following links:

- 20 September 2018
- 25 October 2018

Mark Johnson
Assistant Clerk
CTEEA Committee
GLASGOW SCHOOL OF ART WITNESS BIOGRAPHIES

Ms Muriel Gray BA (Hons) FRSE Chair of the Board of Governors
Muriel Gray is a graduate of GSA and worked as a professional illustrator before joining the National Museum of Antiquities in Edinburgh as assistant head of design. A full time career spanning over two decades in the media followed, from presenting many diverse network radio and television programmes, to producing and directing, and then founding her own award winning production company which grew into the largest in Scotland. She is also known as a political opinion writer in many publications and continues to contribute regularly to The Guardian. She has won several prizes for journalism including columnist of the year at the Scottish press awards.

She is the author of five books, three novels and two non-fiction, and many short stories and essays. Two of her books have been shortlisted for the prestigious British Fantasy Award. She was the chair of the judges for the 2007 Orange Prize for Fiction, and serves annually on both BAFTA and the Royal Television Society Awards juries. Muriel is a former rector of Edinburgh University, the first woman to have held this post, and has been awarded honorary degrees from the University of Abertay and The Glasgow School of Art and Glasgow University.


Professor Irene McAra-McWilliam MA FRSA OBE Deputy Director (Innovation)
Before starting in Glasgow in September 2005, she was Professor and Business Fellow in Innovation at The Royal College of Art in London and Head of the Interaction Design Department. As Professor of Design Research at the University of Technology in Eindhoven, The Netherlands, she examined ways in which technology can enhance community and social sustainability.

She was Director of Design Research at Philips Electronics in the Netherlands and was responsible for the vision and direction of Philips global Design Research portfolio in areas such as ambient intelligence, interaction design, brand design, and user experience and set up design teams in Philips Research Laboratories worldwide to contribute to the company’s long term technology research and innovation strategy. As Philips representative for the European Commission’s visionary research activities, she created and coordinated the EC research theme Connected Community, and directed the award-winning project Living Memory.

Professor McAra-McWilliam is a frequent speaker at international conferences and is a consultant to industry and government. She has been voted one of fifty top design leaders by the UK’s Design Week magazine and is an expert in design innovation and digital culture.

Professor Irene McAra-McWilliam was awarded an OBE in the 2016 Queen’s New Year’s Honours, in recognition of her work in Higher Education, Innovation and
Design. The award recognised the wide impact of her work at The Glasgow School of Art over many years, notably her leadership of the School of Design, the Institute for Design Innovation (now the Innovation School), the developments in the Highlands and Islands and leading on the research, learning and teaching centred on Mackintosh following the 2014 fire.

Liz Davidson IHBC Hon FRIAS OBE
Since graduating from Edinburgh College of Art as a post graduate in Architectural Conservation, Liz has been involved in most aspects of Scotland’s built heritage.

Most recently she was head of Heritage and Design at Glasgow City Council with an active statutory role in maintaining the highest standards of historic building repair and maintenance in conjunction with encouraging the best and most inspirational designs in contemporary incursions and new development.

Previous to this she led the Heritage Lottery funded Townscape Heritage programme to regenerate the Merchant City through an extensive arts led programme of building repair, repaving and lighting of main streets, proactive cultural and creative business strategy, public art commissions, street markets, and the now annual Merchant City festival.

Earlier posts included that of director of Glasgow Building Preservation Trust, a charitable property developer rescuing and bringing back to life numerous historic buildings including St. Andrew’s Square Church, the Tobacco Merchants House, Wellpark Enterprise Centre and the iconic blue ‘Tardis’ police boxes, not long since threatened with an ignominious death-by-crusher.

Whilst at the Trust, Liz also pioneered Doors Open Day which introduced the UK’s first free mass architectural participation event, providing access to significant modern and historic buildings and to interiors which had rarely before been glimpsed, even by their closest neighbours.

A two year secondment to Historic Scotland also saw the development and launch of the multi million pound Conservation Area Regeneration Scheme (CARS) programme whereby urban areas from Whithorn to Wick have devised programmes of restoration and transformation of some of Scotland’s finest historic burghs encompassing the relearning of traditional skills, repaving of public squares and streets and meticulous conservation of key examples of the area’s architectural heritage - leading to wider economic and social regeneration for communities throughout Scotland.

Previous to that, case work across Scotland for the Scottish Civic Trust has given Liz an extensive background in local vernacular architecture in addition to trustee positions on the former Historic Buildings Council for Scotland, the Architectural Heritage Fund and Strathclyde Building Preservation Trust.

As former chair of the UK Association of Building Preservation Trusts Liz gained a deep insight into both those organisations which seek to raise funding and investment to maintain and restore the country’s best architectural inheritances and those organisations that wish to support these efforts through grants and loan
finance.

In 2010 Liz received an OBE for services to conservation and the built heritage in Scotland.
Introduction:

The Board of Governors and Management Executive welcome the opportunity to address Members of the Committee, as democratic representatives of the people of Scotland. This opportunity allows us to reach out to all of those affected by and concerned about the June 2018 fire in the Mackintosh Building and its impact on a Category A listed building of national and international importance, as well as to our community, staff and students. It also allows us to address the rumours, supposition and speculation circulating since the 15th June by setting out the factual position, albeit prior to the conclusions of the Scottish Fire and Rescue Service investigation.

We are in the midst of one of the most challenging periods in our history as we deal with this terrible event, which has shocked not only those within and connected with the School but also within the local community, Glasgow, Scotland and beyond. Our Board, management team and staff are now dealing with the daily consequences as we carry out our duties and responsibilities to our students and their educational needs. We are fully aware of the intense public interest in the situation and we have been fully engaged with that public interest since 2014 to explain our approach, our restoration intent and academic ambitions following the 2014 fire, and we have done our very best to engage openly since the 2018 fire. We also have to be mindful of ongoing investigations and related statutory processes.

We wish to record our gratitude to the Scottish Fire and Rescue Services whose response and assistance with the fire and its aftermath have been exemplary, for the support provided by Police Scotland and the patience and understanding of our immediate and the wider community who have been affected so badly by the fire. We are also grateful for the expertise and input of both Historic Environment Scotland and Glasgow City Council, specifically Building Control, with whom we have been working closely and collaboratively since the events of 15th June 2018.

The Structure of the Submission:

1. To set the context for our submission, we wish to explain the functional role of The Glasgow School of Art (GSA) as a Higher Education Institution, our educational achievements and the importance of the Mackintosh Building to that educational function and to the local, creative and cultural community.

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1 http://www.gsa.ac.uk/about-gsa/mackintosh-building-restoration/restoration-project-updates/
2 http://www.gsa.ac.uk/about-gsa/key-information/mackintosh-building-fire-15-june-2018
2. We will then respond to the main issues already raised in evidence before the Committee:
   a. Is our Corporate Governance fit for purpose?
   b. Is our estate management fit for purpose? With particular reference to the Mackintosh Building and addressing specific points made during the Committee sessions;
   c. Is our Risk Management Framework fit for purpose;
   d. Was the procurement process for the Mackintosh Building Restoration Project fit for purpose? With particular reference to the GSA internal project management and governance arrangement;
   e. The lessons learnt from the 2014 fire.

3. We will then address a range of specific issues raised during the Committee hearings and in the press.

The Glasgow School of Art:

The Glasgow School of Art (GSA) is a Higher Education Institution and our core function is education. Our principal duty centres on teaching, research and knowledge exchange and that duty is underpinned by our history and shapes our future. In discharging our educational duties, we are proud of the School’s achievements on:

**Diversity:** We have one of the largest percentages in Scotland of students from SIMD20 postcode, the most disadvantaged people of Scotland, and we remain committed to widening participation. The most recent national statistics available show that, in 2016-17 14.2% of Scotland-domiciled students at Scotland’s universities came from SIMD20 areas. For the GSA this is 22.3%, the second highest in Scotland and already exceeding the Scottish Government targets for 2030 of 20%.

As an international art school which values diversity it is fundamentally important that our student community reflects this. There is immense educational, social and cultural value in this diversity with students from Dalmarnock learning alongside those from Morningside, London, Berlin or New York.

**Accessibility:** Over 1,500 non-degree students attend our Open Studio annually, covering a range of pre-degree programmes, summer schools, leisure classes and CPD. These students are drawn from across Scotland and importantly for the GSA, Glasgow and the diverse communities of Glasgow.

We work with a number of Scotland’s colleges and have formal Associate Student programmes with Glasgow Clyde College and Forth Valley College, providing an alternative route for learners to access GSA’s creative education. We have recently

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3 Categorised as a Small Specialist Institution by the Scottish Funding Council
signed a Memorandum of Understanding to develop academic activity with Dumfries and Galloway College and are working closely with Glasgow Kelvin, City of Glasgow College and West College Scotland on developing formal articulation routes to GSA undergraduate programmes. We have a unique relationship with Renfrewshire Council and Castlehead School in Paisley to develop teaching models using creative practice and we have a campus in Moray, working closely with Highlands and Islands Enterprise and Highland Council bringing creative education and research to rural and diverse locations.

**Cultural Benefits:** We contribute to and are central to the cultural life and standing of Glasgow and Scotland. Our cultural engagement programme is a central part of Glasgow's cultural offer with free international exhibitions, talks and events open to staff, students, the wider public and the creative and cultural community in the city. We participate in city-wide events and festivals including Glasgow International, the 2014 Commonwealth Games, (where we produced the medals and delivered a major exhibition), Doors Open Day and the recent European Championship 2018 Cultural programme. We provide loans from our archive and collections, most recently to Glasgow Life for the major Mackintosh 150 exhibition at Kelvingrove, which is now due to tour across the UK and USA which will include additional works from the GSA’s collection.

**Community Benefits:** Many staff and students live within a short distance of Garnethill and a large percentage of staff, including senior staff, live in Glasgow and play an active part in the life of the city as responsible and engaged neighbours. Through our staff and student community, we contribute to the cultural and social diversity of Glasgow.

**Economic Benefits:** Economic benefits include the spending by students (c. 2,350 full-time plus c. 1,500 on short courses), staff (c. 375 employees from cleaners and janitors, technicians, professional services and academic staff) and the School (annual turnover of c. £37m). In addition, our graduates stay in Glasgow and contribute directly and indirectly to the economy by creating jobs in new creative and other businesses that contribute to Glasgow’s standing as a creative capital with a diverse economic base.

**Creative Capital Glasgow:** The GSA is a core part of Glasgow’s international ranking and standing as a creative capital, a European centre of contemporary art practice, a leading design city and a city of cultural production.

We are proud to have been part of Glasgow’s economic and cultural regeneration since the mid-1980s and are committed to ensuring that Glasgow remains one of the largest creative centres in the UK and internationally significant. Central to this is the output, impact and international standing of The Glasgow School of Art, our heritage, our staff and students, with 35% from outside the United Kingdom and a further 25% from outside Scotland. 61% of our academics are engaged in research of

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4 Research Excellence Framework 2014

UK-620029951.6 3
international and national significance and they and our graduates are central drivers of not only Glasgow’s creative and cultural industries but across Scotland.

**Glasgow’s Built Heritage:** The GSA is central to Glasgow’s built heritage. Apart from Mackintosh’s impact, graduates of the School have made a significant contribution to the city’s historic and contemporary architecture, place and public realm. The School is an active member of the City-wide Mackintosh Operations Group, established through initial funding from Glasgow Life, The Glasgow School of Art and the Hunterian Museum, University of Glasgow, which working collaboratively with other owners of Mackintosh heritage to manage and promote these unique assets and as a gateway to the Glasgow’s exceptional architecture, art and design.

**Creative Influence:** The GSA’s creative influence extends before and after Mackintosh. Charles Rennie Mackintosh was a product of what was happening in Glasgow at the turn of the 20th century, a result of the 18th century Foulis Academy and the 19th century Government School of Design.

*We are presently in a similar defining moment – this is as much about Glasgow’s global position as a creative capital as it is The Glasgow School of Art and the creative people we educate.*

The Role of the Mackintosh Building:

The Mackintosh Building was commissioned in pursuit of our educational function at the turn of the 20th century. It was a response to a significant increase in student numbers and the growing importance to Glasgow’s economy of design in its manufacturing base. The building’s importance to our educational function cannot be overemphasised, and its design as a working art school is fundamental. A report5 on the School’s Estate summarised the importance of the Mackintosh Building to the School, as follows:

“The Mackintosh Building (commenced in 1897) designed by Charles Rennie Mackintosh is an exceptional building, a universally recognised design icon and a very central part of the School’s identity. Despite being the School’s oldest building, RMJM’s aforementioned study recognised it as the best within the Estate. Yet its significance is much greater than that. The Mackintosh Building stands as a symbol of an enduring central philosophy that has existed within the School since its early years: that artists and designers have relevant contributions to make in all aspects of life, and that students should be taught in a manner that will allow them to become successful practitioners once formal education is complete. Charles Rennie Mackintosh was a former student of the School and the building displays many of the ideas and art of that early 20th Century artistic movement known as ‘The Glasgow School’, most of whose members were once Glasgow School of Art students. The Building is recognised as the finest work of one of the 20th Century’s great architects,

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not only for its striking and beautiful looks both inside and out, but for its technical and aesthetic innovation, its integration of decoration and structure, its spatial organisation and its delivery of highly practical studio spaces with high ceilings and excellent north lighting. The School finds it difficult to conceive of a future that would not include the Mackintosh Building.

The fire of June 2018 has further strengthened our resolve to restore the Mackintosh Building both to its rightful place in the School’s future and to its central position in the international standing of Glasgow as a creative city. The Mackintosh Building has functioned effectively as a working School of Art from the outset. Its design and structure are a central component of our students’ creative education and creative practice.

The Glasgow School of Art and its Local Community:

Our Glasgow campus, including the Mackintosh Building, is located within Garnethill, a part of the city with its own community and identity. We want to record our gratitude for the forbearance of members of the local community as they dealt with and continue to deal with the impacts of the 2014 and 2018 fires and ongoing regeneration of the area undertaken by the GSA and others.

We fully support Glasgow City Council’s aim to transform Sauchiehall Street/Garnethill as part of their City Centre Strategy. The restoration of the Mackintosh Building with improved public access can be an important component of the Council’s strategy to revitalise this area and we will continue to work closely with the Council and other stakeholders to maximise the social, economic and creative benefits for our community and our city resulting from the events of June 2018.

Our Corporate Governance:

During the Committee Session on 20 September 2018, it was suggested that our Board of Governors and Management team were not ‘fit for purpose’. A review of the official transcript demonstrates that this suggestion was based on personal opinion and speculation. It appears to make a causal link between our corporate governance and the occurrence of the second fire despite the fact that the cause of that fire is not yet known. There was no expert evidence provided on HEI corporate governance standards. Moreover, none of the witnesses had any direct involvement in the management of the School during 2014 or later. In particular, Eileen Reid’s statement that “I left the institution in November 2014” is potentially misleading the Committee, if Members assumed she was directly involved in the School up until November 2014. Perhaps she could confirm the facts for the record.

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6 Page 7 of transcript of 20th September 2018
As an HEI, we receive funding from both public and private sources\(^7\). We recognise our responsibilities to a wide range of stakeholders, including students and staff, alumni, employers of our graduates, partners in research and development, the Scottish and UK Governments and other funders and supporters. Our corporate governance structure aligns with that of the Scottish HE sector. We have a published Statement of Corporate Governance in place and we comply with the Scottish Code of Good HE Governance\(^8\) (2017). In 2016/17 we initiated an externally led governance review, which concluded that the School’s governance was effective. We published the summary review and our response to the recommendations on our website.

In relation to the composition of our Board\(^9\), we were the first Scottish HEI to appoint a female Chair and we have equal membership of male and female lay governors, as well as two trade union representatives in attendance. Our Governors have an appropriate range of skills, expertise and experience\(^10\) to enable them to discharge their duties effectively.

The GSA is subject to the same audit and performance management regulatory framework as every other HEI in Scotland and produces an annual Outcome Agreement approved by the Scottish Funding Council. There is no evidence from those processes to support the conclusion that our Board and Management Team are not fit for purpose. In the academic year up to the second fire, we were, inter-alia:

- Delivering the Mackintosh Building Restoration project, on-target for completion 2019 and within budget
- Reinvigorating our curriculum through the First Year Experience project which would have housed all Year 1 students within the restored Mackintosh Building;
- Delivering the Stow Building refurbishment as a new home for the School of Fine Art. We increased the scope of this refurbishment project to include the installation of a sprinkler system, a new heating system and replacement windows. It will be completed in Spring 2019 with formal opening in May 2019 for the Degree Show and entry for Academic Year 2019/20;
- Maintaining our high levels of student recruitment and the diversity of our student body as well as exceeding our Scottish Funding Council targets on widening participation and articulation;
- Continuing to comply with Scottish Code of HE Governance, holding an annual Board away day and appointing five new Lay Governors;

\(^7\) In 2016/17 the GSA received 35% of its £40.7m income from the SFC, less in percentage terms than the universities of Strathclyde, Stirling, QMUC, RGU, Napier, GCU, Abertay, UWS, UHI and the RCS.

\(^8\) Full compliance requires revision of extant legal instruments, which is in hand, in common with the rest of the Scottish HE sector.

\(^9\) GSA Document 2: Diagram of GSA Board and Committee Structure as at 1 November 2018

\(^10\) [www.gsa.ac.uk/about-gsa/our-people/governors/biographies/](http://www.gsa.ac.uk/about-gsa/our-people/governors/biographies/)
• Instructing an internal Audit review\(^\text{11}\) of our Business Performance Management and Risk Management; approving a new Risk Management Framework, including a Risk Management Group and appointing new Internal Auditors;

• Achieving turnover growth and a small annual surplus

• Continuing to work collaboratively including the Universities Scotland Fair Admissions (including a leadership role in the Language Group through GSA’s Innovation School delivering workshops); continued engagement with Glasgow Life; Glasgow Economic Leadership; city-wide Mackintosh Operations Group, Universities Scotland Branding Group, internationalisation activity including recruitment, research projects with other universities including the University of Strathclyde in drug manufacture, with the University of Strathclyde in teacher training and through our Enterprise Studio and the delivery of a collaborative Summer School programme with the Royal Conservatoire of Scotland.

Our collective governance and management skills have helped us to deal with one of the most significant events in the history of the School whilst continuing to deliver for our students, staff and Scotland articulated through our Scottish Funding Council Outcome Agreement.

*We are a successful higher education institution and it does not follow that, because we are experiencing a crisis, we must have caused the crisis.*

Our Estate Management:

The submission to the Committee by Park\PAGE dated 17 October 2018 summarises work undertaken in relation to the maintenance, management and conservation of the Mackintosh Building from 1993 onwards and the consistent level of responsibility and care we have applied as custodians of this working art school building of significance. We confirm our agreement with their summary.

General Overview:

In 2005, the School commissioned an Estate Options Appraisal\(^\text{12}\) in preparation for a new Estate Strategy. This 2005 appraisal report concluded that the existing estate required significant investment and upgrading but with "one very noticeable exception: the Mackintosh Building" which had been subject to a comprehensive phased programme of repair and conservation work since 1997. The GSA Board approved the Estate Strategy in 2007. It is a dynamic, ongoing process and remains the School’s approach to Estate Management to date.

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\(^{11}\) GSA has in place an external auditor to undertake a planned programme of internal audit reviews. Prior to AY2018/19 this was BDO. Post AY 2018/19 Henderson Loggie

The Mackintosh Building:

In 2005, we commissioned a Conservation and Management Plan for the Mackintosh Building. A key objective was to improve public access to the building and to its collections and archives in line with huge public interest in Charles Rennie Mackintosh. This Plan supported successful grant applications to the Heritage Lottery Fund and Historic Scotland. With the funding secured, we developed the Mackintosh Conservation and Access Project, which started in 2007 and was ongoing until the 2014 fire. Major funders towards the Project included the Heritage Lottery Fund, ERDF, Historic Scotland, Glasgow City Council and the Monument Trust.

In parallel with the Mackintosh Conservation and Access Project, we reviewed our fire safety/prevention procedures for the Mackintosh Building. It is important to note that the fire prevention and safety measures in the Mackintosh Building were already compliant with what was permissible and suitable in listed buildings in general and in the Mackintosh Building in particular taking cognizance of its status as a working art school. Those measures included:

- Provision of automatic fire detection;
- Provision of CCTV in key areas;
- Provision of Alarm call points and alarm sounders throughout the building;
- Positioning of full fire extinguisher provision throughout the building;
- Provision of security staff within the building on a 24/7 basis.

In 2006, we commissioned a Fire Protection Strategy\(^\text{13}\) to review feasible options “for the long term protection of the occupants, property and contents of” the Mackintosh Building. This Fire Protection Strategy led to the Property Protection Feasibility Study\(^\text{14}\). The outcome of this Study was our decision to proceed with the installation of a ‘water mist fire suppression system’ within the Mackintosh Building as an additional measure to protect life, the building and its contents.

The installation of a ‘water mist fire suppression system’ in a Category ‘A’ Listed Building is far from straightforward. Our proposal involved the application of appropriate, highly specialist technology to the protection of a working Category A listed building from fire damage, for which there was very limited precedent. We sought and received the agreement of Historic Scotland, Glasgow City Council (GCC) Building Control and our Insurers.

At the Committee Sessions on 20 September and 25 October, three questions were raised on this matter:

\(^{13}\) GSA Document 3: Glasgow School of Art, The Mackintosh Building, Stage 3 – Fire Protection Strategy Options Summary, Buro Happold, FEDRA, July 2006

1. Having decided in 2008 to install a ‘water mist fire suppression system’, why did it take so long?
2. Why not address compartmentation rather than install a ‘water mist fire suppression system’?
3. Was the GSA Fire Plan more about evacuating people rather than protecting the asset?

1. **Programme for installation of ‘water mist fire suppression system’:**

There were two main reasons for the time taken: funding and the discovery of asbestos in the Mackintosh Building.

Once we obtained approval in principle to install a ‘water mist fire suppression system’ from Historic Scotland, GCC Building Control and our insurers in January 2009, we had to secure funding. As approaches to Historic Scotland and the Heritage Lottery Fund were unsuccessful, we had to initiate an external fundraising exercise, which started in 2009 and lasted until autumn 2012, by which time we had raised £520,000. For the record, Historic Scotland were supportive of our proposal but they confirmed that they were only empowered to provide grant aid for repairs to listed buildings, not improvements.

The contractor started in July 2013, one month after the grant of listed building consent. In November 2013, the contractor discovered asbestos in a void space above the main entrance area. Works carried on in other parts of the building. The removal of asbestos from a void immediately above the main entrance area posed an unacceptable health and safety risk when students, staff and visitors were still using the building. We had no choice therefore other than to re-programme the asbestos removal until the end of June 2014 during the summer holidays to allow for its safe removal and minimise impact on the student experience. The mist suppression system installation would have been completed subsequently ready for the commencement of the Academic Year 2014-15.

It was suggested to the Committee that the asbestos should have been previously removed specifically between 2007-2009. The position is that asbestos, where it was known to exist, was removed during those conservation works. However, the asbestos in the entrance hall was not discovered until this area was opened up for the installation of the mist suppression system. We assume that nobody is suggesting that we should have comprehensively opened up the entire building to search for asbestos, as that would have been contrary to best practice as well as causing damage to the building’s interiors.

2. **Why Not Compartmentation?**

As Mr Paton explained to Members on 25 October, the Property Protection Feasibility Study considered compartmentation as follows:
“Wholesale application of such a policy would however be virtually impossible given the current structure and the amount of compartmentation and fire stopping which would be required. If funds were available to carry out these works, it is highly unlikely that permission could be obtained to carry them out given the buildings listed status. Even if compartmentation were applied, the Client would have to consider total loss of some of the larger spaces as the accepted outcome of this type of strategy.”

To have provided effective compartmentation would have meant deconstructing the interior of the Mackintosh Building to find where voids existed. Only by stripping it back to its masonry structure could we have been certain of stopping all these voids and providing compartmentation. This would clearly not have been feasible in any building let alone one of such significance. We did remove later mezzanines and voids where false upstands and partitions had been built in studios; but as the entire building, like so many historic buildings, was constructed of internally lined walls of timber or plaster standing off from the structure behind, comprehensive elimination would have meant stripping the building completely – thus destroying what we were aiming to protect and conserve.

The Property Protection Feasibility Study concluded:

“The configuration, use and condition of the existing Mackintosh Building means that all but one of the potential property fire protection options have been ruled out in terms of buildability, usability and fitness for purpose. The remaining option is that of water mist. This is a relatively new technology but offers advantages in terms of plant space (primarily), buildability and aesthetics. It also offers advantages in the way it suppresses fires over both sprinklers and suppressant gas.”

It should be borne in mind that our objective was to procure the most effective AND least damaging suite of fire protection measures that would also be approved under Listed Building Consent and by major utilities, such as Scottish Water (who have the power to refuse connection to the water main). We wanted to add another layer of protection on top of that which already met acceptable standards at that time and which is still the standard present in most historic buildings across the UK. We accepted FEDRA’s professional advice, which meant that we had to commit time and effort to secure unprecedented approvals and funding. Given that professional advice, and taking into account other relevant factors such as the integrity of the building and operational requirements, our decision to pursue the water mist fire suppression system in 2008 was correct.

3. Was the GSA Fire Plan more about evacuating people rather than protecting the asset?

This question was asked during the Committee Session on 25 October. There is a distinction between the Fire Plan for the construction period and the one for the
Mackintosh Building as a working art school. Above all, fire protection is aimed at preserving life and ensuring the safe evacuation of people from buildings.

The construction period:

It is a requirement of the Contract to comply with the Joint Fire Code, which requires a risk based approach to fire safety. It is also a requirement of the CDM 2015 Regulations that fire safety measures are in place and adopted during the contract works’ period. In June 2016, Keir (Construction) Scotland Limited (at the point of their appointment) produced a ‘Fire and Emergency Plan’ in accordance with those requirements with their plan reviewed by Scottish Fire and Rescue Service, Glasgow City Council Building Control, our insurers and The Glasgow School of Art and was revised by Keir Construction (Scotland) Ltd in response to feedback as confirmed by Mr McQuade in evidence.

We note Mr McQuade’s response on 25 October that GSA ‘went a step beyond normal’.

Until we have the outcome of the SFRS investigation into the cause of the fire, we cannot usefully comment further on this matter.

Operational Periods:

In commissioning The Property Protection Feasibility Study in 2008, we were fully aware of the importance of the Mackintosh Building as well as the overriding prioritisation of safety for occupiers of the building and a Fire Risk Assessment, as is the case for all other GSA buildings, was in place in accordance with our responsibilities under the Fire (Scotland) Act 2005. The 2008 study contains a section entitled “Building/Client Requirements” which states:

“Important fire protection issues for this building are:

- Life safety of staff, students and any visitors;
- Property protection is almost equally important given the nature of the building and its contents, and its continuing function;”

These two criteria clearly demonstrate that the School equated the importance of the ‘building’ almost to the same level as ‘people’ at the outset of this project and that position has not changed. Any suggestion that we attached insufficient weight to protection of the building is unfounded. Our plans for the restored Mackintosh Building involved the installation of a fully engineered fire protection system, including a mist suppression system that goes beyond the L1 Life protections system (the highest category which is to all intents and purposes equivalent to a P1 Property protection system).

Our Risk Management Framework:
The School’s Risk Management Framework identifies strategic and departmental risk. The Risk Management Group considers risk management and mitigation for inclusion in the risk register. The risk register is submitted to the Audit Committee for detailed scrutiny before submission to the Board.

During 2014-15, our independent Internal Auditors\textsuperscript{15} carried out a review of our risk management framework against the School’s Risk Management Maturity Model and made a number of recommendations for improvement. In their report the internal auditors noted under the heading; Good Practice:

“We are pleased to report that a Risk Management Framework is in place which has been approved by the Board and clearly defines the structure, roles and responsibilities for risk management, including the respective roles and responsibilities of the Board, Audit Committee and Management. GSA has defined a process for identifying and evaluating risks within the framework, and mitigating controls and net risks have been defined for all risks identified on the Strategic Risk Register. Effective reporting arrangements are in place for risk management at a strategic level, which include review of the Strategic Risk Register at each Audit Committee.”

A separate risk management process\textsuperscript{16} in relation to the Mackintosh Building restoration contract works was embedded in the procurement process and project management systems.

**Risk Management: The 2014 Fire**

The installation and commissioning of ‘water mist fire suppression system’ was almost complete when the fire occurred on Friday 23 May 2014 as detailed above. The Scottish Fire and Rescue Service’s Fire Investigation Report concluded that the fire originated within a projector located in a basement studio. A number of causes were considered, namely deliberate act, defective appliance and accidental acts. Deliberate act and defective equipment were ruled out by SFRS. The fire was caused when flammable gas used as a propellant within a canister of expanding foam was discharged in close proximity to the projector. The fire was caused by the accidental act of a student preparing for the Degree Show. This was confirmed in the Scottish Fire and Rescue Service report\textsuperscript{17}. The publically available version of this report is highlighted as being a redacted version. The Scottish Fire and Rescue Fire Investigation Report into the 2014 Glasgow School of Art fire was fully compliant with Information Governance standards at the time of its publication with the only redaction relating to the identity of the individuals involved. We have taken

\textsuperscript{15} BDO UK LLP
\textsuperscript{16} See Procurement Section below
\textsuperscript{17} https://www.firescotland.gov.uk/media/708503/redacted_version_fi_wh_gc_006_14___21735141___mackintosh_building_167_renfrew_street_glasgow__redacted__.pdf

UK-620029951.6 12
necessary steps to protect the identity of the individuals and will continue to do so. Our insurance company settled our claim to fund the restoration of the damaged (west section) of the Mackintosh Building at £45m.

It was suggested at the hearing on 20 September 2018 that “the failure was systemic and that there was a misjudged attitude to risk for such a hazardous and iconic building.” It is understood that none of the witnesses are experts in this area.

We strongly rebut that allegation. We have always taken fire precautions seriously across our whole estate. Our decision to commission a water mist fire suppression system to enhance the protection of the Mackintosh building, and the installation of sprinkler systems within the Reid and Stow buildings demonstrates our approach.

One consequence of the 2014 fire was that it fundamentally changed the circumstances for installing fire prevention measures within the Mackintosh Building. We had a vacant building within which to install a sophisticated fire protection system based on modern technology and we had the funding to do so. In consultation with Historic Environment Scotland, Glasgow City Council Building Control, SFRS and our Insurers we agreed five key targets:

1. To improve fire compartmentation within the building;
2. To install fire stopping within all ducts and rises;
3. To install a ‘state of the art’ fire detection system;
4. To install ‘water mist fire suppression system’;
5. To install a smoke extract system.

These measures were included in the Schedule of Works when preparing the invitations to tender for the restoration contract.

**The Procurement Process for the Restoration Contract:**

**The Procurement Process/Contract:**

GSA’s Procurement Team working with our external consultants prepared the tender documentation for the restoration works, the scope of which included the fire precaution works listed above. In addition, the provisions of the tender placed responsibility on the contractor to prepare a detailed fire safety plan to protect personnel and building fabric during construction phase. The Fire and Emergency Plan was prepared in compliance with the Joint Code of Practice and the relevant provisions of the CDM 2015 Regulations, as previously explained.

The contract was awarded to Keir (Construction) Scotland Limited following procurement process in accordance with Contracts (Scotland) Regulations 2012. The form of contract chosen by GSA was a Traditional Contract “Standard Building Contract with quantities for use in Scotland”. This type of contract requires the Employer (here the GSA) to stay closely involved in the project throughout the
construction process. Moreover, the contract was drafted specifically to include provision beyond those in the standard form “SBCC with quantities” contract. For instance, the undernoted condition in relation to Overriding Principle of collaboration:

“Overriding Principle

Clause 2.1 A

The Overriding Principle guiding the Employer and the Contractor in the operation of this Contract is that of collaboration. It is their intention to work together with each other and with all other Project Team Members in a co-operative and collaborative manner in good faith and in the spirit of trust and respect. To that end the Employer and the Contractor agree they shall each give to, and welcome from, the other, and the other Project Team Members, feedback on performance and shall draw each other’s attention to any difficulties and shall share information openly, at the earliest practicable time. They shall support collaborative behaviour and address behaviour that does not comply with the Overriding Principle.”

In addition, there were provisions for the Contractor to:

- provide monthly reports;
- include his supply chain (sub-contractors) in project planning and risk allocation of the Project;
- provide Building Information Modelling (BIM), which is used to identify any design clashes and to provide a useful record for the maintenance of the building once operational; and
- maintain an early warning mechanism and risk register.

This management process operated to ensure that there was a forum where the GSA Mackintosh Restoration Project Team\(^{18}\) could meet the Contractor to identify, mitigate and eliminate risk. As Employer, and in advance of Scottish Government guidance, we required the employment of BIM in the project. This methodology assisted in reducing risks through virtual prototyping, clash detection and pre-empting impact to the aesthetics and fabric of a Category A-listed building through computer modelling and 3D design. We also included collaboration and risk reduction protocols into the contract. These provisions are additional to standard contract wording and go well beyond the type of collaboration and reporting of the standard contract.

**Site Control Timeline:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Site Controller</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 22/05/14</td>
<td>GSA</td>
<td>Owner/Occupier</td>
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\(^{18}\) GSA Document 5: The Glasgow School of Art: Mackintosh Restoration Project, Project Governance and Management Structure
Under the laws of Scotland the employer (GSA) is obliged to give possession of the site to the contractor (Kier (Construction) Scotland Limited) in accordance with the contract. The contractor takes over possession and responsibility for the contract site for the duration of the contract. The contractor needs full control of the site to comply with his obligations and duties under the contract and in terms of any relevant statutory requirements. The contractor controls the modus operandi on site and he prescribes and enforces a site entry procedure to which all parties must adhere, including the Employer/Owner, notwithstanding their legal rights in the site. Effectively, as part of the contract terms, the owner gives up their right to enter the site, without permission, for the duration of the contract. It does not preclude entry; it controls entry in accordance with the Contractor’s procedures, which are based on security, health & safety (including fire safety) and site operation. It was a requirement of the contract that Kier (Construction) Scotland Limited provide office accommodation for the client Project Management Team. Until January 2018, this was provided in the former janitor’s house inside the Mackintosh building.

Due to the schedule of work, the internal Project Management Team was relocated off-site (Blythswood Square). Keir (Construction) Scotland Limited elected to retain a site office in the eastern (undamaged) basement.

As Employer under a construction contract GSA had a role as client for the purposes of the CDM Regulations – the H&S regulations that apply to works. As client GSA must make suitable arrangements to manage the project and maintain and review those arrangements for the duration of the project. From the time the decision is
made to go ahead with the project the Client has to comply the CDM Regulations. GSA as client did that. GSA made sure the other duty-holders are appointed at the right time and had the skills, knowledge and experience to carry out the work in a way that secures health and safety. Page\Park were appointed as Principal Designer with duties under the CDM regulations to plan, manage, monitor and coordinate health and safety in the pre-construction phase of a project. Kier were appointed as Principal Contractor with duties also under CDM to plan, manage and monitor construction work under their control so that it is carried out without risks to health and safety. GSA, as client, retained responsibility to ensure that sufficient time and resources are allocated and to make sure relevant information is prepared and provided to other duty-holders; the principal designer and principal contractor carry out their duties and that welfare facilities are provided.

Our design team, internal and external project managers, expert advisers and others were able to enter the site under the Contractor’s due process. We retained responsibilities under the contract as Employer and our governance procedures demonstrate the close working relationship maintained during the contract period.

**GSA Governance of the Mackintosh Restoration Project (MRP):**

Given the importance of the Mackintosh Restoration Project to the School, GSA assembled a team of expert consultants to support and supplement its in-house project management team. The GSA Board wanted effective oversight of the project and to achieve that established a project governance structure. This included the establishment of a new Mackintosh Restoration Committee which reported directly into the Board. The Mackintosh Restoration Committee later became part of the Estates Committee.19

The governance arrangements included at Programme Board (Executive level) with quarterly reporting to the Estates Committee and regular updates to the Business and Estates Committee and the Board of Governors by management on the progress of the project. The Mackintosh Operations Group was set up to manage the project’s operational matters and met every three weeks. A dedicated internal project management team was put in place comprising of experienced historic building professionals who had previously managed and directed numerous conservation and re-building projects on properties of similar significance plus expert finance, traditional skills training, research and archival staff to work with Kier (Construction) Scotland Limited and the design team to ensure the best possible project results. The internal project management team were provided with monthly progress reports from Gardiner and Theobald LLP. Those reports provided updates on project risks, financial performance and any changes to the project, which were provided to the Estates Committee and other groups when required.

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19 GSA Document 6: The Glasgow School of Art, The Mackintosh Restoration Project, Project Governance Structure Committee Membership
Other project meetings supporting the delivery of the project included technical site meetings, design team meetings with the project architects and GSA’s internal project managers and regular one-to-one meetings involving the internal project team, Project Sponsor and Finance team and contractor. Gardiner and Theobald LLP maintained a risk register and change control log, which, together with the Contractor’s detailed project plan, were provided in monthly client reports to the GSA.

An organisational chart is attached\textsuperscript{20}.

Members of our internal project management team were on site on a regular basis reflecting both our responsibilities under the contract and the CDM 2015 Regulations, as well as the importance of the project to the School. In addition, GSA appointed both a Construction and Mechanical and Engineering Clerk of Works who were on site at least twice a week and usually more often, to check on progress and provide weekly independent reports, including any incidents of site safety.

**Lessons Learned from the 2014 Fire:**

The accident that caused the 2014 fire occurred during an operational activity undertaken by a student in preparation for the Degree Show. The Management Team initiated a number of reviews of operations within the School and continues to do so. These reviews cover academic activities in addition to the estate (which would also cover the Mackintosh Building when returned as part of the operational academic estate. During the Mackintosh restoration project the Mackintosh Building was covered by the procedures detailed above):

1. Critical Incident Management;
2. Fire Procedures including evacuation procedures;
3. Health & Safety Procedures with external H&S officer;
4. Revised academic protocols
5. Staff/Student induction processes;
6. GSA opening hours;
7. Scoping the comprehensive fire protection system for the restoration works and informing our fire strategy for new buildings.

Since the 2014 fire, the Mackintosh Building has not yet been handed over to GSA and resided with the contractor. We are in the process of terminating the contract with Keir (Construction) Scotland Limited\textsuperscript{21} and the site has transferred from Keir (Construction) Scotland Limited to Reigart Contracts Limited. It is still not in the operational control of the GSA and therefore we have not yet had the opportunity to implement the outcome of our review work on operational activities within the Mackintosh Building. We have however implemented our new revised procedures in

\textsuperscript{20} GSA Document 5. The Glasgow School of Art: Mackintosh Restoration Project, Project Governance and Management Structure

\textsuperscript{21} Termination notice issued on 26\textsuperscript{th} June 2018
the rest of the Estate. We therefore rebut the claim that we have failed to learn any lessons after the 2014 fire.

After the 2014 fire our Board, Management Team and Staff faced significant operational challenges including:

- Continuing to deal with the governance and administration of a HEI
- Continuing to meet the educational and emotional needs of our students;
- Delivering on our commitments to the Scottish Funding Council through our 3-year Outcome Agreement.
- Undertaking a major stakeholder engagement exercise, both internationally and locally;
- Carrying out the operational reviews to ensure lessons were learned by all stakeholders;
- Putting together our own project management team to monitor the contract works after handover of the site to the Contractor;
- Engaging a Consultant team of experts to deliver the restoration project on the ground
- Carrying out a OJEU public procurement process to appoint a Contactor to undertake the restoration project;
- Responding where possible to requests for information about the fire and its impact;

Specific Rebuttals:
Our response to specific issues raised during the Committee Sessions on 20 September and 25 October are set out in our Rebuttal Statement\(^2\)\(^2\).

Conclusion:

The Board of Governors, the Management Team and the staff of GSA must also await patiently the outcome of the SFRS report on the 2018 fire. We have stated our commitment to restore the Mackintosh Building to its central role in the creative life of our students, staff, city and nation.

For and on Behalf of
The Board of Governors
The Glasgow School of Art

7 November 2018

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\(^2\) GSA Document 7: Glasgow School of Art Rebuttal Statement
Appendix 1

List of Documents


GSA Document 2: Diagram of GSA Board and Committee Structure as at 1 November 2018


GSA Document 5: The Glasgow School of Art: Mackintosh Restoration Project, Project Governance and Management Structure

GSA Document 6: The Glasgow School of Art, The Mackintosh Restoration Project, Project Governance Structure Committee Membership

GSA Document 7: Glasgow School of Art Rebuttal Statement

GSA Document 8: Protecting the GSA Heritage Guidelines for commercial use of the Mackintosh Building

GSA Document 9: Accessing the Mackintosh Building, August 2016

GSA Document 10: Estates - Site Rules

GSA Document 11: The Glasgow School of Art: Scottish Funding Council Museums, Galleries and Collection Grant, March 2018
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1.1 Glasgow School of Art is an internationally renowned higher education institution. With around 1,600 students it is relatively small when compared to most higher education institutions. However the School’s substantial worldwide reputation belies its small physical scale. It is in part this small scale that keeps academic focus, attracts excellent staff and students, and achieves high quality results. Many prospective students are drawn to the idea of a creative and collaborative, close-knit community.

1.2 Nevertheless being relatively small does have some disadvantages. The most significant disadvantage maybe financial since the School carries some of the overheads of a larger institution. Recent changes to funding regimes have sought to address the problems of small-scale institutions. Yet historically, before the control of the present board of governors and executive team, it would appear that the School has often laboured under tight financial constraints. One of the more significant overheads has been the relatively large number of buildings operated by the School. As a result the estate has not always received sufficient attention or investment.

1.3 The present management team consider that they have inherited an estate that not only has suffered due to a lack of maintenance, but contains buildings that are difficult to keep in good order. Problems with the estate are not only the perception of those who work within the buildings; they are a matter of record contained within recent reports. In 2004 RMJM architects conducted a survey analysing fitness for purpose and concluded that most existing structures were partly or wholly inadequate for their use. In addition a report prepared by Summers Inman, building surveyors and property consultants, found a backlog in recommended maintenance work with an estimated cost, at 2003 prices, of £18.46 million (£578 for every square metre of the existing estate). RMJM concluded that:

“The sum of money now required to repair [the] estate to a serviceable level is substantial and, if spent, would deliver few utilisation improvements or running cost benefits. It would in our view result in an estate substantially unfit for its purpose and would represent poor value for money”.

1.4 Accordingly the School has commissioned Bond Bryan, architects specialising in education, to prepare an appraisal of a wide range of options for the future of the estate. Bond Bryan has substantial experience of both developing projects for construction and offering strategic advice, and has worked with over 50 higher and further education institutions over the last 14 years. This document is our (Bond Bryan’s) report to the governors and the executive of Glasgow School of Art. It has also been prepared for the use of the Scottish Higher Education Funding Council, which has funded this study, and the Scottish Executive.

1.5 We must also recognise the considerable assistance of the staff and students of Glasgow School of Art in the development of this study. In addition we received support and advice from GVA Grimley, property consultants, Turner and Townsend, construction cost consultants, and Ben Spencer an independent consultant working for Glasgow School of Art.

1.6 It should be noted that two relatively small elements of the existing estate are excluded from analysis in this study. The first is Margaret Macdonald House, the residential block owned and operated by the School. The second, the Digital Design Studio, currently using leased accommodation within the ‘House for an Art Lover’ in Bellahouston Park. This is the subject of a relocation proposal; the School’s ambition being to relocate this facility to the Digital Media Campus at Pacific Quay.
1.7 This study, therefore, has focussed upon the existing academic estate of the School at Garnethill, an area close to Glasgow city centre.

1.8 During the course of this study we have:

- Considered the **strategic context** within which Glasgow School of Art operates
- Examined the performance of the **existing estate**
- Identified **key objectives** for the future estate
- Considered the **future space requirements** of the School
- Researched **opportunities** available to the School
- Identified the **ideal physical characteristics** of the future estate
- Developed **a range of options** for consideration
- Made an **assessment of the options**
- Identified a **preferred solution**
- Identified **risks** relating to the preferred solution
- Identified important **next steps** following completion of this study

1.9 Accordingly the remainder of this document is structured so that each of the above points is considered in a separate section.

1.10 This report then, identifies a preferred strategic direction for the estate of Glasgow School of Art. As such it may be regarded as the School’s Property Strategy. It is not a full business case for a clearly defined project. However, it sets out clear objectives, and demonstrates, in outline, a scenario for change together with approximate costs and timescales.
2.1 The following is a brief overview of key strategic issues in so far as they affect the School’s estate.

Glasgow School of Art’s declared vision statement is:

To provide world-class creative education and research in architecture, design and fine art which makes a significant cultural, social and economic contribution.

The three major academic ‘sub-schools’ are therefore:

- The Mackintosh School of Architecture
- The School of Design
- The School of Fine Art

2.2 The vision statement is modern in tone and yet would not have been out totally of place a century ago. Although, over time, the challenges may vary, it has always been the School’s position that creative people have significant contributions to make towards society.

2.3 The School is recognised, both in Scotland and internationally, for the quality of its education, for the success of its graduates, and for its developing research profile. The School believes that two of the key strengths of its approach are the employment of excellent staff and its studio-based system. Almost all students are offered dedicated studio space and this has been recognised as a significant factor in most students’ decision to apply to the School (see: 3.44).

2.4 However the School is not complacent and knows that the studio system alone does not guarantee success. The School’s Strategic Plan (2004-2008) sets out a framework for further development.

2.5 This Strategic Plan indicates a strong degree of self-confidence. This confidence appears well placed given the current increasing demand for a limited number of places. The School considers that this is due to cultural and economic shifts both within the United Kingdom and abroad. The Strategic Plan states:

“Creative industries are now recognised as a major force in the UK economy. The Scottish Enterprise Creative Industries Strategy acknowledges the key role of education and training in delivering two of its main objectives: the expansion of the talent and skills base: and stimulating innovation through research and commercialisation.”

The plan also states:

“To support creative industries we also need to make more seamless transition from study to work. We are doing this by continuing to embed core and transferable skills firmly and explicitly into our project-based curriculum… we have highly skilled and knowledgeable academic and technical staff who could continue to support graduates as they establish themselves as new creative business and cultural ventures.”
The School argues that creativity is now a considerable source of competitive advantage, and that over the longer term, in almost every industry in today's fast changing world, the winners will be those who can create and keep creating.

The School's ambition, therefore, is to further enhance this national and international reputation in education and research and, in particular, develop its postgraduate provision. This implies some growth in student numbers.

Growth in activity would also allow the School to continue to offer excellent opportunities to students within the United Kingdom and the European Community whilst utilising its reputation to market to more students worldwide. Again this is consistent with the School’s strategic planning and would also provide much needed long-term financial stability.

In essence the academic ambition to develop and grow matches the need for a more sustainable financial future. The School has already developed an outline academic and financial model that reflects these objectives. This model will be subject to review but at present implies an increase in actual on-site student activity of around 27% by 2011. Most particularly, the school targets significant growth in postgraduate student numbers so that postgraduates will represent 20% of the enlarged student population (as opposed to the current 7%).

However the school considers that the estates problems outlined in the introduction (see: 1.3) are considerable and left unremedied will thwart the School’s ambitions in forthcoming years. The scale of these problems is highlighted later. There are many examples of international ‘competitor organisations’ with estates that are far superior to the School’s. Indeed, in our [Bond Bryan’s] extensive experience the greater majority of Higher Education Estates in the United Kingdom are of a better quality than the School’s. Furthermore, given increasing commitments to investment, both in Scotland and the remainder of the United Kingdom, an increasing proportion of the Further Education sector and the Secondary Education sector might be considered to be of a higher quality.

The school considers that in order to fulfil its mission and deliver a sustainable future, it needs to provide high quality buildings and facilities, not only to attract students, but also to provide the best possible environment for academic achievement. The existing estate appears to fall well short of the required standard.

At this point it is relevant to reflect upon the very noticeable exception to the last remark: the Mackintosh Building. The Mackintosh Building is described briefly in the next section: The Existing Estate. However the existence of the Mackintosh building and its significance, although only providing around 25% of overall floor space, requires special consideration as a key strategic matter. The Mackintosh Building (commenced in 1899), designed by Charles Rennie Mackintosh, is an exceptional building, a universally recognised design icon, and a very central part of the School’s identity. Despite being the school’s oldest building RMJM’s aforementioned study recognised it as the best within the estate. Yet its significance to the School is much greater than that.
2.13 The Mackintosh Building stands as a symbol of an enduring central philosophy that has existed within the School since its early years: that artists and designers have relevant contributions to make in all aspects of life, and that students should be taught in a manner that will allow them to become successful practitioners once formal education is complete. Charles Rennie Mackintosh was a former student of the School and the building displays many of the ideas and art of that early 20th century artistic movement known as ‘The Glasgow School’; most of whose members were once Glasgow School of Art students. The building is recognised as the finest work of one of the 20th Century’s great architects, not only for its striking and beautiful looks both inside and out, but for its technical and aesthetic innovation, its integration of decoration and structure, its spatial organisation, and its delivery of highly practical studio spaces with high ceilings and excellent north lighting.

2.14 The School finds it difficult to conceive of a future that would not include the Mackintosh Building. As a result a submission has already been made to the Heritage Lottery Fund for a fund to conserve and refurbish this building and its contents whilst improving facilities for public access. However an important part of this proposal is that the building should retain its primary purpose, that of working art school.

2.15 The relevance of this building is not lost on prospective art and design students or prospective members of staff. As shall be indicated later, many students make reference to the Mackintosh Building as one of the reasons for applying to Glasgow School of Art (See: 3.48). Indeed, in the past, some international students have arrived and been disappointed having incorrectly assumed use of a Mackintosh Building studio.

2.16 This serves to demonstrate the power that excellent environments can have in marketing any education institution, but particularly an art and design school where prospective students have a natural disposition toward seeking out good design.
2.17 Certainly empirical evidence suggests that the continued development of the School’s excellent reputation over the last 100 years is due in part to its strong association with the Mackintosh Building. It is perhaps fortunate that the other buildings within the estate are less well known; the next section describes the whole estate.
3.1 As already indicated this options study has been confined to the academic buildings at Garnethill. Nevertheless it should be noted that Margaret Macdonald House, a residential block with about 100 bed-spaces, is also located at Garnethill (only one to two minutes walk away from most other buildings - this block is indicated on the site plan as existing. Therefore any decision to move away from Garnethill may effect the suitability, and hence viability, of Margaret Macdonald House. However it has been agreed that this issue should not have a major influence on future decision-making and this is the last direct mention of it within this report.

3.2 Garnethill is not a name that is found on all maps, yet it worthy of identification as an area with its own unique character. Garnethill is located so that Glasgow’s main central shopping area is immediately to the South East. It does not, of course, have fixed boundaries, but that area identified by most of those who work there would measure no more than 500 metres by 300 metres.

3.3 Garnethill itself is, at heart, a small inner-city residential district, centred upon a hill that slopes away in all directions. To the east of Garnethill is a rather mixed ‘transition zone’ of ‘edge of city centre retail’, offices and small businesses. To the north and west Glasgow’s urban Motorway (M8) bounds the area; as a result the far reaches of the hill’s northern and western slopes are less attractive. Sauchiehall Street, a major road running west out of the city centre and underneath the urban motorway, effectively defines the southern edge of Garnethill. At its City Centre end, Sauchiehall Street is dominated by city centre shopping with some major stores. However before Sauchiehall Street has stretched past Garnethill to meet the motorway a mix of small shops, bars and nightclubs predominates, noteworthy exceptions are; the Maclellan Art Gallery, the Dental Hospital and Glasgow Film Theatre.

3.4 The local residential accommodation varies considerably in quality and price but this adds to an appealing sense of variety. Notable exceptions to the residential label are the three different education institutions. Stow College, on the northern slope and close to the M8 motorway, is a General Further Education College accommodated within a large monolithic building constructed in the 1930’s. St Aloysius College is a Roman Catholic School providing both Primary and Secondary Education. The College has a number of buildings, old and new, mostly located in the centre of Garnethill. Finally Glasgow School of Art itself has two clusters of academic accommodation on Renfrew Street (on the southern side of the hill) plus two further buildings (on the north eastern part of the hill). The Mackintosh Building itself is on Renfrew Street.

3.5 Also on Renfrew Street, between the two clusters of buildings belonging to the School, in what were once tall early Victorian houses, is a string of privately owned hotels. Renfrew Street is one of the nearest streets to the city centre to provide properties suitable for conversion to small-scale private hotels, so this use is not surprising. This activity is clearly boosted by the Mackintosh Building’s status as a popular tourist destination.

3.6 Despite the rolling topography a gridiron street pattern was applied and this lends an ordered, open and pleasant atmosphere allowing the larger academic buildings to sit quite comfortably alongside the residential accommodation.
3.7 The easy going atmosphere that the mix of uses generates seems to sit very well with most students we have consulted (see: 3.47). The overall impression is of an attractive yet quiet neighbourhood, with very easy access to city centre shopping of all kinds, places to eat and drink, and cultural facilities. Furthermore Garnethill affords opportunities for students to live in the immediate vicinity, whilst those who do not live locally can make use of good public transport links in Sauchiehall Street or Cowcaddens and Charing Cross Stations. A point that is often overlooked is that there is no other equivalent location within Glasgow that could provide this range of benefits.

3.8 As already indicated, the majority of the School's accommodation is on Renfrew Street. **The first, and most significant cluster is that group of buildings around The Mackintosh Building.** The other buildings in this group are the Bourdon Building, the Assembly Building, the Newbery Tower and the Foulis Building. The scale of these buildings together with the Mackintosh is significant; together they supply around 71% of the total gross internal floor area.
3.9 The strategic significance of the **Mackintosh Building** has already been noted (see: 2.12). The building was constructed in two phases (1889 and 1909). External Walls are a mixture of stone and rendered brickwork. Roofs are a mixture of slate and some low pitched roofs finished with lead or asphalt. Floors are mostly concrete supported on steel beams. The building’s predominant uses are for Fine Art and also administration. Although many maintenance issues require attention, the overall immediate impression is of a building kept in reasonable order. Although the building would be difficult to adapt, its large, tall studio spaces continue to offer a good working environment for artists. However a disadvantage at present is that access for disabled users onto the main ground floor level, and to certain intermediate levels is limited.

3.10 A description of the Town Planning Context is provided in section 6. However it is worth mentioning here that the Mackintosh Building is a Category A listed building. Category A means that the building is of ‘national or international importance, or a fine example of a period, style or building type’. This listing makes alteration difficult and can make repairs expensive. Fortunately the building is suited to its present use and if the Heritage Lottery Fund bid is successful this will ease the maintenance burden.

3.11 The **Bourdon Building** was constructed in the early 1970’s and is a cast in-situ concrete structure. Roofs are flat and finished in asphalt or felt. The building spans over Renfrew Street and as such it has considerable visual presence that could be said to border on the oppressive. Designed in what was known as the ‘brutalist’ style, today most observers would say its weathered raw concrete appearance is a little too brutal. In the years following its completion the Bourdon suffered from cracking and other signs of movement. However in recent years tests suggest that the building would appear to have stabilised. The building accommodates the Mackintosh School of Architecture and also the Library. This is the only example of an entire sub-school occupying its own building (the Library has its own entrance). Despite gloomy and unwelcoming entrances and stairwells the upper floors do provide flexible open plan studio space. Unfortunately the library, sited within what was originally designed as an assembly hall, is not at all successful as the layout is highly constrained by the restricted space.

3.12 The **Foulis Building** was constructed in 1966 using a concrete structure with a mixture of lightweight cladding panels and brickwork. In 1997 the building underwent a ‘refit’ and was extended with an extra floor added. The School of Design, in particular Product Design, Engineering and Visual Communication, uses this building. The upgrade to this building in 1997 means that it has a better internal environment than most.
3.13 The **Newbery Tower** was constructed in the early 1970’s and is a nine storey concrete tower partially clad with copper panels. Internal floors appear to be constructed from concrete. Again this building appears very run down and needs refurbishment to its external fabric. Its small-scale floor plates mean that that some related departments and facilities are spread over a number of floors creating some operational difficulties.

3.14 The **Assembly Building**, constructed around 1930, has solid masonry external walls and a slate roof. Internal floors appear to be constructed from concrete. This building feels very rundown and provides a number of large, yet rather inflexible, spaces for the Students Union. In addition this building has poor access arrangements for users with mobility difficulties with no passenger lift.

3.15 The buildings described above are arranged in a tight cluster on Renfrew Street on the corners of Dalhousie Street and Scott Street.

3.16 The **Second group of two buildings**, described below provide 11% of the overall floor space and are arranged on a steep plot of land bordered by Renfrew Street, Garnett Street and Hill Street.

3.17 The **Richmond Building**, on the corner of Renfrew Street and Garnet Street was constructed using traditional techniques in around 1880. Apparently originally built as a large dwelling house, external walls are of load-bearing stonework or rendered brickwork. Roofs are mostly of slate. The immediate impression is one of considerable dilapidation. The external facades are mostly filthy and interior spaces are rather gloomy. This property was never meant for its current use and the building is highly inflexible being composed of mostly small spaces with load bearing cross-walls between them. Access to the building for disabled users from the principal entrance on Renfrew Street is poor. Once inside circulation is domestic in nature and again arrangements for disabled users are very poor.

3.18 Connected to the Richmond Building at two levels, the **JD Kelly Building** has many of the unfortunate drawbacks of its neighbour. Constructed on the corner of Garnet Street and Hill Street in around 1898 as a hospital building, its designer chose a rather domestic appearance, no doubt to fit in with elegant terraced housing already in existence in Hill Street. Yet the building is somewhat dilapidated and all the restrictions on flexibility and access also apply here.

3.19 The final pair of buildings, or the “outlying buildings”, situated on the North East Corner of the Garnethill, provides the remaining 18% of the overall floor space.
3.20 The **Haldane Building** on the corner of Hill Street and Rose Street was constructed in around 1884 as an Army Drill Hall. The two-storey building is of a traditional construction with massive external masonry walls. An interesting feature is the large slate roof laid upon a timber and cast iron truss structure that spans across the entire width of the building. This allowed the original (36 metres by 30 metres) main drill hall to be column free. However this space has long since filled up with a labyrinth of studio spaces and workshops mostly belonging to the ceramics department. Much of the accommodation appears tired and in need of repair.

3.21 Finally the **Barnes building** is on West Graham Road. This is a late Victorian building with an ugly 1960’s extension. The first building is constructed of brick and stone. Roofs are finished with slate. The second building has an exposed concrete structural frame with a flat roof. These buildings are used by Fine Art. The layout is confusing and the environment is generally very rundown. Furthermore traffic noise on West Graham Road and less than inspiring neighbouring buildings means that this peripheral location has a much less attractive setting. These mediocre surroundings, together with the steep steps that lead to the Barnes’ entryway, give the building a sense of being quite remote from the main group of buildings at Renfrew Street (even though on plan the distance is no more than 250 metres). The Victorian element of the Barnes building is the only part of the estate, other than the Mackintosh Building, to be listed. It has a category B listing.
3.22 RMJM architects completed their review of fitness for purpose in January 2004.

This was a thorough review involving the questioning of building users together with estates staff as well as assessment by RMJM. The Review made separate assessments for each building in each of the following criterion:

- Location
- Age
- Space (Quality of)
- Teaching Environment (Quality of)
- Amenities
- Adaptability
- Accessibility
- Research Use
- Overall Effectiveness

There overall conclusions were as follows:

**Generally acceptable**: *an even number inadequate and good assessments.*

- The Mackintosh Building

**Generally less than acceptable**: *more inadequate than good assessments.*

- The Foulis Building

**Generally inadequate**: *the majority of assessments were considered inadequate.*

- The Bourdon Building
- The Newbery Tower
- The Assembly Building
- The Haldane Building

**Inadequate**: *all assessments were considered inadequate.*

- The Barnes Building
- The JD Kelly Building
- The Richmond Building

3.23 Note that all of the above buildings are listed in order of preference. Therefore, for example, the Bourdon building was considered to be a better building than the Haldane Building.

3.24 We would, on the whole, agree with these assessments. It seems clear that the buildings have many faults when measured against the specified criterion. Our only adjustment would be to suggest the Bourdon Building is at least as fit for its purpose as the Foulis Building. RMJM’s criteria appear to discriminate slightly in favour of the only building to have undergone a recent, mostly cosmetic, refurbishment (The Foulis Building). This may have been entirely justifiable given RMJM’s terms of reference. However it is important, in the context of this study, which advances and tests radical options including the replacement of buildings, to recognise the inherent suitability of individual structures as opposed to the current cosmetic appearance or general condition. This approach allows us to develop options that will best support the institution over the longer term; a building in poor condition may be considered for
refurbishment and continued use if, following analysis of the intrinsic qualities of its form and structure, it reveals a reasonable degree of inherent suitability.

3.25 Ultimately these are fine judgements that are always, in part, subjective. Many would argue that the appearance of the Bourdon Building should rank it below the altogether less hostile looking Foulis Building. However, on balance we would suggest that the large open studio spaces of the Bourdon Building would place it on a par, or slightly above, the Foulis Building. Therefore our [Bond Bryan’s] ranking order with regard to inherent suitability (as opposed to present condition), from most useful to least, would be would be as follows:

- The Mackintosh Building
- The Bourdon Building
- The Foulis Building
- The Newbery Tower
- The Assembly Building
- The Haldane Building
- The Barnes Building
- The JD Kelly Building
- The Richmond Building

3.26 Although the JD Kelly and Richmond buildings appear at the bottom of the list most users have agreed that, as the second group of buildings on Renfrew Street, their physical location is better than that of the outlying buildings: the Haldane and Barnes buildings. This is important later when considering sites for reuse via redevelopment.

3.27 However, although it is important to recognise the difference between inherent suitability and condition, an analysis of condition is still important, since it helps to establish the cost of retaining and refurbishing any building. In addition to the fitness for purpose assessment RMJM also commissioned a condition survey, from Summers Inman. The condition survey estimated the total cost, including fees and VAT, of bringing each building up to RICS (Royal Institute of Chartered Surveyors) category B standard: “Serviceable”. The table below records the outcomes:

<table>
<thead>
<tr>
<th>Building</th>
<th>£ Millions</th>
<th>m²</th>
<th>£/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mackintosh</td>
<td>3.74</td>
<td>7,670</td>
<td>487</td>
</tr>
<tr>
<td>Bourdon Building</td>
<td>3.18</td>
<td>6,602</td>
<td>482</td>
</tr>
<tr>
<td>Foulis Building</td>
<td>1.57</td>
<td>3,353</td>
<td>469</td>
</tr>
<tr>
<td>Newbery Tower</td>
<td>2.53</td>
<td>3,873</td>
<td>652</td>
</tr>
<tr>
<td>Assembly Building</td>
<td>0.97</td>
<td>1,275</td>
<td>758</td>
</tr>
<tr>
<td>Haldane Building</td>
<td>1.75</td>
<td>2,828</td>
<td>617</td>
</tr>
<tr>
<td>Barnes Building</td>
<td>1.90</td>
<td>2,841</td>
<td>670</td>
</tr>
<tr>
<td>JD Kelly</td>
<td>1.72</td>
<td>2,260</td>
<td>763</td>
</tr>
<tr>
<td>Richmond Building</td>
<td>1.10</td>
<td>1,241</td>
<td>888</td>
</tr>
</tbody>
</table>

18.46  31,943  578

3.28 The ‘floor area’ provided by each building is also indicated. This is the gross internal floor area, measuring across all floor space, dividing walls and structural elements (everything within the inner face of the external walls). At 31,943 square metres this is around 2% higher than has been quoted in most previous reports. This figure has been obtained via precise measurement of computer drafted survey drawings.
3.29 The overall cost, at mid 2003 prices, is estimated at £18.46 million. The table then provides the cost per square metre rate calculated for each building and the average for the estate as a whole. At £578 per square metre the average estimated costs of repair are very high; by way of comparison if this rate were estimated for a small family home (around 100 square metres), then the estimated cost of repairs would be £57,800.

3.30 Inevitably, costs will vary from those estimated above, and therefore this data only provides an approximate guide as to the relative costs of retaining buildings. Summers Inman’s report advises that there is risk attached to any assessment of repair cost. Perhaps most particularly within the Mackintosh Building where costs for some repairs may become inflated due to the Grade A listing; or within the Bourdon Building where essential structural repair is assumed to be minimal.

3.31 Analysis of the estimated costs reveals that around 7% relates to improving access for disabled users; around 10% for repairs to the exterior of buildings; 16% for repairs to the interiors; and 67% for repairs to mechanical and electrical systems. This emphasis on Mechanical and Electrical systems is relatively consistent for all buildings. In summary, whilst the buildings are far from suitable for disabled users, and the buildings’ fabric is in need of major repairs, the electrical wiring, heating and ventilation systems are both inadequate by modern standards and also at the end of their useful lives. This is a matter for considerable concern since continued reliance on such systems over, say the next 10 to 15 years, may result in regular system failures and users experiencing constant turmoil.

3.32 Although the survey work was carried out over the summer of 2003 the School has not stepped up its maintenance programme and has preferred to wait for the conclusions of this study. It has addressed some of the more essential issues for disabled users. However the vast majority of the faults identified have not been corrected; indeed it is likely, given the scale of the School’s annual maintenance budget, that some additional deterioration may have occurred.

3.33 Given that the above table lists buildings in order of our [Bond Bryan’s] assessment of inherent suitability, it reveals a degree of correlation between inherent suitability and costs per square metre of repair. The three buildings at the top of the list also have the lowest rates for repair; the two buildings at the bottom of the list have the highest rates for repair.

3.34 Although, when selecting options for consideration, this correlation is helpful, it should be noted that none of the buildings, with the exception of the Mackintosh Building, have been assessed as mostly suitable or in appropriate condition.

3.35 The emerging picture is of an institution that has, historically, been neither willing nor able, to pay close attention to estates matters and make appropriate investments in terms of maintenance or acquisition of appropriate buildings. Whilst the present management team has recognised the issue its response has been to seek advice and to develop an appropriate strategic response; clearly this document is an important step.
In the meantime premises costs are set at levels that, whilst subject to close scrutiny, are mostly a matter of established practice within the School. The School’s published accounts reveal that premises annual expenditure for the years ending 2002 and 2003 were £1.73 million and £1.69 million respectively. We understand that a small fraction of these costs may relate to those two centres excluded from this study; however even if we overlook this fact then these amounts are not high by comparison to the overall scale of the academic estate at Garnethill. Calculating against the current Gross Floor Area of 31,943 square metres the expenditure is equivalent to £54.28 per square metre for 2002 and £52.94 per square metre for 2003.

Most higher education institutions report total premises costs of between £50 and £75 per square metre. These figures normally include such costs as rates, insurances, energy costs, water and sewerage charges, maintenance, cleaning, security, porters, consultancy fees, and premises management salaries. Given the age, condition and number of sites that the school operates this level of expenditure appears quite low.

Given the low cost per square metre it is possible to hypothesize that the estate, whilst hardly a great asset, is not a major financial burden upon the school. However, a more likely explanation is that established practice excludes proper expenditure on premises costs and most particularly in the area of repair and maintenance.

Summers Inman report that the actual expenditure on repairs and maintenance for the year ending 2002 was £378,748. The published accounts for that period appear to show only £282,000. However it is understood that the larger figure includes for staff employed direct by the School undertaking maintenance activity together with fees charged by external consultants. The higher figure implies an average rate of £11.86 per square metre. A comparison provided within Summers Inman’s report, using published estates management statistics, with 11 other comparable higher education institutions in the United Kingdom (in this instance comparable means specialist arts institutions) reveals average of expenditure of £13.74 per square metre. Just four institutions in the sample of twelve spend less per square metre on maintenance.

At the time of preparation of this report the School’s estates manager has supplied a provisional figure for maintenance for the year ending of just £324,941 on maintenance (86% of 2002 levels). It would appear that much of the School’s current ‘maintenance costs’ are a mixture of; responses to requests to adapt existing inflexible buildings to changes in requirements to curriculum; adaptations to meet changes in legislation (for example the disability discrimination act) or reactive repairs to damage and breakdowns as they happen. Annual maintenance expenditure is consistently only around 2% of the estimated £18.46 million in backlog maintenance. Long term under expenditure has created this problem and certainly cannot even begin to solve it.

The school recognises that this position is not sustainable in the future. As part of our appraisal it is normal practice to identify the ‘do minimum’ or ‘base case’ option. It will be necessary to consider the costs associated with this option including recommended levels of annual expenditure in the future. Having established this data, the costs of alternative options, both in capital project and annual revenue terms, can be compared to this ‘base case’. In this instance it seems appropriate that the ‘do minimum’ base case option should include; the costs of repair to a serviceable condition (as identified by Summers Inman); budgets for adapting the buildings to overcome at least some of the suitability issues; and the establishment of an annual premises maintenance budget likely to create a more stable long term position by keeping buildings in a serviceable condition. Thus by establishing this ‘do minimum’ option and understanding its full short and long consequences, it becomes the benchmark against which other options can be measured.
A key question remains: what would be an appropriate level of annual maintenance expenditure for the long term given the estate’s characteristics and age? Ultimately this would be best established by the devising of a detailed Planned Maintenance Programme designed to keep the buildings in ‘serviceable’ condition following completion of the works recommended by Summers Inman. At present no such plan exists. RICS advice in this area is that a building owner should consider annual expenditure in the region of 1.5% of the basic cost of reconstruction assumed as part of Insurance Replacement Value. We understand that the Funding Council have advised a rate of 1.3%. These figures would suggest that an appropriate annual budget might be between £585,000 and £675,000. Clearly this is only a rule of thumb method but it is a starting point. The mid point between these two levels would be £630,000 (approximately £300,000 above 2003 levels).

The School or its consultants can amass data but this can only tell part of the story. Ultimately the estate is a resource for use by staff and students; it has no other purpose. Therefore understanding the experiences and perceptions of staff and students is a vital part of the research process. Three days were spent in discussion with various groups: staff and student groups from differing curriculum groups, staff providing cross school support facilities, workshop technicians, and estates staff. Around 100 people joined in the discussions.

Inevitably, given the numbers of people, a wide variety of views were expressed. However a number of themes repeatedly emerged. These are set out below:

**3.44 The staff and students succeed despite some working environments.**

There appeared to be a wide-ranging degree of dissatisfaction with the buildings. This was particularly strongly held by several international students who were clearly incredulous of conditions and made frequent unfavourable comparisons with facilities abroad. Some students used phrases including “appalling” and “laughable”. Generally these phrases referred to conditions in the Richmond, JD Kelly or Barnes buildings. Fortunately most students were happy to stress that good staff did their very best to make up for the environmental deficiencies and that the overall experience was satisfactory. There was also general satisfaction with the concept of dedicated studio space; several students mentioned this was a prime reason for applying to the School since not all institutions offered it. Staff who worked in some buildings stated that they often felt embarrassed by conditions; “the student had arrived from sunny Australia, only to find it rained indoors [in her studio space] as well as out”.

**3.45 Some people feel isolated from central facilities**

Generally those who worked within anything other than that first cluster of buildings around the Mackintosh felt too isolated. Phrases like, “we are in our own little world,” and, “feeling cut off,” were regularly used. Students also commented on the lack of easy access to the library, students union or refectory facilities.

**3.46 Students want to feel that they are part of a creative community**

Many students stated that they had chosen Glasgow School of Art because of the relatively small specialist nature of the institution and that they understood that the school aspired to being a close knit creative community. In particular the Architecture students said that they had an expectation that they would be exposed to ideas and even learn interdisciplinary skills from others by attending the School. In essence self-selection means that many who apply to the School are searching for this kind of experience, rather than exposure to one teaching department within a large university setting. However the general view was the buildings militated against this approach.
The Existing Estate

Too many buildings with too many doorways over too wide an area have a strong negative influence. At some point in the past the school has lost a degree of physical coherence and this is at odds with its philosophy.

3.47 A preference for staying within the City Centre and at Garnethill

Many students, particularly those from the United Kingdom or Northern Europe, expressed a view that before arriving they knew Glasgow was a creative and cultural city. This had been a decisive factor in applying. Students wanted to be close to the centre to participate in the socially diverse and rich cultural life. Furthermore Garnethill was confirmed by most to be a good location being very close to the city centre yet relatively peaceful.

3.48 The Mackintosh Building must be retained

Students confirmed the significance of the Mackintosh Building. Several international students stated that they knew about the Mackintosh long before applying. In marketing speak the ‘Mackintosh Brand’ is a good one. Most of those who used the building on a daily basis thought it remained a good environment; more than one student who had studio space within the Mackintosh Building used the words “very privileged”. Several other students wished they had a view of the building from their own studio spaces.

3.49 In summary, the key points of this section ‘the Existing Estate’ are as follows:

- Garnethill is a pleasant neighbourhood close to the city centre, transport links, and well suited to Glasgow School of Art.
- Only the Mackintosh building provides genuinely suitable accommodation,
- The next two most useful buildings would be the Bourdon and Foulis Buildings.
- The Bourdon and Foulis Buildings are part of cluster of buildings on Renfrew Street that together with the Mackintosh provides 71% of current floor area.
- Outside this cluster all buildings are highly unsuitable.
- All buildings are in poor condition, although the Mackintosh, Bourdon and Foulis buildings appear better than most.
- In 2003 the backlog maintenance work had an estimated cost of £18.46 million.
- This has been caused by historical under funding.
- Most staff, and in particular students, would like a better quality and cohesive environment ideally based on Garnethill and close to the Mackintosh.
Future Space Requirements

4.1 The School has recognised, for some time, that it is important to be as space efficient as is reasonably possible. Space efficiency allows the maximum amount of space to be released from the estate. This can have two positive financial effects: the first is to achieve ‘disposal receipts’ (income from selling sites); the second benefit is to reduce annual premises costs. Furthermore, when constructing new buildings, space efficiency keeps the development to an appropriate scale and avoids unnecessary capital expenditure.

4.2 Nevertheless, the School is also aware that it competes in a national and global market for students and at the highest academic levels. The school also wishes to expand its offer particularly in terms of the number of postgraduate places. Therefore if the quantity of space provided to students falls appreciably short of what might be offered in most other competitor organisations, this could affect reputation and recruitment. It is important for any institution to understand the market within which it operates. This does not mean that the School must match all comers, but it is important to be as fully informed as to the facts as possible before taking decisions.

4.3 Consequently, the School has carried out two pieces of research. The first involved commissioning Stellae: a nationally renowned consultancy offering advice on space efficiency to education institutions. The second employed consultant Ben Spencer to investigate the amounts of studio space provided by institutions across the United Kingdom and comparable institutions abroad.

4.4 Stellae carried out a detailed headcount survey; collected by visiting every studio, seminar space, or other student workspace every hour during the daytime period (40 hours over one survey week in May 2003 during the period prior to the final degree shows). Stellae reported that they had measured attendance within 13,772 square metres of critical academic space (the remaining floor space, in excess of half the gross floor area, having some alternative use).

4.5 A difficulty occurs here in that, at the time, the School’s database indicated up to 16,284 square metres of such space, or 15,030 square metres without the library. Stellae acknowledged this but stated that; “the survey was specified and organised to capture the numbers of staff and students present in academic studios and academic support areas during the week of the survey”. In other words they believed that they had counted the very large majority, if not all, of attendees by focussing on the spaces that really matter.

4.6 Stellae did go on to acknowledge that, “a number of smaller support areas were considered to be an integral part of the specified rooms [so the people within them were counted]. The floor areas of these adjacent support areas need to be added to the total floor area. Similarly, essential stores and preparation areas with low usage rates did not form part of the survey…” Stellae confirmed that the inclusion of all such spaces would increase the sample size to 14,895 square metres.

4.7 Given that the School’s database indicated a figure, without the library, of 15,030 square metres this still leaves around 135 square metres unaccounted for. However this is a tiny proportion of the overall sample. This problem is almost certainly caused by the large number of very small ancillary spaces with a range of mixed, and therefore ill defined, uses.
4.8 A space audit conducted by Bond Bryan, some 16 months after Stellae’s survey, attempted to identify all spaces, large and small, that could be assumed to have some form of so called ‘academic use’ but **specifically excluded rooms whose prime use appeared to be that of storage**. This audit measured 14,359 square metres of such accommodation.

4.9 In any event Stellae’s study related to those key academic spaces that, excluding related ancillary spaces, had an overall floor area of 13,772 square metres. This total was further broken down between those spaces understood to perform the role of dedicated studio space (7,313 square metres) and other academic spaces such as lecture theatres, seminar spaces and supporting workshops (6,459 square metres).

4.10 It is important to recognise the limitations of a single headcount survey. Analysis of a single week takes no account of varying patterns of use within different months of the year. Therefore results should always be treated with a certain degree of caution.

4.11 However, Stellae discovered that the utilisation of dedicated studio space was 22%. That is to say the typical dedicated student space within a studio was occupied 22% of the time. In fact the average studio was at least part occupied 62% of the time. However when in occupation an average of 35% of spaces were occupied. This would be equivalent to a large studio for 20 people being in use for 25 hours of the 40 hour week and, when in use, having an average of 7 people within it.

4.12 Whilst the result for dedicated studio space seems modest it is our experience that it is difficult to achieve utilisation rates above 25% within most specialist space in higher education. Furthermore the measurement of daytime activity does include the demand, from many students, to work in the evenings (particularly close to degree shows).

4.13 When considering dedicated studio space Stellae acknowledged the importance of it to students. Stellae concluded that, in many ways, dedicated studio space becomes not only a place to work but also a space within which projects, and the ideas they represent, reside and grow. Students’ work fills these spaces. Each space becomes not only a store for the artists' or designers’ work, but a display space allowing criticism of work and the sharing of ideas, and a reference point where individual students can pick up instantly on their earlier thinking and project development.

4.14 Stellae chose to quote a number of ideas advanced by staff and students.

"Access to a studio is not a privilege granted for self-fulfilment. Access to a studio allows links to our own creativity and it gives necessary space for reflection"

"It is not possible for students to share a studio with others. Packing up after a limited time to make room for the next student would be extremely disruptive to the creative process"

"This is because creativity cannot be switched on or off at predetermined times, and it is in itself an odd mixture of work and play".
However Stellae discovered that the utilisation of other academic space (such as lecture theatres, seminar spaces and supporting workshops) was very low at only 14%. Despite the limitations of a one week survey, it would appear that significant reductions in these areas ought to be possible. The School considers that present arrangements, particularly the large number and spread of buildings, means considerable duplication of workshop facilities. Stellae calculated that conducting the same activity in an environment of around 4,240 square metres as opposed to the measured 6,459 square metres would increase utilisation rates to around 24%. Stellae suggested that, given this space is not dedicated to individual students, and even taking into account the diverse and specialist nature of much of the space, such a saving ought to be possible. Bond Bryan would agree with this, in fact, under certain scenarios, higher levels of utilisation and hence savings ought to be possible.

Without any allowance for growth in the number of students, taking the above recommendations; retaining dedicated studio space at around 7,313 square metres; but reducing other academic space to around 4,240 square metres; would create a total academic floor space allowance of around 11,553 square metres.

In addition to the work by Stellae, Ben Spencer has investigated, at a range of relevant institutions, both the prevalence of dedicated studio space and, where it is offered, the typical floor-space per student. Research investigated provision across all the art and architecture schools in Scotland, and a number of competitors in England, Europe, Scandinavia and the USA.

Eighteen institutions responded to the enquiry. Given the wide-ranging nature of those institutions that did respond, the results are similarly diverse and it is difficult to draw specific conclusions. Key findings may however be summarised as follows:

The provision of dedicated studio space varies by discipline: architecture students are likely to have their own space within open studios; design students are likely to share work space in open studios; fine art students are most likely to have their own studio space. However the large majority of institutions say they provide dedicated studio space. Space standards vary hugely from the smallest: 3-4 square metres at Gray’s Art School (Robert Gordon University), to a massive 80 square metres in Amsterdam (Rijksakademie).

A new building in Stockholm provides architecture students with 7 square metres each (Royal Institute of Technology: School of Architecture). The response from the Royal College of Art (London) indicates that fine artists typically have 10-15 square metres each. A new development in Helsinki (Academy of Fine Arts) provides 8-15 square metres each. The Haute Ecole d’Arts Appliqués (Geneva) provides around 15 square metres for each student. The Academy of Fine Arts in Vienna typically provides 15 square metres of space. CalArts in Los Angeles provides between 9 and 21 Square metres for a wide range of disciplines.

Taking all the above research into account the school is determined to continue its policy of providing dedicated studio space for each student. However, on the basis of its own research, it is comfortable with an average space standard across all disciplines of around 6 square metres per student. This standard will be varied according to academic discipline, and to undergraduate and postgraduate levels. This will allow a limited number of students up to 15 square metres. The provisional space standards for dedicated studio space are set out overleaf.
Future Space Requirements

<table>
<thead>
<tr>
<th></th>
<th>m²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Small Base</strong></td>
<td>4.5</td>
</tr>
<tr>
<td>(Architecture / Design / 1st year Fine Art)</td>
<td></td>
</tr>
<tr>
<td><strong>Medium Base</strong></td>
<td>6.5</td>
</tr>
<tr>
<td>(2nd and 3rd year Fine Art)</td>
<td></td>
</tr>
<tr>
<td><strong>Large Base</strong></td>
<td>10.0</td>
</tr>
<tr>
<td>(4th year Fine Art)</td>
<td></td>
</tr>
<tr>
<td><strong>Extra Large Base</strong></td>
<td>15.0</td>
</tr>
<tr>
<td>(Master of Fine Art)</td>
<td></td>
</tr>
</tbody>
</table>

4.22 Having completed the research the School began to consider its full space requirements in more detail. Rather than use the oft-employed technique of considering whether each teaching or support department, in turn, has too little or too much space, and then adjusting the total floor space allowance accordingly, the School has determined to create a complete working model of future floor space. This allows the School to rethink its approach to the use of space in the most imaginative and efficient way possible.

4.23 Before attempting to establish a new model it is important to consider what the underlying principles of future practice within the School will be, both in say five to ten years time and if possible over the longer term. Thus the property strategy is not just about increasing efficiency or quality in the general sense; it can also create environments that better support changes in practice. New environments might even be agents of change that old environments might not allow.

4.24 Having considered the opportunities that new developments might offer, the School considers that the following should be taken into account when establishing a new space model:

- Future education should continue to be ‘practice based’ and first and foremost delivered through the studio system.
- This should be underpinned with excellent centralised facilities allowing the effective and often shared delivery of historical and contextual studies across disciplines. This should include both small and large seminar spaces and significant lecture facilities.
- In the future, information technology will be everywhere. Therefore, although there is some limited requirement for dedicated, most particularly specialist, information technology facilities, most will be absorbed into other areas.
- New development should encourage greater contact and synergies between academic disciplines.
- Workshops facilities should, wherever practical, be centralised and shared so as to achieve maximum efficiency.
- Bespoke facilities must be provided for an expanded research provision.
- There should be a highly accessible student and learning services centre closely aligned to other learning services, such as the library.
- High quality accessible social and refectory facilities must be provided together with a significant students union space.
- New development should contain a range of excellent and accessible facilities so the School can host conferences and exhibitions and also participate in the life of Glasgow.
• The School most allow for its ‘Window on the Mackintosh’ facilities as envisaged in its ‘Heritage Lottery Fund Bid’. This has space requirements both within the Mackintosh Building and facing it.

**Future Space Requirements**

### 4.0

4.25 Following precise measurement of computer drafted survey drawings and the aforementioned audit of space, Bond Bryan considers that the **total existing floor space** may be summarised below.

<table>
<thead>
<tr>
<th>Floor Space as Existing</th>
<th>m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Facilities (dedicated studios/teaching spaces/workshops)</td>
<td>14,359</td>
</tr>
<tr>
<td>Support Facilities (includes Library)</td>
<td>8,027</td>
</tr>
<tr>
<td>Balance Space (circulation/toilets/plant rooms): 30% of total</td>
<td>9,556</td>
</tr>
<tr>
<td><strong>Gross Floor Area</strong></td>
<td><strong>31,942</strong></td>
</tr>
</tbody>
</table>

4.26 The ‘Support Facilities’ figure normally includes staff spaces, refectory space and storage spaces. In most education institutions this is only around 20% of the total floor area. However in this instance it also includes; the School's library; a thriving students union; spaces within the Mackintosh building no longer used for academic purposes; and art gallery space. The provision of these types of spaces within a relatively small institution has boosted support facilities to 25% of the Gross Floor Area. The retention of these important facilities in the future will, inevitably, place limits on space efficiency.

4.27 Nevertheless Bond Bryan has, in conjunction with the School, estimated the **minimum floor area requirement**. This would be on the basis of **existing student numbers** (requiring dedicated studio spaces of between 1,450 and 1,470). This is summarised below.

<table>
<thead>
<tr>
<th>Minimum Floor Area Requirement</th>
<th>m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Facilities (dedicated studios/teaching spaces/workshops)</td>
<td>11,643</td>
</tr>
<tr>
<td>Support Facilities (includes Library)</td>
<td>6,312</td>
</tr>
<tr>
<td>Balance Space (circulation/toilets/plant rooms): 32% of total</td>
<td>8,529</td>
</tr>
<tr>
<td><strong>Gross Floor Area</strong></td>
<td><strong>26,484</strong></td>
</tr>
</tbody>
</table>

4.28 This calculation assumes maximum efficiency and, in particular, centralisation meaning a reduction in the number of sites. This reduction in floor space might only be achieved via heavy investment in predominately new flexible accommodation. However it does allow for the retention of the Mackintosh Building and those ‘non academic’ spaces the building contains. It should be noted that 11,643 square metres is close to the academic floor space allowance of around basic 11,553 square metres suggested by Stellae’s calculations. This is despite an increase in the provision of dedicated workplaces since Stellae’s survey was undertaken.

4.29 The calculation assumes a ‘balance’ figure of 32% of the total gross floor area. The notion that new flexible accommodation is more efficient, in this respect, than old is a common misconception. Whilst new buildings provide flexible environments allowing efficient design of the key academic and support spaces, they invariably place more circulation space with these key spaces. This is in part due to modern fire regulation demanding greater stair widths and at least two means of escape away from almost all rooms. Failure to recognise this fact at the inception of some other projects has resulted in significant underestimation of scale and hence cost. Bond Bryan’s experience suggests that, for city centre multi-storey projects, an allowance of 32% is appropriate at this stage.
4.30 However the School has ambitions for growth and hence increasing activity on site. The present provisional academic and financial model would result in an increase in the requirement for dedicated studio spaces of around 27% to a total of 1,860 spaces. Although not all space included within the minimum floor area requirement will need to expand, much of it will. The quantity of studio space declared in the last table will need to increase by 27%. The quantity of support space is calculated as requiring an additional 22% more space. This calculation includes an allowance for the provision of postgraduates’ workrooms together with a common room space. It also includes a proposal for dedicated research space; at present the provision of such space is very patchy. The overall consequence is presented in the table below; this represents a 25% rise in gross floor area.

### Further Floor Space Required for Growth

<table>
<thead>
<tr>
<th>Required Type</th>
<th>m2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Facilities: 27% increase</td>
<td>3,123</td>
</tr>
<tr>
<td>Support Facilities: 22% increase</td>
<td>1,391</td>
</tr>
<tr>
<td>Balance Space (circulation/toilets/plant rooms): 32% of total</td>
<td>2,144</td>
</tr>
<tr>
<td><strong>Gross Floor Area: 25% increase</strong></td>
<td>6,658</td>
</tr>
</tbody>
</table>

### Revised Total Floor Area Allowing For Growth

<table>
<thead>
<tr>
<th>Required Type</th>
<th>m2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Facilities (dedicated studios/teaching spaces/workshops)</td>
<td>14,766</td>
</tr>
<tr>
<td>Support Facilities (includes Library)</td>
<td>7,703</td>
</tr>
<tr>
<td>Balance Space (circulation/toilets/plant rooms): 32% of total</td>
<td>10,673</td>
</tr>
<tr>
<td><strong>Gross Floor Area</strong></td>
<td>33,142</td>
</tr>
</tbody>
</table>

4.31 The above calculation is focussed upon providing the most efficient arrangement of mostly existing facilities, albeit expanded for growth. The calculation does not allow for all the principles of future practice identified above (see: 4.21). The table below identifies the additional floor area in order to comply with the School’s requirements for future practice.

### Additional Requirements For Future Practice

<table>
<thead>
<tr>
<th>Required Type</th>
<th>m2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large Lecture Theatre</td>
<td>500</td>
</tr>
<tr>
<td><strong>Academic Facilities Total:</strong></td>
<td>500</td>
</tr>
<tr>
<td>Heritage Lottery Fund Tour Requirements</td>
<td>415</td>
</tr>
<tr>
<td>Visiting Artists/Academics</td>
<td>170</td>
</tr>
<tr>
<td>Student and Learning Services Area</td>
<td>75</td>
</tr>
<tr>
<td>Stores associated with all of the above</td>
<td>81</td>
</tr>
<tr>
<td><strong>Support Facilities Total:</strong></td>
<td>740</td>
</tr>
<tr>
<td>Balance Space (circulation/toilets/plant rooms): 32% of total</td>
<td>1,089</td>
</tr>
<tr>
<td><strong>Gross Floor Area</strong></td>
<td>1,829</td>
</tr>
</tbody>
</table>

4.32 The above table allows for enhanced facilities that would encourage best practice. A large lecture theatre would reduce the School’s dependency on hiring Glasgow Film Theatre for regular large meetings, lectures and presentations. Furthermore, a purpose built venue with good audiovisual facilities, would allow the School to provide highly effective lectures relating to the historical and critical studies course that is provided to most disciplines.

4.33 The development of additional parts of the Mackintosh building primarily for visitor use and a new visitor centre facing the Mackintosh Building are key components of the Heritage Lottery Fund Bid (HLF). Therefore if these facilities are to be provided, and funded by the HLF, the area floor area calculations must make an allowance for them.
The school wishes to encourage more artists and academics from around the world to visit and work at the school on a temporary basis. Within overseas institutions this is invariably facilitated by the provision of residential accommodation on campus. The support facilities allowance includes for two small (85 square metre) apartments for this purpose.

Finally the school wishes to provide students with additional and more accessible advice and Guidance within a purpose-designed space.

If these additional allowances are added to previous allowances then the final summary of space is as the table below.

<table>
<thead>
<tr>
<th>Final Floor Area Requirement</th>
<th>m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Facilities (dedicated studios/teaching spaces/workshops)</td>
<td>15,266</td>
</tr>
<tr>
<td>Support Facilities (includes Library)</td>
<td>8,443</td>
</tr>
<tr>
<td>Balance Space (circulation/toilets/plant rooms): 32% of total</td>
<td>11,262</td>
</tr>
<tr>
<td><strong>Gross Floor Area</strong></td>
<td><strong>34,972</strong></td>
</tr>
</tbody>
</table>

A description of all proposed space within this final total is provided within Annex A. This description is the first serious attempt to estimate future space requirements in detail. Inevitably some revision would occur throughout the development of any future project. However the School is satisfied that slightly less than 35,000 square metres is a good overall allowance. Therefore growth of 27% in ‘on site’ activity could be accommodated within a range of buildings with a gross floor area no more than 9.5% greater than the existing estate.

This allowance assumes a highly centralised environment with a bias toward the provision of much of the accommodation in flexible new buildings. Inevitably this figure will vary depending on the characteristics of each option under consideration. Potential variation will be considered later in this report where the options under consideration are presented.
Key Objectives for the Estate  

5.0

5.1 At this point it is helpful to confirm the key objectives for the future development of the estate. These are then established as criteria against which the relative performance of differing options can be measured. So far, from our researches, we know that:

- The School’s ambition is to enhance its national and international reputation further and, in particular, develop its postgraduate provision.
- Growth in activity would provide greater financial stability.
- The School has developed in outline a curriculum model, a financial model, and now a space model that matches its ambitions; this last model suggests a gross floor area of just less than 35,000 square metres, the precise amount being partially dependant on the characteristics of any proposal.
- Most of the existing estate is not suitable and of poor quality and does not support the above objectives in any way; in fact its retention may seriously threaten existing income levels.
- In 2003 the backlog maintenance work had an estimated cost of £18.46 million and this has been caused by historical under funding.
- The existing buildings and their locations militate against the intention to maintain a close-knit creative community; this frustrates some students.
- The Mackintosh building is, however, a major strategic asset.
- Students appreciate the current setting close to the City Centre.

5.2 Finally one further key objective that has not been directly identified so far, is the provision of an environmentally responsible and sustainable solution. The Mackintosh School of Architecture has a research department focussing upon this major issue for the future. Consequently the School of Architecture will wish to regard any developments within the estate as significant opportunities for research. Sustainability is not merely about limiting harmful emissions, vital though this is; it is about creating healthy environments that support users’ physical and psychological well-being. It is also about creating buildings that, because they are sufficiently robust externally, and flexible internally, are likely to have an extended life thus avoiding the environmental damage caused by a regular 30-year cycle of replacement. At this strategic stage, it is necessary to ensure that any proposals ensure that individual sites are not overdeveloped: overdevelopment tends to leave human beings in rooms without good daylight or ventilation. The other important objective will be to ensure that budgets for construction are reasonable and allow for the construction of robust solutions.

5.3 Taking all the above into account the following general criteria are proposed:

The School is highly ambitious to achieve its targets for growth in activity and hence income. The School will remain, by comparison to most institutions, a small specialist institution; this, in many ways, is a real strength. However increased income will protect the long-term position of the school. Therefore the first criterion against which any option should be assessed is its ability to accommodate growth.

The second selected criterion against which performance is measured is the extent to which an option creates opportunities for maximising integration. Integration assists in the creation of a close-knit community, leaves no one isolated from central facilities, supports academic synergies and opportunities for interdisciplinary work and creates maximum opportunity for the efficient delivery of supporting services.
Key Objectives for the Estate

The third criterion will be: the extent to which each option is likely to create **excellent internal environments**. Such environments should not only look and feel good but also be easy to use and be accessible. In the future, as students’ expectations continue to rise, high quality environments are likely to be essential, and the preservation of the School’s good reputation relies on creating them.

The fourth criteria will be: **flexibility in use**. Environments should be flexible in their daily use and capable of adaptation to a variety of alternative departmental uses over the long term. This will guarantee that the environments have a prolonged life.

Finally, although **limiting disruption** (during construction or refurbishment projects) has not been an concern within this document so far, it is nevertheless an important fifth criteria. Wherever possible, options should be capable of execution without seriously affecting the smooth running of the school.

5.4 Most of the above general criteria have been selected as a response to both the School’s strategic ambition, and to conditions within the existing estate. However, they might still seem slightly non-specific. It was decided, following the consultations with staff and students, and following a workshop with the School’s board of governors, to consider each option’s performance by also asking following specific questions.

Does the option allow most students to continue to work in a **central location**?

To what extent does the option make good use of ‘**the Mackintosh brand**’?

Is the option likely to allow the development of an **excellent urban design**? More specifically will the design sit well in its surroundings and encourage users to make positive use of the spaces and streets between the buildings? Again, given the market within which the School competes, an excellent solution is highly desirable.

5.5 Therefore in summary, the key criteria against which options may be assessed are:

**General Criteria**
- Accommodating Growth
- Maximising Integration
- Providing an Excellent Internal Environment
- Flexibility in Use
- Limiting Disruption

**Environmental Criteria**
- City Centre Location
- Use of the Mackintosh Brand
- Excellent Urban Design

This does not preclude strategic solutions that do not particularly address the ‘Environmental Criteria’. However, in order to be favoured, such solutions would have to provide a very good response to the ‘General Criteria’.
6.1 Before selecting options for development it is clearly important to understand the key objectives for the estate (see previous section). However, it is also important to recognise the physical, economic, and political context that will both allow and restrict opportunities for change.

6.2 Town Planning matters are always important when contemplating significant change in any estate. As Town Planning is both a complex technical and political process no guarantees of success for any particular solution are available. It is, however, possible to conduct a planning review based upon published documentation, and to consult with senior officers within the local authority.

6.3 GVA Grimley has conducted a planning review. The key conclusions are as follows.

- The statutory development plans covering the Garnethill area; the Glasgow & Clyde Joint Structure Plan (2000) and the Glasgow City Local Plan (2002) are both relatively up to date. The Local Plan was only recently adopted (August 2003) and should be regarded as of primary importance. This plan recognises that tertiary education plays a key role in the economic, social and physical development of the city centre.

- The city plan states that the council will encourage tertiary education institutions to prepare campus development plans. Garnethill is identified as a largely residential area, but such areas may contain education facilities and public buildings.

- All the buildings within the School’s Garnethill estate lie within the Central Conservation Area. Within conservation areas development control is generally tighter and development should seek to enhance the character of that area.

- Two of the School’s buildings are listed (as already advised within section 3). The Mackintosh Building (Category A) and part of the Barnes Building (Category B). In addition a significant number of other properties on Garnethill are listed. This includes several properties very close or adjacent to the School’s buildings; also yet another Category A listing (St Aloysius Church on the corner if Hill Street and Rose Street). Development likely to affect the character and setting of an existing listed building undergoes additional scrutiny in the form of a ‘listed building application’.

- There is an automatic presumption in favour of the retention and preservation of listed buildings. In addition listing can affect interior details of buildings as well as the exterior. Applications to demolish existing listed buildings will be rejected unless it can be demonstrated that every effort has been made to keep them (detailed arguments regarding economic obsolescence and/or structural decay must to be prepared).

6.4 These points have a number of implications.

Firstly obtaining consents for new development on Garnethill within a conservation area and adjacent to a number of listed buildings can never be a straightforward process. Nevertheless the council should be open to the consideration of applications for good quality modern solutions. This may, however, have abnormal cost implications.
Secondly, it will be important to demonstrate a fully considered approach to the future of all existing sites as part of any application. Given the status and character of the local area and the number of listings to date, it is not beyond the bounds of possibility that at some point in the future further listings could be considered, particularly in relation to some of the School's older properties. In the event that a fresh listing might make the School's preferred development plan less workable, it will be important to demonstrate that each site for development is part of an overall proposal that will lead to significant improvement. In this respect, one officer has informally noted that any set of proposals that included the removal of the Bourdon Building might have the greatest chance of success.

6.5 Therefore it is reasonable to assume that the School has an opportunity to redevelop existing sites. However, should a large quantity of new floor area be required, then a constraint to this approach will be the need to build in several sequential phases.

6.6 Setting aside the planning process, one of the more significant hurdles to developing existing sites will be the potential requirement to provide temporary space, so that existing buildings can be demolished. Grimley have indicated that prevailing market conditions mean that there a number of opportunities to provide temporary space within rented accommodation in central Glasgow or in nearby districts. However occupation of this kind of space can be quite expensive; rents, rates and service charges can often exceed £300 per square metre per annum, in addition landlords invariably require a minimum stay of 3-5 years. Therefore a 5-year agreement to lease 1,000 square metres might cost at least £1.5 million pounds.

6.7 There may be other opportunities to acquire temporary space at lower cost, most particularly within the education sector. One potential site might be the existing Stow College Building. Stow College is currently debating a potential move to new accommodation and in many ways this building, given its overall scale (in excess of 10,000 square metres), large classrooms spaces, and nearby location, is ideal. However Stow College's project is, at present, little more advanced than the School's. Therefore this building, which we are advised is reasonably well utilised, may not be available for use in conjunction with the initial phases of the School's development.

6.8 Also adjacent Garnethill, the city council's museums department has indicated that the McLellan Art Galleries might be available in around two years time. The future use of these galleries is uncertain. Ultimately, all opportunities to find temporary space requires regular review, and it will be necessary to look closely at a range of options once a defined project is under development.

6.9 Alternatively the school may wish to consider refurbishment of existing buildings and there is little, from a Town Planning perspective to stop this happening. However the inherent unsuitability of many of the existing structures means that this is unlikely to be the preferred option. It should be noted that the scale of refurbishment, together with necessary alterations to improve internal layouts and overall suitability, might, just like redevelopment solutions, require use of temporary accommodation.

6.10 The school has the opportunity to sell some or all of its existing sites. Given the character of Garnethill, and the Town Planning context, the sale of the sites for alternative residential use would appear to be the most likely outcome. We have not, as yet, had formal confirmation that there are no restrictive legal covenants that might affect the sale of any site. However we understand that the existence of restrictions is thought to be unlikely. Given the condition of much of the existing accommodation, selling sites reduces the maintenance burden and realises a cash receipt that will part fund capital projects.
Opportunities for Change  

6.11 Grimley have not completed formal valuations but have suggested a range of potential values on the basis of residential reuse. The mid point of this range for each site (excluding the Mackintosh) is indicated below. These prices are essentially cautious assessments and should be considered as set at 2004/5 levels.

<table>
<thead>
<tr>
<th>£m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnes Building</td>
</tr>
<tr>
<td>Haldane Building</td>
</tr>
<tr>
<td>Richmond Building</td>
</tr>
<tr>
<td>JD Kelly Building</td>
</tr>
<tr>
<td>Bourdon Building</td>
</tr>
<tr>
<td>Assembly / Newbery / Foulis</td>
</tr>
</tbody>
</table>

6.12 Finally it is important to consider opportunities for the acquisition of sites. In the first instance, given the School’s affinity with the Garnethill area, and the difficulties associated with redevelopment of existing sites, it is sensible to consider opportunities close to the Mackintosh Building and across Garnethill generally.

6.13 Opportunities at Garnethill appear to be scarce. There are no empty plots on Garnethill with the exception of two small plots that we understand are earmarked for development. Neither of these plots, given their size and location, is particularly suitable.

6.14 With Grimley’s assistance, we have considered each of the sites adjacent the School’s main cluster of buildings.

6.15 Those buildings fronting onto Sauchiehall Street to the south of the Mackintosh Building are mostly recently refurbished and appear to be put to profitable use. Grimley advises that the there is no realistic of chance of occupation given the long leases offered to a number of commercial tenants.

6.16 To the west of the Bourdon Building, on the south side of Renfrew Street, is the Dental Hospital. The hospital, having undergone its own analysis, has recently scrapped potential plans to move and is understood to be assuming an indefinite stay. To the west of the Bourdon Building and north of Renfrew Street is a private hotel. This small early Victorian building is not appropriate for School use and has a Category B listing. Its recent extension to the rear and smart appearance indicates successful economic use and therefore the chances of both acquiring the site and achieving a demolition are negligible.

6.17 At the Eastern end of the Mackintosh Building on Dalhousie Street are a number of small dwellings assumed to be in multiple ownership. The scale of these plots makes them of little interest to the School. The plots back onto the McLellan Galleries, which is a listed building.

6.18 To the North of the School is part of St Aloysius College: the Catholic Primary and Secondary School. These linked buildings are also listed (Category B) although examination of the listing suggests that only one building may be of real value. St Aloysius College also owns the open yard on the corner of Renfrew Street and Dalhousie Street and diagonally opposite the Mackintosh Building. The college has indicated a willingness to talk with the school about potential acquisition of part of its land for development, most particularly part of the yard. These talks are at an extremely early stage. The Colleges’ willingness to talk is motivated by interest in the Haldane Building’s site for a sports development.
6.19 Finally the School must consider opportunities for development on alternative locations away from Garnethill. It will be appreciated that, on the basis of research and thinking carried out to date, a move away from Garnethill does not appear to be the preferred option. Nevertheless it would confer some advantages and requires proper investigation. The School has considered a wide variety of potential locations suggested by Grimley. The most sensible locations would appear to be the Glasgow Harbour Area. Alternatively the School could consider the Finneiston or Pacific Quay areas. Grimley have advised that land remains available within these areas and a sensible budget allowance for Glasgow Harbour is understood to be half a million pounds per acre. We have estimated that the school would need around seven and a half acres resulting in a budget cost of £3.75 million.
Ideal Physical Characteristics of the Future Estate

7.1 Following the completion of our research phase, and having considered both the objectives and the real opportunities, it is helpful to identify the ideal characteristics of the future estate. This avoids a 'scatter gun' approach to options development as options that do not, in some way, make some progress towards the ideal should be discarded or at least treated with caution.

7.2 Some fundamental Characteristics are highlighted below.

- A high quality flexible environment where spaces can be regularly adapted to a variety of uses.
- Allowing opportunities for developing collaborative/flexible-working arrangements between curriculum areas.
- Allowing flexible timetabling opportunities and improved utilisation of shared spaces.
- Allowing increased access of learning resources and student support together with social facilities.
- A better match between group sizes and room sizes.

The present fragmented, inflexible and dispersed, estate will not provide any of the above characteristics.

7.3 In this case the ideal future may be characterised by:

- No outlying sites.
- New closely related buildings providing modern purpose made flexible accommodation located very close to the Mackintosh Building.
- Provision of around 35,000 square metres of space within the final development.

7.4 Therefore one of the options should explore the viability of this specific scenario (this option will be known as Option 3B). Other options should explore alternative solutions that make at least a partial response to the above list (these options would be known as Options 2A, 2B and 2C). A full list of options is provided on the next page.
The Range of Options

8.1 The range of options to be considered is as follows.

8.2 **Option 1: Do the Minimum/Refurbishment (Base Case Option).**
Includes for repair and some improvement all existing accommodation.

8.3 Beyond this base case all options outlined below include some form of new development. The potential purchase and development of part of the St Aloysius yard has a potential role to play in all of them. The extent to which this purchase is merely desirable, or vital, varies with each option. This will be demonstrated on the next pages.

8.4 With the exception of the last option (4), all remaining options look at opportunities at Garnethill. However, given the lack of attractive opportunities for site acquisition at Garnethill, we have only considered the possible use of St Aloysius college land. All other sites have been discounted.

8.5 The three options set out below include removal and sale of the outlying sites (Barnes and Haldane). All sites having some link with Renfrew Street are retained and have varying quantities of new or refurbished properties. In essence two clusters of accommodation are retained.

8.6 **Option 2A: New and Refurbished Property (32% New)**
The Richmond and JD Kelly sites are redeveloped. Buildings close to the Mackintosh are retained.

8.7 **Option 2B: New and Refurbished Property (39% New)**
The Richmond, JD Kelly and Assembly buildings' sites are redeveloped. The remaining buildings are retained.

8.8 **Option 2C: New and Refurbished Property (60% New)**
All sites are redeveloped with the exception of the Mackintosh and the Bourdon Building which are both retained.

8.9 The options outlined above explore the potential benefits or drawbacks of retaining parts of the existing estate alongside the Mackintosh Building. **All the options outlined below retain the Mackintosh Building only.**

8.10 **Option 3A: Rebuild (Single Cluster Model – 78% new)**
This option models a complete rebuild on sites around the Mackintosh. As such it is that option that attempts to model ideal physical characteristics of the estate identified in the previous section.

8.11 **Option 3B: Rebuild (Two Cluster Model – 78% new)**
This option models a complete rebuild on sites around the Mackintosh and on the Richmond/JD Kelly site. This would allow for a lower, and less dense development than option 3A.

8.12 **Option 3C: Rebuild (Expanded Single Cluster Model – 78% new)**
This option models a complete rebuild on sites around the Mackintosh and, should it become available, a greater quantity of St Aloysius land than the yard. This has the benefit of keeping all accommodation within one cluster whilst, like option 3B, allowing for a lower less dense development than option 3A.
Finally the School has considered retaining the Mackintosh Building but moving the remainder of the School to an alternative location. This is described below.

Option 4: Rebuild (New Site – 79% new)
The school has not settled upon a particular site but considers that the best alternatives would appear to be the Glasgow Harbour Area. Alternatively the School could consider the Finneiston or Pacific Quay areas. This option has not been drawn, but has been modelled financially.

The following pages describe each option with sketches and budget cost and area summaries. Brief indications of key advantages and disadvantages of each option are also included. A fuller assessment of each option is included later (in section 9).

The following assumptions have been made when compiling the area and financial data for each option.

The target gross floor area for the most space efficient solutions (assumed to be Options 3A and 3C) has been assumed to be 34,977 square metres. Where both the Richmond/JD Kelly site and the sites surrounding the Mackintosh have been utilised then the target is assumed to rise by 300 square metres to 35,277 Square metres. This is due to the potential need to replicate some workshop facilities. Furthermore, the target area for option 4 is assumed to increase by a further 200 square metres to 35,477 Square metres. This is due to the need to replicate some supporting facilities such as the library and the refectory.

When assessing the capacity of each option studies have been conducted to establish the maximum redevelopment potential of each site. Given that the studies tend to focus upon the maximum likely to be achieved, any option not providing sufficient floor space has been costed on the basis of what is likely to be achieved. Therefore some options are assumed not to provide all the space required for growth.

Turner and Townsend have assisted us in setting an assumed average cost for new build at £1,480 per square metre. This cost may be assumed to be at mid 2005 tender prices. Inevitably costs are still highly provisional at this stage.

Some may regard the costs as towards the higher end of expectations. This is deliberate given the School’s ambition to achieve reasonable level of specification, the desire for sustainable solution, and Town Planning constraints in relation to the Garnethill area. In addition, the demands of art studios mean that the average floor-to-floor height across all new buildings is assumed to be at least 4 metres. The rate has been lowered for option 4 (away from Garnethill), to £1,400 per square metre.

Under each option the costs of backlog maintenance has been included for all retained buildings. Costs that are understood to be met by the HLF project are excluded from the calculations. Therefore, although backlog maintenance costs have been updated to 2005 prices, costs for the Mackintosh Building are lowered. The HLF bid works assume the removal of relatively modern mezzanine levels at the Mackintosh Buildings basement level. Therefore the gross floor area that the Mackintosh Building is assumed to supply by has been lowered 270 square metres.

Option costs are as comprehensive as possible. As well new build costs and backlog maintenance they include an allowance for improvements to each retained buildings’ efficiency and suitability. All options contain a suitable allowance for temporary accommodation and a fixed allowance of £2.3 million for re-equipping and furnishing heavily refurbished areas. Where appropriate, demolition costs have also been identified together with an allowance for the purchase of the St Aloysius yard.
### The Range of Options – Option 1

**Option 1: Do the Minimum/Refurbishment (Base Case Option).**

*Includes for repair and some improvement of all existing accommodation.*

<table>
<thead>
<tr>
<th>Gross Floor Area Summary</th>
<th>m2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Buildings Retained</strong></td>
<td></td>
</tr>
<tr>
<td>Mackintosh Building</td>
<td>7,400</td>
</tr>
<tr>
<td>Bourdon Building</td>
<td>6,602</td>
</tr>
<tr>
<td>Assembly/Newbery/Foulis</td>
<td>8,501</td>
</tr>
<tr>
<td>Barnes</td>
<td>2,841</td>
</tr>
<tr>
<td>Haldane</td>
<td>2,828</td>
</tr>
<tr>
<td>JD Kelly/Richmond</td>
<td>3,501</td>
</tr>
<tr>
<td><strong>New Buildings Gross Floor Area</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>New Building funded by HLF bid</strong></td>
<td>200</td>
</tr>
<tr>
<td><strong>Total Gross Floor Area Provided</strong></td>
<td>31,873</td>
</tr>
</tbody>
</table>

**Standard Cost Summary**

<table>
<thead>
<tr>
<th>Assumed new build rate £/m²</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quantity of New Build (m²)</strong></td>
<td>-</td>
</tr>
<tr>
<td>New Build Construction Cost (£m) exc. HLF bid</td>
<td>-</td>
</tr>
<tr>
<td>Professional/Local Authority Fees at 12%</td>
<td>-</td>
</tr>
<tr>
<td>VAT on above (£m)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total new Build Cost (£m)</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional Costs (Expressed as Gross Costs)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Demolition Costs</td>
<td>-</td>
</tr>
<tr>
<td>Equipment and Removal Costs</td>
<td>2.30</td>
</tr>
<tr>
<td>Backlog Maintenance (2005 prices)</td>
<td>18.33</td>
</tr>
<tr>
<td>Additional alterations/improvements</td>
<td>3.17</td>
</tr>
<tr>
<td>Site Acquisition Costs</td>
<td>-</td>
</tr>
<tr>
<td>Temporary Accommodation</td>
<td>1.15</td>
</tr>
</tbody>
</table>

| **Total Estimated Costs (£m)** | 24.95 |
This option refurbishes existing buildings, addressing backlog maintenance and including an amount of alteration work. This is not regarded as satisfactory option, but is benchmark against which the performance of alternative options may be measured.
Option 2A: New and Refurbished Property (32% New Build)

The Richmond and JD Kelly sites are redeveloped. Buildings close to the Mackintosh are retained.

Gross Floor Area Summary m²

Existing Buildings Retained
Mackintosh Building 7,400
Bourdon Building 6,602
Assembly/Newbery/Foulis 8,501

New Buildings Gross Floor Area 10,790
New Building funded by HLF bid 200

Total Gross Floor Area Provided 33,493

Standard Cost Summary

Assumed new build rate £/m² 1,480
Quantity of New Build (m²) 10,790

New Build Construction Cost (£m) exc. HLF bid 15.97
Professional/Local Authority Fees at 12% 1.92
VAT on above (£m) 3.13
Total new Build Cost (£m) 21.02

Additional Costs (Expressed as Gross Costs)
Demolition Costs 0.35
Equipment and Removal Costs 2.30
Backlog Maintenance (2005 prices) 11.20
Additional alterations/improvements 9.00
Site Acquisition Costs 0.50
Temporary Accommodation 2.30

Total Estimated Costs (£m) 46.67
This option disposes of the Barnes and Haldane Buildings, redevelops the Richmond / JD Kelly site with new buildings and refurbishes retained buildings. Setting aside questions over quality this option appears to be of insufficient scale to accommodate planned growth. The school’s sites remain split.

Note that this, and following options, include for the potential use of the St Aloysius yard.
Option 2B: New and Refurbished Property (39% New Build)

The Richmond, JD Kelly and Assembly buildings’ sites are redeveloped. The remaining buildings are retained.

Gross Floor Area Summary m²

Existing Buildings Retained
Mackintosh Building 7,400
Bourdon Building 6,602
Assembly/Newbery/Foulis 7,226

New Buildings Gross Floor Area 13,590
New Building funded by HLF bid 200

Total Gross Floor Area Provided 35,018

Standard Cost Summary

Assumed new build rate £/m² 1,480
Quantity of New Build (m²) 13,590

New Build Construction Cost (£m) exc. HLF bid 20.11
Professional/Local Authority Fees at 12% 2.41
VAT on above (£m) 3.94
Total new Build Cost (£m) 26.47

Additional Costs (Expressed as Gross Costs)
Demolition Costs 0.48
Equipment and Removal Costs 2.30
Backlog Maintenance (2005 prices) 10.14
Additional alterations/improvements 8.49
Site Acquisition Costs 0.50
Temporary Accommodation 2.30

Total Estimated Costs (£m) 50.68
This option is very similar to option 2A. However, given the issues relating to accommodating growth with option 2A, this option assumes replacement of the Assembly Building. As the Assembly Building has only 2 full floor levels plus a basement, it is possible to at least double the accommodation on this site with a new building, thereby boosting the scale of the accommodation.

However issues regarding quality and overall capacity remain. In addition the School remains split across two locations.
Option 2C: New and Refurbished Property (60% New Build)

All sites are redeveloped with the exception of the Mackintosh and the Bourdon Building, which are both retained.

Gross Floor Area Summary m2

Existing Buildings Retained
Mackintosh Building 7,400
Bourdon Building 6,602

New Buildings Gross Floor Area 21,075
New Building funded by HLF bid 200

Total Gross Floor Area Provided 35,277

Standard Cost Summary

Assumed new build rate £/m² 1,480
Quantity of New Build (m²) 21,075

New Build Construction Cost (£m) exc. HLF bid 31.19
Professional/Local Authority Fees at 12% 3.74
VAT on above (£m) 6.11
Total new Build Cost (£m) 41.05

Additional Costs (Expressed as Gross Costs)
Demolition Costs 1.20
Equipment and Removal Costs 2.30
Backlog Maintenance (2005 prices) 5.63
Additional alterations/improvements 5.60
Site Acquisition Costs 0.50
Temporary Accommodation 2.30

Total Estimated Costs (£m) 58.58
This option replaces all buildings other than the Mackintosh Building and the Bourdon Building. This is the first option that appears to provide sufficient floor space to accommodate growth.

However the School remains split across two locations.
The Range of Options – Option 3A

Option 3A: Rebuild (Single Cluster Model – 78% New Build)

This option models a complete rebuild on sites around the Mackintosh. As such it is that option that attempts to model ideal physical characteristics of the estate identified in the previous section.

Gross Floor Area Summary m²

Existing Buildings Retained
Mackintosh Building 7,400

New Buildings Gross Floor Area 27,377
New Building funded by HLF bid 200

Total Gross Floor Area Provided 34,977

Standard Cost Summary

Assumed new build rate £/m² 1,480
Quantity of New Build (m²) 27,377

New Build Construction Cost (£m) exc. HLF bid 40.52
Professional/Local Authority Fees at 12% 4.86
VAT on above (£m) 7.94
Total new Build Cost (£m) 53.32

Additional Costs (Expressed as Gross Costs)
Demolition Costs 1.51
Equipment and Removal Costs 2.30
Backlog Maintenance (2005 prices) 2.13
Additional alterations/improvements 0.56
Site Acquisition Costs 0.50
Temporary Accommodation 3.45

Total Estimated Costs (£m) 63.77
All previous options so far have supplied at least two groups, or clusters, of accommodation. This option explores the possibility of placing all accommodation around the Mackintosh Building. As such it provides the most integrated solution giving staff and students easy access to all facilities.

However, much of the development would need to 9 storeys tall to create sufficient space and this may overwhelm the Mackintosh Building (see the section through Renfrew Street).

Such a tall building may create problems and be inconvenient to use. Staff and students become isolated from the Street and the Mackintosh Building.
Option 3B: Rebuild (Two Cluster Model – 78% New Build)

This option models a complete rebuild on sites around the Mackintosh and on the Richmond/JD Kelly site. This would allow for a lower, and less dense development than option 3A.

Gross Floor Area Summary

Existing Buildings Retained
Mackintosh Building 7,400

New Buildings Gross Floor Area 27,677
New Building funded by HLF bid 200

Total Gross Floor Area Provided 35,277

Standard Cost Summary

Assumed new build rate £/m2 1,480
Quantity of New Build (m2) 27,677

New Build Construction Cost (£m) exc. HLF bid 40.96
Professional/Local Authority Fees at 12% 4.92
VAT on above (£m) 8.03
Total new Build Cost (£m) 53.91

Additional Costs (Expressed as Gross Costs)
Demolition Costs 1.86
Equipment and Removal Costs 2.30
Backlog Maintenance (2005 prices) 2.13
Additional alterations/improvements 0.56
Site Acquisition Costs 0.50
Temporary Accommodation 3.45

Total Estimated Costs (£m) 64.71
In response to the difficulties raised by Option 3A, this option provides new accommodation on both the sites around the Mackintosh Building and the Richmond / JD Kelly site. This allows a building on a more sympathetic scale around the Mackintosh Building yet provides an adequate quantity of space. However the School would be split into two groups of clusters of accommodation.
Option 3C: Rebuild (Expanded Single Cluster Model – 78% New Build)

This option models a complete rebuild on sites around the Mackintosh and, should it become available, a greater quantity of St Aloysius land than the yard. This has the benefit of keeping all accommodation within one cluster whilst, like option 3B, allowing for a lower less dense development than option 3A.

Gross Floor Area Summary

Existing Buildings Retained
Mackintosh Building 7,400

New Buildings Gross Floor Area 27,377
New Building funded by HLF bid 200

Total Gross Floor Area Provided 34,977

Standard Cost Summary

Assumed new build rate £/m2 1,480
Quantity of New Build (m2) 27,377

New Build Construction Cost (£m) exc. HLF bid 40.52
Professional/Local Authority Fees at 12% 4.86
VAT on above (£m) 7.94
Total new Build Cost (£m) 53.32

Additional Costs (Expressed as Gross Costs)
Demolition Costs 1.51
Equipment and Removal Costs 2.30
Backlog Maintenance (2005 prices) 2.13
Additional alterations/improvements 0.56
Site Acquisition Costs 10.00
Temporary Accommodation 3.45

Total Estimated Costs (£m) 73.27
Option 3C attempts to address the problems of the height of option 3A, and the split site nature of option 3B, by assuming purchase of land immediately to the north of the School, currently belonging to St Aloysius College. This allows an integrated ‘single cluster’ solution of a more appropriate height than option 3A.

This option, in many ways, could provide an excellent solution but has many difficulties associated with it. (see Section 9). Before the School could demolish buildings on the St Aloysius College land, the College would have to construct a new building on an yard already in its ownership and then relocate to it.
Option 4: Rebuild (New Site: 79% New Build)

The school has not settled upon a particular site but considers that the best alternatives would appear to be the Glasgow Harbour Area. Alternatively the School could consider the Finneinston or Pacific Quay areas. This option has not been drawn, but has been modelled financially.

Gross Floor Area Summary  m2

Existing Buildings Retained
Mackintosh Building  7,400

New Buildings Gross Floor Area  27,877
New Building funded by HLF bid  200

Total Gross Floor Area Provided  35,477

Standard Cost Summary

Assumed new build rate £/m2  1,400
Quantity of New Build (m2)  27,877

New Build Construction Cost (£m) exc. HLF bid  39.03
Professional/Local Authority Fees at 12%  4.68
VAT on above (£m)  7.65
Total new Build Cost (£m)  51.36

Additional Costs (Expressed as Gross Costs)
Demolition Costs -
Equipment and Removal Costs  2.30
Backlog Maintenance (2005 prices)  2.13
Additional alterations/improvements  0.56
Site Acquisition Costs  3.75
Temporary Accommodation -

Total Estimated Costs (£m)  60.10
The School has assumed that it would retain the Mackintosh Building as its sale would be both inappropriate and, given the building’s listing and nature, unlikely to yield a significant sales receipt. Therefore option 4 would relocate the majority of the School away from the Mackintosh Building and most probably away from Glasgow City Centre.

Grimley have conducted a site search and have found no appropriate and suitably scaled sites close to the City Centre.
Once the options had been assembled the School mounted a weeklong exhibition available to all staff and students. The school considers that this was a vital part of its research since understanding staff and students’ attitudes are vital to long-term success.

Copies of the display boards are included within Annex B to this report, together with a questionnaire that was also provided. The exhibition avoided presenting costs and asked visitors to consider the qualitative issues and the relative merits of the options. Due to its sensitive nature option 3C, utilising a significant part of St Aloysius College’s land, could not be included within the display.

Reference to Annex B demonstrates that the exhibition contained a number of complex issues that would take the first time observer some time to appreciate. Of the estimated 200-300 people who attended the exhibition just 87 people stayed to complete a form containing 22 questions.

Not everyone answered every question. Nevertheless the sample size is sufficiently large to draw some conclusions. A selection of key questions and answers are provided below.

The questionnaire first asked people to recall why they chose to come to the School. People had a range of responses that they could select in response to pre-prepared statements. The table below indicates the proportion of respondents choosing to “agree” or “agree strongly” with a series of statements. As can be seen, the general positive response to these statements serves to bolster the conclusions of earlier research. Environmental factors do play a part and although the lowest score relates to the Mackintosh Building it is still noteworthy that the decision making of 63% was affected by a building that regularly serves only around 20% of the student population. Academic managers will no doubt be pleased to note, however, that nothing out scores good reputation, course content, and the studio based system.

<table>
<thead>
<tr>
<th>I chose to come to GSA because of…</th>
<th>Agree/agree strongly rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>the good reputation of the school</td>
<td>94%</td>
</tr>
<tr>
<td>recommendations by others</td>
<td>79%</td>
</tr>
<tr>
<td>particular course content</td>
<td>84%</td>
</tr>
<tr>
<td>the studio based system</td>
<td>80%</td>
</tr>
<tr>
<td>its focus as a specialist institution</td>
<td>72%</td>
</tr>
<tr>
<td>Glasgow's reputation as a cultural city</td>
<td>76%</td>
</tr>
<tr>
<td>the city centre location</td>
<td>71%</td>
</tr>
<tr>
<td>the Mackintosh Building</td>
<td>63%</td>
</tr>
</tbody>
</table>
9.6 The next set of questions relates to potential change. The first two questions relate to the quality of the environment and facilities and, again, the responses strongly support earlier research. Note that the support for dedicated studio space is stronger than the support for the studio based system within the first set of questions. It would appear that experience of this system increases support for it. Responses to the final three questions appear to lend support to the view that Garnethill is a favoured location, and those less central alternative locations are not favoured.

I think that...

- we must improve the general quality of GSA buildings 95%
- we need a better range of quality facilities 89%
- we must retain dedicated studio space 93%
- GSA should remain at Garnethill 81%
- we should consolidate around the Mackintosh 79%
- we should relocate to another less central location 9%

9.7 The final question asked people to identify their first and second choice options. A noteworthy point is that although few respondents stated that they favoured a less central location, option 4 received as many “first choice” votes as options 1, 2A and 2B combined. In addition option 4 received 15% of the “second choice” votes. Although this is hardly a groundswell of support it would appear that, given a choice between projects based around retaining a proportion of the existing buildings, and creating a new environment in a less than ideal location, some would go for the new environment. Perhaps the simple underlying message in all of this is that the large majority of respondents believe that things cannot be allowed to continue as they are (certainly that was the tone of many of the handwritten comments).

<table>
<thead>
<tr>
<th>Preferred Option</th>
<th>first choice</th>
<th>second choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>Option 2a</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Option 2b</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>Option 2c</td>
<td>19%</td>
<td>24%</td>
</tr>
<tr>
<td>Option 3a</td>
<td>12%</td>
<td>29%</td>
</tr>
<tr>
<td>Option 3b</td>
<td>56%</td>
<td>22%</td>
</tr>
<tr>
<td>Option 4</td>
<td>7%</td>
<td>15%</td>
</tr>
</tbody>
</table>

9.8 The favoured first choice was, however, option 3b. To an extent, the exhibition, in an attempt to explain the value of option 3b, could be accused of ‘leading the witness’. Nevertheless with over half the “first choice” votes 3b appears to be a clear winner. Although not a popular first choice, the “second choice” favourite was option 3a. This appears to imply that although people see drawbacks in terms of its scale, option 3A is appreciated for its proposal to bring the School together. Therefore although option 3c was not available for scrutiny, it may well have performed very well had it been displayed.

9.9 Finally it should be acknowledged that option 2c had the second highest number of votes in both polls. As far as many staff and students are concerned, the decision to consider the retention of the Bourdon Building ahead of all other buildings appears to be a reasonable one.
9.10 Encouraging as the responses are, the sample size was relatively small by comparison to the total numbers eligible to respond. In order to complete our qualitative assessment of the options, performance has been gauged against the criteria established at 5.5. The table on the next page awards points according to an assessment of performance. Points are awarded in accordance with a scoring system that allows up to 10 points for most items. However, given that the difficulties, that may be experienced, in finding sufficient space for growth within the tightly controlled environment of Garnethill, up to 30 points are awarded for items one and two. This ensures that options more likely to deliver on this fundamental requirement receive greater attention.

9.11 Essentially, the School wishes to become more integrated, on sites close to the Mackintosh, releasing inappropriate buildings and yet increasing capacity. Within the Garnethill setting this is a difficult challenge, but by no means unachievable.

9.12 Items one and two allow an assessment of potential capacity both with and without the support of St Aloysius College with its land. The initial sketches provided with the options tend to reflect the apparent total sensible capacity of development plots. When projects undergo design development, and when further consultation with the planning authority occurs, it is possible that not every development plot will achieve its assumed potential capacity. Conversely it might be possible to greatly exceed the assumed capacity on one or more plot with a taller structure. The important message here is that the School will remain exposed to a degree risk for some time. Only when detailed planning consents are obtained will true capacity have been established. For these reasons, a high degree of caution is required and as a result the scoring system places great emphasis on the ability to accommodate the fundamental requirement of the institution: to grow.

9.13 For items one (with support from St Aloysius) and two (without support), where initial sketches indicate a sensible capacity in excess of the requirement, 15 marks are awarded. Where the sketches indicate at least 95% of the requirement, then 10 marks are awarded. Where sketches indicate 90-95% capacity, then 5 marks are awarded. Less than 90% capacity achieves no marks.

9.14 So options 1, 2A and 2B have fundamental capacity problems. In addition they continue to rely on buildings that have been declared as inherently unsuitable. As a result they tend to score poorly when assessed against the remaining items. Option 2B, redeveloping the Richmond/JD Kelly and Assembly buildings sites, has the best overall score (40) of these three options. However its continued reliance upon the Foulis building and Newbery tower, as well as the Bourdon Building, means that the option scores modestly in terms of integration, internal environment, flexibility, use of the 'Mackintosh Brand' and urban design. Furthermore without the use of the St Aloysius yard, the option will almost certainly fail to provide sufficient capacity.

9.15 Option 2C has a much higher overall score (70) retaining only the Bourdon Building alongside the Mackintosh Building. It is likely to provide better internal environments together with much greater flexibility than the preceding options. However, there is a real question as to the option’s capacity if the St Aloysius yard is not available for development. In addition keeping the Bourdon Building, albeit heavily refurbished, has implications in terms of the urban design and the overall town planning process.
At the opposite end of the scale, option 4, setting aside the difficulties that procuring a good site may bring, is assumed to provide all the floor area that the School might require. Therefore it scores maximum points, with or without assistance from St Aloysius, in terms of accommodating growth. However, whilst the options should provide an excellent internal environment, there are serious concerns in terms of splitting the school and the lack of integration and long-term flexibility this might bring. Further serious concerns relate to the probable out of town setting, possible poor public transport links and separation from the Mackintosh Building. Uniquely, however, the option causes little disruption to students during its execution and may be completed as swiftly as site purchase and the availability of funds for construction will allow.

The remaining options are 3A, 3B and 3C. All of these options allow for the complete reconstruction of the school whilst retaining the Mackintosh.

Option 3A, as a “single cluster solution” is that option which attempts to model the ideal characteristics described at 5.5. As such, it scores well in terms of integration, flexibility, and location; it certainly deserves careful consideration. However, in this instance, only by allowing the initial sketches to depict a solution that exceeds what we would consider to be sensible, has sufficient capacity for growth been accommodated. Even then, the relevant capacity can only be achieved by using the St Aloysius yard. The drawbacks of this proposal have already been described under the description of the option. As a result the option scores poorly in terms of internal environment, in terms of issues surrounding the Mackintosh Building, and in terms of urban design. It is possible that any attempt to develop option 3A, as fully designed scheme, would lead to very real difficulties in obtaining planning consent.

Option 3C is another “single cluster solution” and attempts to combat the drawbacks of the preceding option by assuming the purchase of a greater proportion of St Aloysius College’s land. This allows for a lower, less dense, solution and as such matches the “ideal Characteristics” described at 5.5 within a more sensible proposal. Of course option 3C will not work without the comprehensive assistance of St Aloysius College and so scores no points against item 2. This aside the option appears to represent a good response to all of the School’s requirements and despite item 2 scores 80 points (joint first position).
9.20 The difficulty here is that this option carries particularly high levels of risk. It relies on St Aloysius College’s complete support and also requires the College to construct its own project before part of the site can be released. Furthermore, due to the sensitivity of this solution, the initial sketches have not been shared with the planning authority (informal comments have been received on other options). The proposal requires part demolition of a building that is technically listed (category B). It would appear that the motivation for the listing applies to that part of the building that would be retained. Therefore, the proposed demolition cannot be completely ruled out, although it would be contentious.

9.21 Option 3B attempts to resolve these difficulties by adopting a “two cluster model”: this is a complete rebuild alongside the Mackintosh Building but also reusing the Richmond/JD Kelly site for about one quarter of the development. This option is the joint highest scorer on the assessment table. It is that option at Garnethill most likely to provide sufficient capacity for growth with or without the St Aloysius yard. As a “two cluster model” it will not be as integrated as other solutions nor will it draw all site users around the Mackintosh. Crucially this proposal raises a difficult question: what goes where? How does the School adapt its integrated space model to fit two locations? As yet the answers are not clear but would be partly dictated by the phasing and decanting strategy.

9.22 Yet the proposal to provide new developments, each including good access on to Renfrew Street, this should improve communications. The two locations are in fact, no more than 120 metres apart and the sense of psychological separation might be significantly reduced by the demolition of the existing Bourdon Building.

9.23 Furthermore the two-cluster model has some advantages; the construction of a new building on the site of the Richmond and JD Kelly Buildings, would cause only limited disruption to the ongoing work of the school. The new building may provide more than double the floor space than that achieved by the sites current occupants, and would greatly increase floor capacity in the early phases of the rebuild, assisting the decanting strategy.

9.24 Option 3B would provide the excellent internal environment that the School needs in order to ensure the continued implementation of its mission and business plan. It would provide greater flexibility than present, retain the city centre presence and place most users very close to the Mackintosh Building. From the Town Planning perspective, the removal of the Bourdon Building and good quality development improving two locations on Garnethill, might be appreciated more than the proposals presented under option 3C.

9.25 Therefore at the end of the qualitative assessment, the following can be confirmed:

- Generally, the options assuming higher investment perform better than options 1, 2A or 2B.
- Yet the School has serious concerns about: the quality of environment likely to be created by option 3A, and the probable locations of option 4.
- Options 3B and 3C are the better performing options.
- Option 3C may produce a better environment more supportive of the integration objective, however execution of this option is at risk from a number of sources.
- Option 3B offers broad support to the objectives of the School and maybe much easier to execute.
9.26 Having concluded the assessment of quality, an analysis of quantitative data should be conducted. The table overleaf contains key data in relation to all the options. On line one, the capacity of each option is provided (in terms of gross floor area). As previously discussed Options 1, 2a, and by a small margin option 2b, are below target capacity (as a two cluster model the target for option 2b is 35,277 square metres). For option 2b this assessment assumes construction on the St Aloysius yard. All remaining options are assumed to provide sufficient capacity for growth (although some may need to rely on St Aloysius yard to achieve this).

9.27 Line two indicates the proportion of new build accommodation provided within the completed proposal. This rises from zero (option 1) to 79% (option 4).

9.28 Line Three indicates the assumed capital cost, at 2005 prices for each option. At present costs are clearly only approximate. However, on the basis of past and most recent experience they may be assumed to be sensible budgets at this stage. It is possible that the greatest risk at this stage is construction inflation, which, for projects of this nature has exceeded the level of general inflation for several years. Whilst many within the industry consider this unsustainable, cost consultants continue to predict at least a 6% rise for the next year. Given that all options, with the possible exception of option 4, may need to be designed and constructed over 6-10 year period, risk from construction inflation is unknown but may be a real concern.

9.29 It should be noted that, over the short term, costs in relation to option 3C are at greatest risk of change. St Aloysius College has agreed to consider the merits of this option. They have stated that, the price for the additional land to be paid to them by the School would need to at least match the cost of the College’s replacement buildings, to be constructed on existing playgrounds already in their ownership. At the time of writing St Aloysius College has given no clear indication of what that value might be. A figure of £10 million has been added to the estimated costs of this option. This will be subject to review.

9.30 Line Four indicates the typical level of receipt from disposal sites likely to be available under each option. Again this varies from zero under option 1, to £6.8 million under option 4 where all sites at Garnethill, with the exception of the Mackintosh, are sold. After option 4, the greatest disposals should be achieved under options 3a and 3c, which dispose of the Richmond/JD Kelly sites.

9.31 Line five indicates the capital cost minus the likely disposal receipt leaving a “balance to pay” at 2005 prices. This reveals some substantial sums ranging from £24.9 million to £70.8 million. The School understands that it will have to make contributions to any sum, most probably through a mixture of building up reserves and public appeals. However the School would wish to apply to the Funding Council for substantial support once an option has been accepted for development.

9.32 Of course a number of the options require three or even four building phases. This might allow the Funding Council to accept an option in principle and offer firm commitments to funding early phases using known council infrastructure budgets. A full commitment to funding the entire range of projects may need to be delayed until the Funding Council has established budgets for the relevant years in which later projects fall.
Assessment of Options

<table>
<thead>
<tr>
<th>Options Assessment</th>
<th>1</th>
<th>2a</th>
<th>2b</th>
<th>2c</th>
<th>3a</th>
<th>3b</th>
<th>3c</th>
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<tr>
<td>1 Gross Floor Area</td>
<td>m2</td>
<td>31,873</td>
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<td>35,277</td>
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<tr>
<td>2 New Build</td>
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<td>32%</td>
<td>39%</td>
<td>60%</td>
<td>78%</td>
<td>78%</td>
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<td>3 Capital Cost (2005)</td>
<td>£m</td>
<td>24.9</td>
<td>46.7</td>
<td>50.7</td>
<td>58.6</td>
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<td>4 Disposal Receipt</td>
<td>£m</td>
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<td>1.6</td>
<td>1.6</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>1.6</td>
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<tr>
<td>5 Balance to Pay</td>
<td>£m</td>
<td>24.9</td>
<td>45.1</td>
<td>49.1</td>
<td>57.0</td>
<td>61.3</td>
<td>63.1</td>
<td>70.8</td>
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</table>

Investment Assumptions

| 6 yr 10 Add. Income | £m | -0.5 | 1.4 | 1.5 | 2.1 | 2.6 | 2.6 | 2.6 | 1.3 |
| 7 yr 10 Add. Costs | £m | 0.1 | 1.0 | 1.0 | 1.2 | 1.5 | 1.5 | 1.5 | 0.8 |
| 8 yr 20 Net Present Value | -22.0 | -23.1 | -22.5 | -21.7 | -19.3 | -20.5 | -24.3 | -20.7 |

9.33 Investment assumptions are used to calculate the financial return to the public sector for each option. This has been expressed in terms of a net present value (npv) with a test discount rate of 3.5%. Under the higher cost options no account has been taken of the wider economic benefits of educating more students and this should be born in mind when considering options with similar net present values (npvs). The appraisal is taken over 20 years and includes the remaining, or ‘residual’, value of the investment at year 20. The lifespan of investments are assumed to range from 40 years (option 1) to 100 years for the higher cost options. Each option’s npv calculation has been completed on a spreadsheet and these are included in Annex... For transparencies sake, all inputs are assumed to represent change from the present position (or last published accounts).

9.34 The shifts in income level indicated on line six are, therefore, estimated shifts from the present position. If the school were to realise its plans for an increase of 250 postgraduate students and an increase in 150 overseas undergraduate students, then income should rise by an estimated £2.6 million. Consequently costs will also rise in order support the increased activity; the additional costs have been estimated at £1.5 million. These last two figures are used under options 3A, 3B, and 3C.

9.35 Under other options, lower rates of income have been assumed. Given that, in this case, income (with related costs) is the second most significant factor in establishing the npv (after capital cost), the lower rates of income are depressing certain npvs quite significantly. The varying income assessments for the options are, in part, subjective. Not all options, given likely planning restrictions at Garnethill, have sufficient floor space, let alone quality, to support the School’s planned growth. Other options, for example option 4, would have sufficient floor space but are assumed, given their lack of attraction to students, to be at risk of failing to meet planned income targets. In this case the lower rate of income is a reflection of the risk associated with a particular option.

9.36 Under all options the increased costs allow for premises costs above the present low levels. These are included to model responsible estates management including levels of maintenance designed to ensure prolonged life of the new estate. However, some savings within specific areas, for example energy costs, are anticipated.
In all cases, the npvs are negative. Therefore the best return will be provided by the least negative npv. Given the number of estimates within each calculation these cannot be considered to be precise calculations. Therefore the range of npv from £19.3 million to –£24.3 million is in fact very narrow, and just a small reconsideration of potential income levels will affect outcomes.

In the npv analysis option 1 appears to perform adequately. Nevertheless selection of option 1 would be a high risk strategy leaving the School exposed to competition for students and the high quality staff needed to teach them; threatening its abilities, performance and reputation over the longer term. Option 1, is in effect, an option to accept the preservation of unsuitable accommodation, albeit in improved form, and, potentially, downsize in complete contradiction to the School’s strategic plan. It could be that the drop in income of around £0.5 million over the longer-term is an underestimation (this is less than 4% of present income).

The least negative npv is for option 3A; followed by 3B; then option 4; and then option 2A. From the perspective of financial investment, given the npvs narrow margins, any of these four options could be considered an appropriate. Note that option 3C seems less successful as it has higher capital costs and no financial benefit over 3B (other than slightly increased disposal receipts).
The table below indicates Key Qualitative and Quantitative Assessments.

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<th>Order</th>
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<td>3B</td>
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<td>2C</td>
<td>3A / 4</td>
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<td>2A</td>
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<tr>
<td>Financial Return (npv)</td>
<td>3A</td>
<td>3B</td>
<td>4</td>
<td>2C</td>
<td>1</td>
<td>2B</td>
<td>2A</td>
<td>3C</td>
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* 3C not offered for comment.

THIS DRAFT REPORT FINISHES HERE.

A RECOMMENDATION WILL BE MADE FOLLOWING CONSULTATION WITH GOVERNORS.
GSA Board Committees as at 1 November 2018

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Vice Chairs: Ms Lesley Thomson and Professor Nora Kearney

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1 Introduction

This summary note has been prepared to outline the findings of stage 1 of the fire engineering appointment and discuss the feasible options available to the owners of the building for the long term protection of the occupants, property and contents of the Glasgow School of Art Mackintosh Building.

Due to the historic nature and value of the property and many of its contents, a fire poses a great threat.
2 Existing Pro’s

The existing building has a number of features which are beneficial in protection of the property and contents against fire. These are:-

- Provision of automatic fire detection in certain locations;
- Provision of CCTV in certain areas;
- Occupation of the building on a 24/7 basis; and
- Provision of security staff within the building.

These features should reduce the likelihood of a malicious fire occurring and should ensure that in the event of a fire it is detected at a relatively early stage. This has been borne out in the past where two fires have been detected reasonably quickly and extinguished before a fire has had opportunity to take hold.
3 Existing Cons

Many of the existing features / operational procedures within the building fail to comply with modern fire safety requirements/ legislation and could potentially cause, or contribute significantly to a fire within the building. There is currently a very real threat of a fire not being detected quickly enough and taking hold and spreading through the building which could cause considerable damage. In summary:-

- There is limited structural fire protection;
- There are many routes for fire and smoke to spread;
- There is a high fire loading;
- There are ignition sources present;
- Many of the escape routes are not adequately protected;
- The automatic fire detection system is not a full coverage system;
- There are no fire fighting measures within the building other than portable extinguishers;
- There is no formalised fire safety management plan or risk assessment procedures set in place; and
- The evacuation procedures for disabled occupants are unsafe.
4 Existing Assessment

Our assessment of the risk posed by fire to the current building is as follows:-

- Likelihood/ potential for fire occurring in building – Medium – High risk.
- Potential for fire to remain undetected – Medium – High risk.
- Potential for fire to grow/ spread beyond item first ignited – High risk
- Potential for fire to grow/ beyond room of origin – High risk
- Hazard posed by fire – High risk
- Consequences in the event of fire spreading - High
5 Future Fire Strategy Objectives

The primary objectives for any future fire protection strategy in the building are seen as being:-

- To reduce the likelihood of a fire occurring within the building;
- To detect fire at the earliest opportunity;
- To evacuate the building quickly in the event of fire detection;
- To provide protected escape routes which lead to a place of safety at ground level;
- To provide all occupants with the opportunity to turn and move away from a fire;
- To prevent fire and smoke from spreading throughout the building;
- To contain a fire in the room of origin;
- To minimise damage caused by fire to property and contents;
- To protect the valuable contents/ artefacts from the effects of a fire; and
- To ensure a fire is extinguished quickly and safely.
- To improve evacuation procedures for disabled persons.

These are to be discussed and agreed with the building owners.
6 Fire Protection Improvement Strategy Option 1

In order to fulfil the objectives stated within section 5, the following measures would need to be implemented. This list is not exhaustive at this stage and is produced for illustrative purposes.

- Upgrade the fire detection system to a full coverage system. (Rooms and all voids. Category L1/ P1).
- Possibly increase the coverage of the CCTV system and ensure that this is monitored 24/7.
- Maintain security within the building 24/7.
- Develop and implement a robust fire safety management plan.
- Improve housekeeping measures within the building.
- Re-wire the building.
- Ensure all portable electrical appliances are PAT tested on a regular basis. All sub standard equipment should be disposed of.
- Devise a policy and ensure all flammable liquids etc are controlled and stored safely throughout the building.
- Implement a policy for safely storing combustible materials.
- Upgrade fire protection to all escape stairs to comply with current legislation.
- Provide suitable smoke management procedures in the corridors leading to escape stairs.
- Improve emergency signage and lighting throughout the building to meet current standards.
- Upgrade the integrity and smoke retarding nature of the construction of all rooms.
- Form dedicated fire rated service risers within the building.
- Improve surface spread of flame characteristics of all wall and ceiling surfaces within the building to comply with modern fire safety requirements.
- Form suitable protection to all archive/ storage areas used for the protection of historic artefacts/ contents.
- Train all staff in fire fighting procedures using portable fire extinguishers. Provide fire awareness training to staff.
- Produce and maintain a fire risk assessment for the premises.
- Improve means of escape facilities for disabled occupants.
7 Fire Protection Improvement Strategy Option 2

In order to fulfil the objectives stated within section 5 and as an alternative to Fire Protection Improvement Strategy Option 1, the following measures could be implemented.

- Provision of a property protection sprinkler system throughout the building (Rooms and void protection where necessary).
- Develop and implement a robust fire safety management plan.
- Improve housekeeping measures within the building.
- Re-wire the building.
- Ensure all portable electrical appliances are PAT tested on a regular basis. All sub standard equipment should be disposed of.
- Devise a policy and ensure all flammable liquids etc are controlled and stored safely throughout the building.
- Implement a policy for safely storing combustible materials.
- Improve emergency signage and lighting throughout the building to meet current standards.
- Form dedicated fire rated service risers within the building.
- Form suitable protection to all archive/storage areas used for the protection of historic artefacts/contents.
- Train all staff in fire fighting procedures using portable fire extinguishers. Provide fire awareness training to staff.
- Produce and maintain a fire risk assessment for the premises.
- Improve means of escape facilities for disabled occupants.
8 Risk Assessment Following Improvement Works

Our assessment of the risk posed by fire to the building, should either of options 1 or 2 be adopted is as follows:-

- Likelihood/ potential for fire occurring in building – Low
- Potential for fire to remain undetected – Low
- Potential for fire to grow/ spread beyond item first ignited – Low
- Potential for fire to grow/ beyond room of origin – Low
- Hazard posed by fire – Low
- Consequences in the event of fire spreading – Lower than at present.
9 Fire Fighting Facilities and Response Time

The building currently has no recognised fire fighting facilities within it other than portable extinguishers. Strathclyde Fire and Rescue Service will view the building as presenting a higher risk to that of a standard modern commercial property.

Should an alarm occur it is likely that the fire service would respond in around 5 minutes to any incident due to the location of the building and its risk rating. This is borne out by a number of false alarms that have occurred in the past. Such a quick response time could mean that the fire service prevent the entire building and its contents from being lost due to fire. It is worthy to note that the fire service response time cannot be guaranteed in the future and it may well increase due to proposed modernisation changes being made to the service. Reliance on fire service intervention as a means of individually satisfying some of the objectives stated in section 5 of this report is in our opinion, not a viable protection strategy for the property, or its valuable contents.

Fire fighting within the building at the moment would be difficult, arduous and time consuming due to the lack of facilities present i.e. no dry risers within escape stairs. Furthermore water pressures in the vicinity of the building are understood to be poor and insufficient for tackling a large fire in the building. There is currently an inherent risk that even if the fire service responded quickly to an alarm in the building, they would be unable to adequately protect the building and its contents due to the lack of suitable facilities.

One last consideration regarding fire fighting within the building is the potential damage caused to the property and its contents by water discharged during fire fighting. A fire fighters hose will discharge 600 litres of water per minute. This is a vast quantity of water. In comparison a sprinkler head will use six times less water and the vast majority of sprinklered fires (85%) are controlled by less than 4 heads operating.
10 Next Steps

- The building owners should consider this summary paper.
- The building owners should consult with their Insurers and seek feedback on proposed options.
- Budget costs should be compiled for both options outlined within this document.
- A meeting should be held with the Building Owners and Design team to identify the fire protection strategy to be adopted.
- The chosen strategy should be implemented in a realistic and achievable timeframe to the building owners.
024289 3809

GSA Mackintosh Building

Property Protection Feasibility Study

July 2008

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author  gforrest

signature

date

approved  amurray

signature

date
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1 Executive Summary

The need for an automatic property protection system for the Glasgow School of Arts’ Mackintosh building, and its contents, has previously been identified and accepted. Previous studies and assessments have highlighted the high risk nature of the building, and its activities, and in the event of a fire, the outcome could be catastrophic. Total loss of the building and contents is currently a distinct possibility.

A hierarchical risk reduction exercise has been carried out, and the preferred methods of risk reduction were not possible as:-

- The overall nature of the usage of the building cannot be changed;
- The construction of the building cannot physically be changed; hence
- The possibility of fire occurring and involving the whole building cannot be eliminated.

As such the possibility of a fire threatening the building, and contents, as a whole must be considered and provision made for it.

A feasibility study of available fire protection solutions has been carried out. This exercise was enabled by survey of the building and analysis of information gathered from building users, support staff and potential installers. A literature review of technical papers on various of the options was also carried out. From these exercises the suitability, or otherwise, of each protection method was determined in the context of application to the Mackintosh building.

The outcome of this feasibility study is that only water mist suppression remains a viable option at this point in the assessment.

Further technical and qualitative evaluation of the technologies’ suitability for application to the Mackintosh building requires to be carried out.
2 Introduction

2.1 Project Description

The Mackintosh building at The Glasgow School of Art is currently undergoing an extensive conservation and refurbishment project. The building in Renfrew Street, Glasgow is Grade A listed and contains teaching accommodation, art studios, a lecture theatre, a library and ancillary accommodation. Currently work is concluding on the provision of new research, retail and exhibition facilities. The building also houses various books and artefacts reflecting the work of Charles Rennie Mackintosh, other related Glasgow architects, and former staff and students of the school, in various locations.

In addition to staff and students, there are also regular visitor tours by members of the public to view the building, its extensive collection and archive. During the summer of each year, the building hosts a further influx of visitors for the annual degree show.

The building and its contents are world renowned and largely irreplaceable and as such the contents must be protected from risk of loss, or damage. One aspect of this risk protection is that from the threat of fire.

2.2 Current Situation

A previous study carried out by Buro Happold FEDRA, prior to the current conservation and refurbishment project commencing, highlighted various risks existing in the building and posing a threat to occupants, building and contents. The conclusions of this risk assessment were as follows:-

- Likelihood/ potential for fire occurring in building – Medium – High risk.
- Potential for fire to remain undetected – Medium – High risk.
- Potential for fire to grow/ spread beyond item first ignited – High risk
- Potential for fire to grow/ beyond room of origin – High risk
- Hazard posed by fire – High risk
- Consequences in the event of fire spreading – High

From this it was obvious that a fire posed a very real and present danger to the building and its contents. Various schemes were presented by FEDRA to mitigate the risk and whilst some of the options achievable in the shorter term have been applied, or form part of the planned works for the current project, more extensive and long term solutions required further consideration to ensure selection of the most effective solution.

Installation of a fire suppression system, or systems, throughout the building was identified as a possible feasible solution to successfully protect the building and its contents from fire. Such a solution was proposed as other means of risk reduction were not possible due to the nature of the building in terms of construction
and use. Buro Happold FEDRA have been commissioned by GSA to further investigate this option and, if deemed feasible, facilitate the design, specification and installation of the protection system(s) into the building.

2.3 Fire Engineered Property Protection

Fire protection of people, buildings and contents generally follows the generic risk reduction hierarchy listed below, with 1. most effective and 5 least, in terms of risk reduction:-

1. Prevention/Elimination – complete removal of risk - (eg Hypoxic Atmosphere - no fire at lower $O_2$ levels.)
2. Substitution – find a different way of doing – (Change Materials/ Change Conflicting Use of Building)
3. Isolation/Limitation – dangerous areas segregated/valuable assets protected – (Compartmentation)
4. Engineered systems – Global/Zonal/Local/Item – (Sprinklers, Mist, Gas, Smoke Control)
5. Management systems (Fire Wardens, Auto Detection and Alarm plus trained staff)

Risk reduction cannot be considered in isolation however, and costs, building use, and regulatory restrictions will all have a bearing on risk reduction strategies which are most practicable when considering all other influencing factors. In this case hypoxic atmospheres are precluded by the ongoing occupancy of most spaces, and material changes/ intervention to form compartmentation are to a large extent precluded by the Grade A listing of the building.

2.4 Influencing Factors

In considering the feasibility of any fire protection measures for this building it is necessary to consider various issues and constraints which will affect system selection.

These issues and constraints include:-

- Existing listed status (Grade A);
- Construction methods used in the construction and subsequent alterations/refurbishment;
- Condition and configuration of each of the buildings enclosures;
- Occupant use and activities in the various areas;
- Plant/tank space availability;
- Co-ordination with services – existing/proposed;
- Aesthetics of any proposed equipment;
- Operability of the building with a particular system installed;
• Building occupancy with respect to installation works – Holidays/Out of Hours/Phased working; and
• Costs – capital & revenue – maintenance and life cycle.

A survey of the building and consideration of each of the above in turn allowed various protection measures to be assessed. Discussion with GSA staff and potential suppliers provided input on options for further consideration. Outline indicative estimates of what the most appropriate system might cost per unit area have been obtained from contractors experienced in the field.

It is proposed that, as a future step, the study be progressed by developing the proposals in consultation with the current projects’ Design Team (Estates staff, Conservation Architects and M&E Services consulting engineers), and with end users and The Schools’ administrators.

2.5 Feasibility Study

This document summarises the feasibility study which comprised an overview survey of the existing building, discussions with potential installers, and the subsequent option appraisal.
3 Building/Client Requirements

The Mackintosh Building at The Glasgow School of Art has a dual role as both a working teaching facility, and a national monument/museum. The preservation of the safety and function of one should not compromise the safety and use of the other, and vice versa. This creates some potentially conflicting goals which must be accommodated.

As a working college and an irreplaceable historic building it must, as far as it’s A - listed nature allows, have working environments that are safe, secure, healthy, comfortable, durable, aesthetically pleasing, and be accessible. The principles which provide a safe working environment for the occupants must be extended and broadened to protect the building contents and the building itself.

Important fire protection issues for this building are:-

- Life safety of staff, students and any visitors;
- Property protection is almost equally important given the nature of the building and its contents, and its continuing function;
- Any building property protection measures, whether passive, active, or management procedure should impinge and constrain the day to day working of the building as little as possible;
- Major intervention into building fabric, whether to create compartmentation, or to accommodate plant or services, is undesirable in the extreme and highly unlikely to be authorised;
- In line with the above, any system proposed should be ‘buildable’ and involve minimal intervention into existing historic fabric. This will be subject to increased levels of oversight before proposals are approved, and during installation works themselves;
- The building contains areas of varying levels of aesthetic sensitivity and fire protection measures proposed in all areas must be sympathetic to the rest of the space;
- The threat of accidental discharge, or system leakage must be taken into account and moderated as far as possible in any solution proposed. Such ‘collateral damage’ must be considered in selection of an appropriate system.
- Controlled access to many of the buildings’ areas is not possible given its ‘open’ nature. All fire protection systems are vulnerable, to a greater, or lesser extent, to such deliberate acts of malice and it must therefore be recognised that arson is an omnipresent threat,
and must be dealt with by security measures. The installed system should however, be as robust as possible to accidental and deliberate damage.

- Capital, and long term ‘running’ costs should be considered as part of any final assessment, but should not form part of the determination of whether, or not a system is fit for purpose, or not.
- Consideration of a particular systems’ environmental impact should also be considered, both in construction/manufacture, and upon discharge into the atmosphere.

All of these issues affect the property fire protection strategy for the building and as such these and any additional requirements should be taken into consideration when determining the most appropriate fire safety measures to be constructed / installed into the building.

(Note. It is understood that the building meets the requirements of the regulating bodies in terms of life safety. The fire protection measures assessed for suitability in this feasibility report relate to property & contents protection only, not the protection of life, though the assessment process followed does consider risk to occupant health, and safety. It is also noted however that any system which contributes to building protection will have some positive effect on the life safety of occupants of the building in the event of fire.)
4 Survey Findings

4.1 General

The building was surveyed on 6th, 17th and 26th June 2008 by Buro Happold FEDRA.

During all the visits invaluable assistance was supplied by GSA Estates Department Staff who provided guidance and access to most areas of the building. Some areas were not accessible due to security issues and other ongoing building activities, but it is believed that a reasonable representation of the building was obtained.

Given that the survey period encompassed the Annual Degree Show, and that visitor tours were also ongoing, a reasonable picture of the varying occupant profile was obtained. The buildings’ activities and functional usage by staff, students and visitors were observed.

A wide range of fire load was observed in various areas during the survey and the changing nature of the loading profile within spaces was also observed across the three week period.

Access was gained to a range of offices, studios, workshops, service areas and galleries. All of the aesthetically sensitive areas were also accessed and surveyed.

Access was gained to the mechanical and electrical service spaces and an understanding of the buildings’ M&E services historical development and strategy gained. No access was gained to the roof of the building, but it is understood that the roof area is not used for any major plant, housing/accommodating only some small water service tanks, and some small scale services routing.

4.2 Occupants/ Use

4.2.1 Students

The building is a working art college used for teaching and practical work by post and undergraduate students. Much of the students work is of a nature which involves amounts of combustible materials either in the substance of the work itself, or in its creative process. Historically these activities have also led to a build up of flammable materials on surfaces and impregnation of the buildings fabric and structure with similar substances contributing to flammability and fire load.

4.2.2 Staff

School teaching, administration and estates staff also have offices and tutorial facilities in the building.

A new suite of offices and study facilities will house a Mackintosh Research Centre and associated staff.

Areas housing the janitorial and security functions necessary for the security, safety and day to day upkeep are located on various levels of the building.
Estates material stores and a limited number of workshops are located on the two lowest levels of the building. Plant and services distribution generally originates from these levels.

The two lowest levels house newly created archival storage. The stores form separate fire compartments to protect the contents from fires originating externally to the archive rooms. The store located at Lower Basement Level is for furniture and other larger pieces of the Schools collection of Mackintosh artefacts. A similar, smaller store on the level above houses paper of various sizes in plan chests.

4.2.3 Visitors

As well as the art school function and its annual public show, the building itself, as one of Mackintosh’s most famous works, and some of the items contained therein, attract a large number of visitors from around the world. These visitors are supervised by student guides, or staff in attendance, throughout the facility. This supervision is however not omnipresent, and there may be opportunity for these visitors to be unsupervised and, either accidentally, or deliberately, act in a way which may threaten the safety of themselves, other occupants, or the building and its contents.

New facilities to create new exhibition space and an interpretation space are almost complete which will also attract visitors to the building.

4.3 Configuration

The building is located on a steeply sloping site, and outside ground levels vary around the perimeter. For the purpose of this report the front of the building shall be identified as that elevation facing on to Renfrew Street.

For the purposes of this survey, the building has been divided into 10 levels, including the mezzanine/ gallery floors which are a feature of the building. The ten levels may be seen in plan form in Appendix A. The main entrance is on Level 4 and is accessed via steps up from Renfrew Street.

On each floor a central corridor runs from end to end, and most accommodation is accessed off that ‘spine’. Vertical circulation is via three stairs, one at either end, and a grander main stair in the centre of the building which rises into the main gallery space.

Accommodation in the building ranges from small offices with low headroom to large studios and workshops with ceiling heights in excess of 8.5m. The largest of these studios have areas of 140m² approximately, and gross volumes in excess of 1000m³.

The largest single area is the ‘Museum’ area (180m²) located at First Floor level which also links with the Ground Floor Entrance Hall and current shop area, then down to the Basement level below, via the open central staircase which links all three levels/areas.
4.4 Construction

The building is a masonry shell surrounding a predominately timber frame. Most floors are wooden and when viewed from below are either open joisted, or ‘protected’ by lathe and plaster ceilings. In some of the larger areas the wooden structure has been supplemented with steel beams, and there are some areas where concrete slabs appear to have been utilised.

The solid areas of the roof consist of timber roof trusses with timber sarking and a slate finish. Other, studio and museum, areas have glazed roofs as may be seen in Fig. 1. Internal walls appear to be predominantly of masonry construction, as do the stair enclosures. The stairs themselves are concrete in the East and West enclosures and timber in the open central stair which connects the Basement to the First Floor ‘Museum’.

Fig 1. - First Floor Museum

As noted above, timber is used extensively in the building as both structural element, and in the cladding of surfaces. Examples of the use of timber may be seen in the ‘Museum’ Fig.1, the Lecture Theatre Fig.2, and the Library Fig.3. Timber forms significant parts of the whole envelope in various areas. The Lecture Theatre, Library and Board room are three examples of this. Where this is the case, the construction of the room forms part of the fire load and its amount in location must be taken into account in protection method selected.
The building appears to be essentially uncompartmented in fire safety terms, with multiple voids (See 4.5) and penetrations of walls and floor/ceilings. Doors enclosing staircases, and separating sections of the building from one another, do not meet modern requirements for fire doors. Given the age and listed nature of the building, which makes it difficult to alter and upgrade, this is unsurprising.
The various enclosures within the building could not, with the possible exceptions of the new archive rooms, be considered to be airtight, or even low leakage envelopes. This will have implications with several of the protection methods under consideration.

4.5 Voids

Voids were noted throughout the building. The presence of voids creates both threats and opportunities in as much as the voids may promote rapid and potentially undetected spread of fire and smoke throughout the building, but also provide potential routes for the distribution of protection system equipment throughout the building. Differing types of voids were noted which will cause different challenges for different types of protection system. Major issues were ‘stand off’ voids noted in most, if not all, studios, and the horizontal and vertical building voids which form the historic services distribution route throughout the building.

4.5.1 Room ‘Stand off’ Voids

These may be found in various of the studios and working spaces where false walls have been created to provide sound, flat, working surfaces for students. These voids can be quite deep and provide a potentially shielded space in which fire may ignite and propagate. Most of these voids are, however, open at the top and thus offer a means by which suppressant may enter the void.

Fig.4 ‘Stand-off’ void in studio.

4.5.2 Building Vertical & Horizontal Voids

Historically, the services distribution has been enabled using multiple horizontal and vertical voids throughout the building. Originating from the plant areas located at Lower Basement/ Basement levels and using the
original horizontal heating duct which is located under the full length of the Basement Corridor, service ducts for piped and cabled services run along this void and thence up through the building in numerous vertical risers.

These risers were the original route for hot air, from the buildings hot pipe matrix room, which was driven through the Lower Basement horizontal duct and then up vertical risers for distribution on the various levels of the building. The vertical risers may be observed at each level on either side of the main corridor at regular intervals. No firestopping was observed in the extensive horizontal distribution duct at Lower Basement level which actually serves as a service corridor and acts as access to various plant spaces.

It was noted that these ducts have reasonable amounts of free space for the potential installation of any new fire protection services.

There is another large duct for horizontal distribution located in the floor void of the First Floor.

Evidence of the risers may also be seen in the numerous riser ducts located in the various studios. (See Section 4.8.2 Fig. 6)

The survey also noted the void underneath the sloping seating of the lecture theatre which will also require to be protected.

4.6 Services

Most mechanical and electrical services plant is located at Lower Basement and Basement Level, in the central section of the building, more or less underneath the Entrance Hall. Recent M&E upgrade works, including heating, have their central plant located in this vicinity.

Incoming electrical and water supplies are also located in this area.

This central location, at the centre of the distribution matrix of horizontal and vertical ducts and voids, and adjacent to incoming services, is the ideal place for such equipment.

Potential plant spaces for new protection plant have been identified in conjunction with Estates staff and Harley Haddow Consulting M&E Engineers. These are also all located in this central section of the building, again at Lower Basement, or Basement level.

4.7 Room Specific Risk (Load, Location and Other Factors)

The previous Buro Happold Fire Risk Assessment\(^1\) of the building identified various issues and practices which could lead to the outbreak of fire in the building. Given that we cannot completely prevent the possibility of fire, given the risk removal/reduction constraints noted previously, we must consider what circumstances should be catered for. The selection of an appropriate fire protection system is then, initially, driven by the specifics of fire load and other influencing variables in each area.
In general, with the exception of the store area above the shop, (fire) load was not noted to be particularly
dense. Offices were observed to have fairly normal office type loads. In the studios, though large in volume,
load was located sparingly at low level, and combustible construction of the room itself was generally also at
low level within the space.

Specific issues require addressing where rooms have combustibles at high level eg. Board Room, Library,
corridors where timber as, or on, ceilings must be dealt with by particular types of application technology for
certain of the systems.

Large air movement in specific areas may influence the function of certain systems. No such currents were
noted in the building during the survey period, even with the large throughput of visitors passing through the
building and consequent open doors.

It is unknown if the performance of the building and its services is such that occupants may open windows or
vents to ventilate spaces. This was not observed during survey, but such occurrences could influence the
selection of certain systems.

4.8 Aesthetics

Though not a functional criterion for the selection of a viable protection system, the aesthetics of the finished
installation (and the aftermath of any works required in the installation process) are of major significance in an
installation such as this.

In consideration of suitable protection systems for the building the aesthetic impact of any fire protection
installation needs to be carefully considered. Datum for this was the existing aesthetic of the various spaces,
and the intent for any new system is that it meets, or exceeds the level of aesthetic of those services currently
installed and deemed visually acceptable by the Client and the current refurbishment Design Team.

The building was surveyed with this intent in mind, and as such the following specific observations were made.

4.8.1 Aesthetics – Studios

As noted at the beginning of this report, the building is a working art school, and large areas of the building
must continue to function as such, with services to suit. Within the general studio and office spaces much of
the services and general fittings can be seen to represent the development of such equipment and design over
the life of the building.

These are utilitarian spaces and are, as a result, heavily serviced with respect to the rest of the building.
Examples of the services installations in several of the studios are shown in Figs. 5 & 6.
Fig.5 – Typical heating installation pipework in the studio spaces.

Fig.6 – Typical pipe riser in studios
4.8.2 Aesthetics – Corridors/Stairs

As the major circulation routes through the building, the majority of the corridors currently have a level of visual impact which should be maintained. Figs.8 & 9 show the striking impact which these areas have visually.

Fig. 8 - First Floor Corridor East
Fig. 9 - First Floor Corridor West

As such, it is intended that any fire protection installations in the main circulation corridors on Ground, First and Second Floors be treated as areas of medium aesthetic impact and the new installation will be installed to suit, making use of the service risers and cornices/ledges in the corridors to hide the installation as much as is practicable. (Note the term – ‘Medium’ aesthetic impact is a relative one, and is only for comparison with the areas classified as ‘high’ aesthetic impact in Section 4.8.3

The same intent will be applied to the rest of the main circulation routes and, as such, all three staircases, the Entrance Hall and the Museum area would be classified in the same group and any installations in these areas applied in the same enhanced manner.

Also falling into this category are:-

- The Directors Room;
- Basement Lecture Theatre; &
- Directorate Secretaries Room.

The areas currently designated as being of medium aesthetic sensitivity are indicated on the plans in Appendix A.

All of the above classifications are obviously subject to Client and Conservation Architect approval, or input.
4.8.3 Aesthetically Sensitive Spaces

Certain of the rooms and areas stand out as being of especially high aesthetic importance, and works in these areas, for whatever fire protection system(s) were selected, should be subject to far greater levels of approval and oversight. The procedures for this should be written into the Tender Documentation.

Fig. 10 – The Mackintosh Library

The areas/rooms designated as being of high aesthetic sensitivity are:-

- The Mackintosh Room;
- The Board Room;
- The Library;
- The Old Furniture Museum

The areas currently designated as being of high aesthetic sensitivity are also indicated on the plans in Appendix A.

All of the above classifications are subject to Client and Conservation Architect approval, or input.
4.9 Potential Plant Locations

Potential plant space locations were identified at various locations in the building, but were generally limited in size, which has an influence on type of equipment which may be installed.

Many of the potential areas for plant installation have been utilised by the developing services requirement for the building.

After survey, discussions with Harley Haddow, and with GSA Estates staff, use of areas outwith the building envelope such as the roof, exterior and interior courtyards was discounted based on space limitations, loading restrictions and planning/historic approvals basis.

Use of existing accommodation has not been considered at this point. It is understood that the School is already operating with less usable accommodation than it would ideally like, and that all previous space which could be reasonably freed up for services installations has already been released.

Areas which may be suitable were identified in the Lower Basement/ Basement levels, in the vicinity of both incoming power and water supplies. The central location would also present an ideal position for distribution of services throughout the building.

The areas identified as being potentially suitable for plant are:-

- The Ex - Timber Store (Fig. 12) at Basement level underneath the entrance stairs on Renfrew Street;
The front (Renfrew Street section) of the now redundant heating matrix room, also at Basement level; and

- A solum area at Lower Basement level to the rear of the building, located to the East of the new heating plant room.

All of the potential areas have limited space. Of the potential spaces, the largest footprint is that of the (Ex) Timber Store, at 22m², but access may be problematic, and equipment may have to be dismantled and reassembled in situ to make use of this space. Headroom is however quite good.

The heating matrix area has better access via the previous air intake/ filter area, but would have less area, and may involve more disruption of plant and equipment which is intended for retention. Headroom is believed to be reasonable.

Fig. 12 – Potential plant space location – Ex-Timber Store at Basement Level
The area to the rear of the building is very much third choice, being smaller again, with poor access and a requirement to dig out to achieve a potentially reasonable headroom.

The locations of the potential plant spaces are also indicated on the plans in Appendix A.

4.10 Fire Service/ Manual Fire Fighting

The local fire station is in quite close proximity, and attendance times anecdotally have been noted as good.

The building has a 24 hour staff presence that both monitors the recently upgraded automatic fire detection and alarm (AFD&A) system, and is trained in first aid fire fighting.

Anecdotal evidence exists of poor pressure and reliability of the water mains in the proximity of the Mackintosh Building.
5 Available Fire Protection Methods

As noted previously at 2.3, a risk reduction hierarchy has been applied to property protection in the Mackintosh building, and each level in the hierarchy has been considered in descending order.

5.1 Prevention/Elimination

– complete removal of risk - (eg Hypoxic Atmosphere)

The first step of this concept could not be applied as neither ignition sources nor combustible load can be wholly removed from the building. Such a situation can still be dealt with by, for example, oxygen depletion systems which use nitrogen to lower oxygen content of the air to a point where combustion cannot be sustained, or is very limited.

In this case the application of such technology is not possible due to several reasons, the main of which are the integrity of the enclosures, the plant area which would be required for equipment, and the nature of the activities in the building.

5.2 Substitution

– find a different way of doing – (Change Materials/ Change Conflicting Use of Building)

This option was precluded by the dual function nature of the building and the planning/listed status which would preclude many of the changes required to moderate existing problems inherent in the current building.

5.3 Isolation/Limitation

– dangerous areas segregated/valuable assets protected – (Compartmentation)

Compartmentation has been applied on a small scale in the construction of the archive rooms at Lower Basement/ Basement Level. This strategy option is ideally suited to small compartments where the client is prepared to accept total loss of that compartment, and fire damage can be confined to that area.

(Note. Considering the above the client should consider that suppression /protection systems should be extended into these areas, or at least have a risk assessment of the risk and potential consequences of fire both inside and outside the archive rooms unless total loss of the contents of that room is acceptable.)

Wholesale application of such a policy would however be virtually impossible given the current structure and the amount of compartmentation and firestopping which would be required. If funds were available to carry out these works, it is highly unlikely that permission could be obtained to carry them out given the buildings listed status.
Even if compartmentation were applied, the Client would have to consider total loss of some of the larger spaces as the accepted outcome of this type of strategy.

5.4 Protection/Suppression Methods

Having eliminated the more preferable strategies of risk reduction due to Mackintosh building/use limitations, it becomes necessary to accept that a fire could occur with potential to spread throughout the building. Various systems and strategies are available which, if appropriately applied will extinguish, control or suppress growing fires and moderate damage to the building and its contents.

Consideration of the various available systems in the context of the circumstances applying at the Mackintosh Building is shown in Table 1. The Table shows each potential solution and any limitations on its application which may be applied due to the building requirements noted in Section 3, or to constraints driven by survey of the building.

<table>
<thead>
<tr>
<th>Agent</th>
<th>Chemical info.</th>
<th>Method of suppression</th>
<th>By-products produced in fire conditions</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inert gases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inergen</td>
<td>52% nitrogen</td>
<td>Inert gases – reduces available oxygen levels to inhibit combustion.</td>
<td>Inert.</td>
<td>Gases are components of air – no environmental impact. CO is a combustion product from fire – adding it into the suppression gas makes nothing worse. High pressure system – consider need for over-pressure relief venting to the space. (Note – Tyco now claiming that room integrity not as important as previously thought – some leakage acceptable – claim to be substantiated.) Significant space needed for gas cylinder storage. Requires 2 distinct smoke detection systems – aspirating and another less sensitive option - for ‘double knock’</td>
</tr>
<tr>
<td>Argonite</td>
<td>40% argon</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>8% carbon dioxide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50% nitrogen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50% argon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inert Gas</td>
<td>Carbon dioxide</td>
<td>Reduces oxygen levels to inhibit combustion.</td>
<td>Inert</td>
<td>Generally as Inergen. Toxic to humans at concentrations involved. Not advised for occupied areas.</td>
</tr>
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</tbody>
</table>

<p>| Chemical Gas | Heptafluoropropane (CHF₂CF₂CH₂CF₂CHF₂), Pressurised | Chemical action and cooling. | Hydrogen fluoride (HF), CO, CO₂, H₂O | No ozone depletion potential. Atmospheric lifetime 30 – 40 years. Exposure in excess of design limits |</p>
<table>
<thead>
<tr>
<th>Chemical Gas</th>
<th>Chemical action and cooling</th>
<th>Hydrogen fluoride (HF) CO, CO₂, H₂O</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOVEC 1230</td>
<td>Dodecafluoro-2-methylpentan-3-one CF₃CF₂O(CF₃)₂</td>
<td></td>
</tr>
<tr>
<td>Sapphire</td>
<td>Pressurised with nitrogen</td>
<td>No ozone depletion potential. Atmospheric lifetime 3 – 5 days. Exposure in excess of design limits may cause cardiac sensitivisation in humans. Generally as FM 200. <strong>REJECT DUE TO ENCLOSURE INTEGRITY, AMOUNT OF PLANT SPACE.</strong></td>
</tr>
</tbody>
</table>

<p>| FM 200       | nitrogen.                  | may cause cardiac sensitivisation in humans. Low pressure system – over-pressure of rooms less of an issue. Room integrity testing as for high pressure systems. Less gas storage space than high pressure systems, but still significant given volumes involved. Same ‘double knock’ detection systems as Inergen. Penetration of deep seated fires as Inergen. Expect FM200/FE 227 to be phased out in UK due to high atmospheric life and availability of alternatives such as NOVEC. <strong>REJECT DUE TO ENCLOSURE INTEGRITY, AMOUNT OF PLANT SPACE, HIGH ATMOSPHERIC LIFE</strong> |
| FE 227       | Total flooding system     | |</p>
<table>
<thead>
<tr>
<th>Chemical Gas</th>
<th>Trifluoromethane CHF₂ (Pressurisation with nitrogen not necessary)</th>
<th>Chemical action and cooling</th>
<th>Hydrogen fluoride (HF) COF, CO</th>
<th>No ozone depletion potential. Atmospheric life 264 years. Generally as FM 200. REJECT DUE TO ENCLOSURE INTEGRITY, AMOUNT OF PLANT SPACE, HIGH ATMOSPHERIC LIFE</th>
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</thead>
<tbody>
<tr>
<td>FE 13 Total flooding system</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Gas</td>
<td>Pentfluoroethane CHF₂CH₃ Pressurised with nitrogen</td>
<td>Chemical action and cooling</td>
<td>Hydrogen fluoride (HF) COF.</td>
<td>No ozone depletion potential. Atmospheric life 33 years. Generally as FM 200 REJECT DUE TO ENCLOSURE INTEGRITY, AMOUNT OF PLANT SPACE, HIGH ATMOSPHERIC LIFE</td>
</tr>
<tr>
<td>FE 25 Total flooding system</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sprinklers</td>
<td>Water</td>
<td>Cooling</td>
<td>Low cost of agent. Known technology. Drainage considerations to prevent excess water damage real or accidental/ malicious activation? Large storage tank and pumps required. Plant space? Likelihood of water supply directly from street main low given both doubts over its suitability and permissions required from utility supplier for direct connection. (PPP pump an option?) Large bore pipework required for distribution.</td>
<td></td>
</tr>
<tr>
<td>Buro Happold FEDRA</td>
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<table>
<thead>
<tr>
<th>Water mist</th>
<th>Water</th>
<th>Cooling, Radiant Heat Blocking,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total flooding or local directed</td>
<td></td>
<td></td>
</tr>
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</table>

Aesthetically more obtrusive than mist

In fill options limited by potential poor pressure problems at site.

If heat activated –significant fire development before operation compared to smoke detector activated systems.

For smoke detector activated, see note on accidental activation. (Note potential for double knock pre-action system to prevent spurious activation.)

High specification for pipework if reduction of risk of coloured water discharge to be avoided (‘black water’). – Potential collateral damage.

Potentially less effective than a gas system in penetrating deep seated fires. Penetration into stand off voids?

**REJECT DUE TO PLANT/PIPEWORK SPACE REQUIREMENT, POTENTIAL FOR SIGNIFICANT LOSS OF/DAMAGE TO CONTENTS, NEED FOR DRAINAGE AND PENETRATION DIFFICULTY**
### Spray

- Oxygen Depletion by Generation of Steam.
- Below discharge head.
- No established benchmark standards for performance of the design.
- Penetration as for a gas
- Plant space requirement lower than other options.
- Distribution pipework space requirements much smaller than sprinklers

**CONSIDER SUBJECT TO SATISFACTION WITH INSTALLER PROPOSAL ,REFERENCES AND TEST**

### No fixed systems

#### Water; CO₂ gas.

- High risk of total loss if fire gets a good hold - response is delayed.
- Measures will be necessary to ensure brigade access 24/7.
- Property protection - Brigade may decline to enter and leave to burn (defensive fire fighting).
- Given issues with voids and lack of compartmentation, potential for considerable smoke contamination of whole building. Safety issue for manual fire fighting.
- Potential for much higher levels of water damage compared to a suppression system.
- Water damage and smoke staining
| | | | probable in all areas adjacent to fire seat. May affect school operation for an extended period. REJECT DUE TO HIGH POTENTIAL PROPERTY LOSS, COLLATERAL DAMAGE AND FIRE-FIGHTER SAFETY ISSUES |
|---|---|---|
| | | |

Table 1 – Suppression/Protection Options
6 Water Mist

From the foregoing assessment exercise, only water mist seems potentially applicable given building/user/site constraints and conditions.

6.1.1 Water Mist Fire Suppression

Water mist (or water fog) suppression of fires is a relatively new technology, particularly if taken in the context of more traditional suppression measures such as fire sprinklers, and offers a seemingly attractive alternative to older methods of fire suppression such as automatic sprinklers, or manual hose suppression.

The method makes use of various physical mechanisms to control and suppress fires and, appropriately applied, offers an effective means of fire protection with much less consequent water damage than the other methods noted above.

A water mist system may, and can, extinguish fire extremely rapidly and efficiently. The technologies’ main difference from traditional sprinkler systems is much smaller droplet sizes and a potentially significant reduction in amount of water used to extinguish a fire.

The extinguishing effect is mainly a function of a two part process:

i) Heat absorption due to the high thermal transfer capacity of the fine water droplets; then

ii) Oxygen depletion.

In this way the system mimics two accepted means of fire suppression ie. i) sprinklers and ii) total flooding gaseous suppression systems. Other mechanisms may also beneficially affect the fire by surface cooling and/or by creating a barrier to radiant heat spread.

Depending on system design the following mechanisms may (inter)act to control, extinguish, or suppress the fire and prevent its spread:

- gas phase cooling, (heat extraction from the fire);
- reduced oxygen levels as water vapour displaces oxygen near the seat of the fire;
- radiant heat attenuation; &
- surface wetting of adjacent combustibles

There are various types of systems being marketed at present:- varying in pressure(high, medium and low); continuous / cycling application of mist; wet, dry, or pre action pipework; gas, or pump driven; thermal element nozzle, or discrete detection activated. At the low pressure end of the scale, the systems are much like
traditional systems - real differentiation in the system characteristics may be seen most significantly with high pressure systems.

Each type and configuration of system will be dependent on the specific enclosures, and the defined protection objectives. In non standard buildings, water mist applications require to be fully engineered. If applied to the Mackintosh, the same high pressure water pumps may serve several different configurations of mist application, each tailored to the specifics of fire load and enclosure geometry for that area. Variations of nozzle positioning and actuation principle would for instance be based on location and amount of fire load, mounting positions for pipework and nozzles, detection time based on nozzle/detector location and ventilation conditions in room. Detail such as this would be defined as the next stage of the property protection exercise.

6.1.2 Advantages

Water mist technology has many apparent advantages over more traditional water based protection methods, the main being reduction in water damage after system activation. On the face of it this holds true as, in the same way as a sprinkler relies on far less water than a fire fighting hose, high pressure mist systems are claimed to use as much as 90% less water than traditional sprinklers, taken on the basis of water used per head for a similar spacing layout.

Due to the delivery process, and consequent fire extinction/suppression mechanism, the water distribution is different and has been Analysed as acting partially like a gas, partially like sprinkler discharge. Even when large quantities are discharged, the wetting mechanism is different, with less penetration into surfaces, and more ‘coating of surfaces’. This phenomena allows the pre-wetting of objects in proximity to, but currently, uninvolved in the fire, and introduces fine particles of water into the air where they may be evaporated to create steam and lower air oxygen content like a gas, whilst also creating a barrier to radiant heat spread.

Other apparent main advantages of mist systems are:-

- less plant and equipment space required (due to lower storage/flow requirements);
- smaller pipe bores (a benefit in retrofit and historic applications),
- though equipment is generally more expensive, reductions in size of equipment, particularly storage, may yield overall savings,
- nozzles and equipment can be more attractive than sprinkler alternatives,
- cleaner water than traditional sprinkler systems (stainless steel pipes).

6.1.3 Disadvantages

Water mist also has disadvantages. Some are related to the way in which the system works and the physical mechanisms relating to that; others to the fact that the technology, in widespread use, is quite new and there is a lack of:-
i) standards and guidance;

ii) research and testing;

iii) experience in installation and use.

Aesthetically a mist system may be smaller, but may rely on more hangers and other supports which will impact more on historic structure.

In terms of the way the system works, mist systems were designed initially for smaller confined spaces such as ships cabins and machinery enclosures. As such the method transfers readily to small standardised rooms like prison cells and hotel rooms. It has also been successfully applied as a means of object protection where the nozzles protect and shield specific objects within rooms.

Use of mist in larger volumes with high ceilings such as the Museum and the larger studios was initially found to be problematic due to filling times and the loss of momentum from the nozzle spray. We note however that installers contacted during the course of the feasibility study have referred to applications and test approvals for similar large spaces. Independent reports from US users and experts in the field also support the validity of the application of the technology to such spaces as fully engineered solutions.

Automatic activation of systems in such a scenario can also be problematic due to response times. Where discrete zonal smoke detection is utilised as a means of activating the system, water may be discharged into wrong areas if the zone is not large enough to take account of smoke spread. This is particularly a problem where there is significant air movement within the space, but may be overcome by appropriate configuration and use of smoke/heat sensing elements. Conversely, larger zones may also mean that more water than is necessary is discharged into the space being protected.

Air movement which affects smoke spread, particularly in large volumes, may affect the mist droplets which do not have the same momentum or density as a sprinkler system droplet. Some mist protection systems have been installed in aircraft hangers but these are in effect object protection systems -nozzles are located at low level or in the floor, protecting the fuel load (planes) at that level, and not covering the upper levels where, rationally, it is considered there is little, or no, load and hence little, or no, risk. Water mist is not generally effective against small fires in proportionately larger volumes, or shielded fires until they grow larger and entrain the mist into the plume.

It is noted that high pressure mist protection of large volumes may be achieved. Buro Happold FEDRA have previously been involved in the satisfactory installation and acceptance of high pressure water mist suppression at Syddansk University in Denmark. In this case however type approval was not available and the acceptance process involved extensive full scale testing in the absence of accepted design codes, or standard tests for the technology in this application.
Water mist will be less effective for slow, smoky fires which do not have enough heat to create steam nor enough movement to entrain the mist into the plume. (It should be noted however that sprinkler systems are similarly ineffective against such fires due to delays in thermal activation). In this case the building detection system should detect the fire and, if appropriately trained, the 24hr staff presence should be able to deal with such a non flaming fire. If this is not the case, fire service attendance should be able to deal with this.

In terms of guidance, there is little available which allows an independent assessment of the technical merits of individual manufacturers systems in the same way that sprinkler and fire/smoke detection systems are laid out in BS EN 12845(2) and BS 5839 Part 1(3) respectively. Whilst NFPA 750(4) (US) and Draft EN 14972(5) (Europe) cover the principles of design, both refer back to manufacturers test results, and as such designs must be assessed through disclosure and understanding of the manufacturers tests for each nozzle. Some of the national testing agencies have approved water mist systems for use in certain types of occupancies, but again the listings are generally qualified, and must be considered in the context of manufacturers testing. As such the use of mist systems in large, or irregular spaces requires to be linked to and supported by suitable testing, or approvals. Specialist engineering knowledge of suppression systems will be required to properly assess a system.

Given the relative newness of the technology, and the limited number of installations in specialised and irregular spaces such as historic properties, finding suitably experienced contractors can also be a problem. The specialised nature of the equipment, and the above noted proprietary nature of systems, means that finding a choice of maintenance contractor may also be difficult.

### 6.2 Water Mist Precedent

High Pressure water mist systems have been installed at the following locations to protect historic buildings and contents.

- Duchess Anna Amalia Library, Weimar, Germany
- La Scala Opera House, Milan, Italy
- National Gallery of Art, Washington, US
- Contemporary Art Museum MARCO, Vigo, Spain
7 Contractors, Costs & Tendering Issues

7.1 Potential Contractors
The relatively short history of water mist as a suppression technology, and the limited percentage of those mist installations in historic and heritage properties, means that there are not a great deal of suitably experienced contractors in the marketplace.

Two of the major names in water mist technology, Marioff and Tyco, were contacted for their views on application and feasibility of water mist within the Mackintosh Building. Both had meetings with FEDRA and discussed the potential project in outline. Both noted that final determination of viability and cost would be dependent on full survey of the building, but that they were not put off by the drawings and photos viewed at that stage.

Marioff attended site to get a feel for the scope of the potential project. They commented that, based on their short (3 hour) visit, the project was within realms of their successful experience in terms of aesthetics and installation difficulty.

Should it be decided to progress the project further, other suitable tenderers would be sought.

7.2 Budget Costs
Given the nature of the building and its unique construction and configuration, definitive costs may only be obtained after extensive surveying of the building during the tender period. The system required by the challenges presented will require to be fully engineered after survey. As such budget estimating based on drawings, or brief survey is likely to be inaccurate in terms of final cost.

Two potential tenderers with considerable experience in the fitting of mist systems in sensitive and difficult occupancies were contacted and floor plans of the building were discussed. One subsequently offered to visit site. Prompted on costs they noted an indicative cost of around £60/m² including pumps and tank. The tenderers also noted however that the exact layout and height of rooms would cause variations both up and down of this area rate, and that an exact price could only be confirmed based upon full building survey and knowledge of tender requirements.

Given previous experience with sprinklers in similar applications, this would offer a similar order of cost per unit area to that expected for a traditional sprinkler system, including tanks and pumps. Based on this, and assuming a building area of 7,000m², the indicative cost for the water mist installation itself (see below) would be around £420,000.

It is stressed that this cost is indicative only, and will require to be confirmed after full building survey when the extent of the engineered system and the equipment required can be more completely quantified.
The above costs only cover the mist system itself. To this should be added builderswork, access equipment, protection works, mechanical and electrical services provision, supervision and fees.

7.3 Tender Issues
Given the fully engineered nature of the final design for the Mackintosh Building, tenderers should be made aware of the need to visit site, and fully survey to appreciate the requirements of the building and the specification. This should provide a greater level of cost certainty in the returns.

A separate bill, possibly including a provisional sum for ad-hoc builders attendance should be included for the necessary builderswork and making good which will be an integral part of this contract.

In order that the necessary aesthetic outcome is achieved in the previously noted sensitive areas, it may be prudent to allow for additional third party site supervision or ‘clerk of works’ services when these areas are having suppression installed.

Access equipment for work at height will be essential and, from previous experience, will constitute a major element of the works package. A provisional sum for protective works should also be included where works are taking place around historic and/or (in)valuable building elements, furniture and fittings.

Works will be required to connect to mechanical and electrical services. There may be some costs associated with upgrade of existing electrical supply as the pumps required for high pressure water mist systems have large electrical requirements.

Given the aesthetic requirements of the project in certain areas, the tenderers should be asked to offer up mock ups showing their proposed installation and standard of workmanship for at least two of the aesthetically highly sensitive areas.

Tenderers should also be made aware of level of oversight and approvals that will be required for works and final installation in the aesthetically sensitive areas.

Programme of installation would also need to be determined, and it is suggested that some indicative programmes are included within the tender documentation. It is noted however that the tenderers are unlikely to be able to advise more concrete timescales until after tender survey and determination of the extent of the works.
8 Conclusions

8.1 Conclusions

The configuration, use and condition of the existing Mackintosh Building means that all but one of the potential property fire protection options have been ruled out in terms of buildability, usability and fitness for purpose.

The remaining option is that of water mist. This is a relatively new technology, but offers advantages in terms of plant space (primarily), buildability and aesthetics. It also offers advantages in the way it suppresses fires over both sprinklers and suppressant gas.

A system for the Mackintosh building will have to be fully engineered and will require that the building is extensively surveyed prior to final costing. Up to that point viability cannot be guaranteed. Given the newness of the technology, and the building specific system required, there will require to be considerable technical evaluation of the proposals.

Due to the variation of conditions and challenges throughout the building, the system(s) installed may be a mixture of protection principles eg. object protection, local protection, zonal protection, total flooding. Total coverage, as would be the expected norm with sprinkler standards may not be achievable. This need not be viewed as a major deficiency however, as the way the water mist suppression/extinction mechanism operates, it will contain and envelope small fires, and works better as fires increase in size. As such small fires will be contained, and large fires should be put out. Also, in probability terms, it should be noted that this perceived `partial coverage’ is much preferable to no coverage, and will result in a positive change in the risk to the building and contents.

8.2 Next Steps

It is proposed that the following parties need to be involved in the clarification/confirmation of the proposals as follows. Initially:-

- Current technical Design Team + FEDRA, to confirm the content of the report in technical terms;

Then, either singly or together;

- Meeting or Correspondence on acceptability with Building Insurers;
- Present to GSA administrators and end users; &
- Meeting or Correspondence with Historic Scotland, planners and any other interested parties.
9 References


10 Appendix A - Building Plans
Gforrest
Senior Fire Engineer
Buro Happold FEDRA
Four Winds
APPENDIX IV – PROJECT GOVERNANCE

The Glasgow School of Art: Mackintosh Restoration Project

Project Governance and Management Structure

GSA Board of Governors

Business and Estates Committee

Mackintosh Restoration Committee

Director

Director of Finance and Resources

Funding

Assistant Project Manager

Restoration Project Group

Mackintosh Restoration Senior Project Manager

External Project Manager

CDM/ Principal Designer

Architect

Cost Consultant

Main Contractor

External

Internal

Contractual Relationships to GSA

Engineer

M/E Engineer

Specialist Consultants

Works Package Contractors

Specialist Conservators
The Glasgow School of Art

The Mackintosh Restoration Project
Project Governance Structure

Committee Membership

The Management Operational Group had effective overview of the project for GSA. Members of the Group were:

GSA Director
Director of Finance and Resources
Special Project Manager MRP
Academic Co-ordinator
Director of Strategy and Marketing
Senior Project Manager MRP
Project Manager MRP
Head of Estates
Director of IT
Gardiner and Theobald Project Manager
GSA Depute Director

As required/desirable, the Group could seek representation/views from the following:

Head of Technical Services
Mackintosh Research Fellow
Health and Safety Officer
Exhibitions Director
Commercial Development Manager
Head of Learning Resources
Representatives of the Design Team
Representatives of the Cost Consultant
Others as required

The Estates Committee had a more direct role in scrutiny of the project. Members of this Committee were:

3 Lay Governors
Director
President Student Association
Special Project Manager
Senior Project Manager
Head of Mackintosh School of Architecture
Assistant Secretary to the Board

GSA established an Expert Panel, which was hosted by the Project Architects, Page\Park. This panel consisted of up to six experts who could be consulted as necessary/desirable by GSA and their design
team. There was no limit on who could be consulted by GSA. The Panel could be supplemented as appropriate, for instance the inclusion of representatives of the Scottish Lime Centre. There was also a Furniture Expert Panel consisting of eight experts available to GSA.
It was considered that it would assist Members if we would respond to points raised in evidence so far. We have reviewed the Committee transcripts to note the substantive points not already addressed in our written submission. This statement contains our response to those points.

1. **There has been a lack of transparency on the part of GSA:**
   Since the 2014 fire, we have endeavoured to respond to the public interest in the situation as well as responding to issues raised by our students, the local community and other stakeholders. After the 2018 fire, the demand for information escalated to such an extent that we set up a website[^1] to keep people up to date with developments. There has been no intention to exclude people who want to know what has happened or what happens next. Our Chairwoman has acknowledged that her Board was not entirely successful in communicating with the public in the immediate aftermath of the 2018 fire. She explained that the Board thought they were doing so but it is clear from some public feedback that the information was not getting through to everyone. Should Members conclude that the public sector would benefit from Guidelines on effective stakeholder engagement during emergency situations, we would be willing to share our experience and our processes for dealing with major incidents.

2. **The 2014 Fire Report was redacted:**
   The Fire Report issued by SFRS in 2014 was only redacted to the extent that it concealed the identity of the individuals involved in the incident. The extent of the redaction was restricted to a single image, which may have identified the individuals. We have written to SFRS seeking clarification and they have stated “The Scottish Fire and Rescue Fire Investigation Report into the 2014 Glasgow School of Art fire was fully compliant with Information Governance standards at the time of its publication”. For the avoidance of any doubt, GSA will continue to take all appropriate action to protect the identity of the individuals.

3. **Why was a temporary sprinkler system not installed during the construction works?**
   “An average person looking at the situation would see it as extremely unfortunate that in both fires you were just about to put in a sprinkler system[^2].”
   This question was answered at the Hearing on 25 October by Page\Park. We confirm that, to the best of our knowledge, there is no temporary fire suppression system suitable for a building of the scale and complexity of the Mackintosh Building that could have been installed during the construction period.

[^2]: Committee Chair on 25 October
4. **The GSA monetised the Mackintosh Building:**

   GSA Enterprises is the commercial arm of the School responsible for the public engagement in the GSA’s Mackintosh heritage. Its profitability is very limited and contributes about £40-60k pa from the tours of the Mackintosh Building and its retail operations. Its purpose is not to generate income but to help balance the number of visitors with the use of the building as a working art school and make publically accessible the GSA’s history, collections and archives, ensuring we can welcome visitors to the building while maintain the learning experience of those students studying there.

   All tour guides were GSA students thereby helping to support them through art school and developing their employability skills. The GSA Shop sold specific Mackintosh products and products by staff, students and alumni to promote the output of the school as a centre of creative production.

   GSA Enterprises operates alongside our other public engagement activity including our exhibitions, events and talks, access to our archive and collection and our Open Studio provision. This is all detailed in our submission to the Scottish Funding Council Museums, Galleries and Collections Grant.

   In 2011 the GSA issued Guidelines on the Commercial Use of the Mackintosh Building. We did not regularly permit commercial use of the Mackintosh Building or engage in external venue hire. Where external uses were permitted this was usually with organisations the School had a partnership or relationship with or was in support of wider city objectives.

5. **GSA reliance on public funding, insurance payments and fundraising to restore the Mackintosh Building:**

   As an HEI, GSA receives public funding from the Scottish Government via the Scottish Funding Council in line with all other universities in Scotland. We also generate a significant part of our income from international and RUK student recruitment and competitively won research grants and commercial contracts and are expected to, by the Scottish Funding Council Financial Memorandum achieve an operating surplus to support future investment and development.

   In respect of the Mackintosh Building we received a payment from our Insurers in settlement of a claim against our Insurance Policy following the Mackintosh Building Fire in 2014. The insurance settlement sum funded the Restoration project. Both the scope of works and the cost thereof were part of a holistic approach to the upgrading, repair and re-instatement of the entire building. The project focussed on a comprehensive survey and schedule of repairs, upgrading and improvements to accessibility, fire safety and facilities. This was carried out in the spirit of deep research of the building and the quality to bring the A listed fabric back in an appropriate, sensitive manner.

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3 GSA Document 8: Protecting the GSA Heritage Guidelines for commercial use of the Mackintosh Building
The Mackintosh Building has benefited from fundraising initiatives in the past as has the GSA more broadly in advance of its educational mission and strategic ambitions and is likely to do so again in the future.

6. **Failure to engage with experts:**

In our written submission we explained the Project Governance established to facilitate the School’s overview of the project. That structure included an Expert Panel hosted by Page\Park. The purpose of this panel was to allow the design team to have access to experts when required. In addition to this, there were approximately 125 highly experienced, specialist conservators and craftspeople working with us on the project. It should be borne in mind that we had a project programme and budget and, as a public body, we had to manage that process efficiently and effectively. In order to do so, we established a project governance that ensured the design team had access to the necessary expertise when required. That expertise was available within the School, the Design Team, contractors, craftspeople and conservators and the Expert Panel. We also sought support and advice throughout the project from other conservation bodies and those undertaking similar post-fire projects. These included HES, the National Trust team from Clandon House and the team from Battersea Arts Centre. Such accessibility to a range of experts across all aspects of the project, helped us anticipate and mitigated challenges throughout the project as well as ensuring the highest quality of design and work on site. Our architects also played a key role in setting up the organisation BIM For Heritage, which is instrumental in developing and providing advice for those using this technology in historic buildings projects⁴.

The level of expertise gained by our internal team has been called upon by other institutions following major disasters. We have taken part in international disaster response conferences and recently have provided advice to the National Museum of Brazil following the fire there in September.

7. **Insurance Issues:**

GSA elected to take out Owner Controlled Insurance Policy (OCIP) to cover the contract works on the Mackintosh Building and the undamaged parts of the building under one policy. This allowed the School to maintain full control of the insurance cover for the whole building.

Construction insurance encompasses the risks associated with property development, both new build projects and alterations to existing structures. The contract conditions operative for each project drive the insurance requirements – complex projects particularly those involving substantial existing buildings such as here with the Mackintosh are often structured so that the employer arranges the requisite insurance protection. The resultant insurance cover arranged is generically referred to as either an "Employer", "Owner" or "Principal" Controlled Insurance Programme. By controlling their own insurance programme, the employer can benefit from broader cover, better costs, greater peace of mind and more control in the event of a claim.

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⁴ [http://www.bim4heritage.org/](http://www.bim4heritage.org/)
8. **Office Accommodation on the Construction Site**
   The contract required compliance with the Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation, which recognises that there can be temporary accommodation within a segregated part of a building undergoing refurbishment during the course of the works. It was a requirement of the contract that Kier Construction (Scotland) Limited provided office accommodation for the Client Project Management Team, including the construction Clerk of Works. Keir (Construction) Scotland Limited elected to install site accommodation in the eastern (undamaged) basement including accommodation for the GSA Project Management Team. Due to the schedule of work, the Project Management Team was relocated off-site (Blythswood House) in January 2018. At all times, Kier Construction Scotland Ltd retained possession of the whole of the site.

9. **General Access to the Construction Site:**
   In the past week, there has been a series of press articles about the hosting of events in the Mackintosh Building during the contract period. In our written submission, we have explained how the Contractor controls all access to his site during the contract period. All access was therefore subject to the Contractor’s procedures and processes. **At all time, the Principal Contractor retained possession of the site.**

   Interest in the Mackintosh Building did not diminish in the aftermath of the 2014 fire. On the contrary, vacating the building to facilitate the restoration works created an opportunity for experts, students and others to increase their knowledge of the Mackintosh Building and its construction. Once the building had been made safe after the fire on 23 May 2014 (bearing in mind that fire damage was contained to part of the building), GSA worked with our Multi-Works contractors Taylor and Fraser Ltd to arrange certain visits from a range of professional, academic and interest groups. At this stage in the project, Taylor and Fraser Ltd were the Principal Contractors in possession of the site.

   After the award of the Main Contract to Kier Construction (Scotland) Ltd in June 2016, GSA continued to seek opportunities to provide safe access for interest groups, our own and other students and professionals to the building whenever the operations on site allowed. These visits were developed with Kier subject to the GSA Access Protocols, the status of operations on site and Kier’s Health and Safety assessments. Safety of visitors and operatives and efficient site operations remained the absolute priorities at all times. If physical access was not possible, an alternative was arranged normally including a talk or “virtual tour” from a member of the GSA Project Management Team.

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5 GSA Document 9: Accessing the Mackintosh Building, August 2016
6 GSA Document 10: Estates - Site Rules
We had a commitment throughout the contract works to permit, where possible, public and professional access to the building where it could be accommodated without detriment to safety of momentum of works on going on the site.

In line with this commitment, we hosted and spoke at numerous lectures, seminars and outreach events from audiences ranging from the half dozen or so SPAB (Society for Ancient Buildings) scholars to up to 500 - where venues such as Glasgow Royal Concert Hall were used. We also organised nearly 100 tours of the building for school groups, professional bodies, Scottish government officers and elected members and occasionally individuals. Events were also held in the building, but of much less frequency, due to the desire not to impede the contractors progress and the need always to ensure safety and supervision. Notwithstanding that, about half a dozen events were held over the 4 years since the 2014 fire - including

- A recording of the GSA Choir within the Library to cut a fund raising disc for the restoration appeal;
- the filming of Ross Birrell’s - ‘A Beautiful Living Thing’ first shown at the RIBA in London
- The Mackintosh Memories Tea party to gather archive and anecdotal information about the School and in particular the Mackintosh Building amongst alumni in their 80’s and 90’s;
- A fund raising and ‘thank you’ lunch in the partially completed Library for Scottish Government, Glasgow City Council, alumni and members of the Board of Governors;
- Training day for members of the Chartered Institute of Building (CIOB) as part of a series of CPD events run on the back of the restoration project;
- Rediscovering Mackintosh - where the Mackintosh Research Fellow – brought 2 groups of Year 3 students into the Meeting Room for an elective critical studies last year on the restoration project which also involved guided tours of the building.

In the period 2015 until the June fire, we held five events with the Charles Rennie Mackintosh Society including virtual and physical tours, conferences and talks. Only students, Historic Environment Scotland and the Glasgow City Heritage Trust had more access to the project.

At all times visits were subject to the contractor’s safety procedures and structures. Full site induction was provided for all visitors and, for any events which involved movement into the building beyond the Technical Meeting Room, appropriate PPE had to be worn and the visit accompanied by a chaperone who had been through an enhanced induction and held a CSCS Card. The Technical Meeting room was equipped with a large TV screen with capacity for AV and screen/projector, if required, could also be utilised. All equipment was covered by a current (portable appliance testing) PAT test. Site rules required that all electrical equipment used on site was covered by an appropriate PAT test.

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7 Indicating a level of knowledge and understanding of site health and safety processes, procedures and requirements: https://www.cscs.uk.com/
10. **The Mackintosh Building should be rebuilt and used as museum:**
Within Scotland’s higher education sector there are a number of museums as part of university estates. The Scottish Funding Council recognise that “Scottish university museums are very diverse in terms of scale and content of collections and remit. While some museums are at the centre of their institution’s academic community, others occupy a more peripheral position.” In this respect, The Glasgow School of Art is unique. The Mackintosh Building is not only at the centre of our academic community it is core, along with our entire collection, archive, exhibitions and cultural engagement programmes. This was articulated in our recent application to the Scottish Funding Council Museums, Galleries and Collection Grant:

“Our Museum, Galleries and Collections include at its core, a Museum and Galleries Scotland Recognised Collection including elements of our publicly accessible Category A Listed Mackintosh Building that is still used as a functioning art school and a large and diverse number of items by Charles Rennie Mackintosh.

Our entire Museum, Galleries and Collections are central to the institution’s academic purpose and are not a static depository.”

Our application was produced so that the case for the restoration and continued use of the Mackintosh Building as a working art school could be fully understood.

The Mackintosh Building was designed and constructed to promote the development of creative practice. It continued as a working (operational) part of The Glasgow School of Art from 1899 to 2014 and during that time only minor alterations were required to maintain its suitability to perform that primary function. The period during which it is not able to perform this function has been extended by the fire of June 2018 but it will still be short interlude in the life of this building. To strip it of its primary function and consign it to the status of a visitor attraction, would be to strip life and purpose from the building. It would also deny future generations of the opportunity to benefit from study in the most important building of one of Scotland’s most innovative and creative architects, a building that was designed for them. Converting the Mackintosh Building to a museum would not be an expression of responsible custodianship, it would be a piece of sabotage against our built heritage and a failure of our duty to future generations.

11. **There should be a public inquiry:**
The decision on whether or not a public inquiry is necessary is for the Scottish Government.

12. **The DGI Case:**
At the time of appointment, the GSA followed a rigorous procurement process and the issues relating from the DGI were not known. Throughout the Contract the

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8 The Scottish Funding Council
9 GSA Document 11: The Glasgow School of Art: Scottish Funding Council Museums, Galleries and Collection Grant, March 2018
focus of the GSA internal and external team was on this project and ensuring that the works to and care of the Mackintosh Building were of the highest standard.

When the DGI report was published, we discussed its content with Brian McQuade, the Managing Director of Keir (Construction) Scotland Limited. As he explained, the DGI case involved a new build project undertaken under a Design and Build Contract, undertaken by a different arm of the Keir Group. The Mackintosh Restoration Project was undertaken by Keir (Construction) Scotland Limited under a Traditional Form of Contract, the circumstances were not comparable therefore. Throughout the Kier Contract, the whole team – client, contractor, sub-contractor and professional consultants – were focused on delivering the highest quality of work on our project. Addressing the DGI case with Brian McQuade illustrates our cognisance of the issues it raised, and that we dealt with those issues in a way appropriate to our project.

13. **Capability of GSA to oversee this Project?**

Our submission has been explicit regarding our approach to both the Governance and Management of the GSA and of the Mackintosh Restoration Project. We are a robust and well management higher education institution.

However, we recognise the scale of the rebuild following the 2018 fire is significantly different and we are committed to working with our partners across national and local government to define the most appropriate model for the GSA to lead on the rebuild of the Mackintosh Building as a working art school, core to the educational experience of our students and central to Glasgow’s international standing as a centre of creative and cultural production.

14. **GSA’s student experience is poor: NSS is lowest in Scotland?**

In the National Student Survey 2017 and 2018 the GSA was the lowest ranked higher education institution in Scotland and the lowest in the UK. This is not a position the GSA is proud of or how we want to be recognised and valued. It is counter to our continued (since 2015) global position (QS World University Rankings) as one of the world’s top 20 art schools and one of only four in the UK ranked and the only one in Scotland in the top 20 alongside Royal College of Art London, University of the Arts London, Goldsmiths College, University of London.

While our position in 2018 can be attributed to poor performance in three programme areas this is not an excuse. We are committed to addressing both systemic and temporary issues which affect the educational experience of our students and are implementing a series of actions to achieve this.

15. **GSA failed to be open about the losses from the 2014 fire:**

In March 2015 The Glasgow School of Art issued a full media release detailing the impact of the 2014 fire across the GSA’s Archives and Collections. This was covered widely in the media at the time. Meanwhile, the GSA’s Archives and Collections took the following steps to share information about objects lost in the fire.
• After the 2014 and 2018 fires, donors were contacted to inform them of any impact to their donations.
• We also issued this statement on the A&C blog in December 2014: http://www.gsaarchives.net/2014/12/an-update-on-the-archives-and-collections/
• We provided Museums, Galleries Scotland with details of Mackintosh Collection losses (see attached) – this was so that they could review if the Mackintosh Collection should retain its Recognised Status. After receiving this statement, MGS confirmed the collection was still of Recognised status.
• The A&C online catalogue has an index term ‘23rd May 2014’ which provides an overview of the impact of the fire and also links to images of any collection items lost in the fire: http://www.gsaarchives.net/archon/index.php?p=core/search&subjectid=112

The Glasgow School of Art
8 November 2018
Protecting the GSA Heritage

Guidelines for commercial use of the Mackintosh Building

GSA has a major responsibility to care for the fabric and contents of the Mackintosh Building. It has realised this responsibility through the recent *Mackintosh Conservation and Access* Project which has resulted in a considerable amount of restoration work and major improvements to both its educational and heritage facilities. Its aim now is to maintain the building in this revitalised condition for current and future generations of users. It is also committed to ensuring that the Mackintosh Building continues to function as was originally intended as a working art school providing students and staff with an excellent working environment. This should be seen as a considerable privilege which carries a duty of care which recognises the importance and unique nature of the building. It requires that the School consider how its daily ‘work’ activities add to the level of ‘wear and tear’ faced by the building and its historical contents, and how damage can be minimised.

In addition, third-party use of the building in the form of public access/commercial use will always be strictly controlled and if needs arise could be severely limited and/or refused.

The following document identifies simple operating guidelines which will greatly assist with the preservation of the historic fabric of the Mackintosh Building whilst allowing the building to continue to function as a unique space of learning. In many instances, the same guiding principles of ‘use and management’ of the Mackintosh heritage apply as much to GSA staff and students as they do to all external users of the building.

**Historic fabric**

It is essential that every care be taken of original woodwork, surface finishes, doors, stained glass and other fittings across the Mackintosh Building as damage to them is often impossible to correct without incurring considerable costs. The Mackintosh Building is unique in that many original Mackintosh items of furniture are either still in daily use, or are located in areas of high footfall. As a result, special consideration needs to be given to how these areas are utilised. Interiors such as the Mackintosh library should only be considered as a valid venue for third-party use including commercial activities if the particular request justifies its use. Could an alternative venue in the building be considered as a suitable replacement?
The Mackintosh Room
The original Mackintosh chairs, settles and cabinets in this room should not be used, or moved from their current location. (Most of these items already carry a label to that effect).
Care should also be taken not to lean other items, including foldaway tables, projectors and screens, and/or other equipment against the original Mackintosh furniture. When used for corporate hospitality glasses/plates should not be placed on any of this original furniture and the use of hotplates/food serveries requires separate approval, in advance from Estates and/or the Mackintosh Curator. The serving of red wine is not allowed at events due to the risk of spills and the potential of staining to the carpet.

Mackintosh Library
Whilst this interior is first and foremost a working space, specific attention should be made to the original library furniture. The recently restored Mackintosh tables and chairs can, in most instances be used by students and staff (only), but extra care should be taken when doing so. All other surfaces should be treated with respect and nothing should be pinned or taped, particularly to the wood and glass.

Furniture should remain if possible, where it is, particularly the central periodical desk, which is at risk from damage if moved. The smaller tables and chairs should only be moved if absolutely necessary and always with prior approval of either the Mackintosh Curator or the Library. The smaller chairs placed around the periodical desk, together with the curved Windsor chairs should not be used – these pieces are simply too delicate. (Most of these items will already be roped off and/or labelled accordingly, and tours groups are advised not to use any of the furniture, thereby reducing the amount of unnecessary ‘wear and tear’.

Extreme care should be taken when introducing filming or other bulky equipment into the Library. It is important that the temperature and humidity of the Library remains as constant as possible. However, if additional lighting is to be used when filming, consideration should be given to the potential build up of heat caused by these lights and the close proximity of smoke and heat detectors within this room. Arrangements can be made in advance with Estates to isolate some of these sensors if required, but only for a limited time period. Access to the Library balcony is also restricted on health and safety grounds.

Avoid placing bags and other items onto all Mackintosh table and chairs. Food and drink should also not be consumed with the library.

If books/periodicals left out on work surfaces or in other vulnerable locations are in the way, then Library staff should be notified and they will arrange to move them.
Plaster Casts
The School’s collection of late 19th century plaster casts located throughout the Mackintosh Building have all been recently cleaned and restored with funds provided by the Mackintosh Conservation and Access project.

In the past, substantial damage has occurred as a result of casts being moved, often to inappropriate locations, such as too close to doors. To prevent this element of damage occurring again, most of the larger casts have now been fixed to their current position by means of wall brackets. The School’s Mackintosh Curator should be contacted in advance to approve the removing of these brackets and the moving of all casts. The casts are surprisingly delicate objects and should be treated as such.

Outstanding issues/permissions

In line with Scottish Government regulations, the Glasgow School of Art operates a strict No Smoking policy across all campus building. In addition, and with the exception of Assistance Dogs, animals are not permitted within school buildings.

Inevitably, commercial requests can throw up unexpected requests which often require a seemingly immediate decision. If uncertain, responses should be sought from either the Mackintosh Curator or from colleagues in Estates, the Library or elsewhere in the School.

In the absence of a suitable response from an appropriate department (within the time required), it would be perfectly acceptable to turn down these third-party requests and GSA/GSAE staff should not feel pressured in any way to meet every request. Most importantly, the School must be seen to dictate what can and can not be done and inevitably what happens in the Mackintosh Building rests entirely with GSA itself.

If you have any further questions or queries then please do get in touch.

Peter Trowles
Mackintosh Curator
October 2011
Protecting the GSA Heritage

Some Do’s and Don’ts

**DO** consider alternative venues, where possible, for filming/interviewing etc to minimise the risk of potential damage/disruption to the building and its users. Use of the Mackintosh Library, in particular, should be kept to the very minimum.

**Don’t** move original Mackintosh furniture in areas such as the Mackintosh Room and the Mackintosh Library, and any of the plaster casts, unless absolutely necessary and without first consulting the Mackintosh curator or other relevant staff.

**Don’t** allow food and drink into the Mackintosh Library, and in the Mackintosh Room this should be kept to a bare minimum, with no red-wine to be served.

**Don’t** place bags or other items (camera equipment, used glasses etc) on original surfaces, Mackintosh furniture, or on any of the plaster casts throughout the building, and take care when bringing large items of additional furniture/equipment into these heritage interiors.

**Do** remember that the use of extra lighting/reflectors etc can generate additional heat and the GSA’s smoke and heat detectors are very sensitive to this.

**Don’t** forget that GSA has the final say on all public/commercial access and can limit/prohibit the use of the Mackintosh Building as it deems fit.

**Points of contact:**

**Peter Trowles**, Mackintosh Curator: for all queries concerning the Mackintosh heritage, including permission to move/relocate objects.

**Catherine Nicholson**, Head of Learning Resources: for permission to use the Mackintosh Library

**Michael Quigley/Barrie Stewart/Michel Kelly**, Estates Department: for access arrangements, including weekends/evenings; delivery of additional services (power supplies etc) and other GSA facilities, i.e. cleaning.

**Scott Parsons**, Marketing and Communication Director: for all media/communication matters.

**John Martin**, Assistant Company secretary: legal liability, insurance provision etc.
Accessing the Mackintosh Building. FINAL

Background.
Since the fire on May 23rd 2014 and once the structure had been made safe, there has been a fairly constant trickle of visits to and around the building from a range of professional, academic and public sources. This has included student groups, conference participants, international visitors, research and amenity society visits, sponsorship viewing, artistic interventions and a few carefully chaperoned open access days. The internal project managers were largely responsible for facilitating these and they in turn depended heavily on the good will of the then, on-site enabling contractor Taylor & Fraser.

Going Forward.
As of July 4th - responsibility for the site has been handed over to Kier Construction Ltd., the main contractor for restoration works, which are expected to complete in January 2019. A tight programme and budget has been set to achieve this. As such, the building will shortly enter into full site works mode with extensive structural down takings and engineering works in the west and a fairly constant and busy schedule of construction activity throughout.

In these circumstances and in order to avoid any impediment to the contractor’s programme - the Mackintosh will no longer be readily accessible for the type of visit that has been frequent and usually accommodated over the last 2 years. Issues of public safety and site insurances will also play a factor in this decision.

GSA has however agreed a range of limited access opportunities with the contractor on a more regulated basis, in particular:

- sponsorship and grant funding opportunities
- media and press interest
- approved research (in conjunction with the GSA Research Office)
- GSA students on a forward planned basis in accordance with approved teaching and learning plans

In order to approve and create a calendar of such events, all requests (internal) from GSA Schools should be collated by the relevant Executive Group Member and forwarded to the Deputy Director, Ken Neil who will then discuss these with the Project Team.

All other (external) requests for events or group visits should be made in writing to the GSA Senior Project Manager with as much notice as possible.

Notwithstanding the guidance above – all confirmed visits should be notified to GSA project managers and Kier Site Manager with at least 48 hours notice. (This excludes ‘routine’ visits to the GSA PM office which remains within the accessible entrance area of the building).

Please note, it will (almost certainly) not be possible to approve all applications for visits, due to the conditions on site and the need to protect the works programme.

Requirements.
Any regular visitors to the site will require to undergo formal Kier Site induction training. This can be organised via the contact below but will be limited to those with a functional requirement to enter the building such as archives and research staff, press officer etc.

All visitors must wear correct Personal Protection Equipment (hard hat, hi-viz vest, and depending on works on site - gloves and protective glasses) which is available in limited numbers at the site.
office. Visitors must also wear appropriate footwear and if entering work zones will require site
boots, some of which will be available at the Kier site office.

All approved events or activities in the building will require to complete their own Risk Assessment
(template attached) and adhere to GSA Procedures. The budget for any additional cost incurred in
visits will require to be be met by the applicants’ own sources.

**Photography.**
All visitors must abide by the School’s policy on photography.

During the recovery period of the Mackintosh Building project Glasgow School of Art wishes to restrict
unauthorised photography of the interior.

An extensive photo library of images is already available via the School at:

www.gsaarchives.net
www.mackintosh-architecture.gla.ac.uk

Permission to take photographs MUST therefore be sought in advance from the Press & Communications
Department of Glasgow School of Art via press@gsa.ac.uk

If permission is given, visitors are not charged for taking their own photographs. However, when taking
photographs, visitors must adhere to the following regulations:

You must not use the copy except for research or private study and you must not supply a copy of it to any
other person, organisation or commercial entity;
Glasgow School of Art should be acknowledged in any reference you make to it.

**Filming and Media Coverage.**

All visitors should be aware of and adhere to the attached guidance on Filming and media
coverage.

All press enquiries should be directed in the first instance to the GSA press office at
press@gsa.ac.uk

The Contractor and GSA Project Management has the authority to refuse access or cancel
visits on the grounds of safety and security and/or if they may interfere with programmed works.

**Contact Details:**
Liz Davidson
Senior Project Manager
Mackintosh Restoration Project

Ian Boyd
Senior Project Manager
Kier Construction
ESTATES - SITE RULES

The following site rules are mandatory and must be observed at all times by all Contractors as follows:-

1. Contractors who fail to abide by these Site Rules will be subject to removal from the approved contractor list.

2. Contractors must report to the Estates Office on arrival and sign in and out on each and every visit. Details should be given of all personnel working for Estates coming on to a site, together with details of area to be worked in and type of work to be undertaken. Personnel must display visitor badges at all times. Similar procedures will be set up by the department/person authorising/requesting the works to ensure that Contractors report prior to starting work.

3. Contractors should note that SMOKING IS PROHIBITED on all GSA sites. The playing of radios is at the discretion of the Estates Department.

4. Contractors should familiarise themselves with the site, work area, fire evacuation procedures, first aid provision, position of extinguishers, means of escape and fire assembly points etc. Contractors must evacuate buildings if asked to do so, or on hearing the fire alarm or discovering a fire, and assemble at the relevant assembly point as indicated on the Fire Action Notice in the vicinity of where the work is being undertaken.

5. Contractors must comply with the Health and Safety at Work Act 1974 at all times, and all other relevant statutory provisions applicable to the work being carried out.

6. Contractors must only use low voltage (110v) tools on School premises, centre-tapped to earth. If RCD protected circuits are not available, equipment should be used with RCD protection conforming to BS7071. Any equipment used should be fit for its intended purpose and free from defects and in the case of electrical equipment must have been checked in accordance with the Electricity at Work Regulations 1989. The School reserves the right to require equipment to be taken out of use and removed from site.

7. Contractors must park their vehicles in such a way so as NOT to obstruct fire escape routes, roads, access or other vehicles. Vehicles and drivers must comply with all statutory and legal obligations. Note: the School does not have parking facilities.

8. In addition to their own procedures, Contractors must report all accidents, injuries and incidents (including near misses) to the department/person authorising/requesting the works. School Accident Report forms must be completed.

9. Contractors must stay within authorised areas and must not enter any other areas without permission and/or being accompanied by authorised School staff.

10. Men at Work and other applicable warning signage must be displayed at all times.

11. It is the Contractor's responsibility to provide adequate barriers to prevent entry into work areas by School Staff, students and visitors. Work in circulation areas must be adequately cordoned off and protected and appropriate signage displayed.
12. Contractors must ensure that all work areas are fully **cleaned** on completion and all waste removed.

13. The Contractor must comply with the Environmental Protection Act 1990, Environmental Protection (Duty of Care) Regulations 1991, Hazardous Waste Regulations 2005 and the Waste Electrical and Electronic Equipment (Amendment) Regulations 2009 and all other applicable Waste Management Regulations. Where hazardous or controlled waste is being removed from the School, the Contractor must supply the School with copies of all documentation. The School reserves the right to charge Contractors for any cleaning, decontamination or waste removal.

14. It is the Contractor’s responsibility to provide access equipment for all works in accordance with the Construction (Design and Management) CDM Regulations 2007 and the Provision and Use of Work Equipment Regulations and subsequent regulations.

15. All **scaffolds** (including mobile towers) **must** be erected as per the manufacturer’s instructions and in accordance with the Health and Safety at Work Act, The Work at Height Regulations and The Management of Health and Safety at Work Regulations. Scaffolding shall only be erected, altered and dismantled by competent personnel. Information instruction and training shall be given, where appropriate, to those using the scaffolding. Unauthorised use or access to scaffolding must be prevented at all times.

16. School access **equipment MUST NOT** be used unless **written** permission has been obtained from the School.

17. If the Contractor proposes to use any subcontractors on School sites, **subcontractors** must be given a copy of these Site Rules.

18. Designated School toilet facilities and refectory may be used by prior arrangement provided they are kept clean, and operatives are suitably attired.

19. These Site Rules are a minimum requirement and are to be read in conjunction with any relevant **CDM Health and Safety Plans**, (Method Statements/Risk Assessments). Any divergence between should be referred to the CDM Coordinator/Department/person authorising/ requesting the works for written approval of the changes.

20. **NOTICES TO PROCEED**

Contractors must obtain **prior written authorisation** to proceed in respect of the following operations:–

- Work in **confined spaces**
- Any **excavation** work
- Any **hot** work
- Any work on **high voltage** Electrical systems/installations
- Any work which may affect the School’s phone and **I.T.** networks
- Any work which involves the interruption of **utility** supplies to School buildings and sites
- Work of any nature involving removal disturbance or repair of **Asbestos Containing** materials (boards/pipeline lagging etc.)* other than by a School approved **Asbestos Specialist Contractor**.
- Any work which may disrupt the operation of the School, e.g. alterations to **heating/lighting** systems, with a downtime greater than 30 minutes
- Any **roofing** work
• Any structural work, e.g. forming of openings, removal of lintels, temporary propping etc.
• Any underpinning work
• Any work involving hazardous chemicals, e.g. damp proofing, timber treatment, dry-rot eradication etc.
• Work to external services
• Works to any alarm system (fire/intruder, BMS systems, CCTV etc.)
• Welding/grinding and use of flame cutting equipment*
• Any demolition work
• Work in proximity to dusts, fumes, gases and vapours which may be generated or released from the Schools operation
• Work involving the repair, maintenance, installation, dismantling or demolition of plant and equipment that contains or has contained hazardous chemicals, infectious materials, gas or liquids under pressure
• The use of cranes or other lifting gear.

* PERMIT TO WORK IS ALSO REQUIRED TO BE ISSUED BY THE DEPARTMENT/ PERSON AUTHORISING/ REQUESTING THE WORKS.

21. Contractors engaged in hot-work, work in attics, boiler-room, switch rooms, ducts or other confined spaces must stop work one hour before proposed daily finish time, and carry out fire checks of the areas in question and surrounding areas, with a further check 1 hour after the work has stopped.

22. A copy of the risk assessment and method statement should be in the possession of the Contractor at all times and the content, and controls of such, strictly adhered to.

23. Contractors will comply and observe the precautions detailed in the manufacturer’s literature on the storage and use of Compressed Gas and Liquid Petroleum Gases. All cylinders will be removed off-site daily where practical.

24. Contractor must ensure the vehicles delivering materials are aware of the precise job location. No materials are to be delivered to the premises unless Contractor’s representative is there to receive them. Storage areas will be agreed prior to the commencement of the works.

25. The Contractor will have on site sufficient persons qualified at First Aid and a fully stocked first aid box in compliance with the First Aid at Work Regulations.

26. No person will work on a gas installation unless they are GasSafe registered. Operatives will be required to produce proof of GasSafe registration.

27. Contractors are required to have insurance in respect of Employer Liability and Public Liability.

28. The Contractor will ensure that all possible steps are taken to reduce noise levels caused by his operations to a minimum and will undertake Noise Assessments as required by the Noise at Work Regulations 2005.

29. No work overhead will be carried out until precautions have been taken to ensure the safety of persons below.

30. The Contractor will ensure that suitable Personal Protective Equipment is provided to his employees who may be exposed to a risk to their Health and Safety. The Equipment provided must be effective in its control of the risk and suitable to
the wearer. The Contractor is required to provide Training, Instruction and Supervision in the use of Personal Protective Equipment.

31 The Contractor will ensure that all Personnel/Equipment are protected to prevent the falls of persons or materials and suitable access to the roof is provided.

32 Skips are to be sited exactly as agree and not permitted to overflow with materials

33 The School has undertaken a Type 2 asbestos survey which is available at the Estates office. Contractors must view the survey prior to commencing any work which breaks any surface, passes through any ducts or removes any “covers”.

34 Security of tools, material and equipment is the contractor’s responsibility. Where any damage is caused the contractor should report this immediately to the department/person requesting/authorising the works. Normal working hours are 0800 to 1700 Monday to Friday. Works outwith those hours will require the contractor, department/person requesting/authorising the works to make alternative arrangements and meet the additional resource requirements necessary.

35 Appropriate signage for the works is to be displayed in addition where the works are in excess of one day. Signage as to the name of the contractor, site supervisor and telephone number will also be displayed.

1 Name of the contractor ……………….
   Name of Site Supervisor ………………..
   Daytime telephone no: …………..
   24 hour telephone no: ………………..

2 Name of the Project Manager, Facilities Manager or Maintenance Manager in charge …………………
   Daytime telephone no: …………..
   24 hour telephone no: ………………..

36 1 Normal working week in the first instance is Monday to Friday subject to the department/ person authorising/requesting the works arrangements.

2 Out of hours working at weekends must be notified to Estates via their support desk (telephone – external or Ext. for Agnes McGuire or Shona Donnelly, If using the email system both AMcG and SD must be copied in) prior to the Thursday of the weekend working.

3 Other out of 0900 -1700 hours working requests at short notice should be notified to the following, Robert McLean, Denis McCormick, Alison Clark, Shona Donnelly, Agnes McGuire, Michael Kelly.

Where weekend working is in progress the contractors must in addition report to the reception in the Mackintosh Building prior to starting work. In addition to department/ person authorising/requesting the works arrangements for weekend working.

For advice on any of the above, please contact the person authorising/requesting the works or the department concerned.
Scottish Funding Council Museums, Galleries and Collection Grant

The Scottish Funding Council recognises that “Scottish university museums are very diverse in terms of scale and content of collections and remit. While some museums are at the centre of their institution’s academic community, others occupy a more peripheral position” ¹.

In this respect The Glasgow School of Art is unique.

Our Museum, Galleries and Collections² include at its core, a Museum and Gallerries Scotland Recognised Collection including elements of our publicly accessible Category A listed Mackintosh Building that is still used for its original purpose as a functioning art school and a large and diverse number of items by Charles Rennie Mackintosh.

Furthermore, our collection and archive includes work from Mackintosh’s peers, including work of GSA alumni and former staff and more recent graduates. It includes records and artefacts that relate to the School’s activities since its foundation in 1845, comprising one of the UK’s most comprehensive archives of art, design and architecture education in the UK, historical collections such as plaster casts, textiles collections and commercial design collections including the Stoddard Templeton archive; more contemporary collections such as the Gillespie Kidd and Coia; the Glasgow 1999 City of Architecture and Design archives; and the personal archives of David Harding, artist and founder of GSA’s hugely successful environmental art programme; and art journalist Clare Hendry.

Our entire Museums, Gallerries and Collections are central to the institution’s academic purpose and are not a static repository. They are continually being developed through acquisition, the generation of new content, knowledge and artefacts through curation, research projects and outputs and the core purpose of an art school in the advancement of knowledge in the visual creative disciplines and the production of new work. Their development and the academic and public access to them, act as a catalyst for individual and collective engagement in creativity, exploring and understanding the importance and value of art, design, architecture and digital assets in both an historical and contemporary context.

The activities delivered within our ‘Museums, Gallerries and Collections’ are not restricted to one part of the School unlike other university collections. While overall responsibility for collections management and care resides with Archives and Collections (part of the Learning Resources Department), this is supported by strategic, operational and delivery input from:

- Estates Department
- Mackintosh Restoration Project
- Academic Departments and staff
- Year 1 Experience Group (Learning and Teaching Committee)
- Research and Enterprise Office
- Exhibitions Department
- GSA Enterprises
- Open Studio (delivering GSA’s widening access, articulation, schools, children and adult non-degree programmes)
- Brand, identity and reputation

These areas individually contribute to aspects of collections management and care and collectively to the ensuring a broad academic and public engagement with the unique resources and assets we hold.

¹ SFC Mid-term Review of Museum, Gallerries and Collections Grant November 2016
² GSA’s Museums, Gallerries and Collections comprise the Archives and Collections Centre, our Exhibitions, Cultural Engagement and Mackintosh Building Tours
Current Context

Over the past decade The Glasgow School of Art has made significant investment in its Museums, Galleries and Collections and their academic, public and cultural engagement.

Between 2007 and 2009 the Mackintosh Restoration and Access Project represented an investment of c.£8m in the conservation and management of our collections and archives including the Category A listed Mackintosh Building. This provided enhanced public access and interpretation to the Mackintosh Building, a new furniture museum, physical enhancements to the Mackintosh Museum (public gallery delivering a contemporary and historical exhibitions programmes of international standing) and a new publically (staff, student, academic and general public) accessible Archives and Collections Centre located in the basement of the Mackintosh Building.

The development of the Reid Building (opened in 2013) represented further capital investment including an international standard, publicly accessible gallery and a new interpretation and visitor centre for the Mackintosh Building bringing items from the collection to public display for the first time.

Alongside capital investment we have continued to invest in staffing across Archives and Collections, tours, exhibitions, cultural and public engagement, research activity, curation and conservation. The annual Museum, Galleries and Collections Grant represented a small but very important contribution to our total annual investment in this area.

The Mackintosh Building fire in 2014 was a seminal point in the history of the Mackintosh Building and our collections and archives. The level of public interest and engagement, both at the time of the fire and subsequently, emphasised the international importance of our museums, galleries and collections. The Glasgow School of Art is fulfilling its responsibilities as custodian of the internationally significant Mackintosh Building and associated Archive and Collections, through a £65 million 5-year programme of restoration. This capital investment is focused on protecting these key assets for future generations whilst giving the highest level of quality access for teaching, research and the public. When complete in 2019 this will work will have delivered a resource that is unique in Art and Design Higher Education in the UK. The SFC Museums, Galleries and Collections funding will play a strategic role in delivering an enhanced, innovative and impactful programme of activities that bring wide academic and public access to these unique resources.

Cognisant of this, our approach to maintaining academic researcher, student and public access and engagement to our museums, galleries and collections in the immediate aftermath of the fire and during the period of restoration has been paramount alongside our previously stated commitments outlined in the GSA Strategic Plan 2015-2018 specifically to increase public engagement by 25% and valuing our heritage, traditions and locations.

SFC Mid-Term Review of Museum, Galleries and Collections Grant (MGC)

The four key outcomes of the SFC MGC Mid-Term Review contribute to the GSA’s overall strategic direction for the management and development of our museums, galleries and collections. The SFC outcomes are considered within the context of our own strategic ambitions for our museums, galleries and collections as central to the GSA’s academic and public engagement.

In many cases, individual activities cut across a number of the SFC’s outcomes.

For example where a GSA exhibition is curated drawing on material within the Archives and Collections Centre, this would often involve a degree of collection care and management, an aligned research project with REF impacts involving GSA or visiting academics or curators and link to GSA’s learning and...
teaching through curriculum projects or associated talks and events. Wider public and cultural engagement is achieved through public participation the exhibition, talks and events, with visitors engaging with our trained student exhibition invigilators. Visitors on Mackintosh Tours are actively encouraged to continue their visit and engage with the exhibitions programme by the student Mackintosh Tour Guides. Both our student exhibition invigilators and our Mackintosh tour guides provide unique and valuable employability and professional practice opportunities to our student.

Against the SFC’s 2016 Mid-Term Review outcomes we can demonstrate:

An appropriate level of collections care and management

- Continued restoration and conservation:
  - The Mackintosh Building
  - Major Conservation to repairing items within collection damaged by fire, smoke and water, including:
    - Plaster Casts: conservation, re-conditioning, transportation, repositioning including installing some within Reid Building (for teaching and public engagement purposes)
    - Paper: flattening, repairing, re-binding
    - Textiles: labelling, measuring, constructing new containers, re-boxing, conserving damaged garments
    - Objects: conservation and re-packaging
    - Furniture fragments: scanning, photogrammetry, technical analysis and technical illustration
    - Re-Packaging: materials and receptacles to re-house the collection (boxes, card to make bespoke folders, new plans chests for materials)
  - Detailed development of new academic and public access within the restored Mackintosh Building including:
    - New Archives and Collections Centre and Reading Room co-located in Mackintosh Basement alongside the Furniture Gallery, GSA Shop and Open Studio Public Programme Studio
    - New Archives and Collections storage
    - New Archive and Collections Exhibition space (Animal Room Gallery) co-located with the GSA Shop (end point for tour visitors)
    - New environmentally controlled Furniture Gallery within Mackintosh basement
    - Plans for re-occupation of the Mackintosh Library and the Special Collections Reading Room
  - Restored the WW1 Role of Honour with associated research project researching the people behind the names
  - Maintained Museum and Galleries Scotland Recognised Collection for The Mackintosh Collection at The Glasgow School of Art
  - Making significant progress to having 100% of the museum collections and a substantial increase in archive materials available online
  - Increased visitor numbers to Archives and Collections at The Whisky Bond (temporary off-site home for Archives and Collections) at a rate of 300% per annum, almost back to pre-Mackintosh Building fire numbers
  - Continued development of Archives and Collections digital footprint (http://www.gsaarchives.net/) with enhanced digital content including on-line archives, blog (http://www.gsaarchives.net/blog/) and social media (https://twitter.com/GSALibrary and https://www.pinterest.co.uk/gsalibrary/)
A service to the wider research community

- Appointed a Mackintosh Research Fellow to lead the development of research projects aligned to the Mackintosh Building Restoration. Major research projects aligned to the restoration of the Mackintosh Building including for example:
  - AHRC Immersive Experiences Project (Phase 1) – collaboration between GSA School of Simulation and Visualisation and ISO focusing on the restoration of the GSA plastercasts
  - Mackintosh: Materials and Materiality Symposium
  - Mack Memories – living archive project
  - Archives from the Ashes: Recovery work after the Glasgow School of Art Fire
- Delivered a range of exhibitions utilising and developing our Collections and Archives including:
  - The Mackintosh Digital Recovery
  - Eugene Bourdon: from the Classroom to the Battlefield
  - Nothing compares to the first time getting shot at (contemporary exhibition using archive material)
  - The Service of Venus to the worship of Mars
  - The Glasgow School of Art Fashion Show 70th Anniversary
- Research, conferences and workshops including for example:
  - Awaken: New Textiles Inspired by the Archives and Collection at the GSA
  - Post-war Pattern Pioneers: Commercialising archives through digital technology
  - Past, Present and Future: Transformational Approaches to Utilising Archives for Research, Learning and Teaching
- Captured all information relating to Mackintosh Building Restoration within Building Information Model with project architects Page\Park recording every aspect of the Mackintosh Building restoration, decision making and archive and research material used in making those decisions
- Maintained academic access to the Archives and Collections with enquiries currently running 50% ahead of their pre-fire level

A high-quality teaching and learning experience to the wider HE community

- Progressed academic plans for relocation of all Year 1 students to the Mackintosh Building (all disciplines from all 5 academic schools from September 2019). The building, collections and archives will form the basis of a new course taught to all first-years students in Semester 1
- Including experience of and academic engagement with Archives and Collections in Fulbright Summer Academy (in partnership with University of Strathclyde comprising 10 USA UG students and 6 students from University of Strathclyde and GSA strategic international partners), the new GSA English for Creative Disciplines Summer School and the Overseas Immersion Programme for students from GSoF Singapore
- On track to engage with as many students in Archives and Collections at The Whisky Bond (temporary off-campus location of our archive and collection) as pre-Mackintosh Building fire, equating to over one third of the student cohort
- Established a new permanent gallery space and a new library research space to directly engage students in the Archive and Collection
- Established a Post-Graduate Elective on Archives and Historical Resources
- Student visits to the Mackintosh Building - guided tours by Project Team to GSA’s own students and architecture students from universities across the UK
- Provided professional practice and employability for GSA students through the Archives Volunteer programme (open to the general public), our exhibitions invigilators and GSA Mackintosh Tour Guides
The promotion and provision of opportunities to everyone who can benefit from it

- Relocated our Mackintosh Furniture Gallery within the Reid Building maintaining public access to our unique and internationally significant collection and our restored WW1 Roll of Honour from the Mackintosh Building to the Reid Building for the period of the Mackintosh Building Restoration
- Maintained our public access to our Mackintosh Heritage through revised Mackintosh Tours with c. 10-12,000 visitors per annum (down from c. 27,000 pre-fire) and developed our Mackintosh City-wide walking tour
- Developed a range of Public Engagement activities related to craft skills and Mackintosh restoration
- Undertaken significant photographic and video capture of the Mackintosh Building and public dissemination of the restoration project through digital engagement and tours for specific stakeholder groups with over 5,500 people engaging with the restoration project through our digital communications
- Commissioned with Glasgow Life and the Hunterian Museum, University of Glasgow a strategic review of the city-wide Management of the Mackintosh Heritage Assets resulting in a new city-wide approach with GSA as part of the Senior Operational Group and each work-stream and engagement with City-wide Tourism Strategy (which has Mackintosh as a core theme) and Mackintosh Festival programme in 2018
- Agreed plans for significant ‘Restoration Exhibition’ for 2019 with potential for digital touring elements
- Over 24,000 visitors to Reid Gallery exhibitions including exhibitions that utilise Archives and Collections as a way to commission new work (detailed previously) and planned exhibitions for 2018 include Art School Film Club – archive poster exhibition, GSA and CCA Textile Archive Collaboration. GSA Exhibitions currently delivers annually 2 exhibitions relating to GSA Archives and Collections
- Delivered a series of publicly accessible talks and symposia related to the restorations intent and progress including one planned for October 2018 aligned to joint academic conference with Hunterian Museum, University of Glasgow as part of the city-wide Mackintosh Festival

GSA Approach and Actions 2018 onwards

Over the past 12 months the GSA has undertaken a School-wide strategic planning consultation to develop its next Strategic Plan 2018-2021. With core themes around improving the student experience, impact through research and enterprise, disciplines that represent cutting edge practice and being a fair and efficient organisation and development platforms for growth around our places and academic programmes, the SFC’s ambitions for university museums, galleries and collections are easily embedded within our institutional and local-level objectives.

Fundamentally, the GSA sees its museums, galleries and collections as central to the academic life of the School, our research output, student experience, cultural engagement and dissemination of knowledge.

Appropriate level of collections care and management

The relocation of the Collections and Archives to the Mackintosh Building will provide significantly improved, modern, environmentally controlled storage and systems able to maintain the stable conditions necessary for the preservation of objects and allow for ease of access for use for learning, teaching, scholarship and research.

The period from 2014 since the Mackintosh Fire, has allowed us to not only undertake restoration and conservation to items damaged in the fire but also identify and prioritise the care, management, digitisation and acquisition of our archives and collection moving forward. This work will be defined and prioritised within the context of the collections and archives as being a learning, research and publicly

The Glasgow School of Art | March 2018
accessible resource centred on the creativity of Mackintosh, using the international standing and interest in our core heritage asset as a gateway to broader engagement with our extensive resources.

**Better exploitation of digital technology**

Currently a substantial element of the museum collections and our archive materials are also available online. This has been achieved through use of our own resources and specific project funding. We anticipate this will continue allowing us to have a fully accessible digital archive and collection, which can be further developed as technology and user experience improves. A redeveloped GSA website planned for the end of 2018 (www.gsa.ac.uk) and the GSA Hub (http://www.gsa.ac.uk/the-hub/) will allow us to highlight works from the Archives and Collection and build on their developing social media presence by aggregating related content at key points in an academic year.

This on-going digital development will be enhanced by the depositing of new digital resources including the Mackintosh Building Restoration Building Information Model, 3D digital laser scans and renders of the Mackintosh Building by the GSA’s School of Simulation and Visualisation, our photographic and video archive of the fire and restoration, the growing digital archive of photography, video and audio material of the life and output of the School and outcomes from current and future research projects for example the School of Simulation and Visualisation and ISO on interactive experiences.

**Enhanced profile within their own institution**

The Mackintosh Building is the principal asset in our Collection. Due to reopen in spring 2019, it will return our Mackintosh heritage to the foreground of our shared creative identity, studying the creativity of Mackintosh, through Mackintosh and inside Mackintosh gives the GSA a unique academic offer of international standing.

Our Archives and Collections Team will return to purpose designed accommodation providing administrative and research space alongside enhanced staff, student and public access including space to use items from the archives and collections. A new permanent Furniture Gallery displaying a permanent exhibition of works by Charles Rennie Mackintosh and Margaret Macdonald and temporary archives and collections gallery (Animal Room Gallery) will open showing a range of curated shows of items and works within our collections.

In addition, the Mackintosh Library will be available for use with increased hours compared to pre-Mackintosh Fire, with the Library Special Collections Search Room being located in the Library Store (above the Library) and available for the first time for staff, student and researcher use.

A restored Mackintosh Museum will return as the GSA’s principal Gallery and Exhibition space. Providing a distinctive contrast to the international standard exhibition gallery located in the Reid Building, the two galleries provide a unique space in which to present historic and contemporary exhibitions, commissioned and curated by the GSA.

**A high quality of learning and teaching experience for learners**

The Archives and Collections service is closely aligned to the institution’s core educational purpose. In addition to individual student research consultations, the team deliver a range of collections-based teaching sessions tailored to students from different creative disciplines; from Portfolio Preparation to Product Design students gaining hands on experience with the collections, looking at a diverse range of papers, textiles, photographs, artwork and ephemera. These sessions help students to make links between the GSA collections and their own creative practice and develop the sense of place that locates an individual’s learning within the history both of the GSA and the city of Glasgow.
Curatorial research projects into the institutional archives such as the “International Links” project deliberately expose, and promote to students, ideas and resources on the GSA as place. Initial group sessions regularly lead to students choosing to use the Archives and Collections extensively for individual project work or to choose the Archives and Historical Resources core research elective when moving onto graduate study.

The new Undergraduate Year 1 curriculum includes a Collaborative Project cultivating creative, collaborative inspiration through location that draws directly from the Mackintosh Building and the archive and collection. This, together with enhanced student inductions will bring to the fore, the role of the collection and archive in the learning and student experience of our students. We anticipate this will develop a longer-term engagement by students through their learner journey with the GSA.

We will consider the impact of the development of the UG Year 1 curriculum to subsequent years of study and this may likely see a continued formal engagement across all students in the collections and archive at either a local academic programme level driven by curriculum development or students’ practice or through the further introduction of shared, cross-school, points across the year by our five academic schools.

As we review our existing Associate Student Programmes (with Glasgow Clyde and Forth Valley College) and introduce new Associate Student Programmes (potentially with West, Glasgow City, Kelvin and Dumfries and Galloway), our Portfolio Preparation Programmes, International Pathway programme we will consider how to build in engagement with our collections and archives including specific projects and greater use of the digital assets developed by the Archives and Collections Centre.

Our Strategic Plan 2018-2021 includes the development of new 60 credit Postgraduate certificates, study abroad programmes and new Open Studio provision. Developing new routes to access a GSA education and covering the full portfolio of GSA’s academic strengths, specific programmes and courses are planned around Creativity of and through Mackintosh, drawing on our rich archive, collections and cultural assets, the new knowledge generated through our restoration project, the international draw of Mackintosh and Glasgow as one of Europe’s leading centres for creativity and the role of creative education in working with new audiences.

*Stronger links with their institution’s widening access teams*

Our Widening Participation team works with pupils from 90 target secondary schools and young people with experience of care delivered through our own resources and support from the SFC through Access to Creative Education (ACES) and FOCUS West project.

Currently we offer a year-round programme of activities to pupils in S4, S5 and S6. These activities help pupils to make informed decisions about future course choices, develop their practical and research skills and expand their knowledge of contemporary art, design and architecture. Using our museums, galleries and collections we would aim to:

- Build on the Taster Day currently delivered with the Archives and Collections delivering engagement with historic and contemporary collections to at least 80% of the students we work with. This is important in terms of accessing archives, historic and contemporary collections, understanding the importance of research from reliable sources, continuing to engender a sense of belonging and helping with transitions in and through by demystifying what goes on at GSA.
- Deliver a series of lectures and tasks, similar to those delivered within the year 1 undergraduate Design History and Theory and Fine Art Critical Studies, delivered around items in the Archive.
- Anecdotally, we know that applicants from our current target schools, and therefore by extension other young Scots, do not have the knowledge they should of contemporary or historical art, design or architecture practice. The SQA curriculum does not seem to support many of the young people we work with to expand their knowledge in these areas. Our Widening Participation Team, working with our Open Studio Team and our Castlehead High School Creative Academy project will aim to build this learning opportunity in earlier, perhaps in addition to the existing S6 curriculum. Participants could be encouraged to keep a self-reflective journal instead. WP applicants being able to note that they have taken part in this type of activity could help support their higher education application (personal statement and at interview) and further demonstrate a commitment to learning at GSA.

- Access our Archives and Collection to support work in S4 Taster Weeks using copies of, or items from, the Archive to support S4 Taster Week workshops. Students get information on what an Archive is at an early stage and can use that knowledge going forward. We create a direct link between the importance of research and knowledge of reliable sources and the production of high-quality work.

The GSA is leading the Education, Skills and Engagement work-stream of the Glasgow-wide Mackintosh Group (detailed previously). Through this we would aim to work strategically city-wide to engage each Glasgow education primary and high school in an immersive Mackintosh experience which includes visits to buildings, accessing their collections and archives and undertaking a related project.

*A service to the wider research community and stronger links with academic colleagues*

The GSA’s museums, galleries and collections are a core research resource for the study, advancement and dissemination of knowledge in creativity and creative education.

Focused not purely on the historical research opportunities, or the collections and archive offer but also on their contemporary application to produce new work whether intellectual or artefact, we will continue to explore the opportunities for new research as demonstrated by the recently successfully AHRC research bid in Immersive Systems. Further research funding opportunities will be explored which allow us to harness the potential of our collections and archives for new audiences, impact and digital application.

Building on the extensive research undertaken during the period of restoration, we will consider the potential for a Centre for Mackintosh Studies as a specialist research centre building on the knowledge and international interest in Mackintosh and the GSA’s collections. Two new publications will be launched (one aimed at a wider public audience and one an academic research text) in 2019 and 2020 respectively. These will cement the GSA position as guardians of both Mackintosh’s artefacts and intellect as a creative polymath.

A major exhibition with digital components which offer the potential for international touring will be launched in 2019 and the reopening of the restored Mackintosh Building. ‘Restoration and Transformation’ curated by Dr Robyne Calvert (Mackintosh Research Fellow) tells the narrative of the restoration process and decisions made to transform the building as an art school for the 21st century, signposting ‘Back to the Mack First Year Experience’ and include a School of Simulation and Visualisation/ISO prototype from their successful research bid to AHRC/EPSRC Research and Partnership Development bid for the Next Generation of Immersive Experiences. This will be a prototype which in theory can be used as an interactive element in ‘Restoration and Transformation’ exhibition, e.g. interactive technology on tablets linking to artefacts in exhibition, content drawn from architecture
plans, artefacts, remnants, exhibition Panels designed to tell restoration story, films of restoration process and special exhibition build and design for housing artefacts.

Associated exhibitions will highlight a number of the research and learning and teaching projects undertaken during the restoration period including for example:

- An exhibition of Jewellery from the GSA Archive, with new commissions and also a presentation to GSA Archives and Collections of the collection of Dr. Helen Cargill Thompson
- Fraser Taylor ‘The Cloth’ research project – Dr Helen Britt: ‘Beneath The Cloth: Investigating artistic processes, cross-disciplinarily and collaboration through the practices and work of The Cloth, 1977-1987’ and includes engagement with Widening Participation and Portfolio Preparation programmes
- Animal Room Gallery programme exhibiting unseen content from our archives and collections
- Staff and Student research projects – a series of small, short-time exhibitions highlight the range of staff and student projects that have taken place during the restoration.

Our archive and collections comprise one of the most comprehensive archives of creative education in the UK and internationally. Using this rich resource and aligned to our developing work with Castlehead High School and pedagogical research in creative subjects applied across the curriculum, we will use our archives and collections to develop research project and impact through creativity and creative practice. This will include the development of new Professional Learning 60 credit Postgraduate Certificates in Creative Pedagogy for School Teachers with the University of Strathclyde to extend the reach to a broader educational audience.

We will look to develop the commercial potential of our collections and archives through knowledge exchange opportunities with organisations that value the unique depth and quality of the archive and collection and the associated knowledge and expertise that resides within our academic, archive and curatorial staff and the strong historical provenance of the GSA’s Mackintosh and other collections and the benefits this can bring to the values they are seeking to promote.

**Greater public engagement, promoting and providing opportunities to everyone who can benefit from it**

The Visit GSA brand was launched in 2017 to promote public access across our museums, galleries and collections. Using this platform we will continue to broaden access to our historic and contemporary museums, galleries, collections and learning opportunities. The reopening of the Mackintosh Building in spring 2019 provides a unique platform for the GSA to develop and deliver a range of new publically accessible content to a local, Scottish and global audience which delivers an experience centred around the creativity of Mackintosh as a gateway to wider engagement with art, design, architecture, digital and contemporary practice.

Delivered through greater public access to archives and collections (physically or digitally), new short courses delivered by our Open Studio, enhanced Mackintosh Building tours and our exhibitions programmes delivering a range of historic and contemporary exhibitions, talks and events, we anticipate we will increase our tour and exhibition visitor numbers from the pre-Mackintosh Fire level and our Open Studio student community from its current 2,150 level which already represents a 25% increase on pre-Mackintosh Fire numbers.

**Strengthen international links**

We will continue our membership of the Europe-wide Réseau Art Nouveau Network with city partners (Glasgow Life, Hunterian Museum Glasgow University and Glasgow Mackintosh) and through our 75 international university partners explore opportunities for research, staff and collection exchange with
those who have archives and collections of similar standing and international significance. We will proactively seek opportunities for funding through British Council, international development funding and while still available EU funding through ERASMUS+ to support the impact and access of our collections and the generation of new knowledge, staff development and exchange of both staff and items from the archive and collections.

Our collections, both Mackintosh and more generally, are widely recognised as being of national and in many cases international significance. With the increased digitalisation and therefore access to our collections we anticipate a greater degree of interest from museums and galleries nationally and internationally wishing to borrow works from our collection. We will engage actively with requests ensuring the care and management of the collection is balanced with wider public engagement and access and where possible research opportunities with international borrowers.

The international interest in the Mackintosh Building and its restoration will be exploited with the potential to sensitively tour primarily digital assets of the ‘Restoration and Transformation’ exhibition post 2019. Using the exhibition as a platform to engage with both the historic and contemporary assets and narrative of Mackintosh and more broadly the GSA, we will build on our current international networks, with interest primarily in China, Japan and North American.

Our Internationalisation Strategy, currently under development, includes a commitment to explore the potential of joint PhD supervision with international academic partners. This could provide opportunities for international PhD candidates to use the GSA’s archives and collections as a unique research resource and engaging with the international and transcultural assets within our archive and collection. The new Professional Learning 60 credit Postgraduate Certificates in Creative Pedagogy for School will also be delivered internationally working with the University of Strathclyde’s strong international teacher training network.

Supporting our Museums, Galleries and Collections

As a result of the Mackintosh Fire, the GSA has invested heavily and continues to do so, in the staff, care and management of its archive and collection. This investment sits within a core-level of funding the School annually commits to the archive and collection and more broadly in related activities around cultural engagement, academic student, staff and public access but excludes direct expenditure relating to capital investment in the Mackintosh Restoration (c.£65m) and indirect expenditure within Research and Enterprise, Marketing and Open Studio (including Widening Participation and Articulation).

<table>
<thead>
<tr>
<th>CURRENT OPERATING COSTS</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Salaries</strong></td>
<td></td>
</tr>
<tr>
<td>Archives and Collections (core staff)</td>
<td>£112,500</td>
</tr>
<tr>
<td>Exhibitions</td>
<td>£101,000</td>
</tr>
<tr>
<td>Archives and Collections (recovery staff)</td>
<td>£85,000</td>
</tr>
<tr>
<td>GSAe (Tours and Visitor Centre inc. tour guides)</td>
<td>£241,000</td>
</tr>
<tr>
<td>Mackintosh Research Fellow</td>
<td>£57,000</td>
</tr>
<tr>
<td>Additional Security Staff</td>
<td>£30,000</td>
</tr>
<tr>
<td><strong>Expenditure</strong></td>
<td></td>
</tr>
<tr>
<td>Additional insurance costs</td>
<td>£50,000</td>
</tr>
<tr>
<td>General conservation</td>
<td>£20,000</td>
</tr>
<tr>
<td>Recovery Project conservation</td>
<td>£171,252</td>
</tr>
<tr>
<td>Archives and Collections non-pay costs for the core service</td>
<td>£32,500</td>
</tr>
<tr>
<td>Archives and Collections Purchase budget</td>
<td>£3,000</td>
</tr>
<tr>
<td>Exhibitions Programme and Curation</td>
<td>£35,000</td>
</tr>
<tr>
<td>Marketing (VISIT, GSAe, Exhibitions)</td>
<td>£40,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>£626,500</td>
</tr>
</tbody>
</table>

| **Total**                        | £351,755 |

| **Total**                        | £978,252 |

Fire Safety Annual Report

2016-2017

The following information summarises items relating to Fire Safety within Glasgow School of Art during the academic year 2016-2017.

The items concerned relate to:-

1. Fire Risk Assessments
2. Fire Incidents
3. Unwanted Fire Alarm Signals
4. Fire Drills
5. Fire Training
6. Spray Booths
7. Grenfell

1. Fire Risk Assessments

A total of 16 Fire Risk Assessments (FRAs) were carried out during this time period with two further additional FRA reviews completed in accordance with current guidance following the Grenfell tragedy.

It is GSA’s current policy that all building FRAs are reviewed on an annual basis. An annual review of all premises current FRAs will therefore continue to be undertaken with additions/omissions should the Estate change.

A risk rating is identified for each property as part of the Fire Risk Assessment (FRA) process.

Estates department interrogate the findings of the FRA, considering the risk profile. Resources are prioritised to reduce or mitigate the highest risks and to ensure, where possible, an appropriate balance between improvement works and planned refurbishments.

Details of any works recommended and completed are recorded and made available on the Active monitoring spread sheet on the GSA shared drive.

The following premises were risk assessed during the academic year 2016-2017:
FIRE RISK ASSESSMENTS CARRIED OUT IN ACADEMIC YEAR 2016/17

<table>
<thead>
<tr>
<th>BUILDING</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARNES</td>
<td>07/09/2016</td>
</tr>
<tr>
<td>ASSEMBLY</td>
<td>20/10/2016</td>
</tr>
<tr>
<td>BOURDON</td>
<td>07/11/2016</td>
</tr>
<tr>
<td>HALDANE</td>
<td>16/11/2016</td>
</tr>
<tr>
<td>RICHMOND</td>
<td>30/11/2016</td>
</tr>
<tr>
<td>JD KELLY</td>
<td>01/12/2016</td>
</tr>
<tr>
<td>MCLELLAN</td>
<td>20/12/2016</td>
</tr>
<tr>
<td>TONTINE</td>
<td>27/01/2017</td>
</tr>
<tr>
<td>6 ROSE ST</td>
<td>20/02/2017</td>
</tr>
<tr>
<td>THE HUB</td>
<td>20/02/2017</td>
</tr>
<tr>
<td>WHISKY BOND</td>
<td>22/02/2017</td>
</tr>
<tr>
<td>REID</td>
<td>20/03/2017</td>
</tr>
<tr>
<td>26 ROSE ST</td>
<td>14/04/2017</td>
</tr>
<tr>
<td>FLEMING HOUSE</td>
<td>26/04/2017</td>
</tr>
<tr>
<td>MMH</td>
<td>18/05/2017</td>
</tr>
<tr>
<td>BWH</td>
<td>29/06/2017</td>
</tr>
</tbody>
</table>

2. Fire Incidents

In the 2016-2017 academic period, there has been no actual fire incidents.

3. Unwanted Fire Alarm Signals

During the course of the academic year, there have been several unwanted fire alarm signals (UFAS) resulting in Scottish Fire and Rescue Service (SFRS) attendance to GSA premises. A UFAS notice is served by the SFRS on any organization that has a history of false alarm calls. The purpose of the notice is to ensure that the organization is aware of the UFAS prior to further action being considered, which may result in SFRS’s automatic emergency response being withdrawn, if no action is taken.

Following talks with the SFRS, it was noted that they record alarm signals to the School as one entity. To more accurately represent the School, alarm activations should refer to specific buildings that have had UFAS. The Fire Regulatory Compliance Officer will address this issue with SFRS.

False alarms;
- have a negative impact on the community, the School, its students, the staff and visitors.
- increase road risk within the community, through unnecessary emergency fire appliance responses.
- cause great disturbance to the school and have a serious impact on students, as they lose valuable teaching input due to the time spent on the footpath following fire alarm activations.
4. Fire Drills

During October 2016 and April 2017, there were a total of 11 fire evacuation drills carried out throughout all of GSA’s premises. Evacuation times were as expected and did not give any cause for concern.

It is encouraging to report that all escape routes and fire exits within all premises were used, which prevented congestion and bottlenecking which had previously been detailed as a cause for concern. The roles carried out by the Janitorial Staff, Fire Marshalls and Fire Co-coordinators in the execution of these drills is acknowledged, as without their efforts, continued assistance and professionalism, these fire drills would not have been as effective.

The Autumn programme of fire drills was carried out from the 18th to the 21st of October 2016.

<table>
<thead>
<tr>
<th>Building</th>
<th>Time</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLYTHSWOOD HOUSE</td>
<td>08.30 a.m.</td>
<td>Friday 21st October 2016</td>
</tr>
<tr>
<td>MARGARET MACDONALD HOUSE</td>
<td>08.30 a.m.</td>
<td>Thursday 20th October 2016</td>
</tr>
<tr>
<td>BOURDON</td>
<td>10.00 a.m.</td>
<td>Tuesday 18th October 2016</td>
</tr>
<tr>
<td>RICHMOND</td>
<td>10.30 a.m.</td>
<td>Tuesday 18th October 2016</td>
</tr>
<tr>
<td>J.D. KELLY</td>
<td>10.30 a.m.</td>
<td>Tuesday 18th October 2016</td>
</tr>
<tr>
<td>REID</td>
<td>3.00 p.m.</td>
<td>Tuesday 18th October 2016</td>
</tr>
<tr>
<td>MCLELLAN GALLERIES</td>
<td>11.30 a.m.</td>
<td>Tuesday 18th October 2016</td>
</tr>
<tr>
<td>BARNES</td>
<td>12.00 p.m.</td>
<td>Tuesday 18th October 2016</td>
</tr>
<tr>
<td>HALDANE</td>
<td>12.30 a.m.</td>
<td>Tuesday 18th October 2016</td>
</tr>
<tr>
<td>6 ROSE STREET</td>
<td>2.15 p.m.</td>
<td>Tuesday 18th October 2016</td>
</tr>
<tr>
<td>TONTINE</td>
<td>2.30 p.m.</td>
<td>Thursday 20th October 2016 (TBC)</td>
</tr>
</tbody>
</table>

The Spring programme of fire drills was carried out from Thursday 20th April to Friday 28th April 2017

<table>
<thead>
<tr>
<th>Building</th>
<th>Time</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLYTHSWOOD HOUSE</td>
<td>08.30 a.m.</td>
<td>Friday 28th April 2017</td>
</tr>
<tr>
<td>MARGARET MACDONALD HOUSE</td>
<td>08.30 a.m.</td>
<td>Thursday 20th April 2017</td>
</tr>
<tr>
<td>BOURDON</td>
<td>10.00 a.m.</td>
<td>Tuesday 25th April 2017</td>
</tr>
<tr>
<td>RICHMOND</td>
<td>10.30 a.m.</td>
<td>Tuesday 25th April 2017</td>
</tr>
<tr>
<td>J.D. KELLY</td>
<td>10.30 a.m.</td>
<td>Tuesday 25th April 2017</td>
</tr>
<tr>
<td>REID</td>
<td>3.00 p.m.</td>
<td>Tuesday 25th April 2017</td>
</tr>
<tr>
<td>MCLELLAN GALLERIES</td>
<td>11.30 a.m.</td>
<td>Tuesday 25th April 2017</td>
</tr>
<tr>
<td>BARNES</td>
<td>12.00 p.m.</td>
<td>Tuesday 25th April 2017</td>
</tr>
<tr>
<td>HALDANE</td>
<td>12.30 a.m.</td>
<td>Tuesday 25th April 2017</td>
</tr>
<tr>
<td>6 ROSE STREET</td>
<td>2.15 p.m.</td>
<td>Tuesday 25th April 2017</td>
</tr>
<tr>
<td>TONTINE</td>
<td>2.30 p.m.</td>
<td>Monday 24th April 2016</td>
</tr>
</tbody>
</table>

Presently we undertake a series of fire evacuation drills at 6 monthly intervals in all premises, including Halls of Residence, at the commencement of terms 1 and 3 of the academic year. (October and April)
The following evacuation times and findings for each building were as detailed below:

**Bourdon Building**
Premise evacuated within 4 minutes.
All exit routes were used during evacuation of premise.
The evacuation of the building went very well, however, a need for better communication links between Coordinator at premise being evacuated and the assembly point was identified, with particular emphasis on re-entry to the premise.

**Reid Building**
Premise evacuated within 5 minutes.
All exit routes were used during the evacuation, which was well organised and coordinated by the Fire marshals and fire coordinators present at the time of evacuation.

**Maclellan Galleries**
Premise evacuated within 4 minutes.
All appropriate exit routes were used by persons present. Tutors took responsibility for the evacuation of their students and attended the assembly point.

**Barnes Building**
Premise evacuated in 3 minutes.
All available exit routes were used during the evacuation process.

**Haldane Building**
All exit routes were used during evacuation of premise.
Premise was evacuated in 3 minutes.

**No 6 Rose Street**
Premise evacuated in 4 minutes.
All persons exiting used both available routes, exiting onto Rose Street and Sauchiehall Street respectively.
However, at the time of evacuation, the fire exit stair lights had been turned off meaning persons evacuating done so via a darkened stairway. This was rectified as quickly as possible by using tape as a temporary measure to ensure the light switches remain in the on position and are not switched off. The problem was also highlighted to the Estates department and to the premise landlord.

**John D Kelly Building**
Premise evacuated in 4 minutes.
All available exit routes were used during evacuation process.
Richmond Building

Premise evacuated in 3 minutes.
All available exit routes were used during evacuation process.

Tontine Building

There was no Fire drill carried out at Tontine as scheduled due to being unable to contact the building GCC facilities.

However, we will endeavor to carry out a fire drill as soon as this can be arranged to ensure we are compliant and continue to meet our Fire Safety obligations.

Margaret MacDonald House

Premise evacuated within 5 minutes.
All available exit routes were used during the evacuation process.

Premise was fully occupied and all residents evacuated and attended the assembly point. There was good coordination and control exhibited by senior residents during this drill.

Blythswood House

Like Margaret Macdonald House, the premise was almost fully occupied and all residents evacuated and attended the assembly point.

There was good coordination and control exhibited by senior residents during this drill.

Premise evacuated within 6 minutes
All available exit routes were used during evacuation.

Conclusion

Evacuation times were fairly typical and as expected. It is encouraging to report that all escape routes and fire exits within all premises were used, which prevented congestion and bottlenecking, which had previously been highlighted as a cause for concern.

The roles carried out by the Janitorial Staff, Fire Marshalls, Tutors, Security personnel and Senior Residents together with the support of Senior management in all Schools and Departments, is once again acknowledged and greatly appreciated.
5. **Fire Training**

**Completed In House Training sessions 2016-2017**

In-house Fire Marshal training sessions were carried out on 28th February and 2\textsuperscript{nd} March 2017 for 23 staff members. Further training included:

- Fire safety awareness talk for New 1\textsuperscript{st} year students.
- Practical Evac Chair Refresher Training
- Fire Safety Awareness refresher training for Library staff members.
- Fire Safety Awareness training for Senior residents at Blythewood House.
- Practical Evacuation Chair training for Senior residents at Blythewood House.

**Fire Awareness Training for Staff**

It was identified that there was an insufficient number of Fire Marshals. With the assistance of Schools/Depts, Fire Marshal numbers were increased and a regular list of Marshalls (and First Aiders) is presented to Executive. Any training specific to GSA was provided by the in-house Fire Regulatory and Compliance Officer. This exercise identified that further refresher training would be required for Janitorial staff and the existing Fire Marshals.

6. **Spray Booths**

A review was undertaken on Spray Booths. Schools were asked to confirm their existing and future spray booth requirements, together with Fire and COSHH cabinets, as requested by the Health and Safety Committee to the Fire Officer. This review was carried out and is subject to a separate paper to the Health and Safety Committee.

7. **Grenfell**

The Grenfell tower block tragedy alerted GSA to the possibility that GSA may have similar construction types and cladding systems that were present in the Grenfell tower block. Immediately after the tragedy, the Fire Regulatory and Compliance Officer reviewed the procedures to ascertain if GSA’s building types and components posed any risk to the safety of their occupants.

Fire Safety is of paramount importance within Glasgow School of Art, and not more so than within Halls of Residence. Premises providing sleeping accommodation present a higher level of risk that needs to be considered and managed effectively.

Due to the concerns raised following the recent tragedy in London, a thorough investigation of the cladding system designed and used on Blythwood House was undertaken.

Following a full review it was ascertained that the cladding systems on Blythwood House are not those used on the Grenfell Tower building.

The building does have 11 isolated aluminium composite insulation panels within the glazing system which represents less than 1\% of the building fabric. These are not of the type found in Grenfell and have been used as spandrel panels under windows at the east and west ends of the premises, outside the stairwells.
However there are no combustibles or ignition sources contained within these areas. This, combined with rigid management and control procedures, ensures that the risk presented by these existing cladding panels through fire, is considered to be extremely low.

In compiling the above the architects, main contractor and subcontractor together with sample investigations were undertaken. It should also be noted that building was built to current Planning and Building control legislation and certificates were obtained. Grenfell was built to earlier legislation and not to Scottish Building Standards. Presently we await the outcome of Grenfell Inquiry and should legislation change for cladding we would recommend that the glazing system be re considered taking into account the advice on cladding.

Although Blythswood House does contain cladding systems following its refurbishment, it must be highlighted that should a serious fire incident occur within the premise, a similar tragic outcome could not occur due to various factors as follows;

- Detailed Fire Evacuation Plans are in place throughout all GSA premises to ensure safe and effective evacuation takes place, should an incidence of fire occur.
- The automatic fire warning and detection system is linked to an Alarm Receiving Centre (ARC), and upon actuation of the fire warning system, the Scottish Fire and Rescue Service are automatically contacted and an attendance is made.
- Within BWH and MMcD student halls of residence we have a system of Wardens/ Deputy Wardens and Senior Residents. A rota covering 24/7/365 is in place for both halls. BWH has 1 Warden /1 Deputy and 6 senior residents on the rota. The Wardens and Senior Residents undertake an annual training programme which covers student support. In particular within the programme they also go through Fire Warden training to assist students in fire emergencies, fire drills, and fire evacuation. The Wardens and Senior Residents are supported by a Residential Manager and 1 Assistant. Technical support and advice to Staff, Wardens, Senior Residents and Students is supplied by the Fire Officer who also monitors and reports on fire drills and undertakes FRAs.

Suitable fire safety measures are in place regarding;

- Means of Escape
- Means of Securing/Means of Escape are available at all times
- Means of Giving Warning in Case of Fire
- Means for Fighting Fire
- Emergency Lighting
- Maintenance of Fire Safety Measures by approved contractors in accordance with current standards and guidance
- Signs and Notices
- Training
- Fire Safety Risk Assessments (FRA`s)

David Stewart
Assistant Head of Estates
August 2017
Fire Safety Management and Estates Health and Safety
Policy Development Plan
2017/2018
1. Proposed Fire Risk Assessment Programme 2017-2018

Within the Estates Department, it is current policy that all Premises Fire Risk Assessments, once completed, are reviewed on an annual basis. However, where significant changes have been made to a building, then the Fire Risk Assessment may have to be reviewed before the recommended review date.

Electronic copies of these will also be forwarded to the relevant heads of schools or persons who have overall control of the premise. Monitoring of actions/corrections undertaken by Schools will be reported on at the Occupational Health & Safety Committee. Monitoring of Estates will be via the repairs system.

Please see the following schedule for proposed Fire Risk Assessment review dates for 2017-2018.

<table>
<thead>
<tr>
<th>BUILDING</th>
<th>NEXT FRA DUE DATE</th>
<th>LEASED/OWNED</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARNES</td>
<td>September 2017</td>
<td>OWNED</td>
</tr>
<tr>
<td>ASSEMBLY</td>
<td>October 2017</td>
<td>OWNED</td>
</tr>
<tr>
<td>BOURDON</td>
<td>November 2017</td>
<td>OWNED</td>
</tr>
<tr>
<td>HALDANE</td>
<td>November 2017</td>
<td>OWNED</td>
</tr>
<tr>
<td>RICHMOND</td>
<td>December 2017</td>
<td>OWNED</td>
</tr>
<tr>
<td>JD KELLY</td>
<td>December 2017</td>
<td>OWNED</td>
</tr>
<tr>
<td>MCLELLAN</td>
<td>January 2018</td>
<td>LEASED (WHOLE)</td>
</tr>
<tr>
<td>TONTINE</td>
<td>January 2018</td>
<td>LEASED (PARTIAL)</td>
</tr>
<tr>
<td>6 ROSE ST</td>
<td>February 2018</td>
<td>LEASED (PARTIAL)</td>
</tr>
<tr>
<td>THE HUB</td>
<td>February 2018</td>
<td>LEASED (PARTIAL)</td>
</tr>
<tr>
<td>WHISKY BOND</td>
<td>March 2018</td>
<td>LEASED (PARTIAL)</td>
</tr>
<tr>
<td>REID</td>
<td>March 2018</td>
<td>OWNED</td>
</tr>
<tr>
<td>26 ROSE ST</td>
<td>April 2018</td>
<td>LEASED (PARTIAL)</td>
</tr>
<tr>
<td>FLEMING HOUSE</td>
<td>May 2018</td>
<td>LEASED (PARTIAL)</td>
</tr>
<tr>
<td>MMH</td>
<td>June 2018</td>
<td>OWNED</td>
</tr>
<tr>
<td>BWH</td>
<td>July 2018</td>
<td>LEASED (WHOLE)</td>
</tr>
<tr>
<td>ALTYRE</td>
<td>August 2018</td>
<td>LEASED (WHOLE)</td>
</tr>
<tr>
<td>MACKINTOSH</td>
<td>N/A</td>
<td>OWNED</td>
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<tr>
<td>STOW</td>
<td>N/A</td>
<td>OWNED</td>
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Together with proposed fire risk assessments above, adhoc inspections will take place. Currently these adhoc inspections are being considered where there is a series of alarm notifications either false or genuine activations.
2. Fire Incidents

Given the number of unwanted fire alarm signals reported in 2016/2017, a report will be prepared quarterly for Executive Management.

Fire Drills


<table>
<thead>
<tr>
<th>Premises</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLYTHSWOOD HOUSE</td>
<td>October 2017</td>
</tr>
<tr>
<td>MARGARET MACDONALD HOUSE</td>
<td>October 2017</td>
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<tr>
<td>BOURDON</td>
<td>October 2017</td>
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<td>RICHMOND</td>
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<td>J.D. KELLY</td>
<td>October 2017</td>
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<tr>
<td>REID</td>
<td>October 2017</td>
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<tr>
<td>MCLELLAN GALLERIES</td>
<td>October 2017</td>
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<td>BARNES</td>
<td>October 2017</td>
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<tr>
<td>HALDANE</td>
<td>October 2017</td>
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<tr>
<td>6 ROSE STREET</td>
<td>October 2017</td>
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<td>TONTINE</td>
<td>October 2017</td>
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</table>

The Spring programme of fire drills for 2017/2018

<table>
<thead>
<tr>
<th>Premises</th>
<th>Date</th>
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<tbody>
<tr>
<td>BLYTHSWOOD HOUSE</td>
<td>April 2018</td>
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<tr>
<td>MARGARET MACDONALD HOUSE</td>
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<td>April 2018</td>
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<tr>
<td>TONTINE</td>
<td>April 2018</td>
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</tbody>
</table>

Presently we undertake a series of fire evacuation drills at 6 monthly intervals in all premises, including Halls of Residence, at the commencement of terms 1 and 3 of the academic year. (October and April)

A report on the performance of fire drills will be sent to Occupational Health & Safety Committee.
3. Proposed Fire Safety Training Programme 2017-2018

Staff Fire Awareness and Fire Marshal Training

Statutory
Requirement:

Regulation 20 of the Fire Safety (Scotland) Regulations 2006 requires an employer to ensure that his or her employees are provided with adequate fire safety training.

To comply with this statutory duty, Heads of Schools / Departments need to ensure that all staff within their management control, receive regular fire safety awareness refresher training. All new employees need to undertake fire safety awareness training as soon as practicable following commencement of employment (ideally at induction) and then suitable refresher training at regular intervals thereafter.

Account must also be taken of any circumstances that may impact upon fire safety provision such as the introduction of new work equipment, technology or changed risks and as per recent findings, changes of locations of Schools/Depts within GSA.

Staff Fire Awareness Training:

All new members of staff must be informed of the fire safety provisions that are relevant to their respective workplace.

Their line manager is responsible for ensuring that arrangements are made to ensure that staff is advised of the following:

- Fire Policy Document
- Fire Action arrangements
- The sound of the fire alarm
- How to raise the fire alarm
- Means of Escape routes from the premises
- Location of Fire Exits
- Location of Fire Fighting Equipment
- Fire Risk Assessment Findings
- Any Dangerous Substances

In order that the School is adequately covered for Fire Marshals & Coordinators it is recommended that all new staff have Fire Marshal evacuation duties with job descriptors.

Introduction of e-Learning Fire Awareness Training

With regard to this, at the request of the Schools/Depts., the working group is still looking at the proposal for the Fire Regulatory Compliance Officer to attend student inductions.

The intention is for Staff to be able to access the course as often as they wish, however the confirmation assessment should be completed by all Staff members at least once every 3 years.
This type of training includes safeguards and checking procedures to ensure staff members complete the assessment within the required time period and to ensure GSA complies with their current legislative requirements. It also includes video demonstrations of hazards.

**Fire Marshal Training Provision**

In conjunction with Schools/Departments Fire Marshal training and associated refresher training has increased the number of Fire Marshal’s to circa 120 staff.

Carrying out fire safety awareness and Fire Marshal training in-house rather than outsourcing it to an external training provider will also prove to be beneficial, as this will allow training to be building- specific as well as being more cost effective.

It is intended that Fire Marshal refresher training will be provided as and when deemed necessary. However, the maximum period for refresher training should not exceed 3 years. The Fire Marshal training will include safe evacuation and zone clearance procedures, as well as detailed fire safety guidance. This will assist and complement staff training delivery and further ensure our compliance with the statutory legal requirement to provide fire safety awareness training for our staff. All new staff and staff who have contracts renewed shall go through Fire Marshal evacuation training.

From the existing Fire Marshal training, a course for Coordinators in the event of alarm activation has been identified and course preparation and dates will be announced in 2017/2018.

The Head of Schools/Departments received notification of dates detailing training availability, identified suitable candidates, and allocated them adequate time to attend. However, the existing list will require updating by the Heads of Schools/Depts., due to staff and students leaving or moving buildings.

<table>
<thead>
<tr>
<th>Proposed dates for Training.</th>
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<tbody>
<tr>
<td>Dec/Jan 2018</td>
<td>Student Fire Refresher.</td>
</tr>
<tr>
<td>Feb 2018</td>
<td>Coordinators.</td>
</tr>
<tr>
<td>April 2018</td>
<td>New/Existing Fire Marshal’s refresher training.</td>
</tr>
<tr>
<td>May 2018</td>
<td>New/Existing Fire Marshal’s refresher training.</td>
</tr>
</tbody>
</table>

**Grenfell Fire**

As reported on previous (OH & S Fire Officers Report 2016/2017), recommendations from the findings of the investigation into the fire will be the subject of updates by the Fire Officer to Executive/ Occupational Health & Safety Committee.

David Stewart
Assistant Head of Estates
28 August 2017
Comments on Transcript of Culture, Tourism, Europe and External Affairs Committee meeting dated 25th October 2018.

1) Transcript section

9.15am

The Convener: An average person looking at the situation would see it as extremely unfortunate that in both fires you were just about to put in a fire sprinkler system.

David Page: I cannot disagree with that.

The Convener: It is a repetition of the previous mistake.

We would like to comment on the above exchange as follows.

The Convenor’s statement that “It is a repetition of the previous mistake” was made early on in the session and before we had explained that in both circumstances, mist suppression systems were in the process of installation. The installation of suppression systems in 2013/2014 at the Mackintosh building was pioneering for an important historic building in Scotland and remains so to this day. Indeed, it is hard to list other examples of historic buildings of similar importance which currently have suppression systems installed.

2) Transcript

9.30am

David Paton: There is a standard joint code of practice, to which the contractor referred earlier. That sets out the standards for work on fire prevention on construction projects and it is effectively the industry byelaw for the work that should be done on site to protect against fire. That was written into the tender documents and the contractor took it into account in preparing his fire emergency plan.

The word used was “bible” rather than byelaw.

3) Transcript

10.15am

The Convener: We have already heard that the fire safety plan that has to be put in place and the statutory regulations are not adequate for any historic building. We are asking what extra measures you put in place, given the precious nature of the building. The fire safety regulations are about evacuating people, not preserving precious assets.

Brian McQuade: The joint code of practice is the minimum standard that is used for the insurance world.
The Convener: Yes, it is the minimum standard, but we are talking about a unique cultural treasure.

We would like to provide further clarification on the above exchange as follows.

We had previously stated that the contractor was required to carry out a Fire Risk Assessment of the existing building before producing a Site Fire Safety Plan which would establish appropriate Emergency Procedures and Escape Strategy for the building.

These fire precautions were required to be in compliance with the requirements of “Fire Prevention on Construction Sites – the Joint Code of Practice on the Protection from Fire of Construction Sites and Buildings Undergoing Renovation”. This Code of Practice is specifically aimed at “Buildings Undergoing Renovation” and is prepared with the support of the Association of British Insurers, the Chief Fire Officers Association, The London Fire Brigade and the Contractors Legal Group and its preliminary section “Objective of the Code” describes the code as representing “best practice”..
Following our appearance at the Culture, Tourism, Europe and External Affairs Committee meeting on 25th October 2018, Page \ Park Architects have been asked to provide details of the types of insulation used on the roof of the Mackintosh Building project and are grateful to the Committee for reminding us that we agreed to provide this information. We apologise for not doing so sooner.

As explained to the committee, at Grenfell, PIR (polyisocyanurate) insulation was used as part of an external cladding of the walls of the existing building as part of a buildup which included aluminium composite cladding panels, insulation and an airgap to provide for ventilation. At the Mackintosh building, PIR insulation was used in selective areas of roof refurbishments or reconstruction, more conventionally employed as part of buildups below slating or as part of an asphalt flat roof system.

There was no insulation of any form added to external walls. In addition, where PIR was used, it was never in an exposed or cavity situation; it was encapsulated top and bottom with lining material in accordance with manufacturers’ recommendations.

PIR insulation was chosen for the select locations as it is a very thermally efficient insulation product, which meant that previously uninsulated roof buildups could be reconstructed incorporating insulation without aesthetic impact on the Category A Listed building.

It is important to note that the specification and detailing of all material was in the context of a fire engineered L1 aspirating detection system and mist suppression system that was to be installed throughout the building.

We unfortunately cannot comment upon the examples that Sandra White MSP referred to in her questions but without exception, the use of insulation in the building complied with all regulatory and legal standards. The drawings and specification submitted to Building Control, and subsequently approved, also contained references to the use and type of insulation.

We set out below the locations at which insulation was used, together with the type of insulation used.

There were various types of roof construction within the project, including the asphalt covered flat roofs to the top-level studios, lead clad flat roofs to the north upper level, and a series of pitched slated roofs at various levels down through the building. The following descriptions outline the types of roof insulation that were either used, or intended for use, in the reconstruction project:

1. **Asphalt Roofing at Flat Roof Areas**
   - In areas with flat roofs, an asphalt roof build-up was laid on timber sarking boards on timber roof joists. This was consistent with the original design of the building. It was intended that the fire risk associated with this historic timber roof build up would have been mitigated by a proposed mist suppression system, which was in the process of being installed.
   - The opportunity was taken during the reconstruction to install insulation as part of the system build-up. The system was made up of three components: an **IKO Permaphalt** polymer modified roofing asphalt two coat system on **IKO Enertherm PIR MG** rigid insulation board on a vapour control layer.
   - **IKO Enertherm PIR MG** is tested and certified under BS EN-13501-1
CTEEA Committee meeting 25 October: Follow up questions

- The IKO Permaphalt Design and Specification Guide notes the following in respect of the performance of the asphalt product in a fire: “because of its high mineral content, Permaphalt is virtually incombustible.” Permaphalt fulfils all the external fire resistance required for a roof covering and achieved the highest rating (P60) when tested as described in BS 476: Part 3.”
- The IKO Permaphalt Design and Specification Guide further notes that “The insulation plate has a low to zero smoke emission rate and does not melt or drip. This fire performance is an inherent part of the foam’s cell structure.”

2. Slated Roof Build-up – Condition 1
- Some areas of reconstructed roof comprised slates on roofing felt on timber sarking boards with insulation sandwiched between that and a further layer of sarking boards laid on the timber roof joists. Again, the fire risk inherent to the reinstatement of the timber used in the roof would have been mitigated by the mist suppression system.
- The insulation used in this condition was Xtratherm Thin-R PIR Insulation – pitched roof board (XT/PR). The BBA certificate for the material notes the following in respect of fire performance: “behaviour in relation to fire — the product will not contribute to the development stages of a fire or present a smoke or toxic hazard.”
- Xtratherm Thin-R Insulation is tested and certified under BS 476-3: 2004 and BS/IS EN 13165

3. Slated Roof Build-Up – Condition 2
- This roof condition was made up of five components: slates on roofing felt on timber sarking boards on timber joists on timber roof structure above a ceiling lining. As part of the works, the thermal performance of the roof void was upgraded by the use of insulation roll laid between the roof joists — the specification choice being informed by the space available to insert the insulation without impact on the aesthetics.
- The insulation used in these areas was Superglass Multi-Roll 44, - a mineral wool insulation, tested and certified under BS EN 13501-1

4. Lead Clad Mansard Roof Build-up
- This area of roof comprised four parts: leadwork on felt on timber sarking boards on timber roof joists. As part of the works, the thermal performance of the roof was upgraded by the use of insulation laid between the roof joists and encapsulated by a further layer of sarking boards below. As above, the design allowed for the mist suppression system to be installed to the underside of the roof structure.
- The product used was Ecotherm Eco PIR Insulation. The BBA certificate for the material notes the following in respect of fire performance: "when installed between, under or over rafters the product will be contained between the roof and internal lining board until one is destroyed. Therefore, the insulation will not contribute to the development stages of a fire or present a smoke or toxic hazard.”
- Ecotherm Eco Insulation is tested and certified under BS EN 13501-1.
Dear Joan

We were grateful for the opportunity given to us at last Thursday’s parliamentary committee meeting to share our views on the circumstances surrounding the fires at the Glasgow School of Art. The session covered a number of areas relating to the systemic failings in the management of the School which contributed to the tragic loss of the Mackintosh Building. There are additional concerns regarding the management of the cultural and heritage aspects of the School which we would also like to draw to the attention of the committee and which we believe require answers from the GSA management.

We consider that it would be in the public interest to learn more of how GSA has managed and prioritised the allocation of resources into its significant museum collections pre-2014 and how it has addressed the substantial loss of such an important cultural asset to Glasgow, Scotland and the wider international community. In particular:

1. **GSA has for many years received non-core SFC museum funding specifically targeted towards the heritage of the Mackintosh Building. This is currently set at £198K per year. We would like to know how GSA has allocated this substantial amount of funding both before and after 2014?**

   • Scotland’s most important university museums, including GSA, have for circa 20 years been recipients of this ‘museum’ funding. This funding is widely recognised as providing ‘additional support’ to the regular investment made by HEIs into their museum provision and across the sector has been utilised in various ways - to offset costs associated with the appointment of new staff, the extension and improvement of public access, and to enhance collection development by means of new acquisitions etc.

   • To the wider Mackintosh community it remains unclear as to how GSA has over the years distributed this substantial allowance for the wider benefit of its Mackintosh Building, museum collections and wider heritage.

   • We understand that a brief annual statement is presented to SFC on how the funds have been spent. How has the money been spent since 2014 and how does the School intend to spend this allocation in the coming years? It would be helpful to know more about this.

NOTE: it would be interesting to know how GSA’s spend on the museum and collections aspect of it business compares with other universities (e.g. GU spend on Hunterian?)

2. **What proportion of profit generated by GSA Enterprises Ltd, mostly as a result of the School’s Mackintosh connection, is reinvested into supporting the GSA heritage?**
• The GSA website states that profits from GSA Enterprises (GSAE) goes into supporting the “School’s wider activities”. Given that the majority of GSAE’s income is derived from maximising its Mackintosh connection, it would be better for GSAE to be more explicit in how its profit is reinvested. We believe that most paying visitors to the School would want to know that their own individual contribution was directed towards safeguarding the very heritage that they came to see and experience.

3. **Why has GSA chosen to not to publish a full list of all collection items lost in the 2014 fire?**

• To date GSA has not produced a publicly available itemised list of artworks lost in the fire – some of which were unique pieces. Our understanding is that the loss is in excess of 200 items. Although one assumes that this information would have been provided to necessitate the settling of an insurance claim, interested parties, including members of the Mackintosh Society and academics worldwide have approached GSA for this information and have routinely been directed to the School’s on-line museum and archive catalogue where this evidence is buried deep within individual catalogue entries. For those not familiar with cataloguing databases, this can be a time-consuming and frustrating process.

• We understand that it would have taken some time to establish which items had been lost as opposed to those that could be conserved. However, this information must now be available. We also understand that staff were instructed not to discuss the loss externally and to refer any enquiries to the communications team. As with the communication regarding the wider aspects of the fire, the true extent of the collection loss has been very tightly controlled by GSA. The narrative of 90% being saved was widely promoted to the press following the 2014 fire. The lack of transparency surrounding the loss is of concern.

• We are also aware that a small number of plaster casts that had survived the 2014 fire with only minor damage were in the Mackintosh Building at the time of the second fire however there has been no confirmation of these losses.

4. **How has GSA invested resources into its museum heritage since the 2014 fire?**

• GSA is already in receipt of a multi-million pound insurance pay-out for the loss of individual items cited above. Whilst it is known that some of this resource has been spent on new fixed term staff appointments to manage the recovery and restoration of items from the collection and archive, it is less clear what, if any, funds have been spent on rebuilding the collection and what future plans for this are.

• Mackintosh did not feature in the GSA’s research activity pre the 2014 fire (we understand that only 2 PhDs were undertaken in this area in the previous 30 years). A single curatorial post was in place since 1980s and this was externally
funded until circa 2000. Why was there so little focus on this key aspect of the GSA’s culture and heritage?

- Since the fire resources have been directed to raising the ‘research profile’ of Mackintosh at GSA, at a time when so much of the collection (and building) has been destroyed. We would be interested to know whether funding for this new ‘research focus’ has been fully or partly met from the insurance pay-out and what proportion of the insurance settlement garnered from the lost collection (as opposed to the building) has been/will be made available to enhance the surviving collections.

We believe that addressing the above questions will provide much needed clarification and transparency which, coupled with the outstanding issues drawn from Thursday’s meeting, will hopefully deliver a rounded and complete assessment of GSA’s past, present and future commitment to its Mackintosh heritage.

Many thanks
Stuart Robertson and Roger Billcliffe

Stuart Robertson FRSA
Director
CRM Society
Dear Mr. Hay,

I write to you as the spokesperson of the Garnethill Displaced Residents Group, along with my colleague from Blythswood & Broomielaw Community Council. We firstly wish to thank you and your colleagues for the hard and dangerous work on the night of the 15th June at the Glasgow School of Art / O2 buildings during the fire. We also wish to ask specifically about the timeline and progress of the subsequent investigation into the fire.

Whilst we realise that it is not possible to comment on the ongoing investigation itself, there are a number of questions surrounding the circumstances and timeline of the investigation to which we seek answers.

1) What date were Scottish Fire & Rescue Service given access to the Mackintosh and O2 buildings, for fire investigation purposes?

2) Were any access requests made by SFRS for investigative purposes since 15th June and, if so, who or which body was responsible for withholding access (e.g. GSoA, Glasgow City Council, Historic Environment Scotland)?

3) Does SFRS anticipate that the delay in gaining access to the buildings and the treatment of the Mackintosh building since the fire, i.e. pushing blocks of stone in on top of the building footprint, will impact and likely cripple the SFRS investigation?

4) What is the opinion of the SFRS regarding the apparent conflict of interest between the Art School having control of the building, whilst altering the structure itself through their contractors, potentially destroying valuable technical evidence pertaining to the origin and spread of the fire?

5) Incidentally, as a supplementary question and for comparison purposes, we also wish to ask how long did it take for your investigative units to gain access to the Mackintosh building in 2014, after the historic fire which occurred on 23rd May?

Yours sincerely,

Adrian Nairn (Garnethill Displaced Residents Group)
Chris Collins (Blythswood & Broomielaw Community Council)
The Second Fire at the Glasgow School of Art

I am a fire and security consultant with more than 40 years’ experience in the field. Since 1998 I have worked extensively and directly in the area of heritage protection and have undertaken consultancy assignments for Historic Environment Scotland, English Heritage, the National Trust, the National Trust for Scotland as well as many individual institutions, galleries, libraries and cathedrals and private house owners.


As an independent consultant, I have a practice covering three main areas: heritage protection; large construction projects and expert witness services. I am the author of two HS Technical Advices Notes on fire matters and its Guide for Practitioners No 7: Fire Safety Management in Traditional Buildings. This guide has ‘Approved Code of Practice Status’ in respect of Building Standards in Scotland.

I provide general consultancy, training, technical writing and expert witness services in all of these areas and have been responsible for overseeing the construction insurers’ interests on many large projects. These include: Burj Khalifa, The Shard, Heathrow Terminal 2A and 2B, Atlantis Dubai, the Abu Dhabi International Financial Centre and the United Tower in Kuwait. I am presently working on:

- The new King Abdulaziz Airport, Jeddah
- The Al Dar Project, Astana, Khazakstan
- The Riyadh Metro
- The Copenhagen Metro extension

In all of these projects I advise on the optimum way of managing the construction process to minimise the possibility of fires and to assist contractors in mitigating any damage which does occur. I also audit fire safety arrangements and ensure that they comply with the policy wordings.

Currently, I am advising Historic Environment Scotland on the fire protection of three significant buildings and am retained by the National Library of Wales on an open-ended consultancy contract. I am also providing advice to three English cathedrals on matters related to fire detection. I have delivered more than 50 one day training courses on construction fire safety management in the UK, Middle East and Central Asia.

1 https://www.cost.eu/actions/C17/#tabs|Name:overview
Although I have no specific knowledge which has not been gained from press reports and discussions with other fire safety professionals, I believe that the second fire at the GSA would have been amenable to a properly-structured fire safety programme which could have reduced the risk of a fire occurring or alternatively could have mitigated the impact of the fire which did occur.

I would like to bring the following to the attention of the Committee as I am not persuaded that evidence already taken has fully covered these matters adequately.

1. During a construction or refurbishment project, the owner of a building will enter into a JCT standard construction contract with a contractor. One of the conditions of all such contracts is a requirement to purchase and maintain insurance cover for the building and works under a ‘Construction All Risks’ (CAR) policy for the duration of the project. Often, such cover is purchased with joint names (i.e. the owner and contractor), I believe this may have been the case at the GSA.

2. The CAR contract of insurance will contain specific clauses regarding the need for the provision of fire safety measures during the project. These go considerably beyond the legal duties imposed on the contractor by fire or safety regulations. Such clauses can be fairly general, for example:

‘The Contractor shall institute a Fire Protection Plan and a Site Fire Action Plan and ensure that these are updated regularly.’

Sometimes, however more specific requirements can also be imposed:

‘Fully operative wet riser hydrants shall be installed up to one level below the highest work level.

All CAR policies recognise the dangers of ‘hot works’ so invariably something like this will be included.

‘A permit to work system is to be implemented for all contractors and sub contractors engaged in ‘hot work’ of any kind. Hot work is defined any work involving the application or generation of heat as part of a construction process.

3. These clauses are invariably deemed to be ‘Warranties’ and as such MUST be complied with. Failure to so do could result in a claim being denied by the underwriters. Should the clauses be included as ‘Conditions Precedent’ then failure to comply will result in the insurance policy being declared null and void ab initio. This would result in a serious breach of the contract with the owner by the contractor.

4. The legal duties in respect of fire safety on construction sites are set out in the Construction (Design and Management) Regulations 2015. The enforcing authority for these regulations is the HSE and, as might be expected, the Regulations focus on the safety of operatives if there is a fire. Out of 38 Regulations, only four cover fire safety:

29. Prevention of risk from fire, flooding or asphyxiation
30. Emergency procedures
31. Emergency routes and exits
32. Fire detection and fire-fighting
Regulation 29 requires that suitable and sufficient steps be taken to prevent injury from fire or explosion during construction work. Regulation 30 requires the development of procedures to deal with the impact of an emergency and the evacuation of the site. Regulation 31 requires that emergency routes and exits be provided to enable any person to reach a place of safety quickly in the event of danger and requires routes and exits to be signed. Regulation 32 requires the provision of firefighting equipment and fire detection and alarm systems and requires that these be maintained and that all staff be instructed in their use.

5. These very basic requirements have been successful in protecting site operatives but less successful in preventing fires but not at all successful in protecting buildings under construction or being refurbished as the litany of disastrous site fires proves. One HSE estimate suggests that there are ‘many hundreds of construction site fires each year’ – however the way the fire and rescue service record data is not helpful to actually quantify this number. In 2008 the Fire Protection Association estimated that there were more than 3000 fires on construction sites each year.

6. In 1991, following two very large construction site fires in the City of London, the Association of British Insurers asked the Fire Protection Association (of which I was then the Director) to draw up a unified Code of Practice for fire safety on construction sites. The first edition of the Joint Code\(^2\) (as it is known) which I edited, was published in 1992. The Code is intended to be called up for all large or complex construction or refurbishment projects or those with a value in excess of £2.5 million. Large projects are defined as those with a value on excess of £20 million - clearly the case at the GSA.

7. Section 9 of the Code covers fire protection and requires contractors to plan their work to allow the early installation and operation of fire safety measures, including hydrants, risers, fire barriers and sprinklers.

8. Notwithstanding the requirements of the Joint Code which are specifically imposed or called up by the insurers in policy wordings, the standard guidance on fire safety management in traditional Scottish buildings, is the previously referenced *Guide for Practitioners No 7* published by Historic Scotland in 2010. This explains very clearly the dangers of fires in older buildings and requires very specific fire safety management practices during refurbishment or rebuilding. Section 2.12 of Part 2. Section 2 makes extensive cross references to the contents of the Joint Code and proposes that its requirements should be adopted as part of all relevant construction contracts. I believe that the requirements and recommendations in GP7 should have been incorporated into the GSA’s building contract – or at the very least drawn to the attention of the Contractor.

10. I am aware that there has been speculation as to the part which the timber-lined ventilation trunking may have played in both fires. I’m not able to comment directly on this but I do recall that when I visited the site sometime between in 1996 -1997 in company with a senior member of staff of Historic Scotland, we both commented on the potential for serious fire spread throughout the building via the trunking. I recall

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the comment ‘just like a very effective chimney’ being agreed as an appropriate
description of the hazard.

11. In at least one of the technical discussions which took place between 2001 and
2006 during meetings as part of the COST C17 project I recall hearing comments
about the hazard of fire spread posed by the GSA’s ventilation trunking.

12. As someone specialising in the fire protection of heritage and historic buildings I
am aware that many other heritage specialists, including conservation architects and
others, do not have a favourable opinion of automatic fire suppression systems (such
as sprinklers and watermist). I believe their concerns are generally overstated and
stem largely from a lack of experience and understanding of the capability of such
systems – and perhaps from being influenced by the inaccurate and dramatic depiction
of sprinkler actuations in films and on tv. I believe that sprinkler systems which have a
proven reliability factor of more than 97% are very unlikely to actuate spuriously and
will always prevent fires spreading – and usually extinguish or suppress these.

13. There are no practical reasons why an AFSS which is being installed in a building
anyway cannot be commissioned at a very early stage (as is required by Section 9 of
the Joint Code). I have been responsible for recommending just such measures in a
number of projects including a complex and innovative system in the Al Dar Tower in
Astana. In addition, I am also aware that temporary sprinkler systems have been
installed in a number of timber framed buildings such as smaller hotels and large care
homes as these are very vulnerable to fire during construction.

Stewart Kidd, MA, MSc, FIFireE, FIFSM, FSyl, FSA Scot.
Chartered Security Professional
29 October 2018.
PROFESSOR TONY JONES (FORMER DIRECTOR AT THE GSA)
WRITTEN SUBMISSION

Re. Glasgow School of Art, Mackintosh Building fire.

Thank you for your letter of October 18\textsuperscript{th}, inviting me to submit written comments to the Scottish Parliament’s committee on Culture, Tourism, Europe and External Affairs, given my previous association with the Glasgow School of Art as its Director, 1980-86. I have had a very close relationship with the School, but in terms of full disclosure would note that I do not know the current Board of Governors, met the Board Chair only briefly 15 years ago, and have never met the Director.

Credentials: I am a scholar of the Mackintosh era, a published author on his work, and have presented hundreds of lectures on the life and work of Margaret and Charles Rennie Mackintosh. I created the first public museum of their work within the Mackintosh building, employed the first Mackintosh Curator, created the first Mackintosh exhibition abroad (in Japan). I both worked and lived in the GSA’s Mackintosh building. I doubt that any other correspondent or Committee witness can claim the depth of relationship I have had with the GSA and the Mack. It is painful for me to write in these terms, but given my intimate relationship with the GSA, my love of Glasgow and Scotland, I am compelled to do so. For six years the School and the Mack were my professional and personal responsibility.

To make my position clear at the outset, I share the world-wide incredulous anger over what happened, twice, at the GSA. The loss of Mackintosh’s masterpiece is absolutely unforgiveable. Glasgow’s single-most famous building, a gem in Scotland’s crown, burned down before our eyes. This should have been the best-protected building in Scotland. Like thousands of others, I want answers. I want to know ‘where the buck stops’. These disasters were caused by people and I want to know who they are.

But if the GSA management and its Board are being maligned unfairly, I want to know that too.

As the investigation into the cause of the fire continues, I believe I can summarize what is being widely asked. But I cannot answer the question often put to me here in the US: “You Scots guys are pretty smart at engineering and stuff – how come this happened twice”? This is humiliating beyond measure.

GSA has a report on the causes of the first fire that was never released. In a spirit of transparency, why not?
The Fire Service report on the first fire was heavily redacted. Other than concealing the name of the student who caused the fire, why? Evidence provided to the Culture Committee on October 25 appears to call into question that first report.

GSA said, after the first fire, that “lessons would be learned”. What lessons? After the second fire, GSA instantly said the Mackintosh project was “not part of their estate” – what does this mean, given that they were the clients, they were paying the bills, with public funds.

GSA describes itself as “self-governing”. Legally, who owns the Glasgow School of Art, and who funds it? To whom does the GSA report, and, vitally, to whom is the GSA accountable? Where in Scottish Government is the oversight?

The Chair of the Board and the Director have made public pronouncements that the GSA will be rebuilt. Given that this implies they have secured funds, do they have the authority to say this?

GSA implies it has the funds to commission a rebuilding. Where is the ‘rebuilding money’ coming from? There have been multiple references in the press that “the insurance” will pay for everything, but the terms of the insurance have not been made public. If not full replacement-cost coverage, what is the source of the balance of funds required?

Who reviewed and agreed the security of the project, including physical patrols, temporary sprinkler and fire-suppression systems etc.? Was the insurance company part of the risk-assessment?

Evidence now presented regarding the second fire states that sprinklers etc. were not installed after a discussion over fundraising for them – in other words, they were not left out by accident, they were left out by decision. The ramifications are damning. Who made the decision, and is it reflected in the GSA’s meetings Minutes? I suggest making public all the GSA’s Building Committee meetings Minutes, to define the critical path of decision-making.

**Going forward**, who will receive and interrogate the coming Fire Services report on the causes of the second fire? It cannot simply be a report that is merely accepted – it needs to investigated beyond what the fire examiners reveal. A guddle of entities may read the report, but Government needs to step in, assume oversight and establish an action agenda:

Who, specifically, is going to have command and control of what happens next? The key question is this: who is actually going to be in charge of the future of the GSA and its Mackintosh heritage?
Historic safety issues: In regards to the history of concerns about the risks to the Mackintosh Building, during my tenure as Director, we were in a state of perpetual paranoia about the fragility of the building and the risk of calamity. Scottish Education Department (SED) discussions over enhanced protection had always been about risk assessment e.g. new fire doors and sensors were installed, and during my tenure a rolling programme of protection initiatives - e.g. a huge sum invested in making safe the electrics, new detection systems etc. Everyone in the building knew what such a vulnerable interior meant in terms of fire and flood, we did everything we could to be on guard. It was more than common sense, we were constantly fearful, hyper-vigilant, we took no risks, and the building as Mackintosh designed it was not an inherently risky place – fire exits were wide and easily traversed. But it needed constant watching. Let me say this, on a personal note: I often had to stay overnight, in the Mack - I reflect today on the possibility as I could have burned to death in a raging fire – but I considered it a safe haven. Every Director passed on to their successor a simple mantra: “The first priority is Protect the Building”.

The GSA stated that after the first fire 'lessons would be learned' - I gave them the benefit of some doubt. Obviously, if lessons were not learned, I want to know why. If the GSA says that they had no control over their own estate, who specifically and legally, had the duty of care of the building and the site? Thus, who ‘allowed’ the second fire to happen? Can the Committee lay to rest the rumours of social events being held in the uncompleted building – was this truly in contravention of codes? Did they use of the same infamous insulation that devastated the Grenfell Tower? There is endless social media and newspaper speculation, innuendo, accusations, misinformation - in terms of natural justice and probity, the entity best positioned to put a stop to this is the Committee, getting at The Truth.

These are hard questions. I would ask the Committee to understand they are especially hard and emotional for me ask as I am a part of the GSA’s history, I consider myself a friend of the School and the Mackintosh heritage, and was honoured to have worked at the School, in Glasgow, and in Scotland. But I have to know the truth. If these hard questions are not addressed, there will be a taint forever over this whole sorry business, over the innocent, over Glasgow, and the government. Excuse my use of the Patter, but what you absolutely do not want is my cynical Glasgow friends saying “they’re just gettin’ ready to cover their bahookies wi’ whitewash”. The Committee simply has to get to the bottom of all this, before and after the fire report, regain public trust and confidence.
A long term plan: There has been commentary suggesting that the Mackintosh building should be “taken away” from the School. This is posed today as ‘punishment’. But the issue of GSA as both a college and ‘keeper’ of the Mackintosh Building is nothing new. At my request, The Scottish Office of yore and the SED talked about *separating* the GSA as a higher education college from its role as ‘protector’ of the Mackintosh heritage. Not ‘punishment’ but a good idea. The problem was obvious: GSA was funded as the former, but had to address the latter, every day. SED funded GSA’s educational remit as a college, but its financial responsibility to the unique CRM heritage was not part of that remit. No publicly-funded college in Scotland was burdened with the responsibilities the GSA had - because of the Mackintosh building. SED had to stretch to help the GSA protect the most precious part of its estate – and it always did, finding monies from “outwith the box”. I was honoured to be Director of the GSA at an extraordinary time – Glasgow was washing its face, there was new energy afoot, the Mackintosh heritage was becoming an international draw, and young artists in the city and region were being given huge acclaim. Coping with a thickening stream of respectful visitors to the GSA was wonderful, but it was a *very real problem*. We consulted with the National Trust for Scotland for advice on how to safely progress thousands of visitors through the Mack. The issue, always, was how to strike the balance between being a working college within an internationally-recognized living work of Scottish art and architecture.

So the SED discussion focused on creating a **Mackintosh-GSA Trust** that legally and operationally would oversee the *building*, but *not the academic mission*, it would lease the building back to GSA for a peppercorn rent. The Scottish Office would reconfigure the GSA’s capital / estates budget and transfer (”annual virement” were the words used) those funds that were specific to the maintenance of the Mackintosh building, into the Trust. This was important because once the building was ‘quasi-independent’ of SED, it could raise funds to add to an annual baseline SED subvention, and seek donations. This even got as far as my meeting with the Getty Foundation to review funding from their architectural preservation programme. I left the GSA in 1986-87 and the idea of creating the Trust faded. But, going forward, if that Trust were to be created *today* it could effectively place the future of the Mackintosh Building in the hands of trusted oversight.

I suggest there needs to be an over-arching guiding team led by an impartial but *very senior executive*, appointed directly by the First Minister, with the authority to craft a comprehensive plan for the GSA’s future. This is a matter of national significance. Such an action would restore confidence. With an appointed group of expert professionals acting as Trustees, under a respected *new leader* reporting to the First Minister, parliament could assure the public – and all those who revere Mackintosh – that a bright future was in the right hands, strong hands, safe hands.
What to do. I am firmly of a mind that the GSA should be rebuilt. You have an empty shell. Put an oyster back.

I respectfully disagree with those who think that even a perfect facsimile would be ‘fake’. The GSA was about to show people the rebuild of the Mackintosh Library that had burned in the 2014 fire - I don’t think of that as a fake, and everyone was excited to see it. (The great cathedral rising today in Barcelona is being created from interpretations of rather hazy drawings by its architect, Gaudi, who died in 1926, leaving it far far from finished - but millions of people come to see and (literally) worship what he had envisioned, never calling it ‘fake’. There are many similar projects worldwide ). In Glasgow we have everything we need - Mackintosh’s original drawings, laser-accurate measurements of the entire interior and exterior, a large cache of the fittings and furniture. So will a ‘new Mack' have the lovely ethos and patina that a century of use gives a building ? No. And it didn’t have it on the day it opened. We may today love and admire what Mackintosh achieved, with a hundred years of wear on it, but it’s worth remembering that when it was new and raw, it confused people and was widely detested – as a newspaper of the day asked “What are they building up on Garnethill – is it a barracks, a workhouse, a factory, or a temple of strange worship”. (All of them I think - it’s an art school). And a rebuilt Mack should function as it ever was – a working college of art and design, accredited by Glasgow University, with its main Mackintosh chambers available for structured tours.

What a triumph for contemporary Scottish skills this rebuilding will be – to re-create what Mackintosh designed ( “designed” by the way, not “made” – he didn’t make anything, crafts-workers built the GSA ). The rebuilding is not that complicated, and a new-build can incorporate the appropriate fire safety systems. Give a new generation of Scottish men and women the commission and the tools – skilled Scots hands can do this as brilliantly as in the past. I respectfully disagree that a new contemporary art school should be built on the Mack site. The world wants Mackintosh and his School of Art ; Scotland, and Glasgow, need it back.

May I also note the wider community issue, because building the Mack is not the whole story, by far. The role of ‘the next GSA' needs to be seen in the context of a plan for the future of Sauchiehall Street and the Garnethill drumlin. I call it a “Sauchie-hill Plan”. On my last visit I thought the area around the Art School simply looked awful, little better than a fast-food slum. What has happened to that gallus Glasgow pride in one of the most famous of its streets ? There needs to be a comprehensive strategic plan that covers all of the hill, that sympathetically and rationally reviews the needs of the community, the impact of the educational facilities located on the hill and nearby, the merchant entities on Sauchiehall Street, the changing residential demographics, and the long-term future development of the whole of the environs of Garnethill.
The Committee has both the right and duty to ask these questions, and I am grateful as you address these issues on behalf of us all.

With thanks to the Committee for its kind attention,

Professor Tony Jones CBE
MFA DFA DLitt LLD HonAIA FRCA FRSA FRSE
Previous Director, Glasgow School of Art
Previous Director, Royal College of Art, London
Retired President, Art Institute of Chicago
Oct. 27th 2018
The comments submitted here are focused around the future of the Mackintosh building, the cultural issues that have arisen in the aftermath of the fire at The Mack, and not the technical, legal, academic matters, or indeed the fire itself, which others are far better placed to address. They are prepared with a bit of distance from the shock and anger at the fire in June 2018, and provided with some concern about the nature of recent discussions around the way forward.

My relationship to the building is long and multifarious. It runs from attending Saturday morning classes, as a wide-eyed secondary-school pupil, in the basement studios in the 1980s, through attending lengthy meetings in the board room as a governor; going to degree show openings or exhibition openings in the Mack museum, including speaking at the opening of the late Steven Campbell’s exhibition in 2008; introducing artists speaking in the notoriously uncomfortable but utterly glorious lecture theatre; to a very special, memorable dinner in the incredible, beautiful, library. So is my response in part emotional? Yes. And how rare and brilliant to have a building in our midst that elicits such emotional responses to ‘bricks and mortar’.

It is also, however, based on knowledge and understanding of the cultural infrastructure of the city of Glasgow, and especially the visual arts, for which both the city and the school have redoubtable reputations.

The Mack provided a portal to another world for the students who walked through its doors. Whether attending Saturday morning classes as a teenager – as I and thousands of others have done – or as under-graduate, full-time students, the impact effected by the very nature of the building is simply immeasurable. That does not, however, mean that it is without value. Quite the opposite. It is a rare, powerful and significant example of the way in which good (even brilliant) architecture can support, sustain and inspire. And it is not, of course, just the best building in Glasgow: it is one of the best buildings in the world. A fact attested to by the vast majority of international artists, curators, writers and other visitors I have worked with over recent decades, whether from New York, Beirut, Melbourne, Mexico City, or innumerable other places, who have all wanted to visit the Mack during their stays in Glasgow. It is truly rare to have such a thing that communicates so well and so widely in our city, and the prospect of its loss, as news of the second fire broke, was felt world-wide.

“Even at a great distance, it hurts”
Linda Yablonsky, Artforum, New York

It is impossible to quantify or understand the magic that this building wove far and wide. Glasgow’s renown and reputation internationally is so intricately interwoven with this building that its absence or withdrawal from use would be tantamount to erasing one of the truly world-class cultural stories we have.

People understand the significance that a building like that can have in a city such as ours – that it fuels ambition, confidence, aspiration and that our best
building should be an art school – not a bank, or a church - I think says so much about Glasgow at its best. **Ambitious, creative and productive.**

The building also – now over 100 years old – remained the most ‘fit for purpose’ of GSA’s estate, prior to the completion of the Reid building. It was custom-designed as an art school and if a building to Mackintosh’s design is to stand on that site again, it must be in the service of art school education. Yes, with all the relevant 21st-century safety and security features built in, and yes, with public visiting hours integrated into its operations, as they were previously. It may even be an opportunity to re-assess how the state ensures the on-going preservation of such significant buildings, beyond just the tagging as ‘listed’, to ensure that the hugely onerous task of maintaining, protecting and continually conserving such a nationally and internationally important building does not overwhelm a small, specialist institution like GSA.

The Mack’s beauty was two-fold – its remarkable design and its day-to-day use. The fact that students starting out on their lives worked in such an environment is often sited by former students as a hugely positive and eye-opening experience. You don’t have to throw a stone too far from its front steps to find someone who grew up in Glasgow and whose life was transformed, not just by the higher education experience, but by the very idea that a building such as that could be ours. Rebuilding the Mack ought also to be an investment in students and in studying, in the merits of education *per se.*

We know it can be re-built and thank goodness for that. But it is just important that it is rebuilt for its intended purpose: as an art school. To take something with such considerable value and meaning and turn it into a relic, or an exploitable commodity would be sheer, reprehensible folly. The commitment to rebuild is entirely correct, but the commitment to ensure its on-going life as a school is equally vital.

We need The Mack as the heart of the art school – for all it signifies about Glasgow as a place of production, not only consumption of culture. The restored Mack, returned to its daily use as a functioning, dynamic art school, can serve both agendas: as a place of education, and production, a resource for the city and its citizens, and also, simultaneously as a world-class tourist destination.

I understand there has also been some discussion about the idea of re-building on another site, which seems bizarre at best, not least as the rest of the School’s campus is on Garnethill. Removing the Mack from the city centre would decimate the cultural life and vibrancy of the area, especially of the already challenged Sauchiehall Street. More than most buildings, the Mack has a powerful relationship to its site – it was designed for this hill-top position – with its castle-like gable ends. Building it on another site could only ever be a bastardisation of Mackintosh’s design and incur considerable reputational damage to the city internationally.

Displacing it, or changing its use would be to take all that ambition, creativity and production, and make it **history.**
The School is of course more than the Mack – it is just one of its several buildings, and this discussion does not begin to touch on teaching. The Mack is also considerably more than the School. As much as the School needs the Mack, the Mack needs the School.

As artist and former student at GSA, Martin Boyce wrote in *frieze*

“What matters is that in 20 or 50 years from now people can push open those swing doors, walk in and study art in the Mack”

Katrina M Brown  
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Board of Governors, GSA, 2004-09  
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