

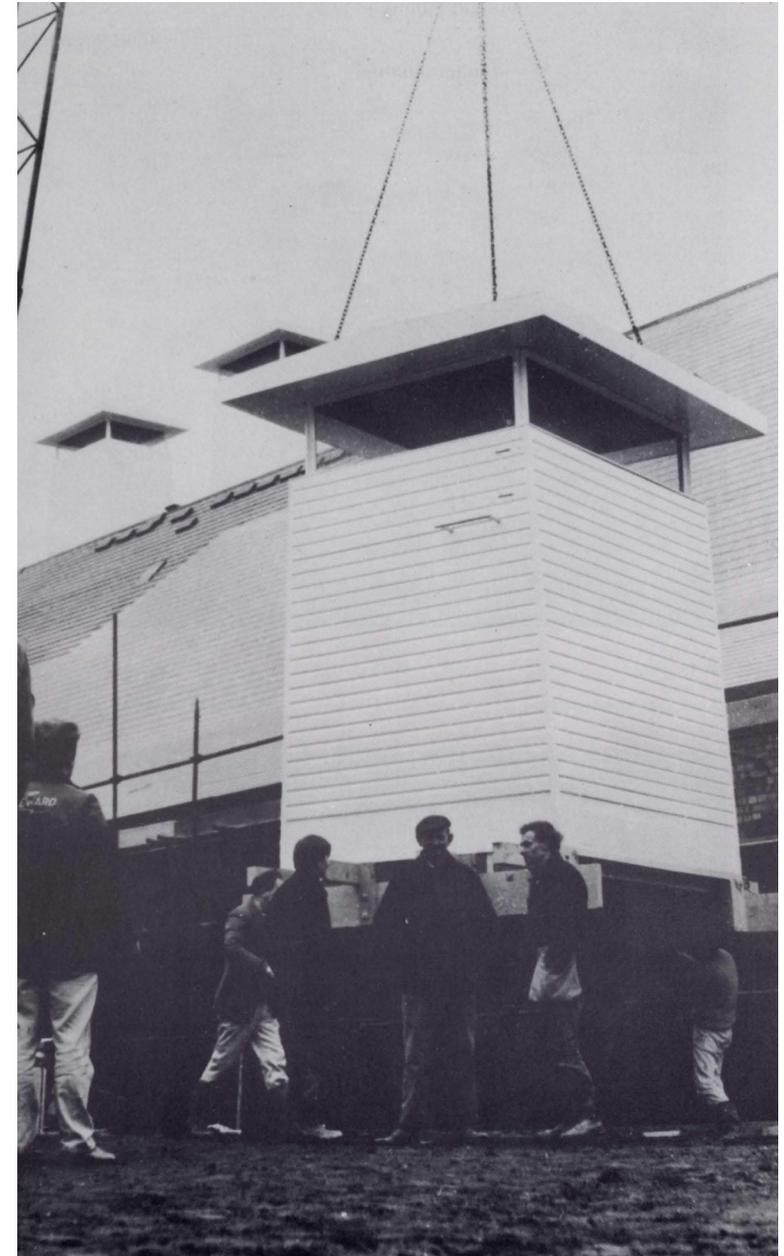
BRITTEN PEARS ARTS

**Concert Hall Works
RIBA 3 Report
Capital Works Program
February 2025**

**de
matos
ryan**

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A Sustainable and Creative Campus at Snape Maltings

Our founders Benjamin Britten and Peter Pears believed in the power of the arts to connect and be useful to communities. Their vision for Snape Maltings as a Creative Campus is a magnet for visitors, audiences and artists from around the world and we want to make sure it can have an even more vital and sustainable future.

Our Capital Programme will mean that existing buildings will be fit for purpose, efficient and help the organisation to achieve its mission. Not only will these works help more people enjoy our sites, as visitors, audience members or artists and performers, but they will help protect the future of this organisation, safeguarding existing jobs and creating new ones. We are enormously grateful for the support we have already received for the project and we still have money to raise, but these planning applications are an important step towards realising our plans.

Andrew Comben, BPA Chief Executive



1. Introduction

1.1. Scope of Works

This Design and Access Statement has been prepared to support the planning and Listed Building Consent applications for the wider Snape Maltings works. This includes the works to the Concert Hall, to Snape Bridge House, to the Energy Centre and to the car parking related landscape works. This excludes the works to the Britten Pears Building and Buildings 19 and 20, and to the seating within the Concert Hall. Further planning applications are to be made to cover these excluded workstreams.

Concert Hall

The works listed under the CH1 heading are focussed on the technical upgrades to the hall function as a performance space. The details included in this report explain the full reasoning and scale of change proposed, but the outline intent is to add flexibility to the Concert Hall acoustic and staging equipment. As part of this, we are looking to add adjustable acoustic drape systems to the hall so it can be used for amplified events of various kinds. There are also adjustments to the rigging systems to recable and improve the ease and speed for production setup/take down. House lighting is also proposed to be refurbished and replaced to improve on existing poor coverage to the seating areas.

The CH2 list of works include focus on the front of house areas and improving accessibility and repairing end of life or damaged systems and fabric. This includes installing a new platform lift to the original inner foyer to provide level access across the 3 building levels from outside to seat. The 2no existing lifts are also to be refurbished to modernise them and ensure they can run for a further 25 years. A new finishing kitchen is proposed in the River View restaurant. The existing foyer WC area is to be remodelled to include a Changing Places facility, and all cubicles are to be replaced with modern accessibility provision.

The existing ventilation system is to be modernised with a new fan system in the plant room which includes some alterations to the partitions around the existing fan, but the supply ductwork and grille terminals in the hall Southern wall are to be retained. The existing bluffs which deliver the natural exhaust terminals remain unchanged.

The intent is to replace the Concert Hall roof as part of the Capital Works programme, but this is not included in this planning application due to it being deemed a maintenance process and not requiring planning or Listed Building consent. We will install some new thermal insulation at the time of roof replacement, but the roof line and hipped details will not be altered.

1.2. Capital Works Program

De Matos Ryan Architects have been engaged by Britten Pears Arts to develop proposals for a Capital Works program of projects along with a consultant team.

The primary goals of the works are to improve accessibility and sustainability to the BPA collection of historic buildings across the sites in the Snape and Aldeburgh area. As such there is a series of fabric and plant improvements proposed, alongside alterations to create level access and improvements for all access requirements.

These works have been broken down into a series of workstreams to suit their separate locations within the Snape Maltings site, as well as some of the sites in Aldeburgh. The full list of workstreams are as listed on the following page for information and context.



1.3. Capital Works Locations and Scope

Snape Maltings Concert Hall (CH)

CH1 Acoustic Treatment to Concert Hall incl installation of acoustic baffles
 CH1 Technical Equipment Upgrades
 CH1 New hearing loop
 CH1 Roof replacement (East, South & West)

CH2 Ventilation improvements including replacement of the existing circulation fan
 CH2 New Accessible Lift FoH / Additional signage
 CH2 Refurbishment of FoH WCs
 CH2 Finishing kitchen in River View Restaurant
 CH2 Refurbishment to 2nr existing lifts
 CH2 Fabric repairs / Brickwork replacement
 CH2 Discovery centre creation

CH3 New Seating (incl adaptation for wheelchair users) & Handrails

Britten Pears Building (BP)

BP1 Complete strip out and full internal refurbishment including remodelling and new MEPH services. Sprinkler tank relocation, new windows, wall removal and formation of new lift tower, 4 floor lift and associated ground / roof works.
 BP1 Transform Peter Pears Recital room into flexible studio. Bleacher seating replacement. Remove old technical room to create accessible seating. New lighting system, sound and video infrastructure include permanent lighting and AV control position.
 BP1 General Access improvements - new entrance ramp and passenger and equipment lift to all floors.
 BP1 Conversion of first floor practice rooms into 6 larger multifunction studios / break out spaces.
 BP1 New convening facilities, an accessible top floor multi-purpose activity space (currently the Cranbrook Room).
 BP1 External landscaping alterations including steps, ramps and kitchen terrace area.

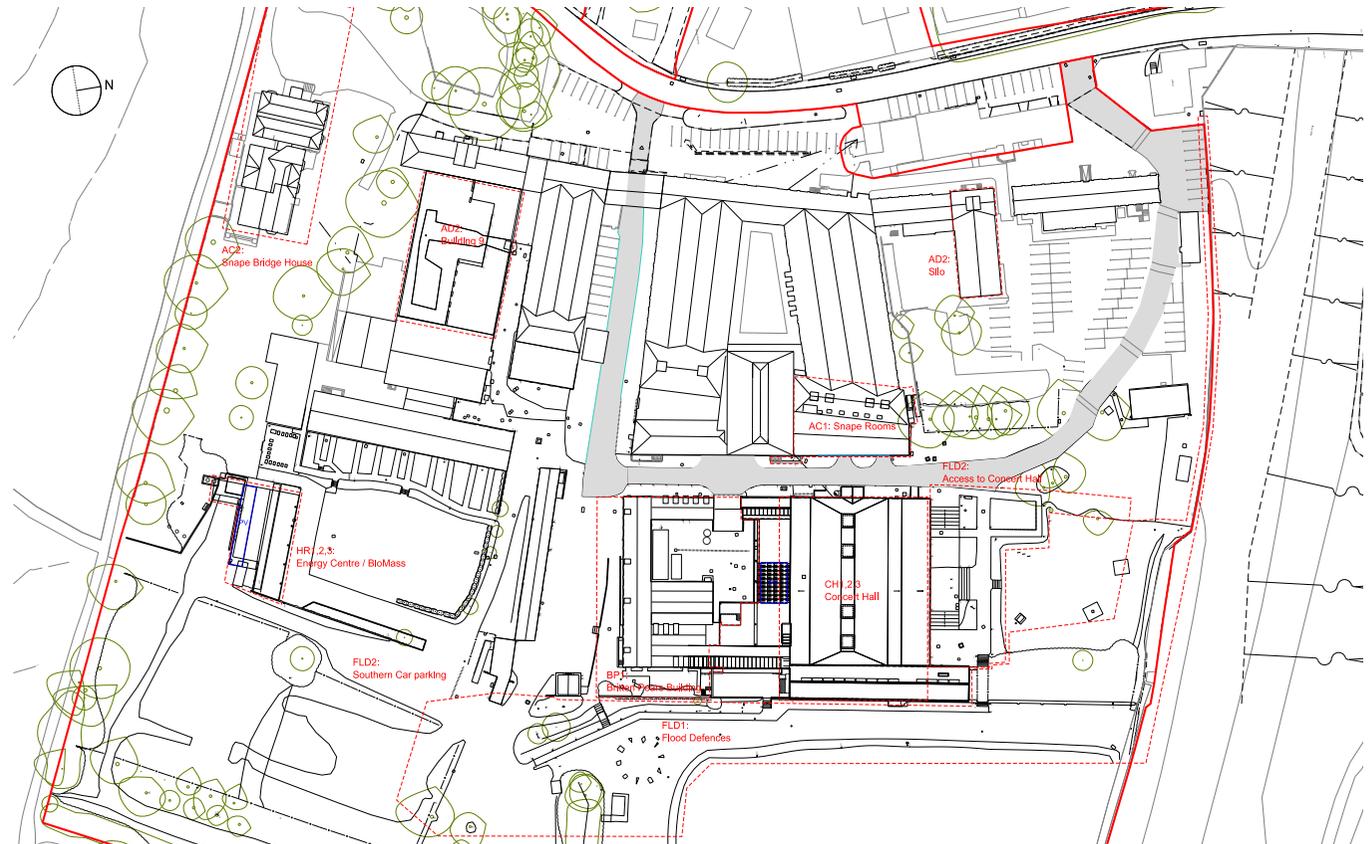
Accommodation (AC)

AC1 Snape Rooms - form 10 bedrooms facility from Ground Floor of Building 20 (The Early Music Shop) and first floor of Building 19 (HRM office).

AC2 Snape Bridge House - improving internal and external accessibility

AC3 Elizabeth Court - create new ensuite bathrooms and improving internal and external accessibility.

AC4 Red Studio - improve access and general condition.
 AC4 Cosy Nook - improve access and general condition.
 AC4 Home Reach - improve access and general condition.



Heating and Renewables (HR)

HR1 Consolidation of Energy Centre's biomass boiler, reconfigure pipework to service music buildings (Concert Hall, Hoffmann Building and Britten Pears Building). Removal of redundant biomass boiler.

HR2 Improved flue arrangements to the existing biomass boiler
 HR2 New Photovoltaic panels on south facing roof slopes.

HR3 The Red House – New gas fired modular boilers
 HR3 Site wide Building Management System

Flood risk reduction and associated landscaping

FLD1 Flood risk reduction and associated landscaping
 FLD2 Car Park hedgerows / improvements.

FLD 2 Access improvements to Concert Hall

Additional Needs (AD)

AD1 Red House Exhibition Link and exhibition upgrade
 AD2 Silo Building Works and Demolition

1.4. Consultant Team

The core members of the consultant team are listed on this page. This team was assembled by BPA and first met in a Kick off meeting on site at the end of April 2024. By this time, Untitled Practice (UP) had already been working with BPA on the Flood Defences and Landscaping workstreams for a number of months due to the accelerated program that WMA were working to at that time.



Architect / Lead Consultant / Principle Designer (CDM + BR)



Project Manager



Cost Consultant



Planning and Heritage



Arboriculturalist



Transport Consultant



Landscape Architects



Structural and Civil Engineering



Services Design / Sustainability



Acoustics and Theatre Technical



Ecologist



Access Consultant

1.5. Planning Engagement

An initial round of pre-application engagement commenced with Planning and Design and Heritage Officers with the submission of initial proposals in June and an on-site meeting was held in July. A further pre-application enquiry was submitted in August and was subject to further discussion and engagement throughout the Autumn with the formal Pre Application meeting held on 02.10.2024 and the written response was received on 20.11.2024.

A separate meeting was held on 16.10.2024 with Historic England and the ESC Conservation team to review the Concert Hall works.

As part of the early engagement with ESC, BPA issued the below document titled "Proposed Scope of Capital Program" which detailed the full capital works for all buildings.



2. Snape Maltings Site

2.1. History

Between the mid 19th century and mid 20th century the great extent of the development on the site took place. The majority of these buildings make up five distinct maltings, and the industrial process can still be read in the arrangement of buildings on the site. From road and former railway in the west towards marsh and river in the east ran the production line of barley granary, steep, turning floor, kiln and malt granary.

Maltings activity stopped on the site in 1965, and in 1967 Arup's Concert Hall opened in one of the converted maltings buildings to provide a permanent home for the Aldeburgh Festival set up in 1948 by Benjamin Britten together with Peter Pears. A further conversion of a barley store in 1979 formed the Britten Pears Building. In the 1970s the Craft Shop, art gallery and tea room opened on the site followed in 1991 by the conversion of further buildings into the House and Garden retail outlet. In 1997 and 1999 a concert hall foyer and restaurant were developed. Between 2005 and 2009 the latest development involved the conversion and reconstruction of a number of building to provide rehearsal and performance spaces in the Hoffmann Building, as well as conversion of a range of buildings into residential units.

As part of these Capital Works, Bidwells has prepared a Heritage Statement and Impact Assessment to analyse, in detail, the historic context and significance of the site and the impacts of the proposed development. This work has been used to shape and evolve the proposals to ensure that the benefits of the scheme are realised in a way that ensures that minimises harm to the historic interest of the site

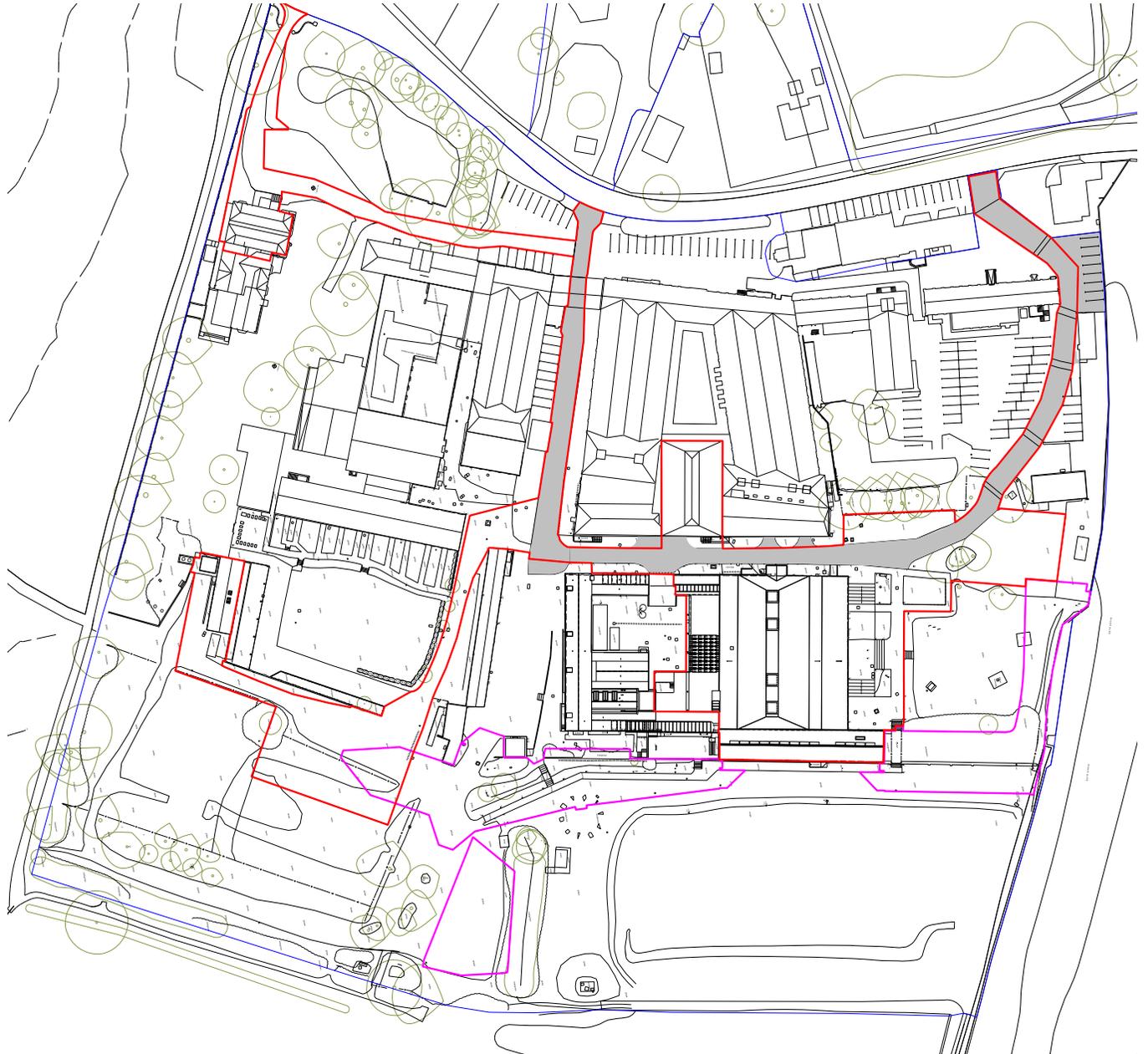


2.2. Location

The existing site plan redline for this application includes the entrance roadway to and from the highway, as adjacent.

The area ringed with a purple outline denotes the zone where the WMA (Water Management Authority) are delivering the improvements to the site flood defences. This site is Flood Cell 6, one of the cells that make up the overall plan for the flood defences to the Alde and Ore lower estuary. The WMA are undertaking the works via their Permitted Development rights, and so do not fall into any of the planning applications being submitted by this consultant team for the Capital Works projects. However, a Listed Building Consent has been granted for the connection to the northern end of the Concert Hall with the new flood wall structures.

While the flood defences fall outside of the Capital Works planning applications, the design work has been coordinated with it as part of an overall site strategy and specification for finishes and accessibility.



The Concert Hall is located on the Eastern edge of the collection of buildings at Snape Maltings. It is linked to the Britten Pears Building at its South Eastern corner, with which it also shares a service yard.

The aerial photos adjacent note the locations of the River Alde and Snape Bridge to the far North. The application buildings are ringed in red.



2.3. Concert Hall Building

The Concert Hall buildings have changed significantly since their original design as a maltings function. The most notable change in external form when the Concert Hall works were undertaken by ARUP in the mid 1960s was to demolish key internal walls, and to widen the span of the roof so the new roof structure and final hall width was wider. The roof therefore grew in height, along with the brickwork walls that supported it.

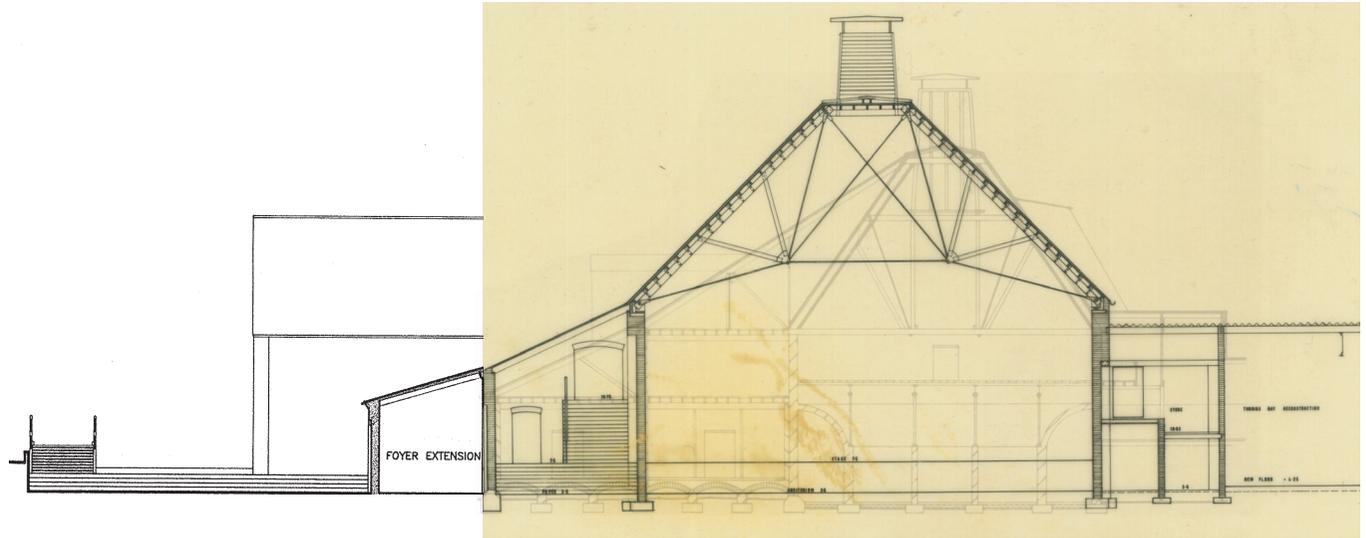
The adjacent overlay of drawings shows the original maltings building in a feint line, with the 1967 section with yellow background.

When the Hall was rebuilt in 1969 after the fire, some modifications were made to the design to incorporate a sprinkler system to all areas, fed by a large above ground tank located in the turning bays, now the service yard area next to the Britten Pears Building.

Until the late 1990s the Hall remained largely unchanged. However the local authority raised concerns about the fire separation of the foyer from the Concert Hall and so some plans were drawn up for a foyer extension, which left the lobby area between as a protected means of escape. At the same time, designs to extend and develop the restaurant and annex building were drawn up, with the final constructed design opting to extend the existing building to the north, and rebuild the turning bays to the south to provide new staff and back of house areas. To the south of the restaurant, the gable end was removed to create a glazed treatment, and the roof was raised to enable a mezzanine level to be added internally.

In 2011 some modifications to the ventilation system were undertaken to add additional vent slots to the rear of the hall, and add some fire dampers to the ducts and fins to the supply terminals.

In 2016 the Northern slopes of the Hall roof were replaced and some insulation was added to the build up to improve thermal performance.



1997-1999 Works (left hand area)
Extension to the Foyer, River View cafe, and redevelopment of the Southern back of house areas. New rigging to the hall

1967/69 Concert Hall (main drawing)
The works demolished the internal walls, retaining outer walls, which were raised to found the new taller roof structure onto.

Pre 1967 (ghosted overlay)
The original malting building was lower and its roof landed on walls that were removed to deliver the width of the Concert Hall



2.4. CH1 Technical Systems

2.4.1. Concert Hall Acoustics

The Snape Maltings concert hall with 830 seats is a mid-sized hall with renown acoustics for unamplified orchestral and chamber music.

On the other hand the acoustics of the existing concert hall limits some artistic content, the reverberation time is considered not optimal for performances where speech or amplified sound are used. The Hoffmann buildings which include the Britten Studio, have been very successful for BPA due to the flexibility of their operation and ability to hold events of varying acoustic demands. To build on this, BPA would like to have the ability to hold events in the hall which feature amplified sound, and so this planning application proposes some adjustable acoustic treatments are installed which will alter the reverberation time of the hall. These treatments will be adjustable so that their effect can be completely masked if required, and so the Hall can also retain its existing acoustic performance, for which it is well known and respected.

The existing reverberation time of the hall is between 2.5 and 1.9 seconds, depending on occupancy of the space. The target reverberation time for amplified sound for a hall of this size is in the region of 1.2 seconds. As such, we need to add absorbant material into the space to alter its reverberation. We have measured the existing condition, and then modelled the reverberation time with various acoustic measures implemented to determine the optimal technical approach. The options measured were as follows:

Scenario	RT (s) Unocc	RT (s) Occ	m2 of banners
A - No drapes or banners	2.5*	1.9	0
B - Upstage banners	2.2*	1.6	108
C - Upstage banners and rear roof drape	2.1*	1.6	143
D - Var Abs Air vent banners	1.6	1.3	291
E - Var Abs Roof parallel banners	1.4	1.2	401
F - Var Abs Side walls	1.6	1.4	333
G - Var Abs Air vent banners + side walls	1.4	1.2	481

*values from measurements

With upstage and rear roof acoustic banners
 With upstage acoustic banners
 Without banners

The results are presented as mid frequency reverberation time averages between 500hz and 2kHz for the Occupied and Unoccupied conditions based on the expected performance of the existing seats.

The calculations in the adjacent table show that the introduction of variable absorption system should allow achieving this target. The location and type of variable absorption system has an impact on the overall performance, but the target m2 area of absorbant material is between 400 and 480m2 to meet the target performance.

In order to minimise the loading onto the roof structure a mixed variable acoustic approach has been taken which comprises:

- Banners deployed at high level in the roof portion away from stage, where the loading capacity is higher
- Low level banners installed on side walls where there is limited capacity in the roof structure.

The ability of hanging drapes on the stage side wall, which is an existing approach BPA already take, is also considered to be part of the overall approach, which helps to control the acoustic on stage during amplified music concerts.

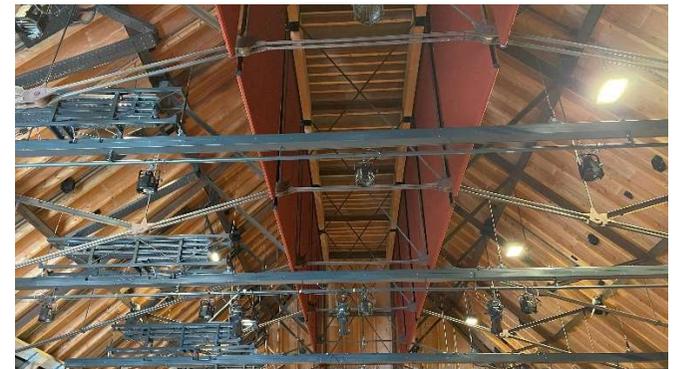
The following pages present the technical proposals we are putting forward to deliver these requirements.



Existing rear drape hung from new truss to rear of the hall



Typical looped material with velcro tabs hung over scaffold bar to stage area to manage local volume and reflections



Hoffmann Building banner boxes with banners deployed, which is a similar approach suggested to the bluffs in the Concert Hall

2.4.2. Concert Hall Rigging

The original arrangement for the Concert Hall stage lighting was based around the use of the perimeter scaffold bar which is fixed to the concrete ring beam around 3 sides of the room to the stage end. There was no overhead stage lighting. See image below for how this looked.

The Hall was upgraded in the late 1990s to deliver an overhead rigging system for the first time. This comprised a mix of manual and motorised winched bars designed by Carr & Angier and installed by Telestage. The stage left manual winches were motorised during the last 10 years. The system is still operating, but requires re-wiring and a plan to convert fittings from tungsten to LED is being proposed to reduce the energy consumption of the rig. New dimming racks are also planned, which are located in the ground floor electrical plant room below the control room.

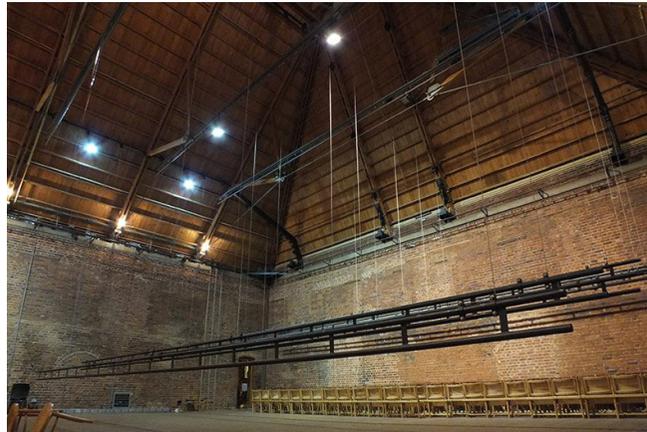
The existing scaffold bar is still in place and is used to secure vertical lighting posts and hang drapes from, but it is only lightly used for lighting purposes as it is fixed and requires the use of a tallscope to reach it.

The existing Tab track is still in place, but is not operable and when drapes were originally hung on it, they were not fully removeable so effected the stage acoustics when gathered to corners.

The roof structure in this area is already at capacity with the level of rigging that has been installed over the stage. Load monitors can be added to the rigging at each connection point, but they are loose pieces of equipment and do not form part of the scope at present. Instead BPA will maintain their system of closely monitoring the loads being installed to the rig by touring companies and manually calculating the weights for each bar.

Some modifications to the existing rigging and cabling are therefore proposed within this application, alongside the acoustic systems described on the previous page, and the technical proposals for these are detailed on the following pages.

Photo from early 1970s showing the original technical set up, which only rigged to the walls via the scaff bar.



Clockwise from top left : Ladder bars dropped to stage level via winches. Winch gallery stage left. Over stage arrangement of flip flops and intermediate bars



2.4.3. Rigging and Acoustic proposals

The previous pages have established the existing conditions and need to make technical changes to the Concert Hall rigging and install new acoustic systems.

This pages shows the overall scope of new systems proposed in the Hall. We have considered the Concert Hall in 3 zones:

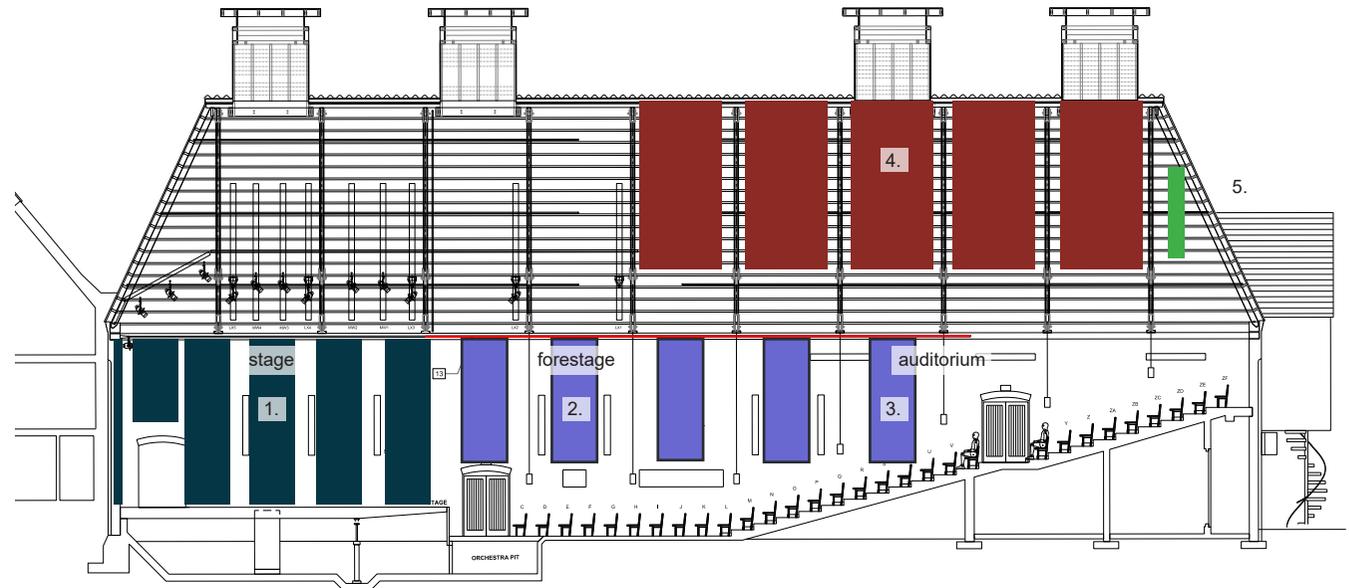
- stage
- forestage
- auditorium.

The following pages will talk in detail about each zone

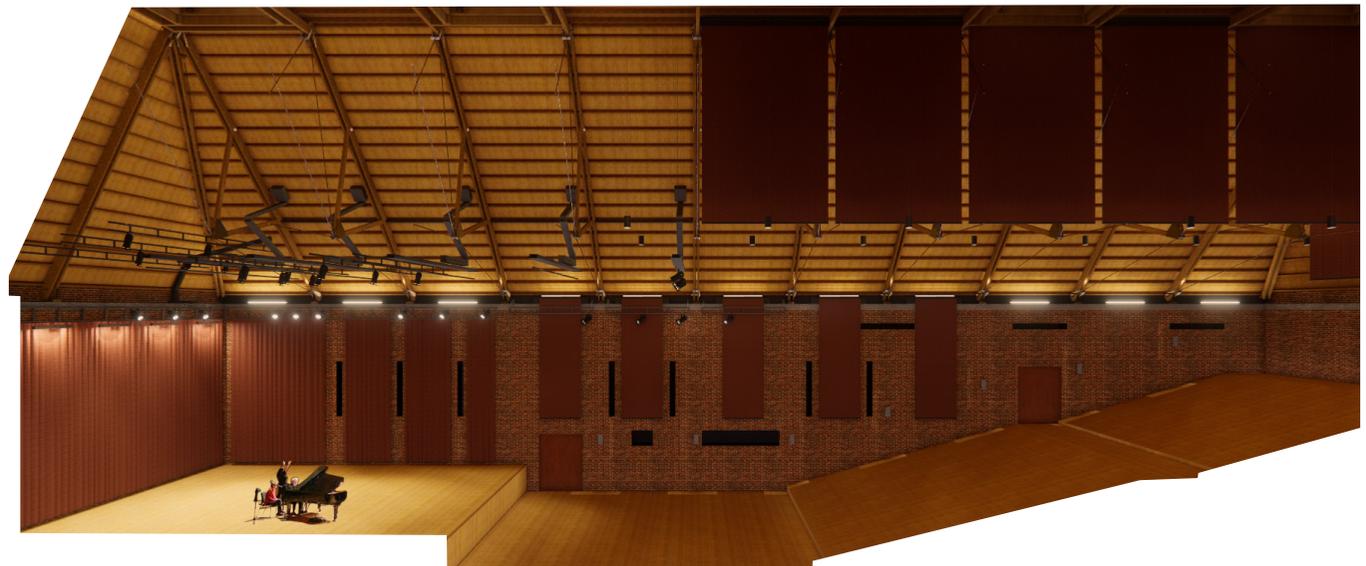
During design development, it was understood that the proposed improvements to the Concert Hall would have the potential to place additional loads onto the roof structure, which is already supporting greater loads than envisaged when designed by ARUP in the late 60s.

There is, however, further load capacity in the side walls and the team have therefore looked to support some existing and proposed stage equipment from the side walls rather than from overhead.

Within the Appendix of this planning application are the Charcoal Blue Theatre technical drawings which show the detail of the rigging and acoustic systems proposed. Within this report the DMR drawings show the extent of change to existing fabric and fittings required.



Section showing potential areas for acoustic treatments being considered, and setting out to ensure clearance to the venting air slots in brickwork.

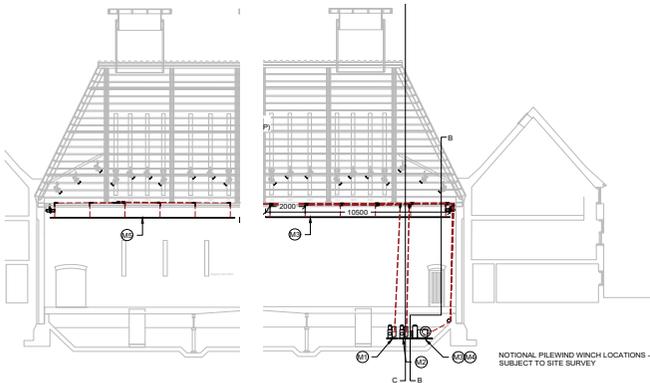


Stage

Around the stage, there is a fixed perimeter rigging bar (which is original). Rigging drapes or lighting equipment on this bar requires access at high level (usually by tallescope) and for the equipment to be manually hauled up to high level. This is a time-consuming operation and can only be undertaken when the stage is clear: access is impossible when scenery is built onstage or an orchestra is set up.

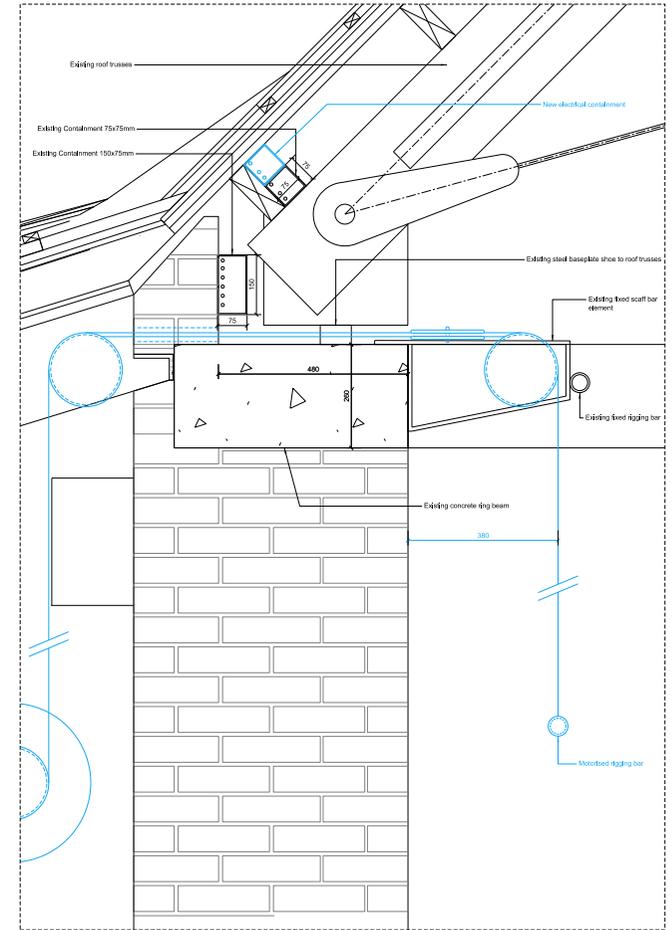
This operation would be much more efficient if the fixed bars could be lowered to the stage for rigging. Access at high level would still be needed for focus of non-automated lighting fixtures, but manual handling at high level would be eliminated. Rather than a single bar like the existing one, ladder bars are proposed: these allow a greater distance between suspension points (reducing the overall quantity of steel wire ropes which must be diverted to the winches - locations tbc) and also allow for drapes and lighting equipment to be rigged in the same area.

It is worth remembering that when the Hall first opened, very few rigging positions were available above the stage, most lighting was rigged on the perimeter bars. This would have resulted in poor angles for orchestral lighting - angles need to be steep to avoid lights dazzling musicians looking across the stage - which is why more overhead bars were introduced later. But making greater use of these side rigging positions would be a step towards the original condition rather than a new introduction.



Charcoal Blue technical sections showing the arrangement on stage left and right for the winched bars. Stage right will run to the sub stage via exposed wireways, as per the existing rigging arrangement

Top; Photo of existing tab track and scaff bar at stage right and rear stage
Middle : Visual of new proposal with fixed scaff bar retained, but new winched bars added.
Bottom : photos of tallescope



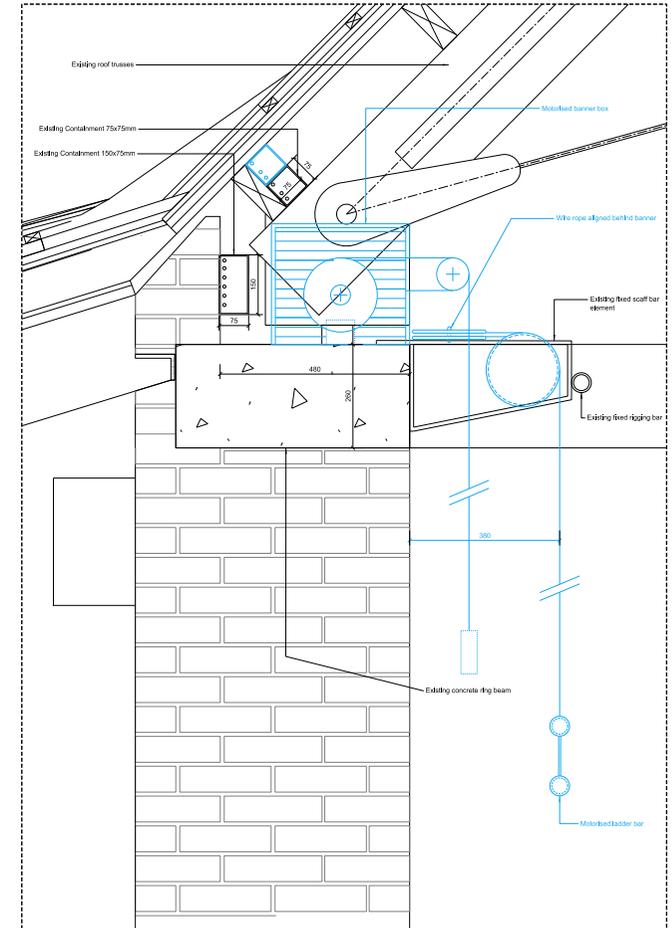
DETAIL 02 - PROPOSED STAGE
1:5

Forestage

Winched ladder bars are also proposed either side of the forestage. Here we propose to investigate the provision of motorised acoustic banners: when not in use, this would appear as a box mounted to the top of the concrete ring beam; when in use, a wide fabric banner would be deployed from the box (possibly around a divert runner) and sit approx 150mm away from the side walls of the Hall, lowered as far as necessary to achieve the required level of absorption. The ladder bars would sit further into the room than the banners, such that the back end of lighting fixtures are clear of the fabric.



Top: Photo of existing ring beam arrangement with electrical containment run to the wall at the back, and data containment on the purlin above.
 Middle : Visual of new proposal with fixed scaff bar removed and new winched ladder bars and banner boxes.
 Bottom : example of standard banner box system.



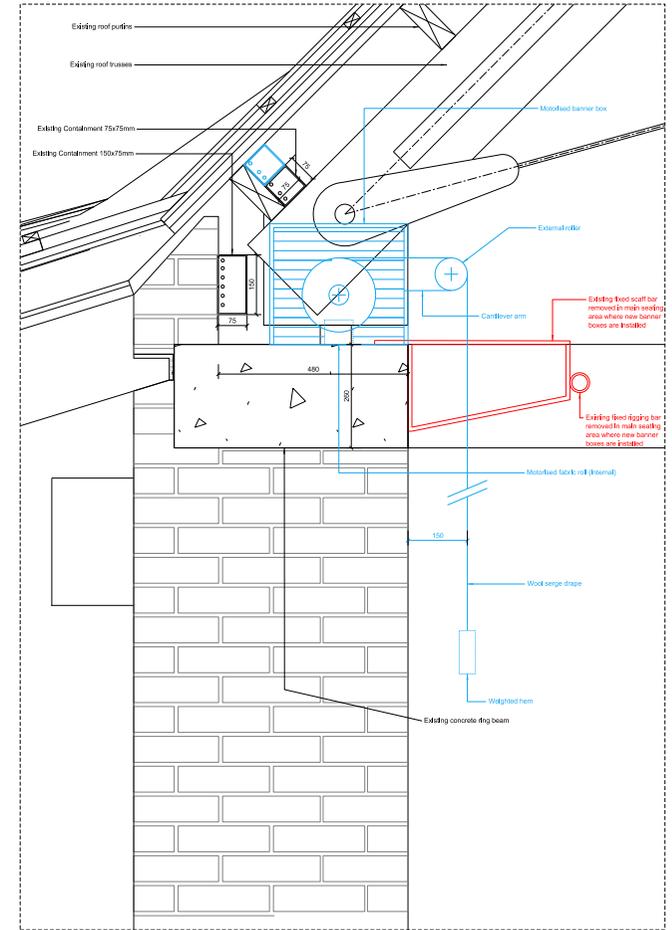
DETAIL 03 - PROPOSED FORESTAGE
 1:5

Auditorium

Further back around the auditorium there is less need to rig technical equipment (the lighting angles are unsuitable to light the stage, for example) but deploying acoustic banners against these walls is expected to be highly effective in reducing the reverberation time. So we propose to introduce an acoustic banner in each bay between roof trusses



Top: Photo of existing ring beam arrangement, same as forestage.
 Middle: Visual of new proposal with fixed scaffold bar removed and new banner boxes.
 Bottom: example of standard banner box system.



DETAIL 04 - PROPOSED MAIN SEATING
 1:5

In the roof areas, the new banner boxes will be mounted to the side of the existing timber structure in the roof bays where the bluffs are framed out. In the 3no bays where there is no bluff, we will introduce new timber structural beams to the same setting out as the bluff bays, to support the banner boxes. See connection detail below for how these new timbers will be hung from the existing roof structure. See the Engineer Report for further details on this aspect. There will need to be 2no bracing elements installed perpendicular to these beams to ensure they are braced and to control twisting of the timbers with the eccentric loading of them due to the banner boxes. Photo adjacent (bottom right) indicates where the new timbers will be installed with red lines to a typical bay.

Further to this, in bay no 2, the sprinkler system drops into the room from its high level primary feed route and branches down the pitch of the roof to feed the rear of the room. This pipe will clash with the new timber which supports the banner box, and so we intend to re-route this pipe up into the roof structure zone above, and then back down into the room to reconnect to the existing pipe run down the pitched roof soffit. This avoids the need to drop the new structural timbers down below the existing structural zone.

It is suggested that the banner boxes are linked to the fire alarm system so they will retract on a fire event detection to avoid the sprinkler heads in this location firing onto the banner material instead of down onto the concert hall floor area below.

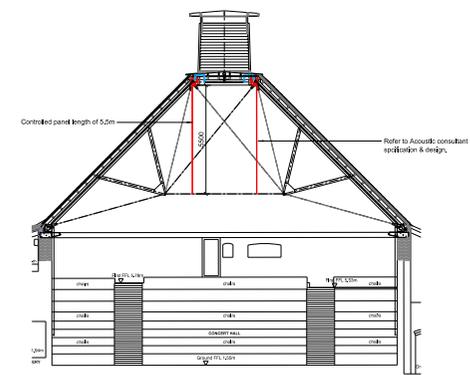
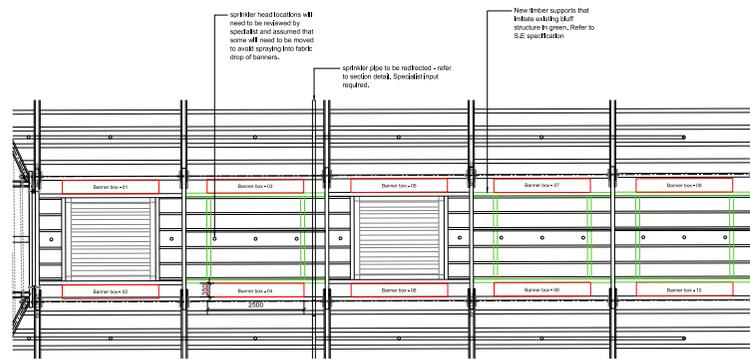
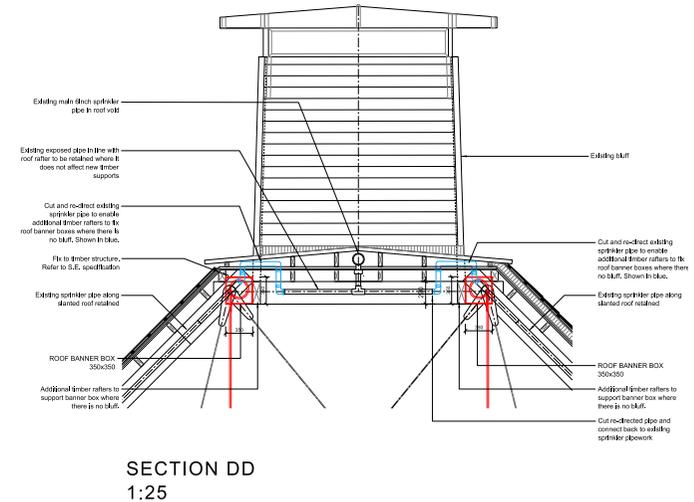
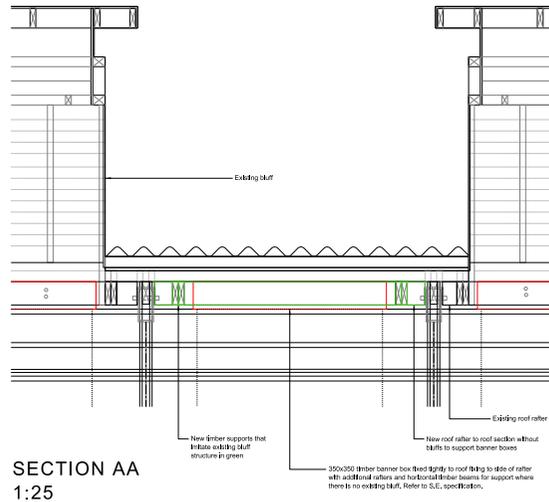
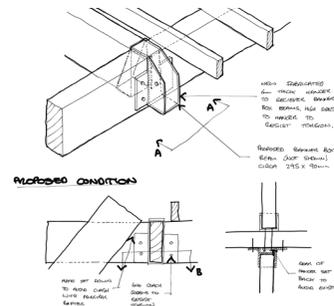


Image of existing Banner boxes mounted to the roof of the Britten Studio in the Hoffmann Building, with timber finish box enclosure to blend in with the roof soffit. A similar approach is intended for the Concert Hall installation.



2.4.4. House Lighting

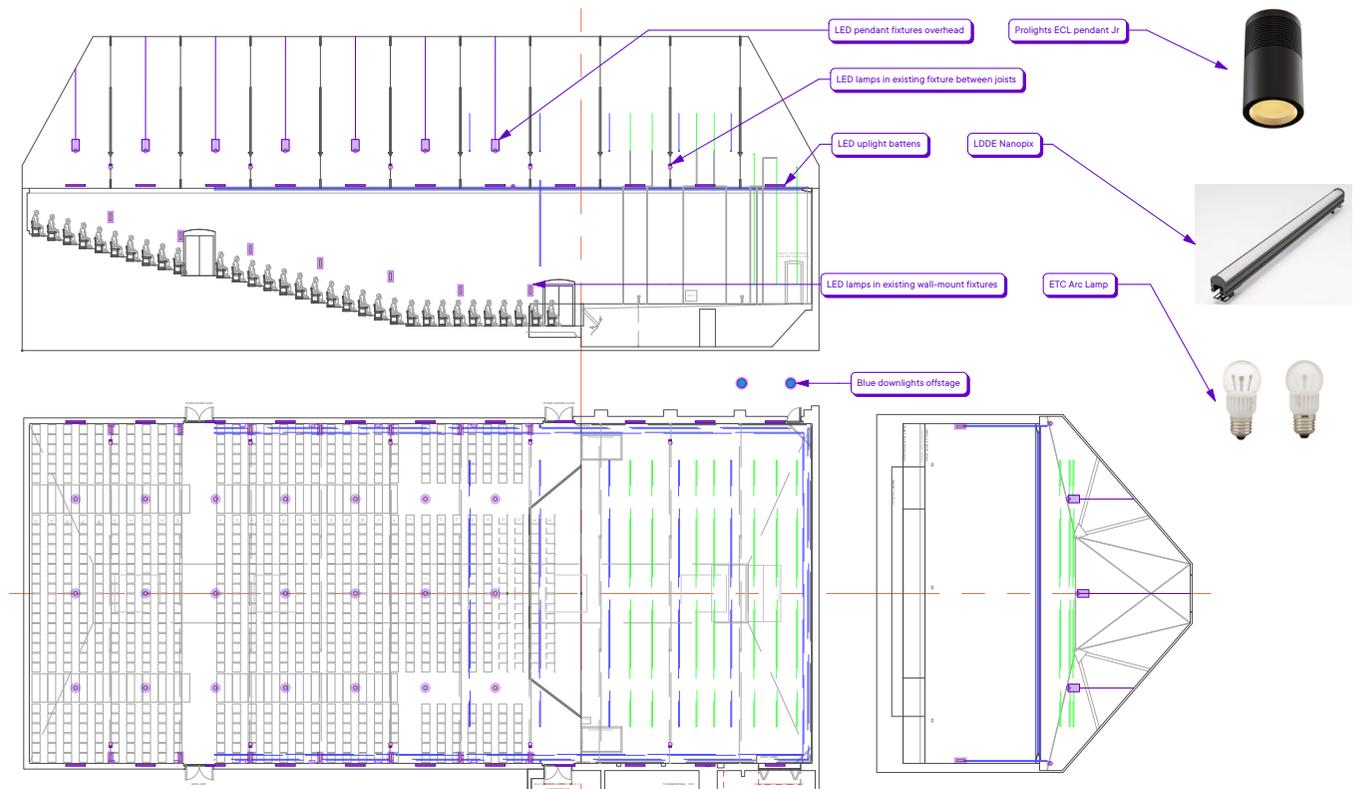
The current houselighting scheme uses tungsten sources throughout, with a total load of circa 20kW. Over the past 15 years, LED houselighting has become increasingly widely used in theatres and concert halls. It is proposed to replace the existing houselighting with LED fixtures, this is expected to have a total load of circa 4kW (saving circa 16kW).

The current scheme offers little light from overhead. This results in poor lighting to the stepped aisles and to audience members trying to read programmes.

The original scheme made extensive use of pendant fixtures overhead: it is proposed to re-introduce pendants, potentially using these as emergency lighting fixtures (rather than the current supplementary emergency-only fixtures). This will provide a significant improvement to the visibility of step nosings and programmes.

The wall fixtures can be retained and fitted with LED lamps, specifically designed for use in performing arts venues where smooth dimming to zero intensity is essential.

The 1kW floodlights uplighting the ceiling can be replaced with a linear LED fixture, capable of producing variable colour to suit the performance.



View of the Concert Hall from BPA Archive. From early 1970s. The original Pendant lights are not longer a feature of the Hall



Original wall fixtures are still in place throughout the Foyers and Hall. The 1kw flood uplights are also visible here, located on top of the concrete ring beam



2.4.5. Visuals of Concert Hall interior showing proposals



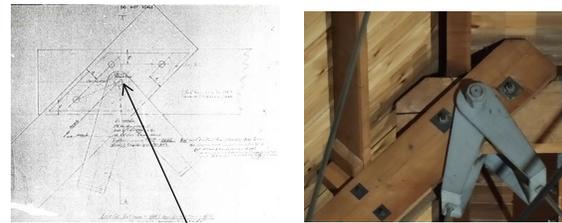


2.5. CH2 Concert Hall Improvements

2.5.1. Schedule of Repairs To Roof

The roof structure is at a 45 deg pitch, which ARUP opted for as a compromise between the two existing maltings roof angles. The flat central spine was included to receive the bluffs, which provide natural ventilation to the space, and replicate the original smoke hoods. A simple roof truss with 60 ft spans was designed to each side, and the central zone with cross ties was used to take up the variance in the side brick walls of the hall, which varied by as much as 18 inches along their length

The primary timber elements are all Douglas fir, with all steel ties in 1 inch diameter. The purlins are German Whitewood. The original inner foyer roof was built as a simple lean to against the concert hall, and was formed using Columbian pine joists.



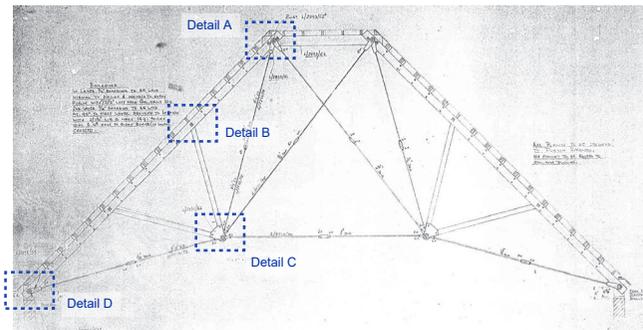
DETAIL A

Connection between steel rod and top chord member currently very highly utilised



DETAIL B

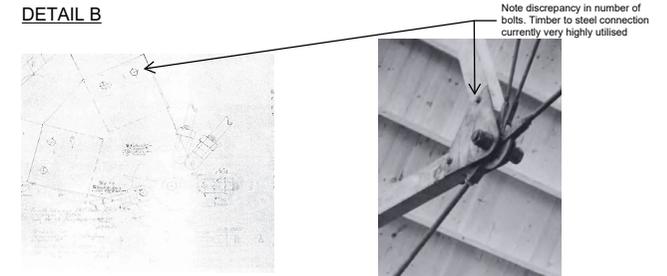
Timber to timber connection currently very highly utilised



OVERALL SECTION

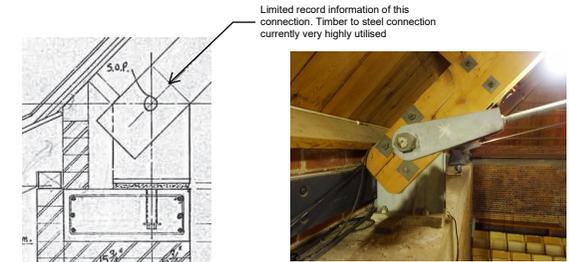
Site photos shown with extracts from Arup and William Brown (timber subcontractor) record drawings.

CONCERT HALL - EXISTING TRUSS CONNECTIONS



DETAIL C

Note discrepancy in number of bolts. Timber to steel connection currently very highly utilised



DETAIL D

Limited record information of this connection. Timber to steel connection currently very highly utilised



2.5.2. PV Feasibility Study

Price and Myers have been working with BPA for a number of years. In 2017 they undertook a detail survey of the existing roof structure condition, to advise on whether repairs were needed to the timbers, and what the loading capacity was to inform their over stage rigging.

Images adjacent are extracts from that report, which show the number of joists that had visible cracks at their ends where the steel connections are located. Some repairs / remedial work was undertaken soon after this report to install straps either side of cracking members, to close gaps and prevent further cracks opening up.

They have updated their earlier findings with a more detailed analysis of the roof structure for these works, and their appended report explains the process undertaken.

Due to the net increase in loading in the roof in general, remedial strap repairs are proposed to the trusses not previously strengthened. This will help limit future crack propagation and reduction in connection capacity.

Roof Covering

The roof covering is asbestos slate tiles to the pitched roof planes, and corrugated sheeting to the top flat ridge, which are all unchanged since their installation in 1969 after the fire.

As part of the Capital Works, it is proposed to remove these roof coverings and replace these with modern composite slate tiles to the pitched areas, and flat sheeting to the ridge, to provide a new weathered covering for the future. As this will be a like for like change with no visual impact, it was deemed that this would be fall under standard maintenance operations and not require planning or Listed Building Consent, so is not included and specified within this application information pack.

While works are undertaken to replace the coverings, the intent is to install new thermal insulation into the existing build up to improve the performance of the roof structure to better control heat gain in summer and heat loss in winter in the Concert Hall. The Structural Engineer's report has reviewed the allowable load increase that this insulation can exert on the roof structure, and the specified systems will be designed to within these tolerances.



Truss 9 South

Truss 9 South end (Bluff + LX4 + MW2,3)

There is a small crack in the end of the beam, possibly originating from the small bolt that connects the beam to the rafter. There is a shake in the rafter



Truss 5 South

Truss 5 South end

There is a small crack in the end of the beam, probably originating from the small bolt that connects the beam to the rafter. There is no visible crack in the rafter

Supports on the wall



Truss 2 North from the East

Truss 2 North end support

There is a large crack in the rafter possibly on the line of the central pin. This is the simple fixed end support

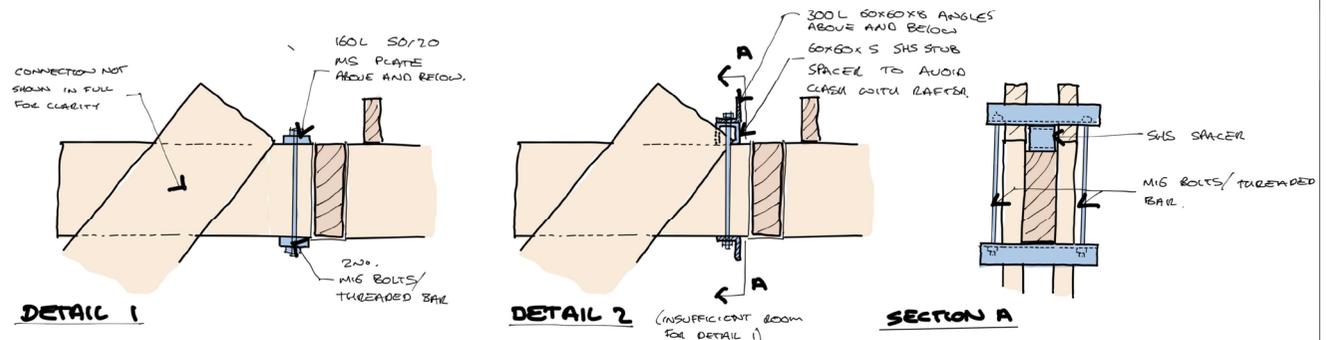


Truss 6 North

Truss 6 North end (LX 1)

There is a crack in the end of the top beam, possibly originating from the small bolt that connects the beam to the rafter. The end of the rafter is not visible

Images from P+M 2017 structural investigation into the roof structure

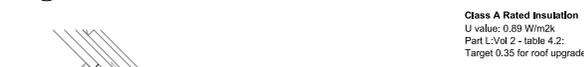
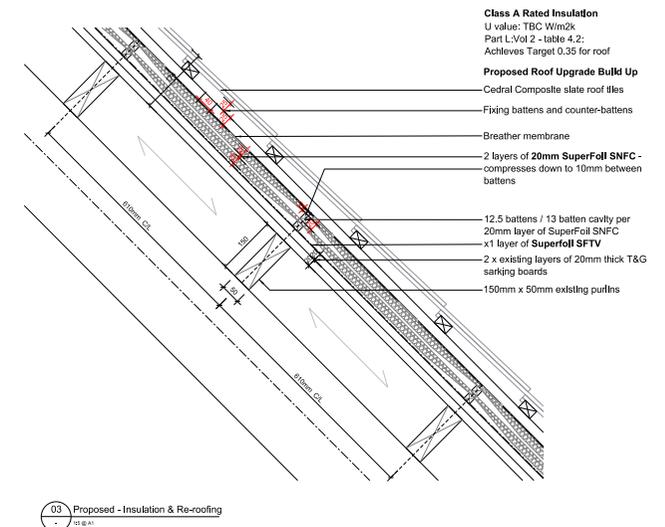
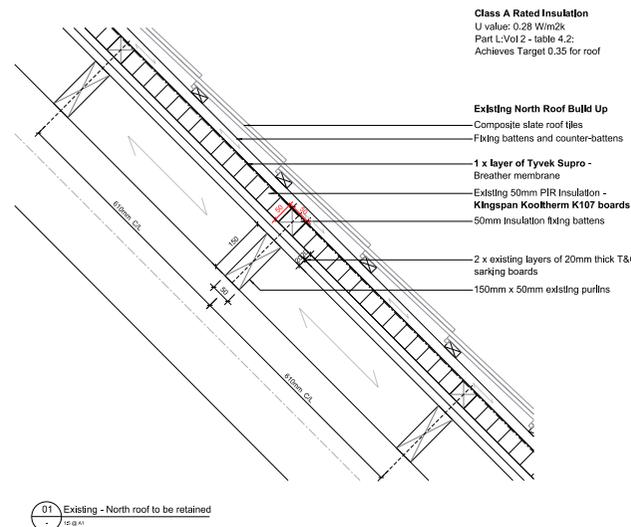
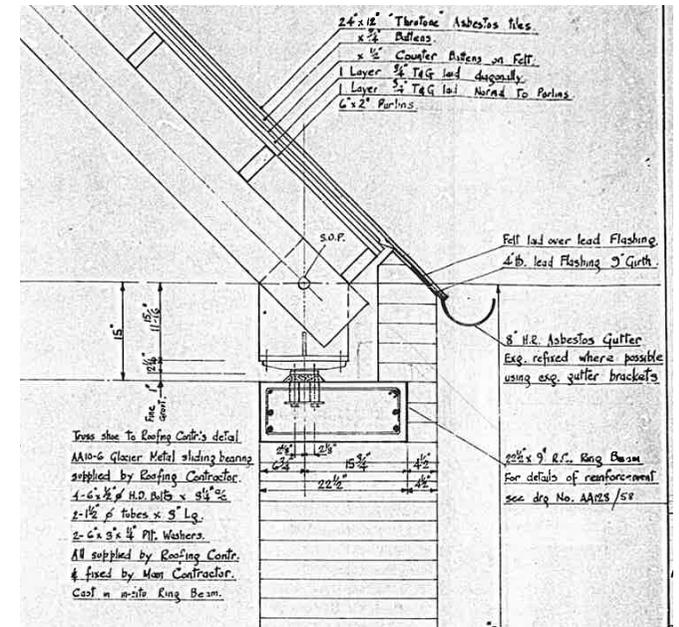


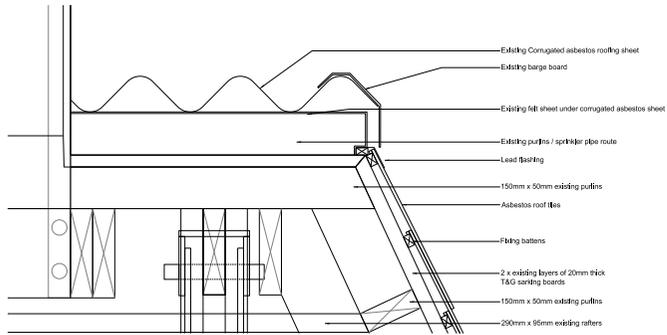
Details from Structural Engineer Report showing the remedial clamping plate to be installed to the ridge connections, where not already installed. Photo shows bay where this was already installed in circa 2017

The north slope of the Concert Hall was re-roofed in 2016. At the time, the asbestos roof tiles were removed, and an additional battening zone was added to enable PIR insulation to be added to improve the thermal performance of the roof, to reduce heat loss and gain to improve the energy high heating loads and costs, and improve visitor comfort.

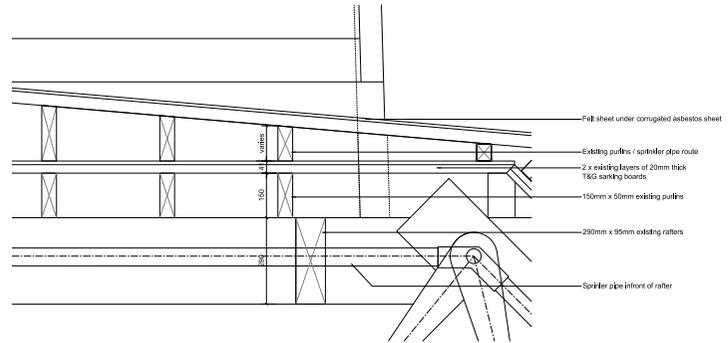
The upper section of the flat roof and the remaining three slopes need replacement and similar thermal upgrade now. We will also replace the profiled sheeting to the flat ridge zone between the bluffs. The bluffs will be re decorated, and the internal motorised dampers that control air flow will be serviced

The timber frame of the roof is a minimal design and has limited capacity for further load to be exerted onto it. Therefore, the only PV cells that it can accommodate from a structural point of view are in-line panels, which replace the slate tiles as the primary waterproofing element. BPA would like to consider a PV array on the southern side of the Concert Hall roof, as it is a large area and could offset the electrical demand of the building.

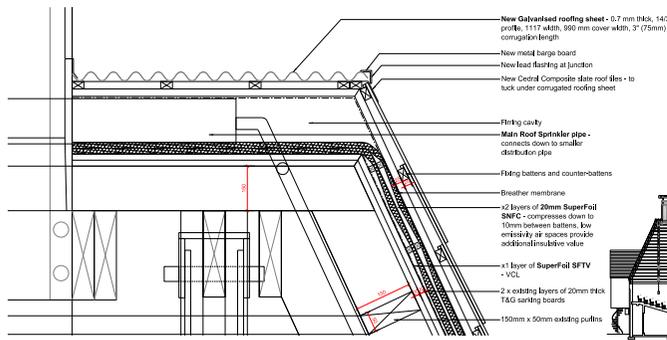




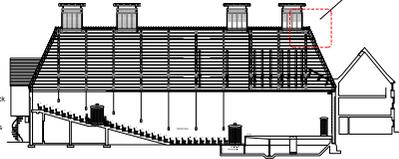
01 Existing - Flat to pitch roof typical section



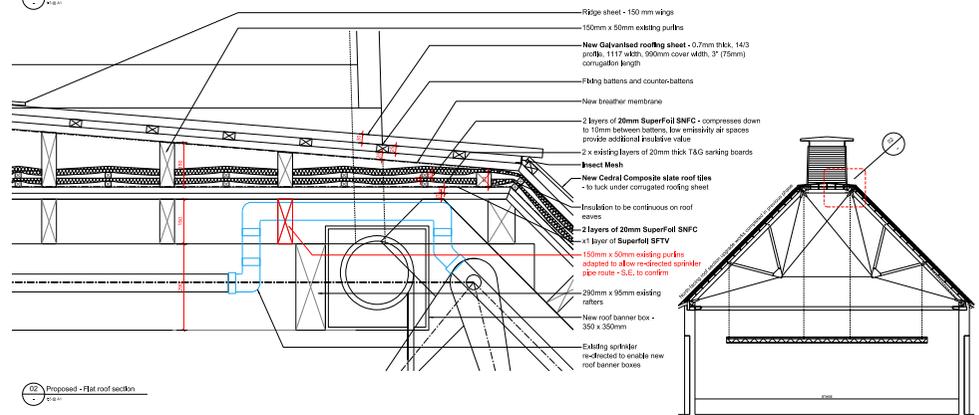
01 Existing - Flat roof section



02 Proposed - Flat to pitch roof typical section



01 Key Section AA



02 Proposed - Flat roof section

2.5.3. PV to Proposal

BPA has engaged the Consultant Team so that they can plan a sustainable future for the Snape Maltings buildings, and for the activities and events held on the site. Later in this report we will describe the extensions to the Heating network for the site, fuelled by Biomass woodchip sourced from within 4 miles from the site. Part of this site wide sustainability strategy is to find on site renewable energy generation opportunities. The feasibility for the various technologies available are reviewed in detailed within the appended specialist reports.

Given the various constraints with ground conditions, rooftop mounted PV is the favourable approach to delivering on site renewable energy generation. A study of all the available south facing rooftops was completed. Alongside this a review of the existing roof structures was undertaken to check suitability of existing loading capacities and roof coverings. Finally, a review of the level of visual impact was undertaken to check the harm to Listed Buildings.

The conclusions were that there are a number of roofs that are suitable for rooftop PV within the Maltings site, that have minimal visual impact and are structurally sound.

The table and diagram adjacent is from the feasibility report which identified all the rooftops available, and the selected areas are noted in blue.

There are two existing areas of PV to the Maltings site. These are on the Energy Centre clay pantile roof, and on the Concert Hall Winch Gallery which is a flat zinc standing seam roof. Both of these are surface mounted installation methods.

Roof Reference	Pitch Angle (°C)	Orientation	Azimuth (°)	Area	Panels	Array Size (kWp)	Generation (kWh)
A	45	S	0	151.0	51	20.4	21,952
B	30	E	-73	49.3	15	6	5487
C	45	S	7	91.2	64	28.8	31789.01
D	60	E	-75	61.3	21	8.4	6891
E	30	E	-78	73.0	27	10.8	9677
F	45	S	7	118.8	44	17.6	18897
H3 (Mar)	45	S	9.5	217.1	85	34.425	36829.14
G3 (Mar)	19	S	9.5	138.2	63	25.515	25952.72
I (Tri)	0	S	9.5	82.9	36	16.2	14297.54
J1 (Tri)	0	S	9.5	22.8	10	4.5	3971.54
J2 (Tri)	0	S	9.5	63.9	28	12.6	11120.31

Table 8. Supplementary roof calculations (not included installation costs)

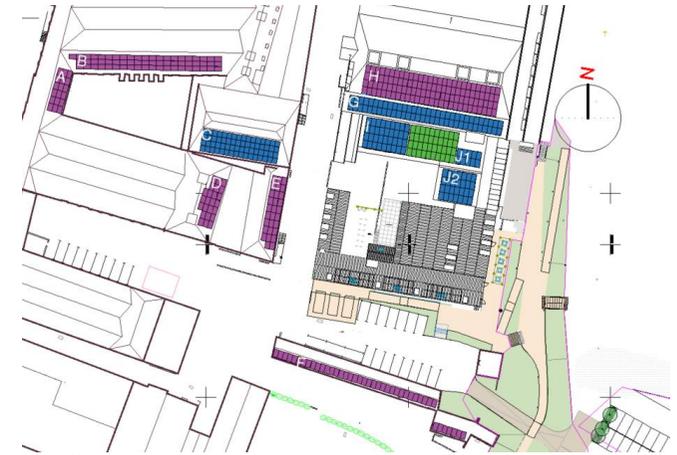


Figure 2. Map of all proposed PV



Energy Centre with a surface mounted array on Clay Pantile Roof



Concert Hall winch gallery standing seam roof with a surface mounted array

2.5.4. PV to Concert Hall

The proposed new PV areas are as per the mark up on the drone photo adjacent. These areas are to the following buildings:

- The Hoffmann Britten Studio southern roof, which is covered in slate.
- The Concert Hall winch gallery roof, which is covered in asbestos tiles, but will be re tiled as part of the works in new composite slate effect tiles.
- The Concert Hall flat roofs, which are covered in zinc standing seam.

The installations will be inline/integrated where they are on slate tiled roofs, and will be surface mounted where they are on flat standing seam roofs

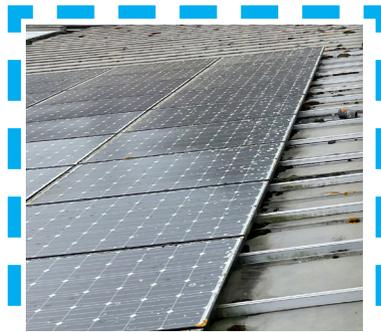
There is no proposed new PV intended for the main 45 deg pitched zone of the Concert Hall roof as when reviewed in test 3d visuals, it was thought to be too visually impactful to the Listed Building and the overall setting of the Maltings. Whereas the lower shallower pitched zone of the Winch Gallery tiled roof area is discrete and has a low impact on the overall roofscape of the Maltings.

To ensure safe access and maintenance to the PV array on the Concert Hall, we are proposing a new roof access hatch and latchway system to the zinc standing seam roofing zone, accessed internally via a ladder. This avoids external platforms or ladders for roof access, which is also a benefit for gutter maintenance and roof cleaning in the future.

The Britten Studio already has roof access via the high level plant room where the AHU is located, and so the maintenance requirement for the new PV array does not result in any additional access equipment.

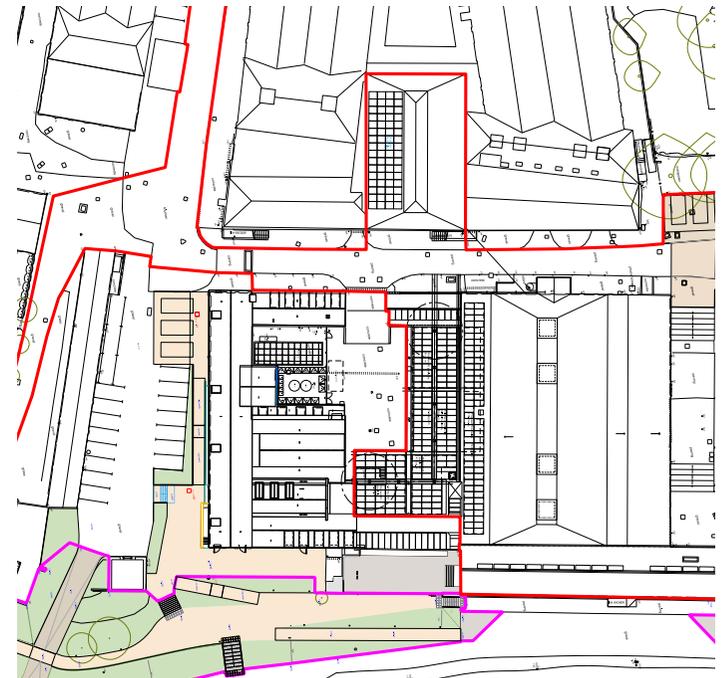


Inline Panels to slate roofs



Surface mounted to flat roofs

Visualisations of Inline PV array to main pitch of the roof



Feedback from The BPA Insurance Underwriter dated 15/08/2024

They will need to know certain information in order to consider cover, terms etc, and the key areas are as follows:

- Confirmation of whether any new panels would be solar thermal or photovoltaic (PV) system
- Confirmation of the sum insured for any additional panels
- Confirmation of the kW output for the panels

In addition, key details that would also need confirming would be:

- That the panel installer is Microgeneration Certification Scheme (MCS) certified
- That a structural survey of the roof has been completed to assess its suitability
- Where batteries are to be installed, Insurers require confirmation of where they are situated and are they within a suitable fire compartment
- Confirmation that there are emergency DC isolation switches

A bit more comment around batteries which can be used to store energy for use at a later point – if batteries are present it is key to understand where they are situated, ideally at least 10m from the main building and/or within a separate compartment with 4-hour fire resistance.

Insurers guidance on the risk management of a PV installation is as follows:

What are the risks?

High current levels can be experienced with DC electricity which can pose problems with firefighting, particularly as the solar panels cannot simply be switched off and can continue to operate even when damaged. Delays can occur in making the premises safe for firefighters possibly exacerbating the extent of the loss. Specialist fire extinguishing mediums have been developed for dealing with solar photovoltaic (PV) fires and fire and rescue services are equipped with these extinguishers.

Fire can melt the roof anchors securing PV panels allowing them to cascade down the roof and a burning PV panel can release significant amounts of toxic gas.

Another issue is that the structural strength of the building/roof may not have been fully assessed prior to installation which could result in early roof collapse in the event of fire.

How to reduce risks with solar panels

- Always investigate the structural suitability of the building/roof. This not only needs to withstand the weight of the panels but also any additional snow or wind loading.
- Poorly designed and installed PV systems can lead to roof leaks as well as the obvious risks with electricity. The cause of fires involving PV systems are often related to poor installation or design. Always use Microgeneration Certification Scheme (MCS) certified installers. This should cover all stages of the operation - design, installation and maintenance. The quality of installer and equipment is critical.
- n PV systems are not in themselves a fire risk however they can cause problems if the building on which they are installed catches fire. High Direct Current levels in the panels can pose problems with fire-fighting because the modules cannot easily be switched off and can continue to operate even when damaged. This means that it can take longer to make the premises safe for fire-fighters, causing more fire damage and increasing the extent of the loss. Always ensure a DC (and if possible an AC) isolating switch is installed. Isolation switches should be clearly labelled.
- Roof anchors must be strong enough to withstand a fire, and to minimise the risks posed by large arrays of panels, these should be subdivided into smaller sections. If severe enough, a fire can melt the roof anchors that secure PV system modules. They in turn can cause damage to the roof as they fall and a burning PV system can release significant amounts of toxic gas.
- Cables and power lines to the AC side must be protected by over current devices such as circuit breakers.
- Ensure installed panels do not obstruct or restrict use of roof windows as a means of escape.
- Where roof spaces have fire compartmentation installed it is important that any system installed does not breach this compartmentation.
- PV installations must be separated from any existing lightning protection system, and also from likely future positions of any such system, such as main roof ridges where conductors may need to be placed in the event of an upgrade of the lightning protection system. Surge protection may be required where bonding to the lightning protection system is necessary. Specialist lightning protection advice should be sought regarding separation and installation of surge protection.
- If your building is not connected to the National Grid, PV systems can provide alternative energy that may be far more flexible, as excess electricity can be stored in special batteries. You will need to consider where you can safely and securely store this extra equipment and specialist advice should be sought.
- Ensure you liaise with fire and rescue services on the location of panels and, in particular, isolation switches, when developing emergency plans. The emergency contact sheet should include the contact details of the distribution network and the installers. If the unfortunate happens and a fire occurs, please inform the Fire and Rescue Service of the location of the panels and the isolator switch, as it may not be obvious to them especially at night. This will influence their tactics on how they will fight the fire and attempt to minimise overall damage.

- Install a warning sign adjacent to the distribution board advising there are PV panels on the roof.
- Ensure your emergency contact list includes details of the Distribution Network and PV installer.
- Conduct periodic electrical safety checks completed by a qualified electrician in accordance with BS7671. The frequency of inspection/testing should be determined by risk assessment. A scheduled maintenance visit should include checking the inverter fans and ventilation, panel cleaning and cleaning of irradiance sensors.
- Your periodic check of the electrical installation needs to include the electrical components of the PV system.
- The room where the inverter is located needs to be kept clear of all combustible materials and secured against unauthorised entry.
- Review and update Fire and Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) risk assessments for the building to reflect the presence of the panels.

PV matrix

	Slate tiles and battening build up	PV system build up	Roofing membrane	Location	Weight Consideration	Heritage Impact	Thermal bridging
None	Slate tiles and battening	None	Medium - Tyvek Supro	n/a	No change to existing	No change to existing	None
Integrated	None	PPC Alu rails and panels	High end SIGA Majcoat W1	Only on over 15deg (ok for both slate covered CH roof planes)	No change to existing	Siloutte unchanged, panels to sit away from roof edge, noticable apperance	Fixings back to primary structure
Surface	Slate tiles and battening	PPC Alu rails and panels	Medium Tyvek Supro	Not restricted	Likely to exceed roof capacity	Raised profile and more obvious, but simpler to remove and leave roof finish intact	Fixings back to primary structure

Above is a matrix showing 3 main options to consider with regard to PV type.

Positives

Negatives

1: No PV to the Concert Hall Roof

No change to Grade 2* listed building, so no issue with Historic England/Wider stakeholders

No additional load to consider in roof structure

No change to insurance profile

No on site generation to offset electrical bills

2: Integrated PV or Solar tiles

Minimal/No change to roof line. Less visual impact.

Integrated panels more visible than tiles due to finish and size

On site energy generation to offset electrical bills

Potential change in insurance risk profile

Integrated panels provide better output than tiles

PV is the waterproofing system of the roof. Life expectancy of panels shorter than tiled covering, so increased maintenance to replace in the future

More expensive than surface mounted panels

3: Surface mounted Panels

Cheaper than integrated panel array

On site energy generation to offset electrical bills

PV panel is not the waterproofing line of the roof, as tiles are still used below. So replacement of panels is less impactful than integrated panels

Can be removed in the future without extensive re-roofing costs.

Potential change in insurance risk profile

Sit above roof tiles, so higher visual impact

Structural loadings will exceed roof structure allowance = additional cost / not feasible

gy

Technical Equipment Upgrades

The existing dimmer racks are located in the ground floor electrical switch room. We will be replacing technical lighting with LED alternatives and as such have confirmed that the load will be reduced. It is therefore intended to retain the existing supplies to the dimmer racks along with the outgoing circuits.

The new house lighting pendants will require new containment for LV & ELV supplies. New conduits will be required fixed to the roof trusses to serve the pendants. It would be recommended for the new house lights to also function as emergency lighting, this could be achieved by adding to the existing central emergency lighting battery system, if there is spare capacity, or by installing a new UPS system.

For the new replacement up-lights, the existing LV supplies shall remain, new ELV data shall be installed for controls.

New motorised rigging bars and acoustic banners will require additional LV & ELV supplies. The existing hoist distribution boards will require upgrading to suit the new quantity of supplies.

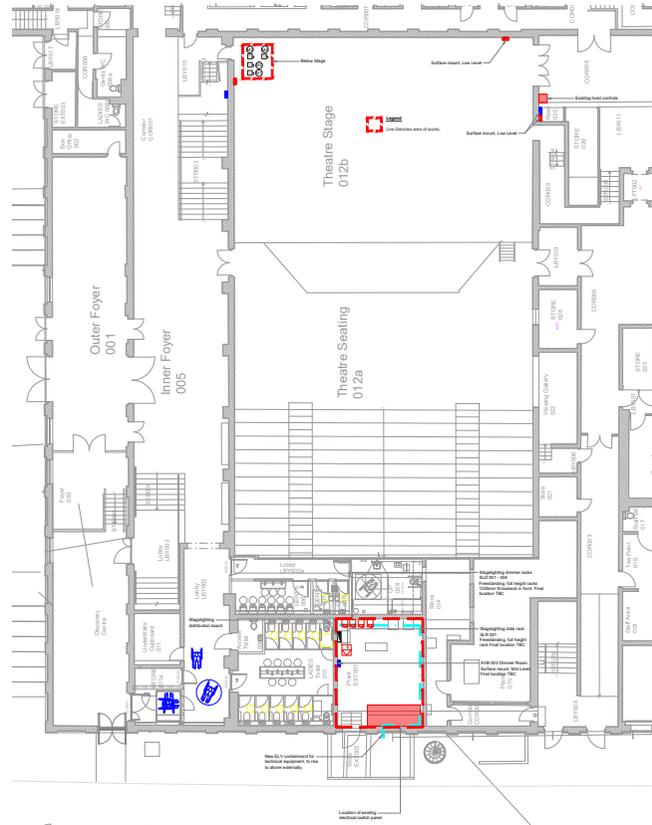
The existing main switch panel for the concert hall is past its economic life and it is suggested that it is replaced within these works

New hearing loop

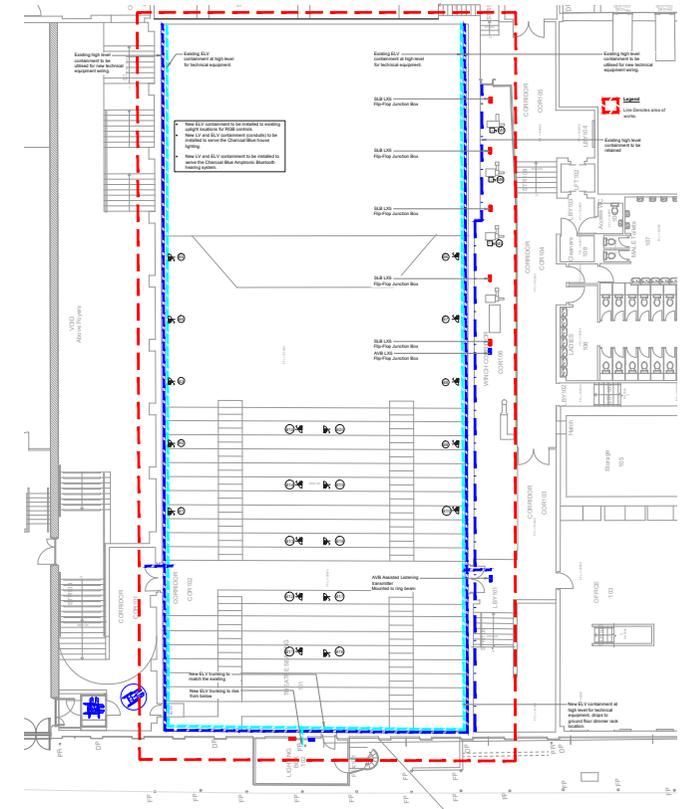
A new Ampronic Bluetooth system is to be installed. The system will require containment for LV & ELV supplies at high level within the concert hall.

Site Wide Technical Infrastructure Upgrade

To improve venue to venue interfaces, there is a proposed new fibre link between the Concert Hall / Britten Pears Building and the Hoffmann Building. New containment systems will be required to facilitate the installation of the new cabling including new below ground cable ducting and surface containment systems.



Ground level Electrical Proposals to Concert Hall



First Floor Electrical Proposals to Concert Hall

2.5.7. Ventilation System

The brief is to replace the supply fan and review options for improving ventilation to the space. The Concert Hall is reported to suffer poor air circulation (limited air distribution) and overheating. The concert hall audience is 830 people.

The concert hall is currently provided by a fresh air supply fan located behind panel filters to the ground level plantroom. The supply air plenum/ duct also includes a Low Temperature Hot Water (LTHW) heater battery, plus a damaged and redundant (disconnected) cooling coil. The supply system cooling coil is understood to have been served from a passive cooling loop which is no longer serviceable. Mechanical cooling is not provided to the hall. The capacity and condition of the existing LTHW heating coil is not known. It has been discussed in Design Team Meetings to replace the heating coil, and permanently strip out the cooling coil.

The supply air fan is a basic, antiquated floor standing belt driven centrifugal fan. This is understood to have been installed around 1969, and has been retrofitted with a variable frequency inverter speed control drive.

Fresh air is drawn in through hit and miss brickwork detail to the West elevation. This may allow ingress of rainwater through the openings into the building as a result of entrainment. The total free area of the openings is approximately 4.1m². As this is a bespoke arrangement, there will be no acoustic or weather performance data available for the arrangement. The current ventilation system flow rate is not known.

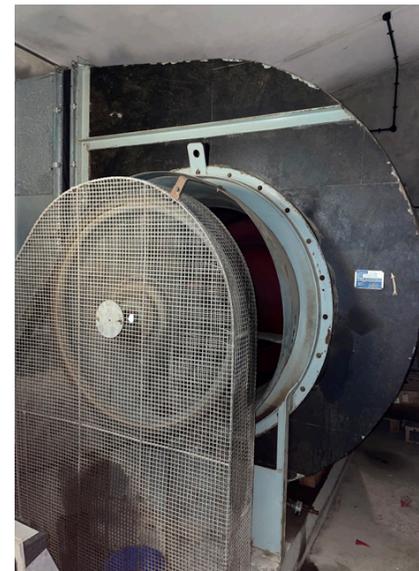
It would appear that the fan has been built into the plantroom, and will most likely require some careful dismantling of the masonry in order to facilitate access for replacement of the ventilation plant, or alternatively bespoke site assembly of the ventilation plant.

As a separate concern, the fresh air intake is positioned to the road immediately outside the building. Therefore, it is possible for exhaust fumes and odours from any passing or stationary vehicle traffic to enter the ventilation system and concert hall.

Air is discharged through the Bluffs at ceiling level, containing motorised dampers, which are to be retained. There is no extract system for the concert hall. This may result in excess pressure affecting the opening and closing of doors, and acoustic effects, which may become more apparent when the airtightness improvement works are implemented. There is currently no mechanical or smoke extract system installed.

The lack of a mechanical extract ventilation system also makes the clearance of any performance related smoke/fog systems impossible to control and clear in a timely manner.

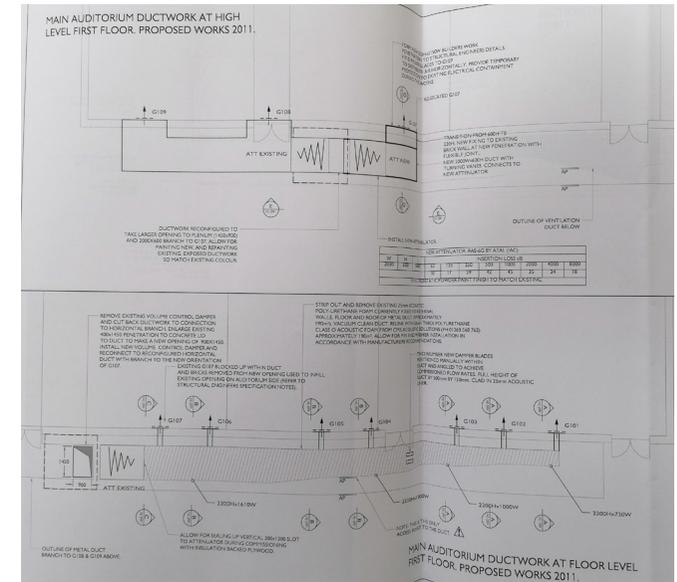
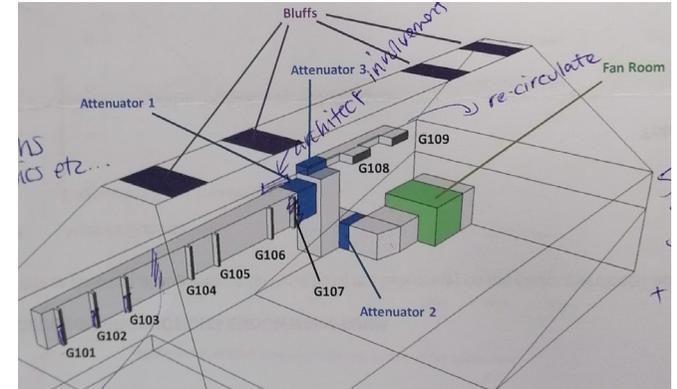
The existing arrangement dictates that heat recovery ventilation cannot practically be incorporated into the scheme. This is due to the remote location of the exhaust at high level in the concert hall.



It is understood that the existing fan and supply system cannot be run at a fan motor inverter frequency of 21Hz or greater as regenerated (noise resulting from air movement through the ventilation system ductwork, grilles etc) noise becomes too intrusive in the theatre. This appears to be a limitation of the existing distribution ductwork and grilles. Supply air velocity is also understood to be too high for occupants seated near to the supply grilles, limiting the supply air capabilities. The supply air velocity in particular causes movement of papers etc being used in a performance.

Review of existing O&M information indicates that the existing supply system was commissioned for a flow rate of 5m³/s, however, for acoustic and high supply air velocity reasons, the fan speed has to be turned down on the inverter speed control, from 50Hz down to around 21Hz. The anticipated supply air volume is approximately 42-45% of the original and estimated to be around 2.1 to 2.25m³/s. This is only 23% of the required supply air volume for the occupancy. Current regulations would provide 10litres/second per person, totalling 9m³/s for the space.

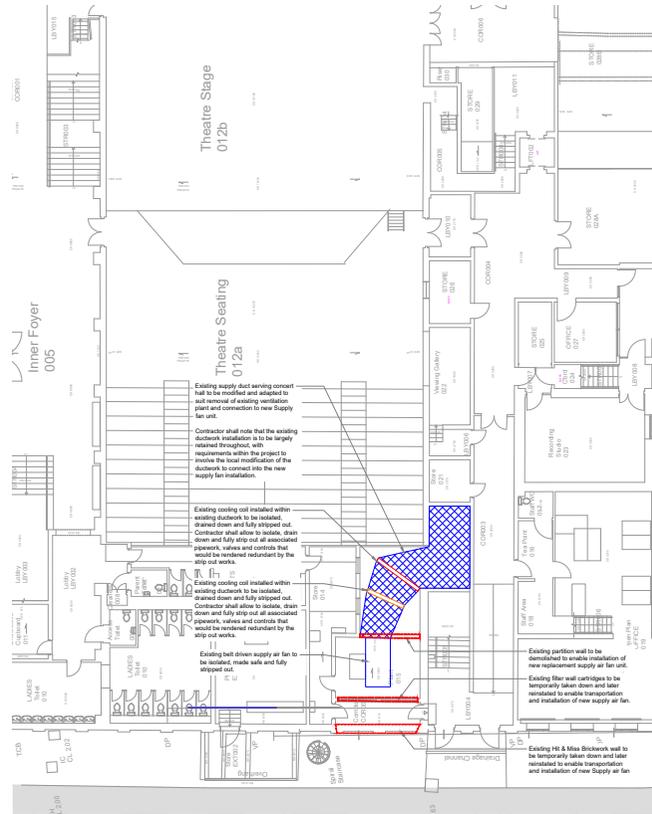
The building is listed therefore will have significant limit on the ventilation alterations and improvements that can be implemented. It is anticipated that without significant re-design and reconfiguration of the ventilation system as a whole, there will be minimal opportunity for any ventilation improvements from a plant replacement alone.



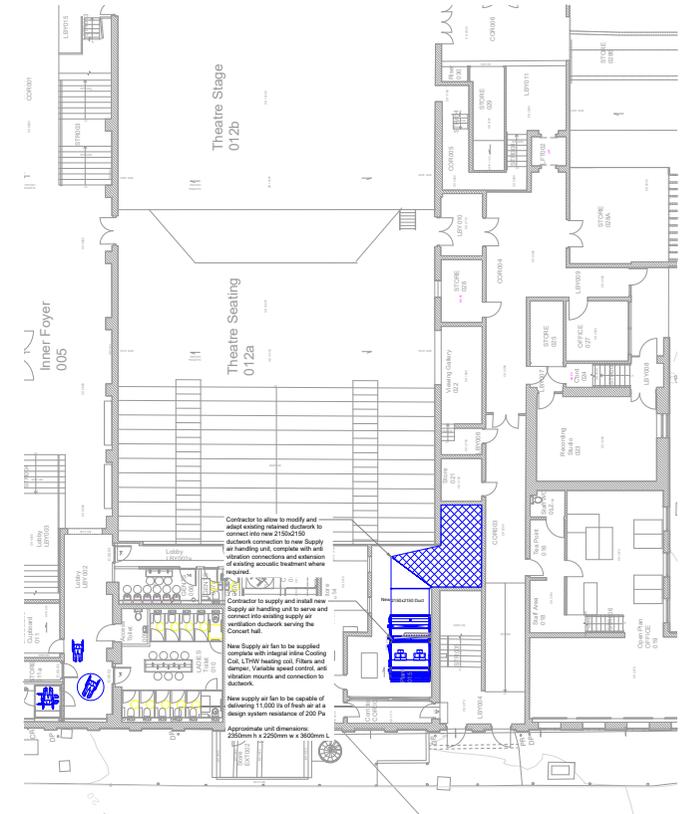
Outline Design

Within the concert hall space, it is proposed that a new replacement supply air handling unit is to be provided within the existing fan plant room, this new supply fan is sized to provide 10 l/s per person based on a peak occupancy of 900 people within the concert hall. The new supply fan is to be provided with integral heating and cooling coils to temper the incoming air to either reduce occupant discomfort from cold draughts during the winter periods or to trim down the incoming air so reduce the perception of overheating. The existing ductwork shall be retained and maintained as its current installation except for localized modifications within the plantroom to suit the installation of the new air handling unit.

The plant will need to be site assembled to allow transport into the plantroom. In reality, due to the size of the plant, it may be necessary to carefully dismantle the external hit and miss brickwork and reinstat.



Existing Ventilation system ; strip out works



Proposed Ventilation system

2.5.8. New Platform Lift

The installation of a new platform lift at the SE corner of the Concert Hall will connect the main entrance lower level of the building with the upper level of tiered seating in the Hall, and provide an additional step free route. This will be a more direct route for visitors to the Hall, and avoid the need to use the external ramped route on this side of the building. It will also enable a step free route for visitors to the Discovery Centre, to move directly into the Inner Foyer of the Hall, rather than having to leave the building and be routed externally.

Reconfiguration of the Female WC are in the inner foyer north side would be needed, but these are also in need of refurbishment.

Due to the new lift location on the upper landing area, it is proposed to build a new stair flight over the existing concrete structure, leaving a suitable space to the existing doors to the Discovery Centre.

The new lift is proposed to be a platform lift. This has the benefit of not needing a shaft or full car, so can clear the pitched roof angle above easily. It also has a shallow pit of only 50mm, so means minimal works in the ground. It can be finished in any RAL colour to suit an agreed palette to best suit the building. The platform size will be 1.1m x 1.48m to provide space for 1 wheelchair user and an assistant.

Proposed Mechanical

The new lift will have impact on M&E services owing to encroachment into the current main service runs to the ground floor Female WCs. The existing sprinkler system will require alterations, as will domestic water and heating systems. An existing sprinkler main enters the building within the ground floor visitors Female WC, which will require re-routing to suit the new lift arrangement. The existing heating run will also require re-routing, with repositioning of the half landing radiator within the Foyer and new heating pipe runs.

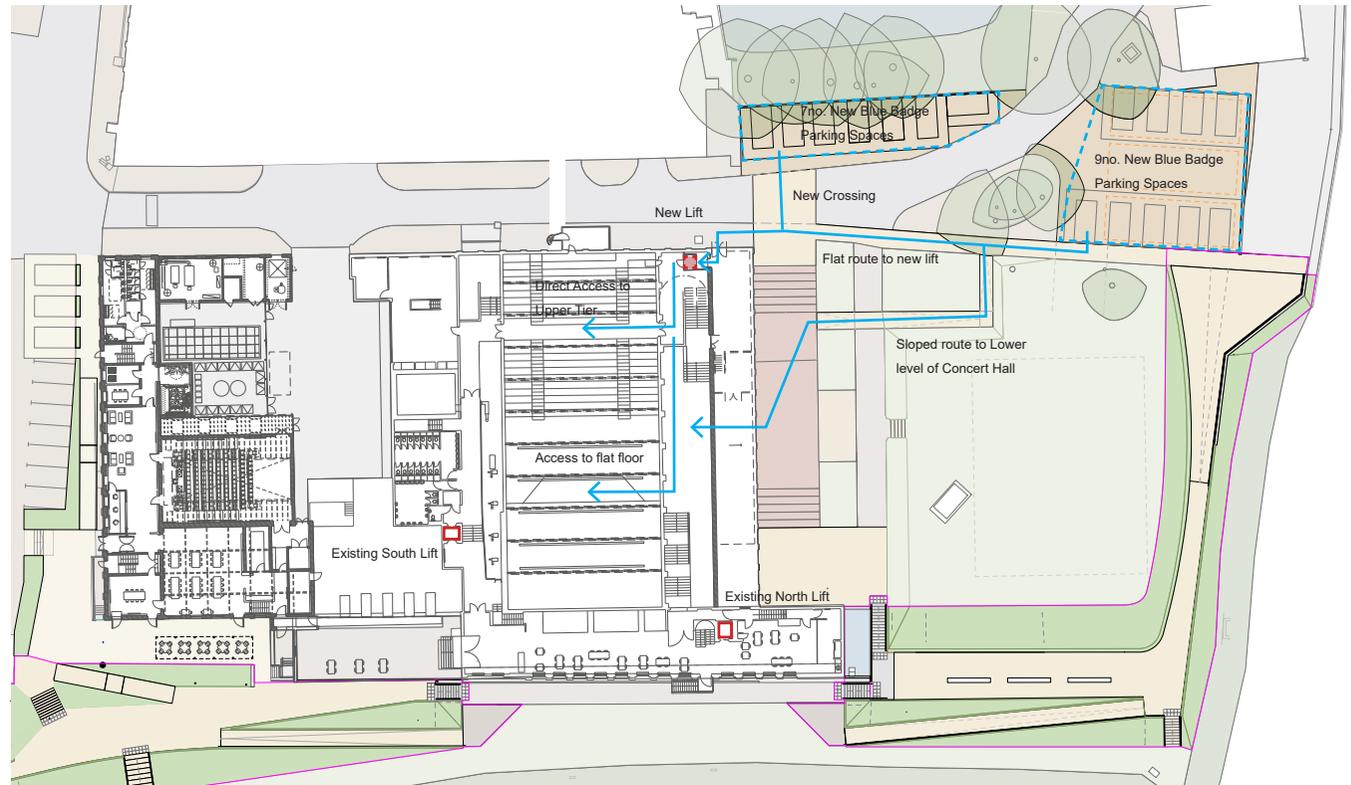
Works will require taking the sprinkler system and local heating system out of operation.

Proposed Electrical

Existing electrical services in the proposed location of the new lift will require further investigation and adapting / re-locating to allow new lift car openings. The services include electrical trunking and MICC cabling. The final location of the lift shall allow for future access to M&E services. The lift shall be supplied from the concert hall main electrical switch room. Refer to the lift survey report for further details.

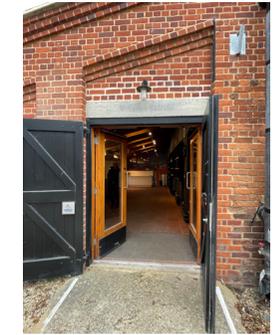
Local lighting / emergency lighting and fire alarms will require modifications to comply with regulatory requirements. The lift will also require a GSM connection for emergency communications.

The lift installation will impact on other workstream areas including the w.c and Discovery centre refurbishments, all areas will require careful programming.



The new opening in the original external wall is intended to be similar in style to the opening that was made in the late 1990s when the Outer Foyer was first built. The image adjacent shows this doorway as it appears now on site.

The images beyond are of the Hall prior to the Outer Foyer construction. Here you can see the original black painted elevation with arched reveals and central doorway. We have dotted the new opening location we wish to form. The solid red line represents the location of the doorway formed in the 1990s.



View of the opening made in 1999, viewed from the outer foyer, looking at the black painted wall which was once the external facade of the building in 1967.

Dotted line shows intent for new opening within same wall, to create similar door and a half installation to access the new platform lift in the inner foyer.



Dotted red lines show our proposal for new doorway, relative to the converted 1967 building. The solid red line denotes the similar opening made in 1999

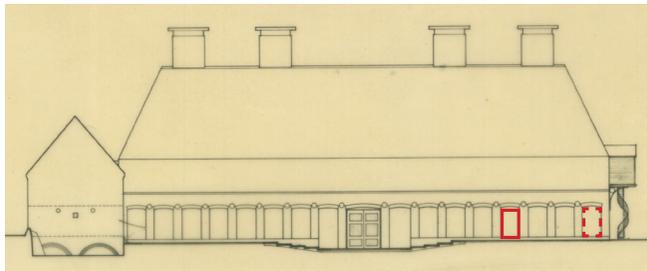


Image of the original Maltings building pre conversion in 1967 into the Concert Hall, showing the same original black painted wall, with red lines as above

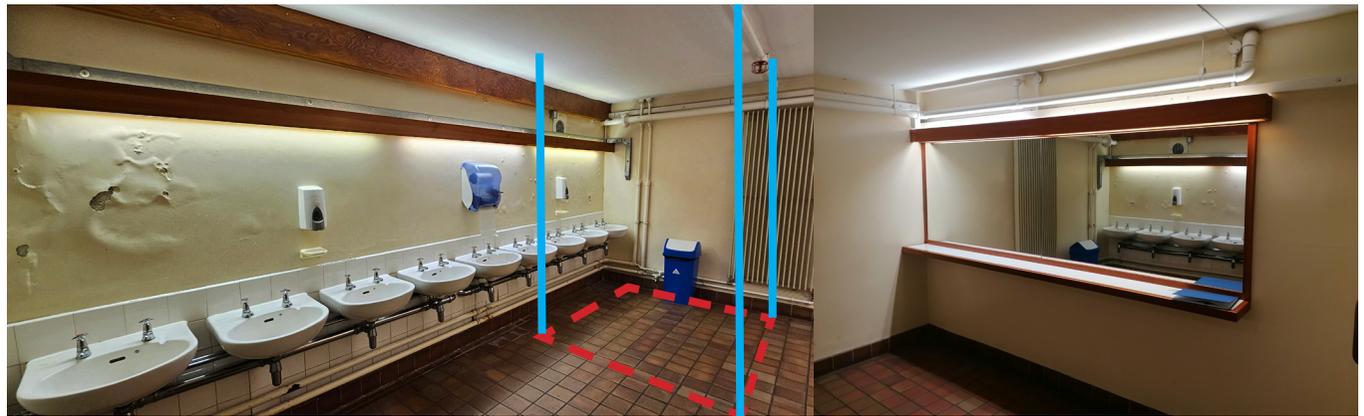
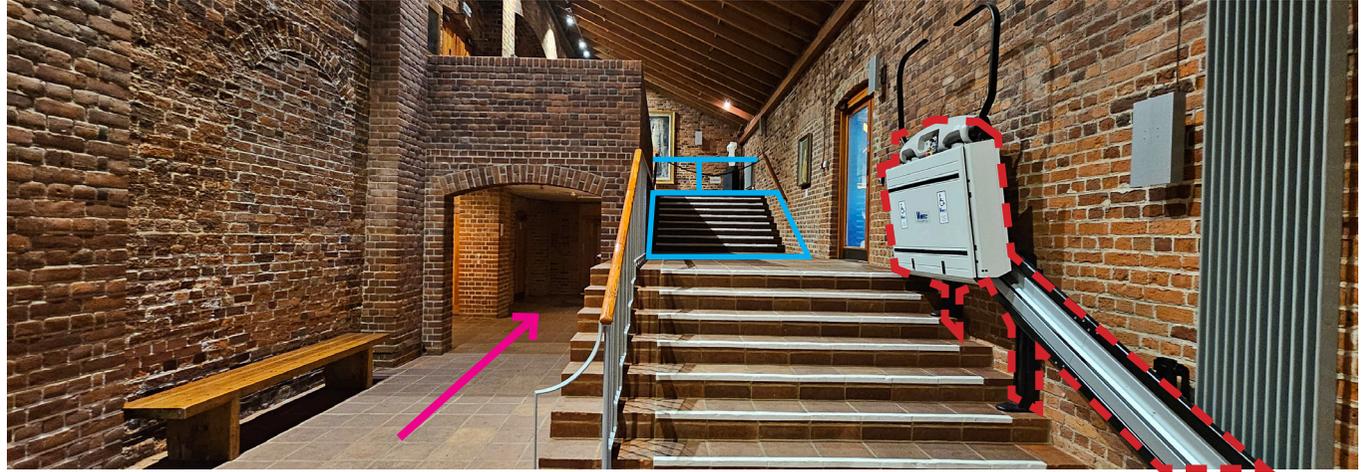
The new lift will be accessed from the lower level by the same route as the Female WC is currently. It is proposed to take down the brickwork partition wall separating the WC from the corridor area to ensure a suitably wide access approach to the lift entrance at this level. The quarry tiles in this existing WC zone will be removed and replaced with pammets to match the rest of the foyer area.

There are some existing services in the corner of this area, including heating pipes, sprinkler pipes, electrical conduits and services. These will need to be re-routed as the split level of the Outer Foyer means the access route to this area will cut through these elements. Where possible, we will retain service routes and cover with new timber wall panelling which will be designed to match the internal door design with vertical rythmn and staining.

It is intended to remove the existing chair lift that is a recent addition to the lower flight of the stepped route. A new wall mounted handrail will be installed to match the design of the upper flight.

The existing upper flight of stairs will be left intact, but built over with a new concrete stair and new pammets laid to match existing. Nosings will be painted white to contrast as per existing condition. The existing handrail will be moved along the wall to suit new flight location.

The brickwork balustrade wall will be cut back at the upper landing, to ensure a clear opening sweep is maintained with the new lift installation in place. Flooring will be made good with replacement pammets where needed.



Photos of the existing areas with strip out / demolition areas denoted in red dotted lines, new access routes with pink arrows, and additional items in blue lines. Detailed drawings are in following pages

During design development we reviewed the lift design and colour finish options with manufacturers. The Concert Hall has a few existing colour finishes present in the Inner and Outer Foyer areas, and externally. These seem to comprise black (the original facade painted brickwork and metalwork) light grey (painted windows and external doors, radiators, external handrails) and white (painted brickwork).

On this page we have presented the lift in these 3 colour options to demonstrate the approaches we considered.

The proposal is to proceed with the dark grey/black option for the design as it connects well with the outer foyer black painted brickwork, and is the least impactful in the upper landing area of the upper foyer.

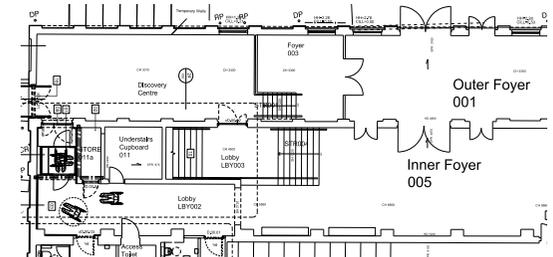
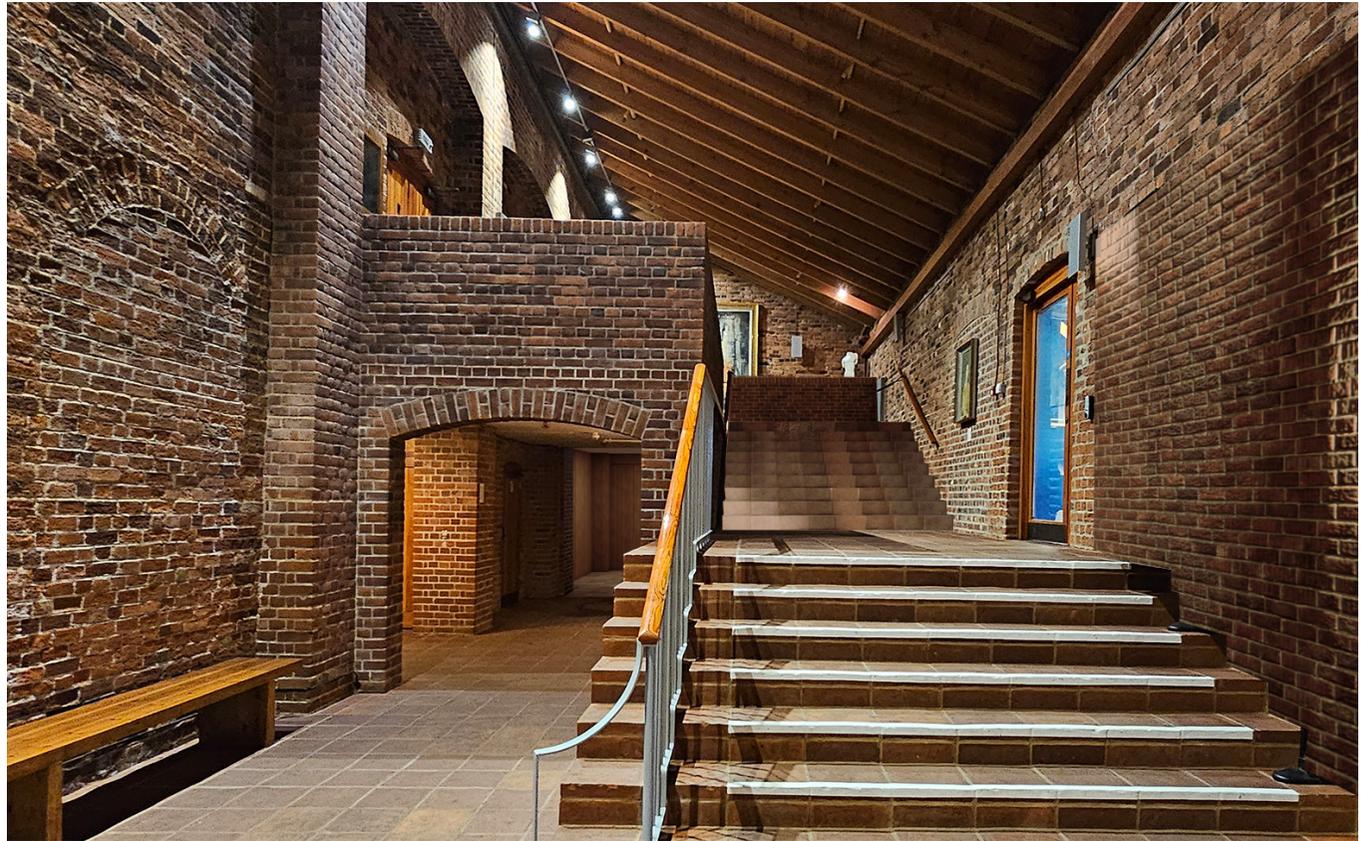
The following pages show some views of this final proposed design approach.



Standing in the centre of the Inner Foyer looking to the West up the stairway to the upper landing, and beginning your approach to the WC block on the lower level.

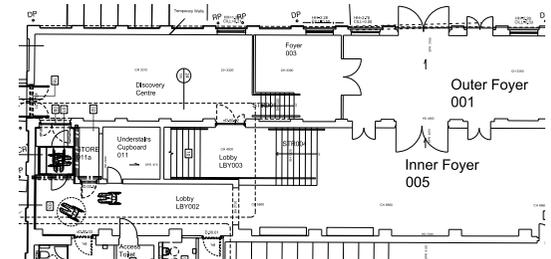
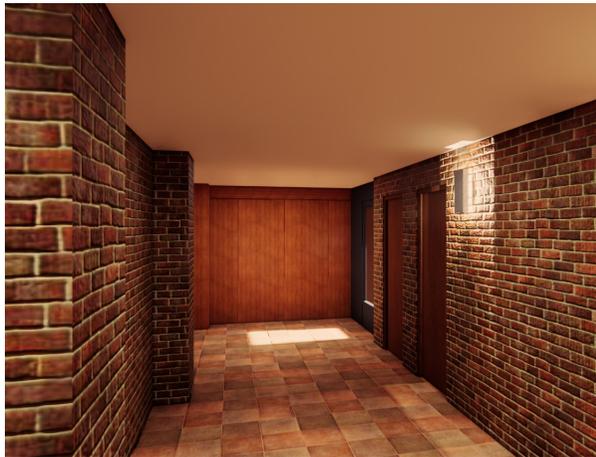
Here you can see the new brickwork wall that screens the new lift at the top of the staircase. You can also see the new staircase flight with matching clay paviours, built to provide the landing access space at the upper level in front of the new lift.

On the view into the WC area and access to the lift, we can see the new timber panelling proposed to clad the existing FWC basin area where there is failing plasterwork in the below ground wall zone. The lift is just out of view to the right of this end lobby area, set slightly back from the existing brickwork wall line.



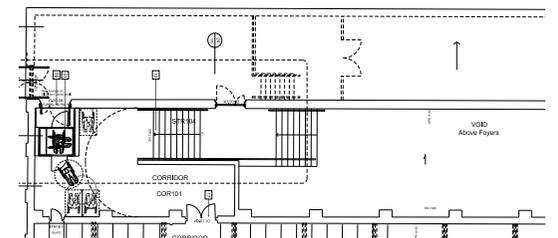
Travelling further into the WC lobby and towards the lift, we can see the existing concrete soffit of the floor slab above. A new store has been constructed next to the existing below stair store, which will provide an area for storing Concert Hall chairs that need to be removed due to wheelchair provision.

The quarry tiles within the FWC basin area will be lifted and replaced with new clay pammments to match the existing, so the extension of this foyer areas feels like a unified space.



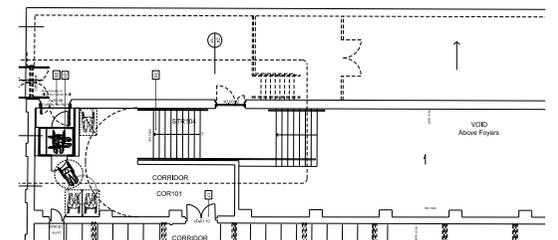
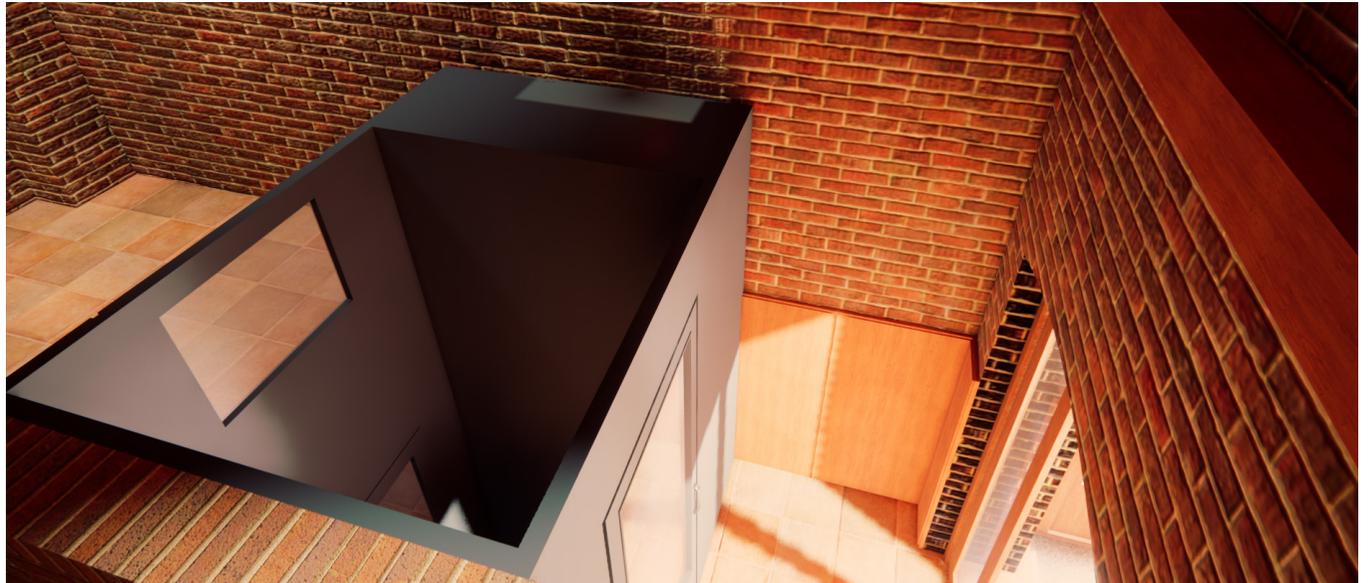
At the upper level of the Inner Foyer, the new lift is screened by a new brickwork wall matching the details of the existing balustrade wall of this level, with soldier course to top. The lift is set back from the edge of this brickwork wall.

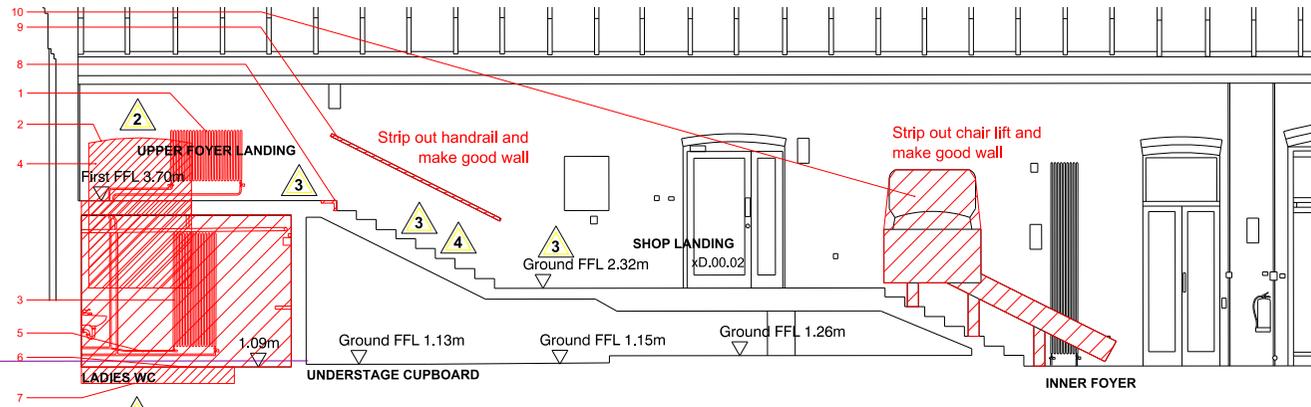
The existing brickwork balustrade wall element needs to be cut back to suit the new staircase location, and brickwork will be made good at the cut line with retained bricks pieced in to the end face.



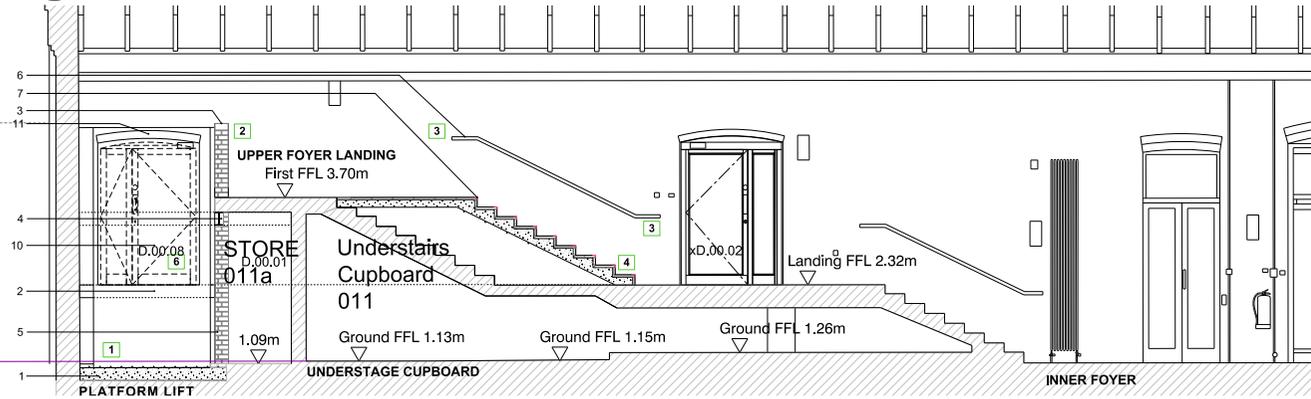
Looking over this new brickwork screening wall you will be able to see down into the new floor level constructed at the Outer Foyer level to provide access to the lift at this side of the car. The wall zone will be clad with the timber panelling used for the FWC basin area up to the datum of the floor level of the Inner Foyer.

A new doorway will be formed in the existing arched bay of the Outer Foyer to access the lift from this space. This doorway will be detailed to match the existing doorway adjacent, installed in 1999.

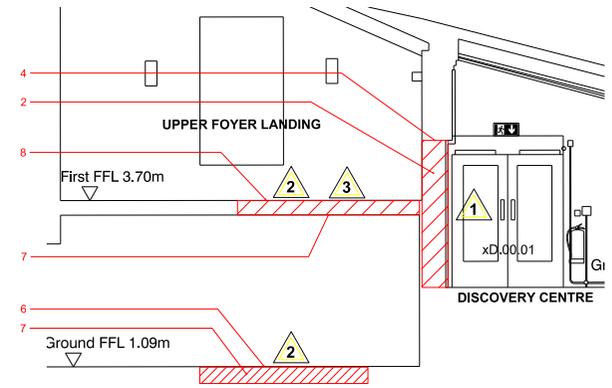




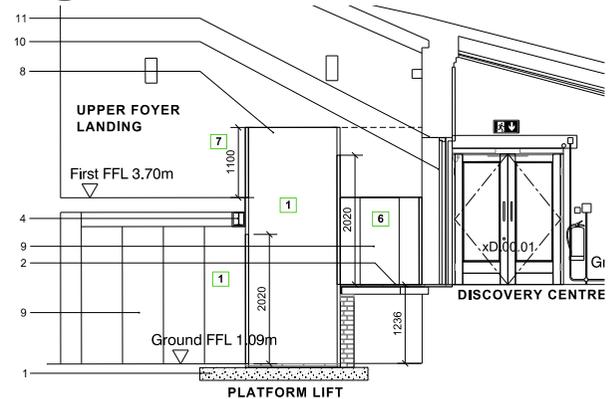
01 Existing Section HH
24_100 1:50 @ A1



02 Proposed Section HH
24_100 1:50 @ A1

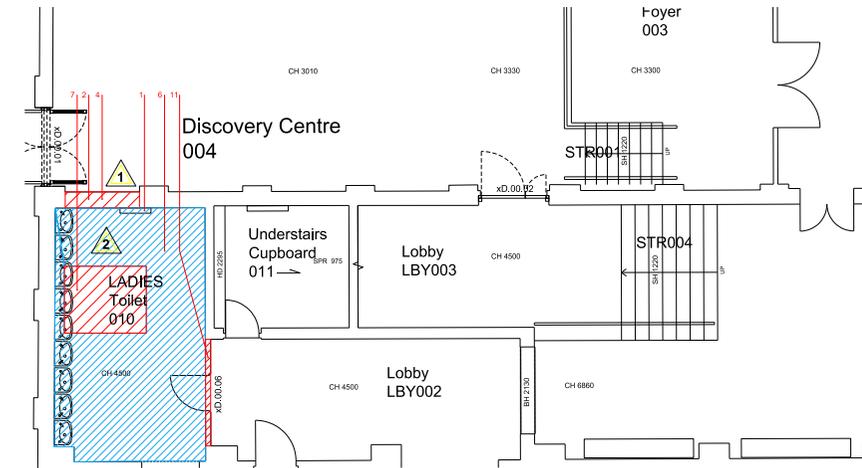


03 Existing Section EE
24_100 1:50 @ A1

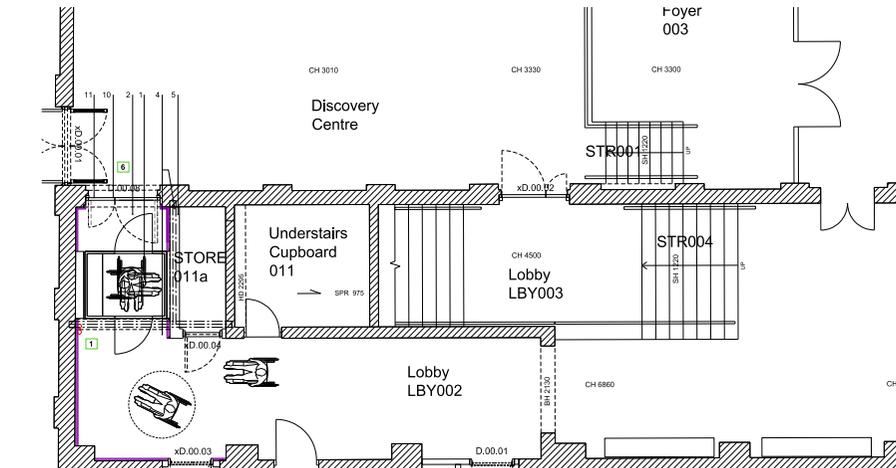


04 Proposed Section EE
24_100 1:50 @ A1

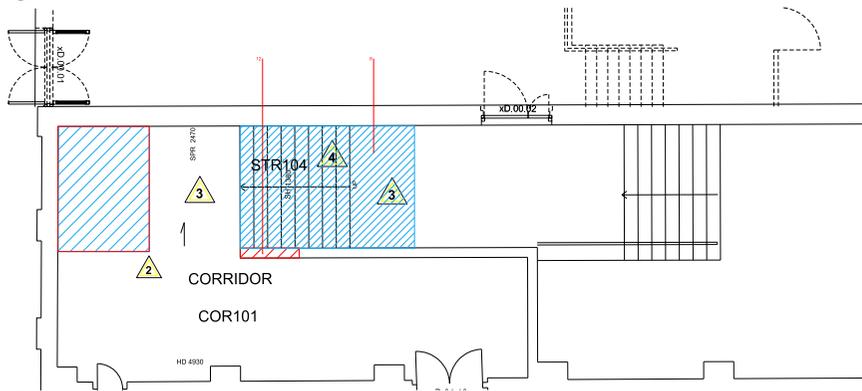
Demolition & strip out legend	Proposed legend	BR Building Regulation	Hazard - CDM Register
<ol style="list-style-type: none"> 1. Redline to be broken, strip out and relocate. 2. Remove existing brick walls from new structural opening through wall. Refer to proposed details and make good of new door for existing. Subsequent to be formed to match existing door to Discovery room. 3. Strip out radiator and other services. Refer to MEP engineer notes for relocation details. 4. Strip work to be cut and formed to create structural area opening to existing brick wall. 5. Strip out ceiling, strips and finishes to create new platform lift. 6. Strip out ceiling, strips and finishes to create new platform lift. 7. Strip out ceiling, strips and finishes to create new platform lift. 8. Strip out ceiling, strips and finishes to create new platform lift. 9. Strip out ceiling, strips and finishes to create new platform lift. 10. Strip out ceiling, strips and finishes to create new platform lift. 	<ol style="list-style-type: none"> 1. New platform lift. Refer to SUE specification and design. 2. New landing to connect entrance from the Discovery Room to new platform lift. Refer to SUE specification and design. 3. New brick wall to be formed to support new opening to platform lift. Refer to SUE specification and design. 4. New brick wall to be formed to support new opening to platform lift. Refer to SUE specification and design. 5. New brick wall to be formed to support new opening to platform lift. Refer to SUE specification and design. 6. New brick wall to be formed to support new opening to platform lift. Refer to SUE specification and design. 7. New concrete floor of slab with raised floor panels and new existing concrete under new brick wall to match existing brick wall. Refer to SUE specification and design. 8. New brick wall to be formed to support new opening to platform lift. Refer to SUE specification and design. 9. New brick wall to be formed to support new opening to platform lift. Refer to SUE specification and design. 	<ol style="list-style-type: none"> 1. New brick wall for new opening. To match brick pattern and design of existing opening to Discovery room. 	<ol style="list-style-type: none"> 1. Existing wall penetration. Risk of wall falling. Contractor to ensure safety of wall and protection of working area to be provided. 2. Existing floor penetration. Existing services to be broken. Risk of services and dropped load. Contractor to ensure safety of wall and protection of working area to be provided. 3. Existing floor penetration. Existing services to be broken. Existing services to be removed. Ensure these are covered in a safe place. Contractor to ensure safety of wall and protection of working area to be provided. 4. Existing wall. Risk to be identified and reduced. Contractor to ensure safety of wall and protection of working area to be provided.



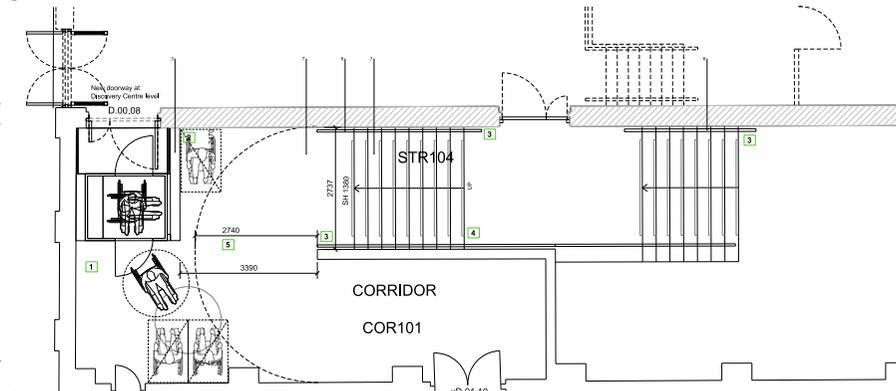
01 Existing Plan 01
150 @ A1



03 Proposed Plan 01
150 @ A1



02 Existing Plan 00
150 @ A1



04 Proposed Plan 00
150 @ A1

Demolition & strip out legend	Proposed legend	Building Regulation	Hazard - Refer to CDM register
<ul style="list-style-type: none"> 1. Red hatched areas indicate areas to be demolished and removed. 2. Proposed new walls, floors and ceilings are shown in red hatching. The hatching is intended to show the location of new work for demolition and removal. 3. Red hatched areas indicate areas to be demolished and removed. 4. Red hatched areas indicate areas to be demolished and removed. 5. Red hatched areas indicate areas to be demolished and removed. 6. Red hatched areas indicate areas to be demolished and removed. 7. Red hatched areas indicate areas to be demolished and removed. 8. Red hatched areas indicate areas to be demolished and removed. 9. Red hatched areas indicate areas to be demolished and removed. 10. Red hatched areas indicate areas to be demolished and removed. 11. Red hatched areas indicate areas to be demolished and removed. 12. Red hatched areas indicate areas to be demolished and removed. 	<ul style="list-style-type: none"> 1. New walls, floors and ceilings are shown in purple hatching. 2. New walls, floors and ceilings are shown in purple hatching. 3. New walls, floors and ceilings are shown in purple hatching. 4. New walls, floors and ceilings are shown in purple hatching. 5. New walls, floors and ceilings are shown in purple hatching. 6. New walls, floors and ceilings are shown in purple hatching. 7. New walls, floors and ceilings are shown in purple hatching. 8. New walls, floors and ceilings are shown in purple hatching. 9. New walls, floors and ceilings are shown in purple hatching. 10. New walls, floors and ceilings are shown in purple hatching. 11. New walls, floors and ceilings are shown in purple hatching. 12. New walls, floors and ceilings are shown in purple hatching. 	<ul style="list-style-type: none"> 1. New walls, floors and ceilings are shown in purple hatching. 2. New walls, floors and ceilings are shown in purple hatching. 3. New walls, floors and ceilings are shown in purple hatching. 4. New walls, floors and ceilings are shown in purple hatching. 5. New walls, floors and ceilings are shown in purple hatching. 6. New walls, floors and ceilings are shown in purple hatching. 7. New walls, floors and ceilings are shown in purple hatching. 8. New walls, floors and ceilings are shown in purple hatching. 9. New walls, floors and ceilings are shown in purple hatching. 10. New walls, floors and ceilings are shown in purple hatching. 11. New walls, floors and ceilings are shown in purple hatching. 12. New walls, floors and ceilings are shown in purple hatching. 	<ul style="list-style-type: none"> 1. Red hatched areas indicate areas to be demolished and removed. 2. Red hatched areas indicate areas to be demolished and removed. 3. Red hatched areas indicate areas to be demolished and removed. 4. Red hatched areas indicate areas to be demolished and removed. 5. Red hatched areas indicate areas to be demolished and removed. 6. Red hatched areas indicate areas to be demolished and removed. 7. Red hatched areas indicate areas to be demolished and removed. 8. Red hatched areas indicate areas to be demolished and removed. 9. Red hatched areas indicate areas to be demolished and removed. 10. Red hatched areas indicate areas to be demolished and removed. 11. Red hatched areas indicate areas to be demolished and removed. 12. Red hatched areas indicate areas to be demolished and removed.

2.5.9. Existing Northern WC provision

The current Concert Hall front of house WCs have been briefed to be updated. There are a number of issues with the sanitary installation which means a general replacement is necessary.

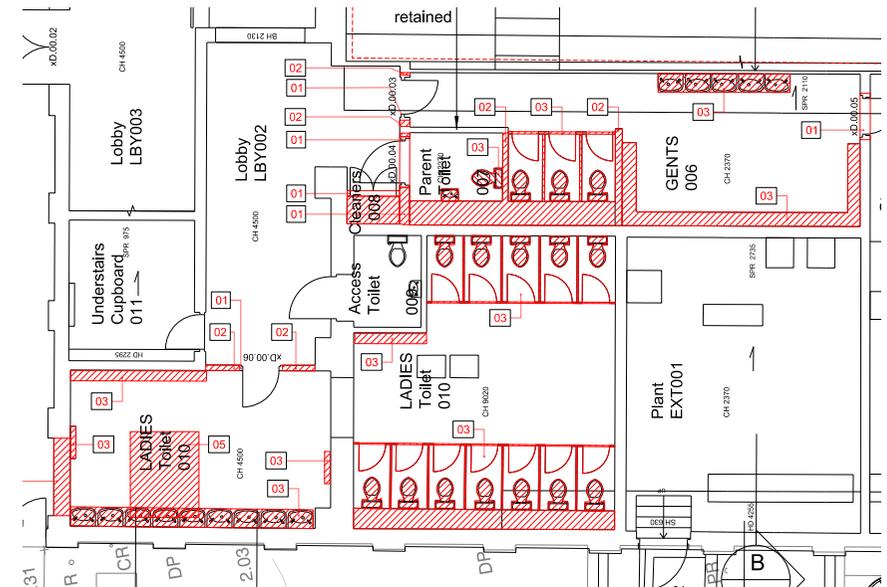
The cubicle depths are not large enough to provide a clear 450mm dia turning circle inside. There are no ambulant or enlarged cubicles. The only baby change facilities are within an Accessible WC space. There are no full length mirrors in the spaces.

We understand the WCs in these areas to date from the late 1990s works, where the outer foyer was constructed and the female WCs were extended. Therefore, the only original finishes in this area are likely to be the quarry tile flooring and doors only.

BPA recently conducted a survey of visitors in June 2024, and their comments about the WC provision can be summarised as follows:

- Toilets are tired and in need of replacement
- The hot water in the ladies' toilets is far too hot, save money and energy, turn down the thermostat!
- Paper dispenser difficult to use so paper on floor!
- Downstairs toilet area always smells of damp/unpleasant odour
- the toilet flushes are far too long, wasting huge amounts of water.
- Not enough toilets for a capacity audience
- Toilets were plentiful in the concert venue but rather difficult to get to
- long toilet queue
- More soap dispensers in the ladies toilet are needed
- Its wonderful having so many loos for women. We don't have to queue so long!

The existing provision of quantity of Male and Female WCs and basins is in excess of the recommendations of BS6465 for a venue of this type. However, the existing provision is seen as a good baseline to aim to maintain with the new layout design.



Existing layout.

Sanitary Space

Ground Floor North Foyer

Existing Provision						
FEMALE			MALE			
WCS	BASINS	URINALS	WCS	BASINS	URINALS	AWC
12	9		3	5	11	
						1
						1
area total	12	9	3	5	11	2
Min South Side totals for compliance	8	5	1	2	2	

First Floor Winch Gallery

Male WC			2	6	9	
Female WC	14	7				
AWC 1						1
area total	14	7	2	6	9	1

Concert Hall Total

	26	16	5	11	20	3
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BS6465 requirement

Concert Hall (event time)	22	12	3	5	11	
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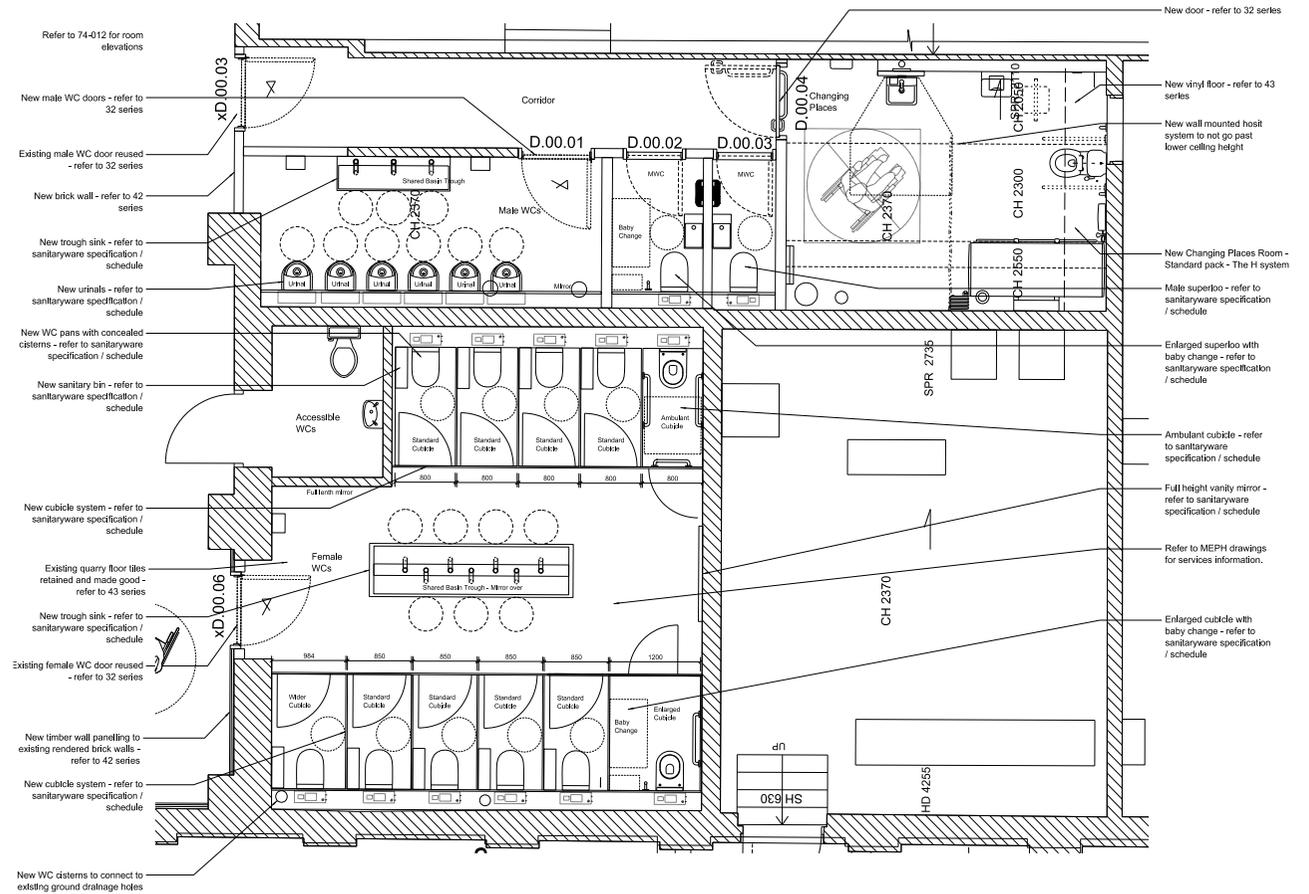
2.5.10. Proposed New layout

We tested layout options for replanning the Female WC area to accommodate the new Lift and the Changing Places WC.

The proposed layout shown adjacent has the minimal impact on the historic fabric of the building, while delivering improved accessibility to all sanitary provisions.

In the reduced footprint we are proposing only 1 Female and 1 Male cubicle is lost compared to the existing provision. 1 no Unisex Accessible WC has been removed, to make space for the new Changing Places facility. This provision is still in excess of the BS6465 recommendations.

Alongside this, we are delivering an Enlarged and Ambulant cubicle to the Female WC area, where there were previously none. A baby change table will be located within the Enlarged, to avoid queues for the Unisex Accessible WC space. In the Male WC area, we have split the Urinals into a separate space to maximise circulation efficiency which is shared with the Changing Places facility. There are 2 Male WC spaces which are superloo arrangements, with a basin within the cubicle. The larger cubicle houses a baby change table.



Sanitary Space	Existing Provision						Proposed Provision					
	FEMALE		MALE		URINALS	AWC	FEMALE		MALE		URINALS	AWC
WCS	BASINS	WCS	BASINS	WCS			BASINS	WCS	BASINS			
Ground Floor North Foyer												
Male WC			3	5	11			2	3	6		
Female WC	12	9				11	9					
AWC 1												1
AWC 2 / Baby Change												1
area total	12	9	3	5	11	2	11	9	2	3	6	1
Min South Side totals for compliance	8	5	1	2	2	1	8	5	1	2	2	1
First Floor Winch Gallery												
Male WC			2	6	9			2	6	9		
Female WC	14	7				14	7					
AWC 1												1
area total	14	7	2	6	9	1	14	7	2	6	9	1
Concert Hall Total	26	16	5	11	20	3	25	16	4	9	15	2
BS6465 requirement	22	12	3	5	11		22	12	3	5	11	
Concert Hall (event time)												

2.5.11. Female WC Provision

The quarry tiled floor will be retained and repaired where required, but there are minimal changes to the layout so it is expected this will be minor, other than where the new island basin supplies will be chased into the floor screed.

The plastered and painted walls will be redecorated as part of the works and made good.

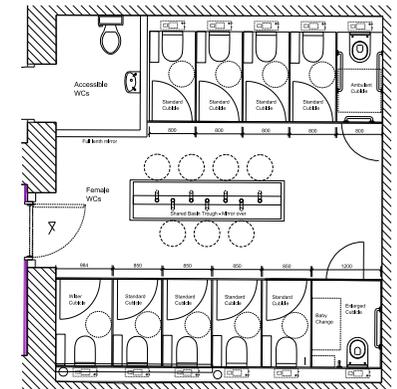
The new cubicle system will be finished in a bold colour and have full length steel push panels to the opening side to provide the visual contrast to define the door edge. There will be an IPS to the rear of each cubicle for cistern access.

The existing services are all surface mounted to the walls or the concrete soffit which is formed by the raked seating to the Hall above. New services will need to maintain this strategy as we are not proposed a new dropped ceiling as the character of the space is the sloping soffit.

As such, new lighting is proposed to be pendant fittings

A central shared island basin unit will provide 9 tap locations.

Coat hooks will be provided to the walls, along with full length wall mirrors



2.5.12. Male WC Provision

The quarry tiled floor will be retained and repaired where required, but there are minimal changes to the layout so it is expected this will be minor.

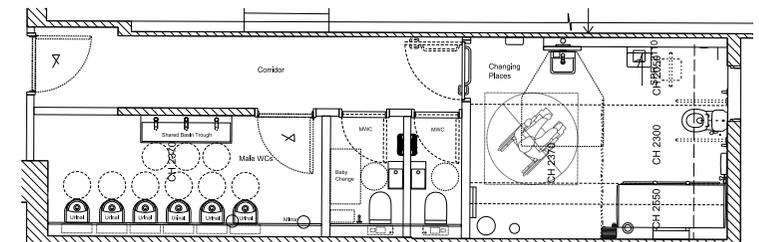
The plastered and painted walls will be redecorated as part of the works and made good.

There are no cubicle partitions or doors to the Male WC area. However the Urinals will have an IPS to the rear for access to the shared cisterns.

The existing services are all surface mounted to the walls or the concrete soffit which is formed by the raked seating to the Hall above. New services will need to maintain this strategy as we are not proposed a new dropped ceiling as the character of the space is the sloping soffit.

The ceiling level to the Male area is much lower, as such the new lighting is proposed to be surface mounted fittings

A wall mounted shared basin unit will provide 3 tap locations.



2.5.13. Changing Places

As part of the proposed wider access improvements to the Maltings, BPA have considered their role as a community asset and what they can do to provide more facilities to serve their visitors and the wider community.

For those who are unable to use the bathroom independently, or require the use of certain resources or equipment to be able to do so, Changing Places are an inclusive solution. Enabling users and their assistants to toilet, wash, change and dress in privacy and comfort, they are a vital facility in a public building with the inclusive aspirations.

Changing Places are an addition to the single sex, accessible and baby changing facilities already in place on the site, and the correct advertising of, and signage to, Changing Places facilities will ensure that users are able to identify, navigate to and use these facilities in an accessible and inclusive way.

A Changing Places room designed according to the guidance of BS 8300-2:201 is to be included in the sanitary provisions for the public at the western end of the ground floor of the Concert Hall foyer.

Changing Places are essential for many visitors who would not otherwise be able to spend time at the Maltings site.

These facilities include an adult-sized changing bench, large basin, 'peninsula' WC (with space on either side for assistants) and a ceiling-mounted hoist.

All Changing Places facilities should be registered on <http://www.changing-places.org>.

The requirements listed below are in accordance with the Changing Places Consortium, a particularly useful resource for those wishing to locate, use and campaign for Changing Places all over the UK

A CP facility must include:

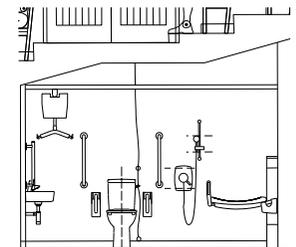
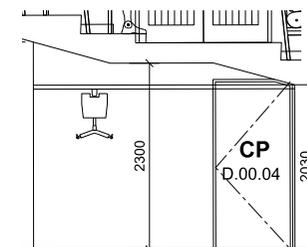
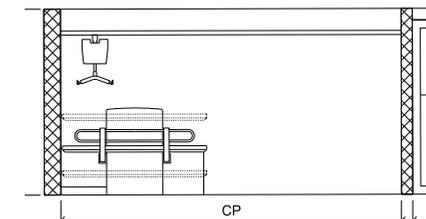
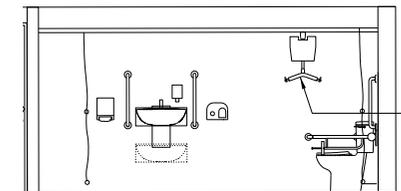
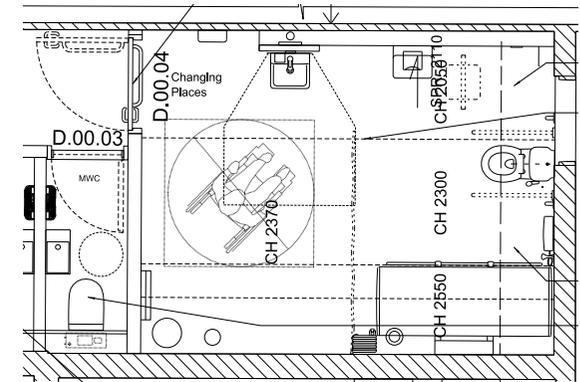
- height adjustable, adultsized changing bench
- ceiling track hoist system
- adequate space for the disabled person and up to two assistants
- centrally located toilet with space both sides for assistants
- privacy screen
- wide paper roll
- large waste disposal bin
- washbasin, preferably height adjustable

In addition, shower facilities are recommended for managed buildings, such as leisure centres, transport hubs, or specific projects. A shower is not required for all Changing Places toilets.

This CWP scope for BPA does not aim to provide a showering facility.



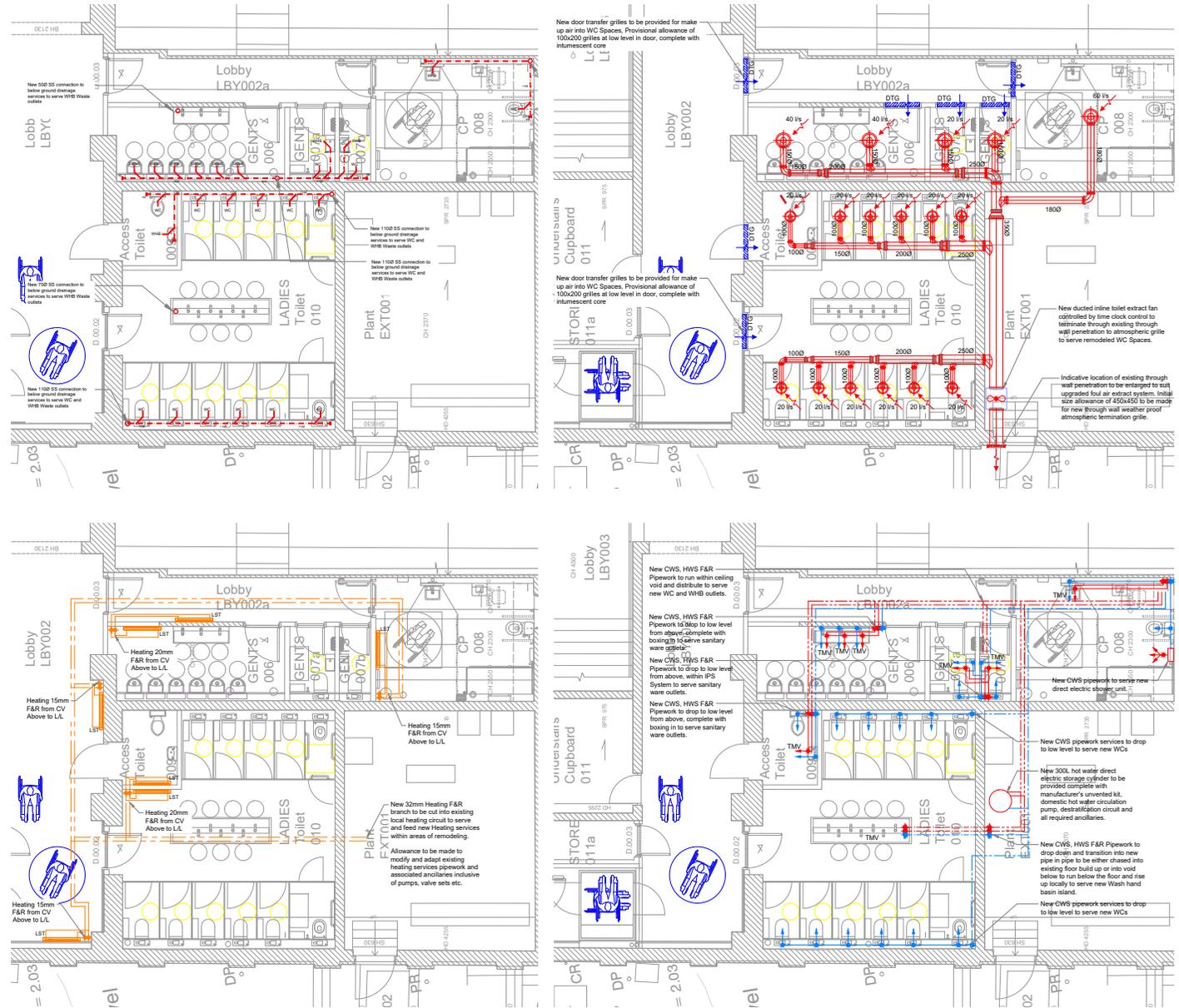
Changing Places symbol for wayfinding and Signage



2.5.14. MEPH Design to WC area

As noted previously, the existing service to this area are all surface mounted and so adjustments to existing routes to suit the new layout are possible without disrupting existing fabric.

The new installations will be coordinated to ensure visible service routes are ordered and maintainable.

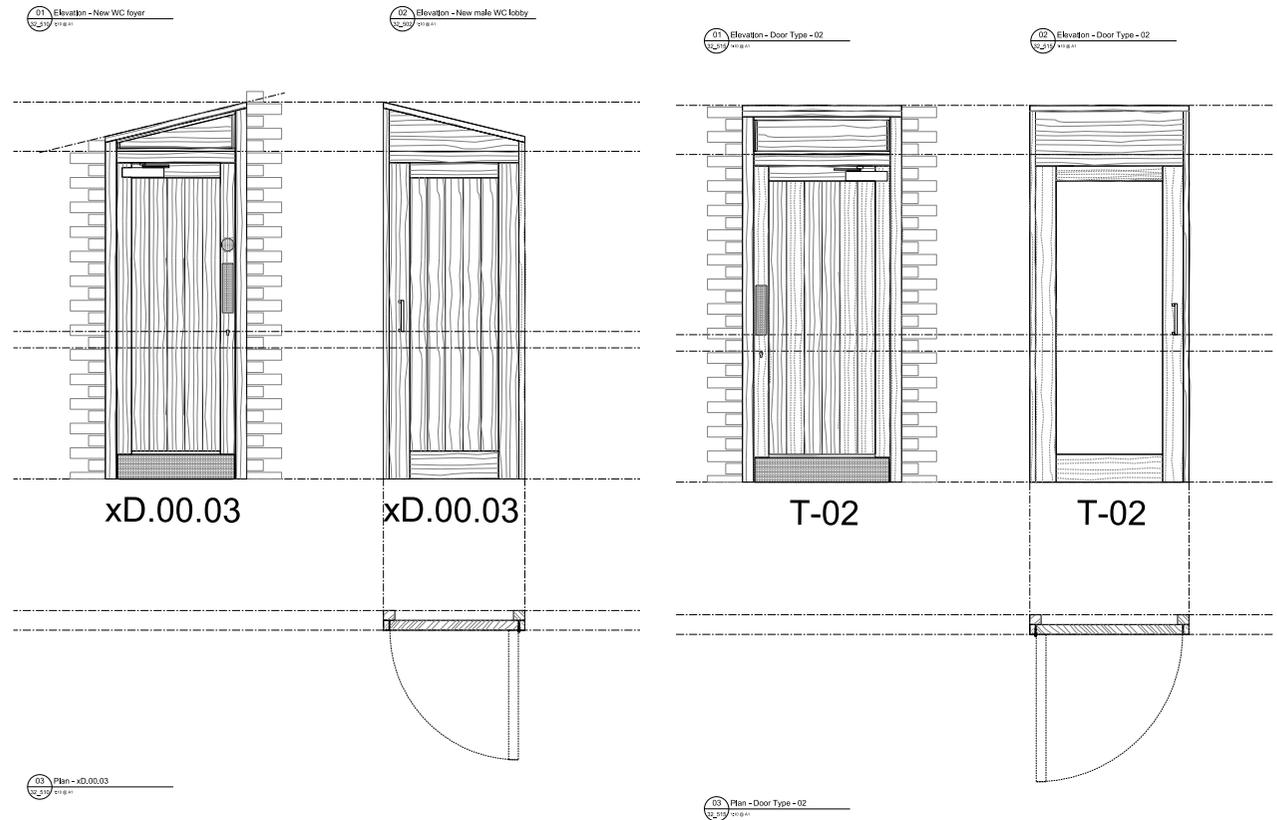


2.5.15. Doors

The strategy for the WC area and the Concert Hall in general is to try and retain and re-use the existing doorsets as far as possible to suit the new application requirements. As such, the performance of each existing doorset must be reviewed to see if it is fit for the new location with regard to acoustic, fire and accessibility.

The existing doors are not all alike, with some featuring bespoke head panels to suit sloping soffits, or painted central panels on the room side vs varnished timber panelling on the corridor side. These features make re-use problematic in some instances.

A full set of door drawings has been included in the appendix to this application to explain the intent for each existing door, and where we need new doorsets.



2.5.16. Discovery Centre

The Outer Foyer

The outer foyer has been used in a number of arrangements since it was first opened in 1999. Our understanding is that the primary driver for the development of the outer foyer was to overcome concerns from Suffolk Coastal District Council of the "fire risk" activities on the primary route of escape from the Concert Hall. Therefore, the activities that required joinery items and electrical fixtures in the inner foyer, such as the box office, were moved out into this new outer foyer space. This left the original foyer free and sterile to act as a protected escape route.

The intent was for the outer foyer to be open when the Concert Hall was not, so increased daylighting was provided via more window openings.

The western end of the outer foyer was built at a higher floor level, to enable access from the main thoroughfare of the Maltings, and a partition wall was built to segregate this area from the rest of the outer foyer. It is thought this was originally to allow this area to be a meeting space.

This western section of the outer foyer has served a few purposes since that time. Most recently it has functioned as a BPA retail space, with some information and displays on the Maltings and Charity.

Scope of Works

The brief for this space is to become the new welcome and orientation space for visitors to the Maltings site, and their introduction BPA and their other locations in the wider area. So while it will be a key destination for visitors, it is not anticipated to be something that will change visitor numbers, but rather support the existing public on site.

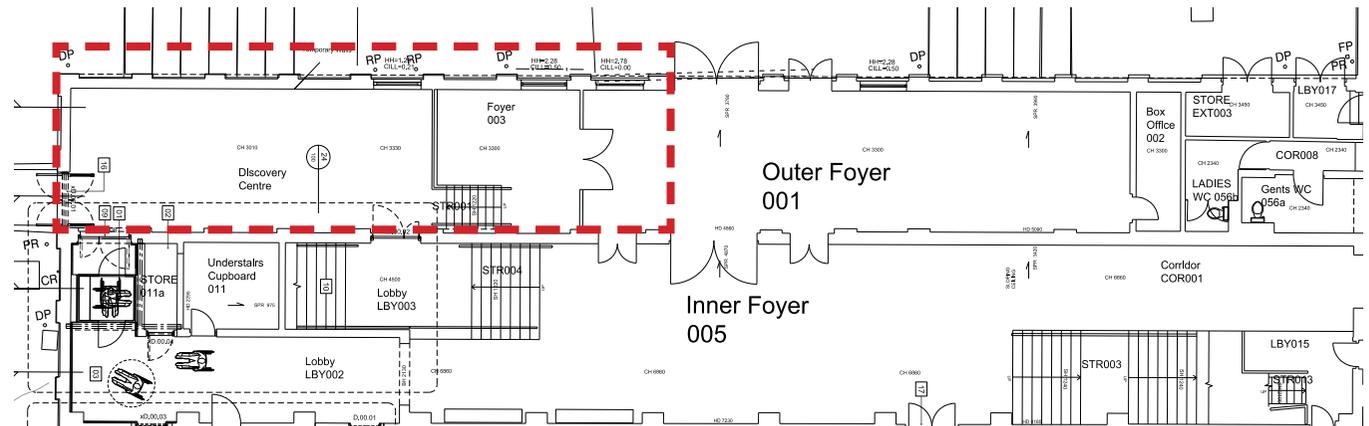
The intent is to make the outer foyer and this area more flexible in general, to enable BPA to staff the space appropriately.

It will be designed with specialist exhibition design input, to ensure new content and digital equipment is integrated into the space to deliver improved engagement with visitors, especially young and disadvantaged groups

The new platform lift will enable a direct route into the Concert Hall from this space, via a new doorway opening in the original external wall.



Images show how the space used to be used.



2.5.17. External Access Door

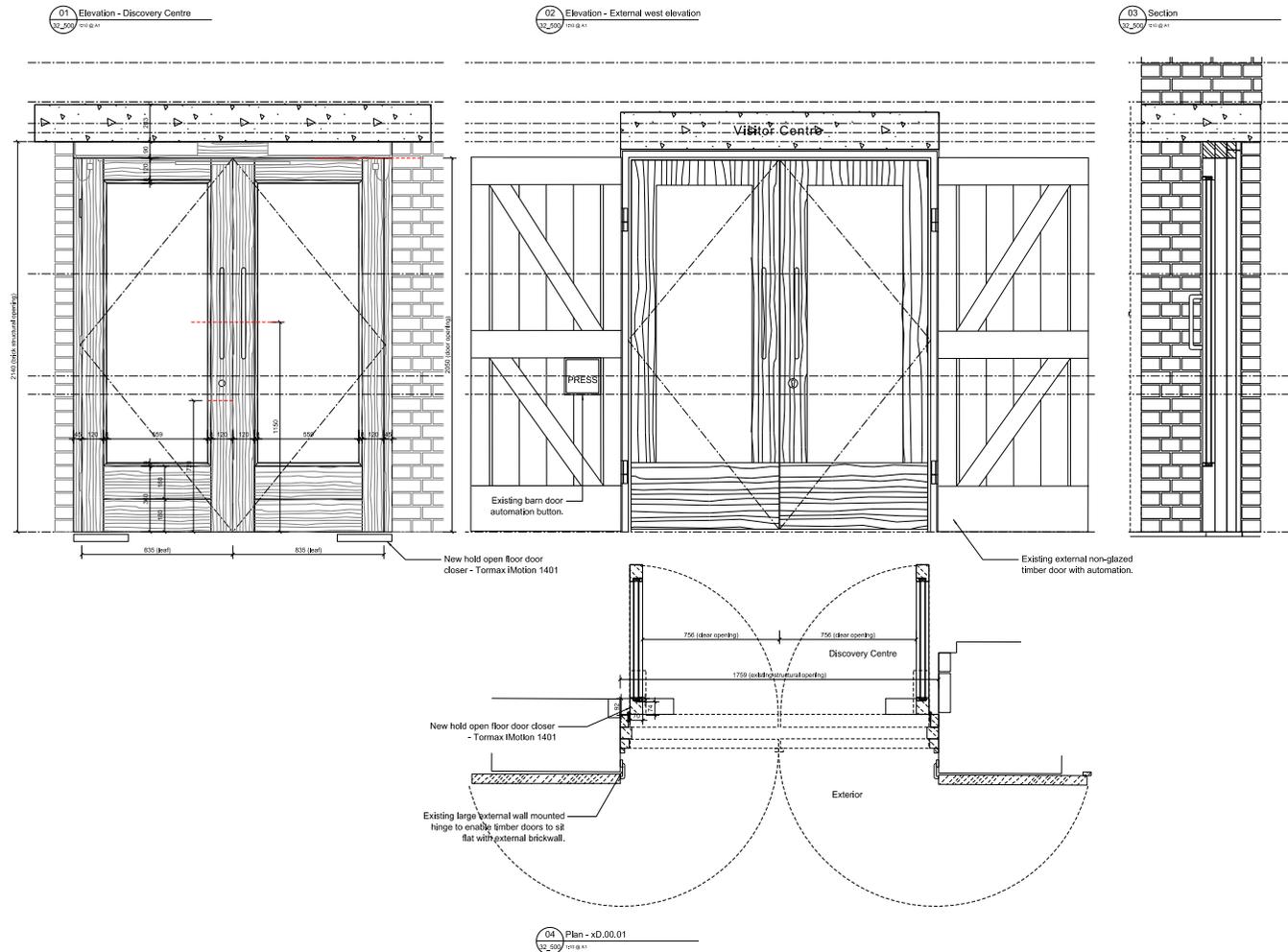
The existing external access door comprises an external black painted timber ledged and braced barn door which is opened manually by staff to open up the building, and is held open on drop bolts.

The inner thermal main door is a solid timber framed doorset with large vision panels to the centre. It has side hinges and an overhead door operator system which is not functioning. There is a push button mounted into one side of the black painted outer doors so visitors can operate the doorset from the outside.

The proposed works are to ensure this door functions with an automated opening mechanism again, as the expected footfall through this route will be higher than previous with the installation of the new lift. As such, we proposed to install a floor mounted door operator system to avoid issues with hinge drop due to the weight of the doorset.

The works involved will be to cut out the floor around the base of the door, and to install new rebated ironmongery into the base of the door to house the new door arm.

Externally to the door there is short steep ramp which sloped down to the roadway. The new resurfacing of the car park areas as per later pages of this report will be linked to this doorway to provide suitable bound surfacing to this entrance door, and as such the sloped access ramp will be modified to angle towards this angle of approach.



Existing Mechanical

The existing shop will be transformed into a Discovery Centre. Existing mechanical and electrical services will require alteration to suit the new lift installation (please see new lift section). The room currently does not have any mechanical ventilation and relies upon the door being open as a means of ventilation. Heating is provided by radiators and surface mounted pipework, with pipework emanating from the structure. There is some existing controls equipment behind the till point which will need to be retained.

The area is covered by the sprinkler system. There is currently no domestic water or drainage provision.

Existing Electrical

The existing electrical installation includes building wide containment systems along with steel dado trunking. Lighting is a mixture of surface mounted linear fluorescents and spotlights installed on track. Emergency lighting is via the 50v central battery system. Fire alarm automatic detection, manual call points and interfaces are present. There are also PA speakers within the space. An intruder alarm system is present with PIR's and arming control panel. The entrance doors are powered for easy access. Data outlets and wi-fi are present. Wiring is a mix of steel trunking and conduit and surface MICC cabling. There is a distribution board behind the reception desk which serves the room and external lighting.

Outline Design

Proposed Mechanical

- Relocate existing services to suit new lift opening near the external doors, including heating pipework and radiators. This will involve extensive builders works to form a new service route within the floor for the diverted heating mains run and sprinkler main run (please see new lift section).
- Ventilation would ideally be provided by means of heat recovery units for the intended occupancy. This would require a new high level heat recovery unit complete with ductwork, builders work holes and external weather louvres for fresh air intake and exhaust. However, owing to the Listed Building arrangements ventilation will need to remain as natural via the openable doors.
- It is understood that new domestic water services and drainage are not required in this location.
- The sprinkler pipework at high level may require alteration to suit the requirements of the space.
- Heating pipework to be installed in medium steel, with existing column type radiators repositioned. Pipework within boxings, service voids and enclosures to be insulated.

Proposed Electrical

- Existing electrical services within the area of works should be stripped out and replaced with new to suit the new layouts. This should include new small power circuits and new LED lighting and emergency lighting.
- Existing building wide containment shall be retained, and new containment systems will be required for LV / ELV and fire alarms.
- The existing fire alarm system will require adapting / modifying to suit the new layouts in compliance with BS5839-1.
- Existing data / wi-fi systems shall be adapted / modified to suit the new layouts.
- New AV Digital systems shall be included and progressed during design development.
- Existing security alarm systems shall be adapted modified to suit the new layouts.
- Existing PA systems shall be modified to suit the new layouts.
- CCTV systems shall be considered in line with the security strategy.
- Access control systems shall be considered in line with the security strategy.
- All electrical works will be installed in compliance with the current edition of BS7671.



2.5.18. Existing Lifts

The two Kone lifts that serve the Concert Hall and Restaurant buildings are now 25 years old. They are reaching end of lift and have numerous issues and are non compliant to modern access standards.

The intent is to refurbish the installation with a compliant cars and lifting machinery. A consideration about how to introduce a sump and pump is being reviewed as there is often ground water present in the base of the pits, which is causing erosion of the metallic parts in this area.

LIFT #1

Lift no. 1 is a Kone machine roomless lift (MRL) where the controls are housed in the landing architrave of the top floor (3rd) and is accessed with a key.

The lift is of through car construction and is as installed in 1999 with no visible upgrades or modifications. The lift and its controls do not conform to the latest DDA requirements. The lift landing buttons are in a poor state with no spares now available due to their age and the inconsistency in operation as well as temporary repairs having to be made.

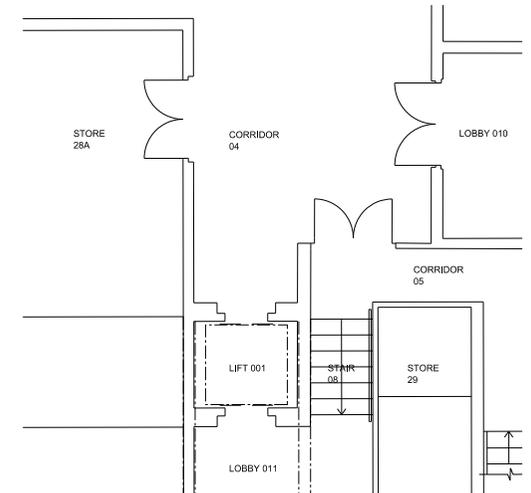
The lift is a poor condition and not to the current standards including shaft items such as full lift shaft lighting and power in the lift shaft.

It was also noted that there is no fire alarm smoke detectors located at the top of the shaft and on the landings a smoke detector should be within 1200mm of the lift doors.

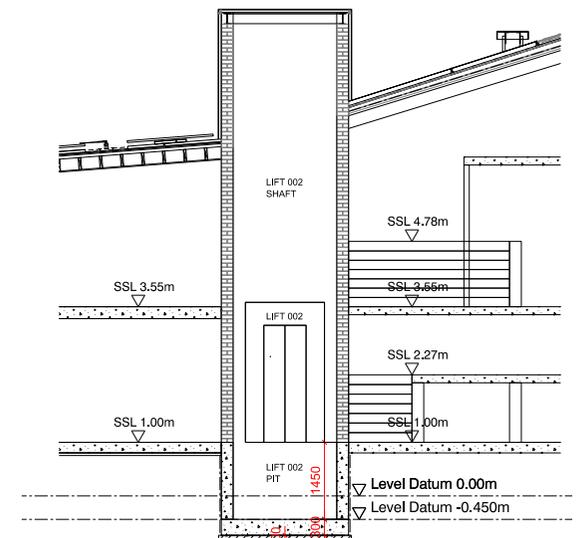
The provision of emergency lighting is also poor as there should be an emergency light at each landing and especially by the lift control panel.

It was also noted that the lift pit is subject to filling up with ground water which is causing corrosion to items of kit in the lift pit. It is recommended that the tanking of the lift pit is reviewed and the installation of a sump pump be considered.

With the redundancy of the BT copper cable system and dedicated telephone lines for lifts it is recommended that the lift emergency call system is replaced with a new GSM system relying on a mobile call system.



03 LIFT 002 - EXISTING DETAIL PLAN
24_500 / 1:50 @ A1



LIFT #2

Lift no.2 is a Kone, hydraulic lift with a separate motor room at ground floor level. As with Lift no. 1, it is in an "as installed" condition and is at its end of life. The lift has two entrances at 90° to each other to allow access to the required floors. The first floor is also on a restricted access, as it is not for general use only staff.

The lift landing call buttons are in a poor condition and need replacing, but spares are not available now due to age. The lift, like Lift no. 1, does not comply with the latest DDA requirements.

The lift is in a poor condition and not to the current standards including shaft items such as full lift shaft lighting and power in the lift shaft.

It was also noted that there is no fire alarm smoke detectors located at the top of the shaft and also on the landings a smoke detector should be within 1200mm of the lift doors.

The provision of emergency lighting is also poor as there should be an emergency light at each landing and especially by the lift control panel.

The installation has not received any upgrades since it was installed and is no longer conforming with the latest regulations.

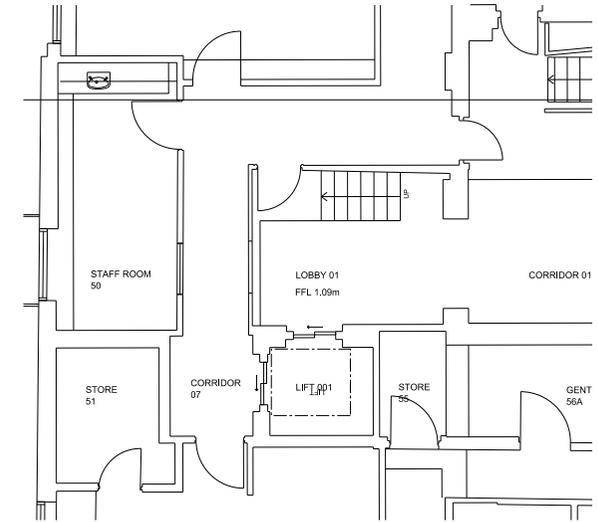
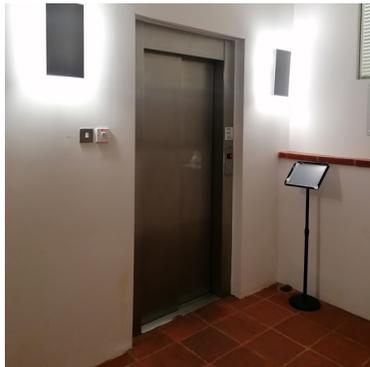
The hydraulic pump unit is also original and would benefit from replacement with a new unit that is compliant with the latest lift regulations on un-requested movement in either direction compliance.

It was also noted that the lift pit is subject to filling up with ground water which is causing corrosion to items of kit in the lift pit. It is recommended that the tanking of the lift pit is reviewed and the installation of a sump pump be considered.

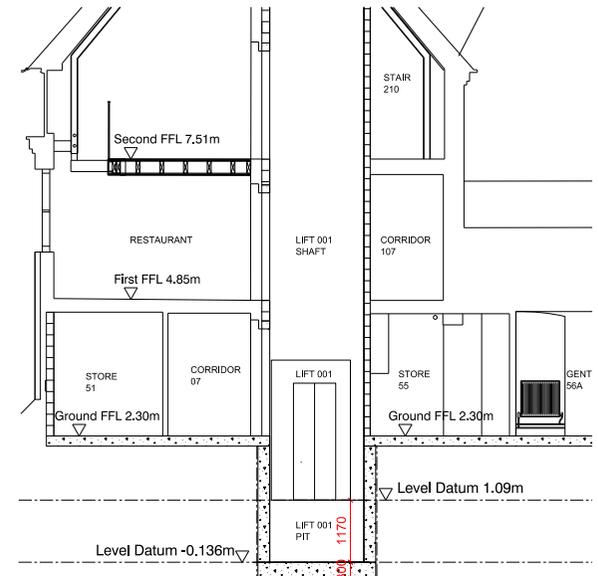
With the redundancy of the BT copper cable system and dedicated telephone lines for lifts it is recommended that the lift emergency call system is replaced with a new GSM system relying on a mobile call system.

The lift sub-circuit distribution board, a MEMShield II board, is also now obsolete and if the lift refurbishment is undertaken should be replaced at the same time.

The lighting in the lift motor room needs to be replaced and emergency lighting installed. The lift motor room door is accessible from an outside store, but was found obstructed by old vegetable oil cans which should not be stored by the access door.



01 LIFT 001 - EXISTING DETAIL PLAN
24_500 1:50 @A1



2.5.19. Fabric repair

Existing Condition

The brackish water in the estuary has resulted in frequent salt movement in bricks and the deterioration of low level brickwork. This is particularly evident in areas where air movement is low, such as dead end corridor areas. Cementitious mortar in repointing and modern plasters have exacerbated decay.

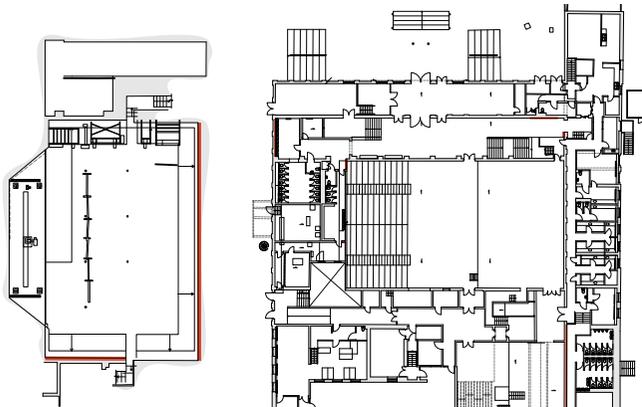
Scope of Works

Repointing and brick replacement is needed and some replastering. It is not intended to attempt to tank or fully waterproof the building, but to carry out pragmatic repairs.

Full surveying of the areas requiring repairs has been carried out. Please refer to the appended Brickwork Condition Report for these details.

Materials used for brick replacement will be reclaimed material and sympathetic to the existing fabric, using lime mortars.

Where existing services are present, they will need to be temporarily removed to allow for the works to carry out.



Locations identified to the under-stage basement (left), Ladies WCs and Lobby at ground floor level (right) requiring repointing, brickwork replacement, and/or replastering



Ground Floor Ladies WCs



Ground Floor Ladies WCs



Under-stage



Foyer



Fan Room Store



Dressing Room Corridor

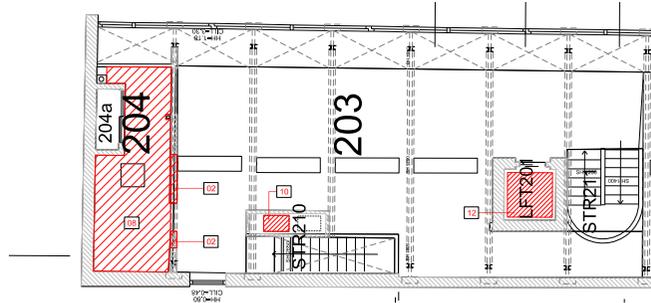
Photographs showing salt damage to brickwork and plaster

2.5.20. Second Floor Restaurant

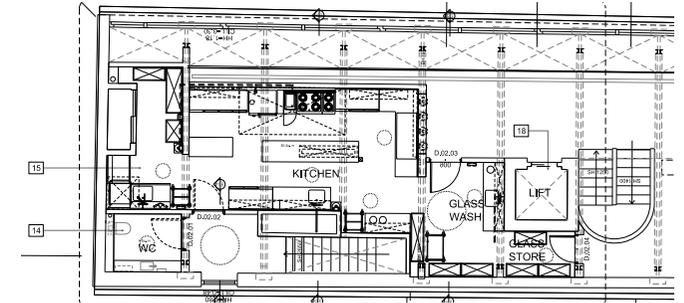
Existing Arrangement

The events room above the Conert Hall cafe is currently served by an ad hoc servery and small finishing kitchen. The space can seat circa 110 guests, but the food is all produced in the lower ground level kitchen which also serves the Malt Cafe to the front of the site.

An extended prep and reheat kitchen area on this upper floor level, close to the event area, would benefit the existing kitchen operations.



Existing arrangement



Proposed arrangement



Overall views of the existing space where the finishing kitchen will be located. The light blue lines show the proposed new wall lines, and the red lines show the areas of demolition to remove the existing partition.

Existing Mechanical Services

The café servery area is currently provided with a local extract system with exposed ductwork at H/L. The extract fan is located within the roof void over the equipment area. There is no supply ventilation or cooling system.

An existing chimney/builders work shaft houses the existing kitchen extract ductwork from the kitchen areas below (access doors provided on stairs to 3nr kitchen extract fans in riser) terminating at roof level above. These kitchen extract ducts from below do not appear to be fire protected.

Existing heating is provided locally by floor mounted trench heaters. These are reported to operate inadequately due to sludging noise and poor pump circulation. Additionally, defects with the existing windows cause additional draughts and infiltration. Domestic hot water is served from a single storage water heater located on the floor below, positioned to a cupboard obstructed by kitchen equipment.

Domestic hot water plant to the existing kitchen areas below is provided by a single water heater in a cupboard located behind catering equipment. This should be retained for the existing lower areas only.

Existing Electrical Services

The existing open plan area is currently used for chest freezers and storage, there is wall lighting, high-level lighting fixed between the structural steelwork and emergency lighting. Small power sockets, fire alarm and PA are present along with a CCTV controls cabinet. Services are mostly flush contained behind the ply ceiling boarding. AOV's are present at the roof apex, however it is reported that the AOV's do not currently function.

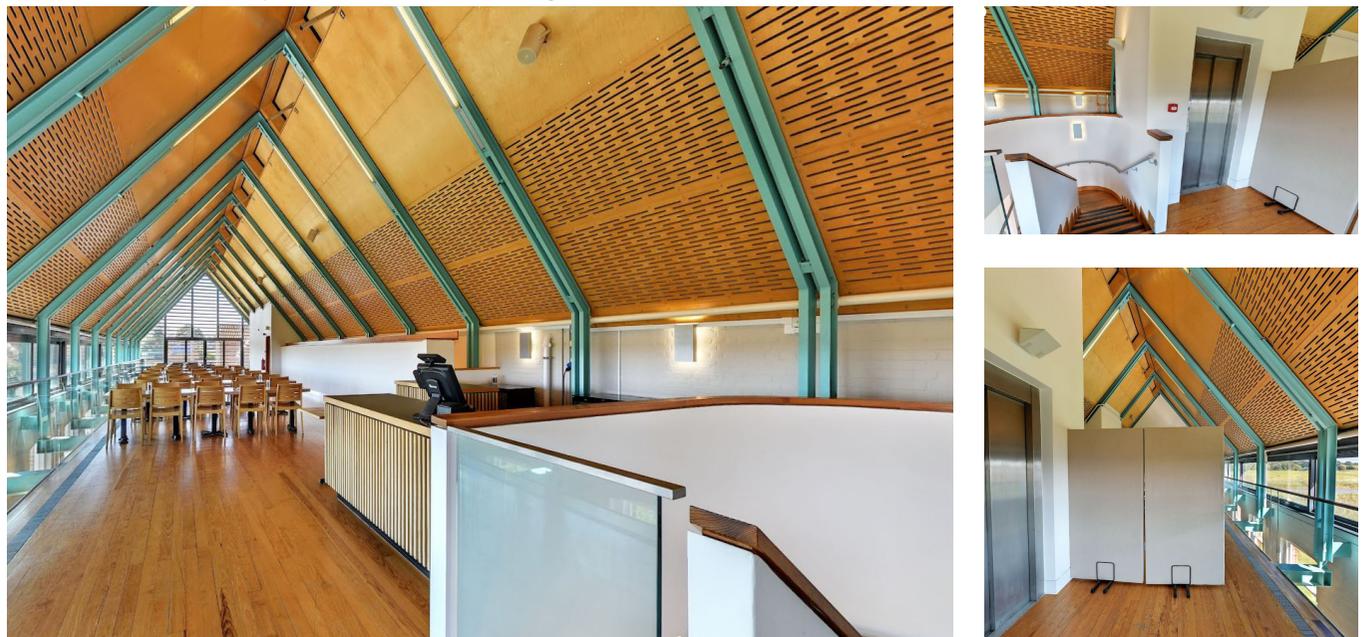
The servery area has two dumb waiter lifts which are to be retained. There are various other electrical supplies to kitchen equipment.

It would appear that some of the electrical supplies in the area are fed from a distribution board located at ground floor.



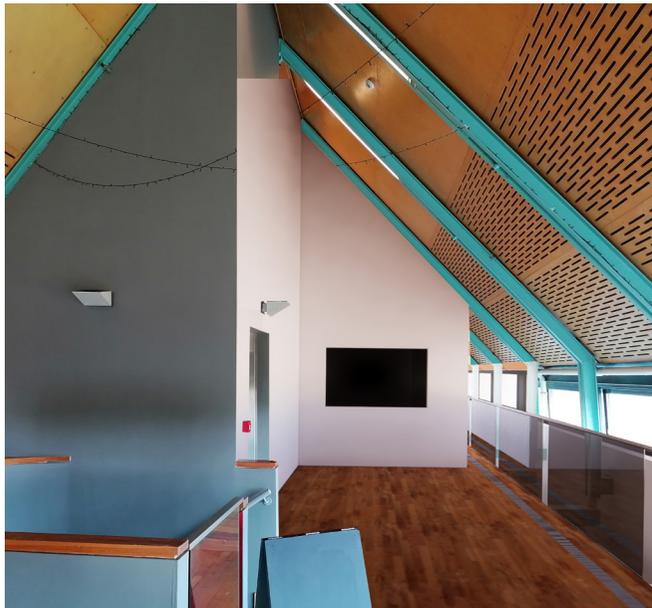
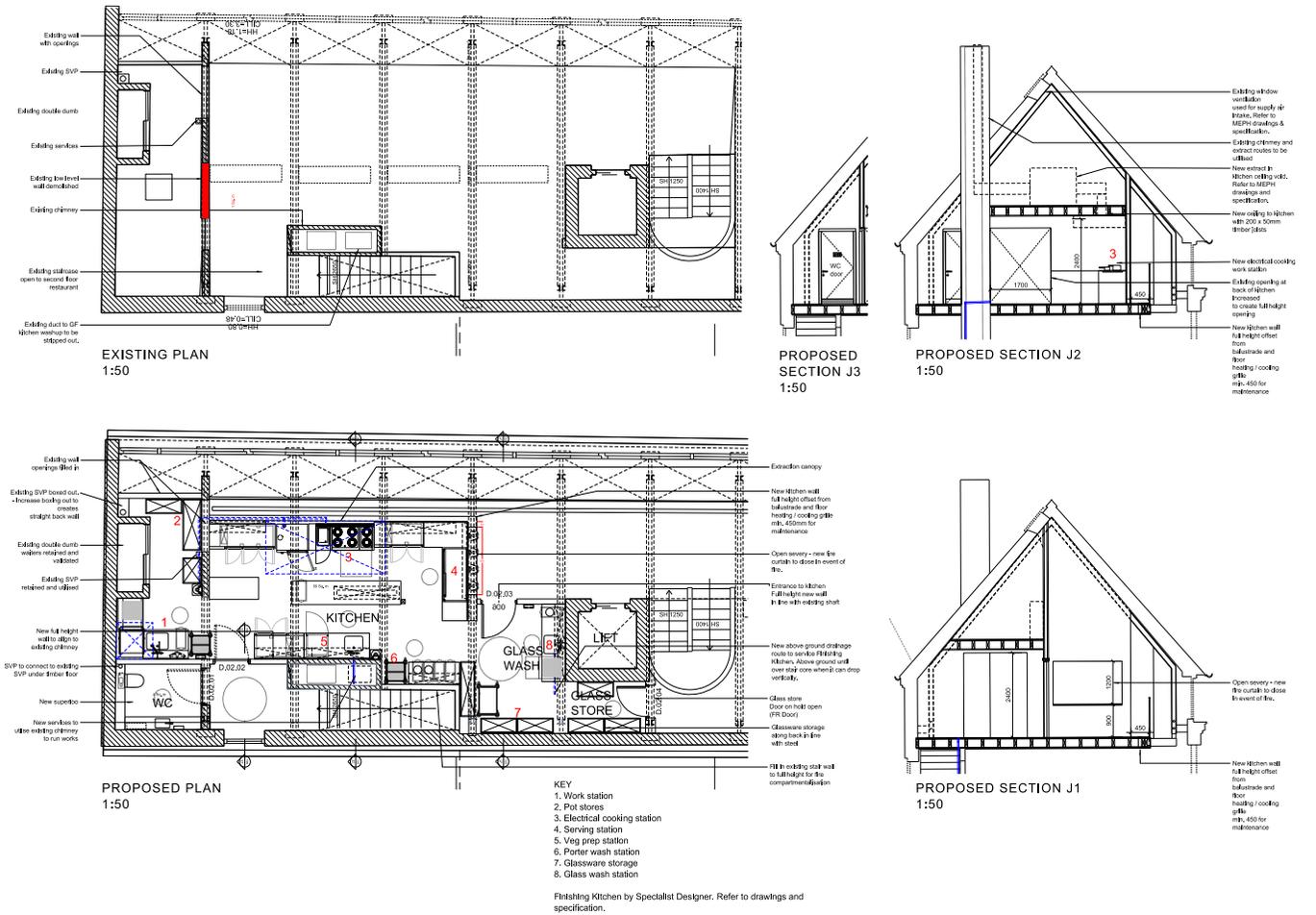
Left to right. Existing extract duct with inspection hatches that run into the existing brickwork chimney breast which terminates above roof ridge line externally. Capacity for fitting enlarged extract ductwork into this brickwork construction needs to be confirmed via further exploration, but it is anticipated to be suitable. View looking down the staircase to the cafe on the lower level. Space on upper level behind the lift shaft is planned to be used as new plant space for water cylinders to serve the new kitchen basins. View of the existing servery dumbwaiters, to be retained. External view of this part of the building, showing the brick chimney and window to the top of the staircase. It is anticipated that a new SVP external terminal will be needed next to this window on the western facade, as per the red circle.

Views of the restaurant event space that the kitchen will be serving



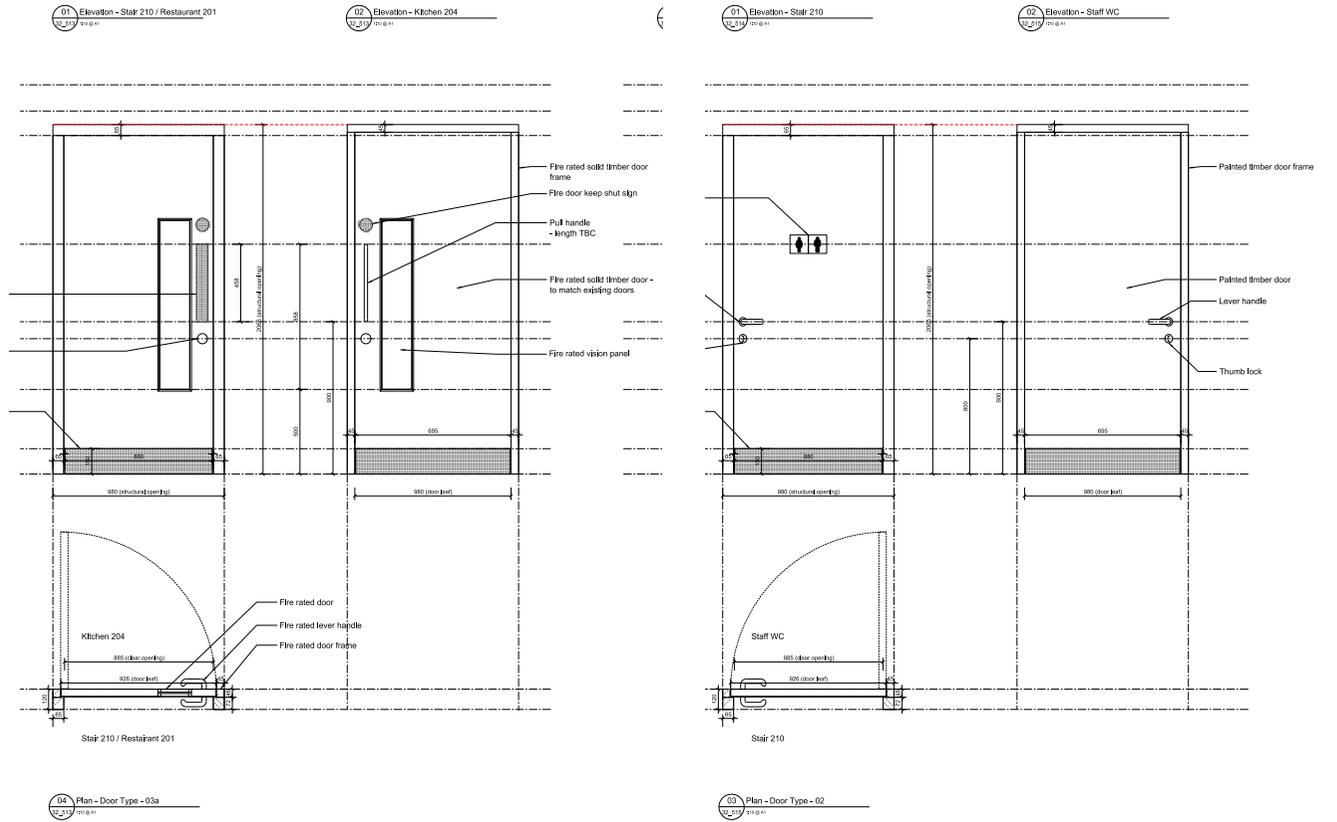
Scope of Works

The proposals seek to demolish the small existing servery area, but retain the two dumbwaiters, serviced by Stannah. The new enclosure to the extended kitchen area will take a similar approach to the existing partition, in that it will align with the green steel roof structure location to avoid an interface with the timber ceiling panelling. This also avoids complications with an interface with the roof vent boxes on the western side of the pitch. A suspended ceiling will be installed to the kitchen area, so plant can be run at high level above the work area, and be isolated from grease and dirt build up.



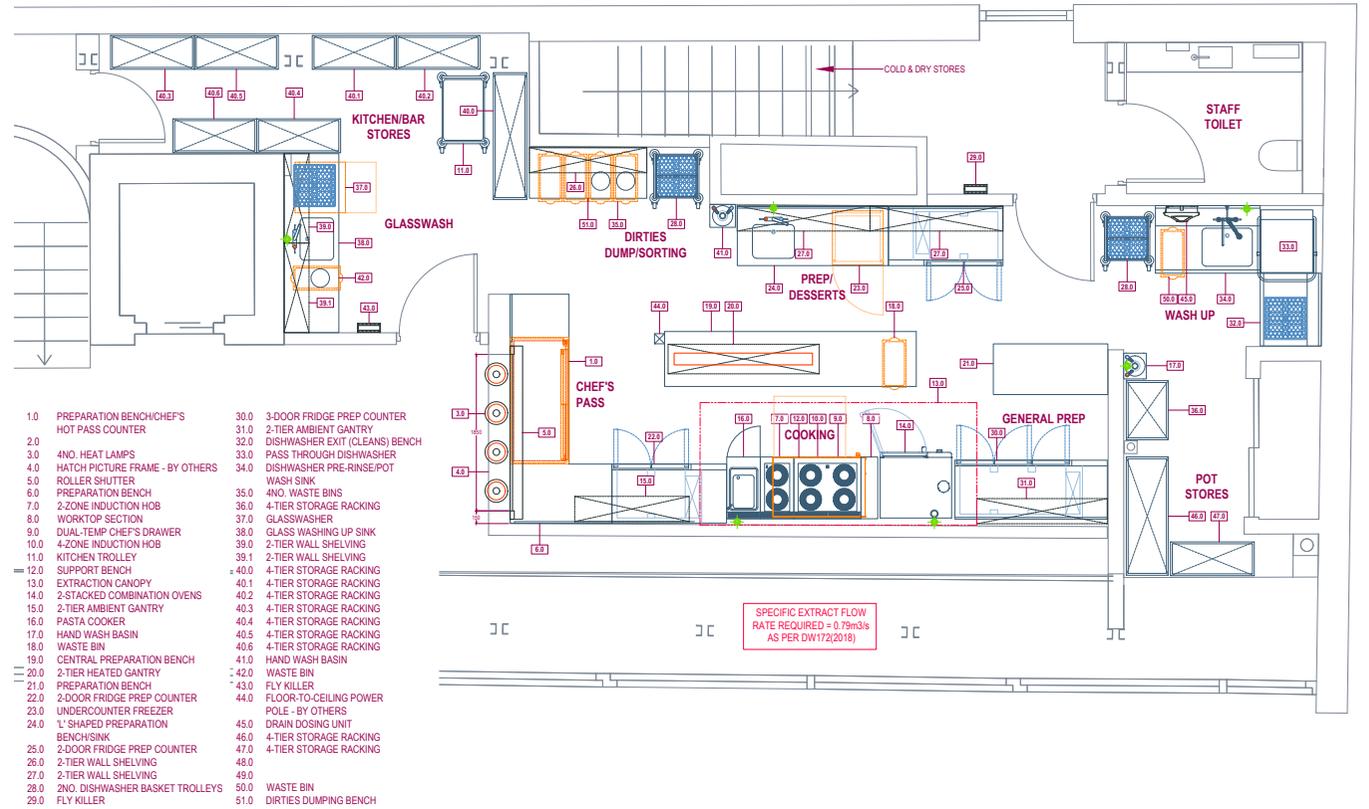
2.5.21. New Doors

The new doors to enclose Kitchen area will be simple flat panelled solid core timber doors with painted faces, and flat painted timber architraves.



2.5.22. Kitchen Fit Out

Adjacent is a drawing from the Kitchen Design Team to show the scale of equipment fit out intended to this new area.



2.5.25. Concert Hall : Fire Strategy - Existing Layout

There is no existing fire strategy on record that we have located to date. The diagrams on this page are our assumptions on the existing strategy based on a visual inspection of doorsets and wall constructions alongside required egress routes.

It is known that after the 1969 fire event, the Concert Hall was rebuilt with a sprinkler system added. In the late 1990s, the outer foyer was constructed following guidance from the Local Council to better protect the means of escape from the Hall on the North side. The Box office was moved into this new Outer Foyer. The Inner Foyer was cleared of fittings and joinery. The same works added a lift to the south side of the building, and added the staff offices and WCs on this side.

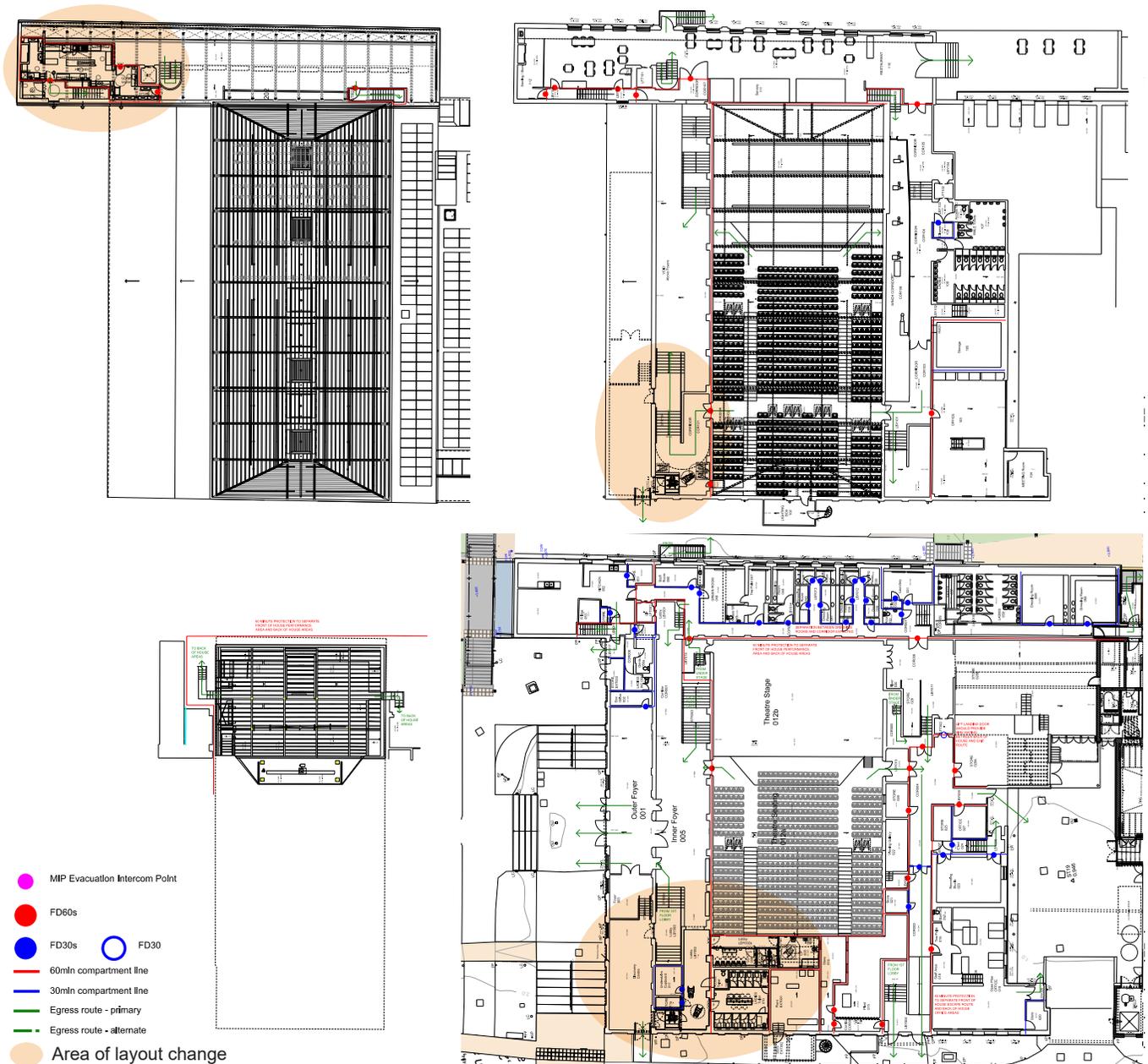
During these works, the Spinkler tank was relocated from the current Winch Gallery office areas to its current location in the Service Courtyard. At this time an electric pumpset was added to service this new tank. The amended system was designed to Ordinary Hazard Group 3, with 136m³ tank, 5mm/minute with electrified pump providing 2250 l/min @ 1.4bar. A Fire Brigade inlet was included to this pump room, which is understood to enable top up of the tank, but may also allow the Brigade to draw from the tank. This is to be further investigated.

The Sprinkler system runs below ground and into the main hall space via the lighting booth and then up the rear gable of the roof to distribute along the flat ridge of the roof structure. It then drops in 2 locations along the roof length, to feed 3 runs down the roof slopes. The sprinkler heads are relatively high compared to the occupied level, which varies from the flat floor, the stage and the raked seating zone. The system also runs into the southern and northern lobby areas, to cover these with an array of heads. It also runs to the restaurant and café block on the eastern side of the hall.

The catering kitchen LPG cookers are protected via an Ansul system.

The assembly points for the Concert Hall are to the North on the Henry Moore Lawn, and to the east on the Barbara Hepworth Lawn (for the Cafe and Restaurant)

The areas of layout change are noted on this mark up in the shaded areas. There are no other layout changes proposed. On the GF level, there is a new doorway planned between inner and outer foyer which we assume should perform as a fire door. The rest of the changes are to the WC spaces. There is an enlargement of the existing kitchen on the upper level of the restaurant.



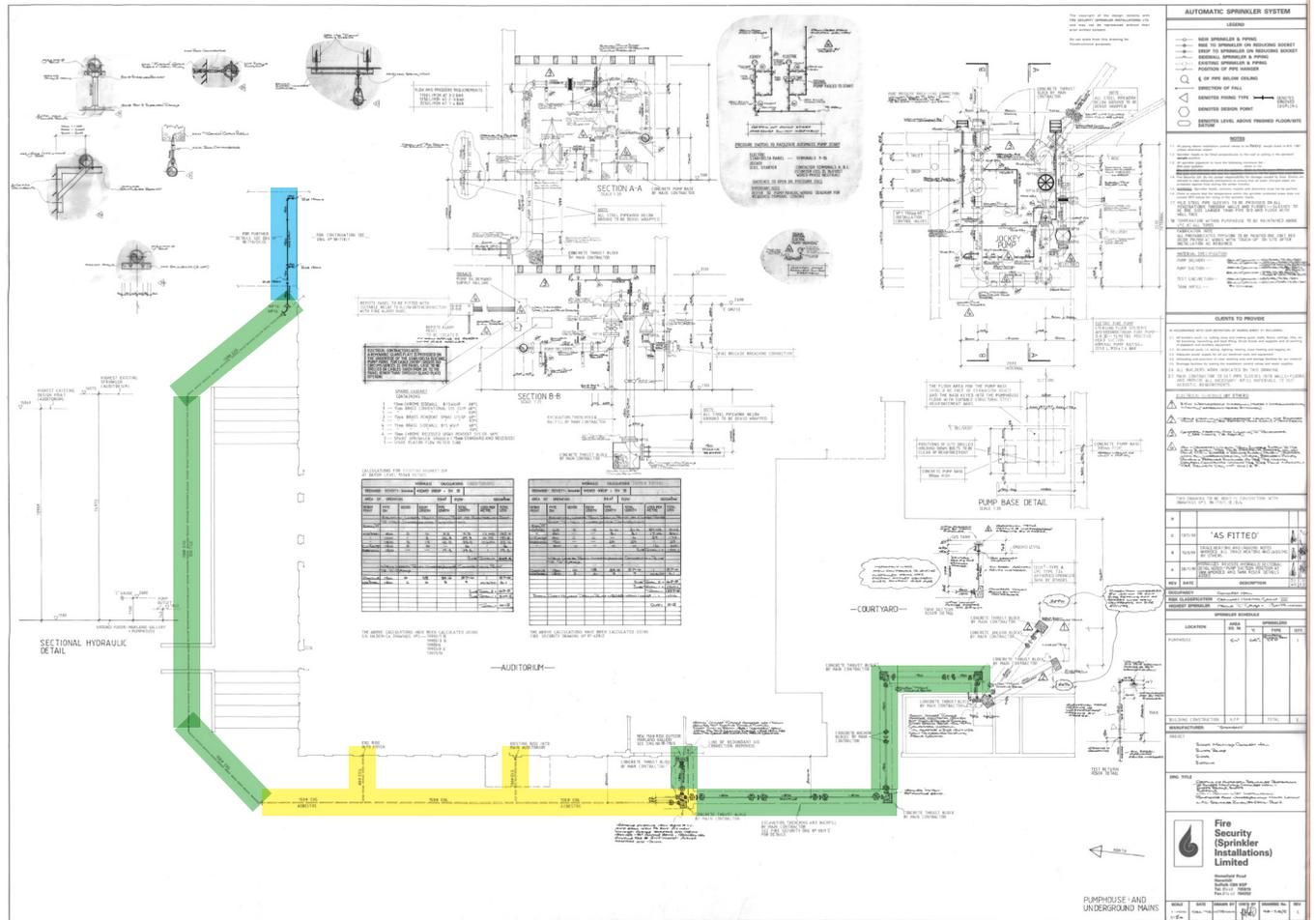
Concert Hall : Fire Strategy - 1990s Sprinkler Installation

The adjacent drawing is from the Record files from the installer. This records the works undertaken in the late 1990s which included the installation of new electric pump, new water tank, and new below ground routes. The colour coding on the plan adjacent indicates the following:

Yellow = original 1969 installation which was fed from a mains water feed.
Asbestos pipework

Green = 1990s installation to connect to the new electric pumpset and tank.
Ductile pipework

Blue = 1990s installation to connect Kitchen areas to system extension
HQ galv pipework





Fire Security
(Sprinkler Installations) Ltd.

25 Year Inspection
of the
Automatic Fire Sprinkler System



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Shape Maffings,
Snape
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FPA
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Association



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Contractor



UKS
Approved UKS
Contractor



UKS
Approved UKS
Contractor

Highfield Road, Havant
Sussex, GU9 0DF
Tel: 01424 708112
Fax: 01424 708113
www.firesecurity.co.uk
Registered in England No. 1203511

In 2024 BPA undertook a 25 year condition inspection of the system. The pipework report concluded that the pipework is in satisfactory condition. However the head testing has not yet concluded at this stage.

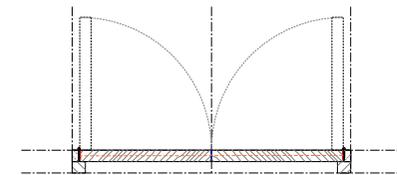
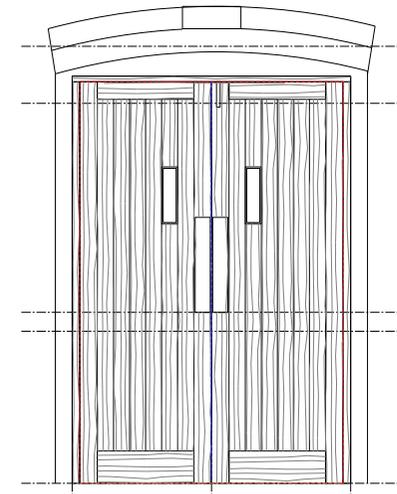
2.5.26. Door fire performance upgrades

A review of the building fire compartment lines with Building Control on site suggested that the entrance doors into the Concert Hall from the inner foyer on the Northern side should be converted to form a fire performance so that that a refuge for wheelchair users can be established on this side of the Hall for evacuation purposes.

An inspection of the existing door details has therefore been undertaken and records the fact that these doors have solid hardwood framing, georgian wire glazed viewing windows, but no smoke seals and gaps to the base. In addition, the core of the doors is unknown and estimated to be circa 30mm thick.

Therefore, to be able to deem these have the suitable performance to act within a compartment line, we need to take the 15mm panelling off one doorset and inspect the core construction. It may be required to rebuild the core of these doors with a solid fire rated panel, and then re-fix the panelling to replicate the existing appearance.

In addition, the end profile will be removed so a new metal smoke and acoustic seal can be added to the ends, and compression seals will be added to the door frames, and drop seals to the door base.

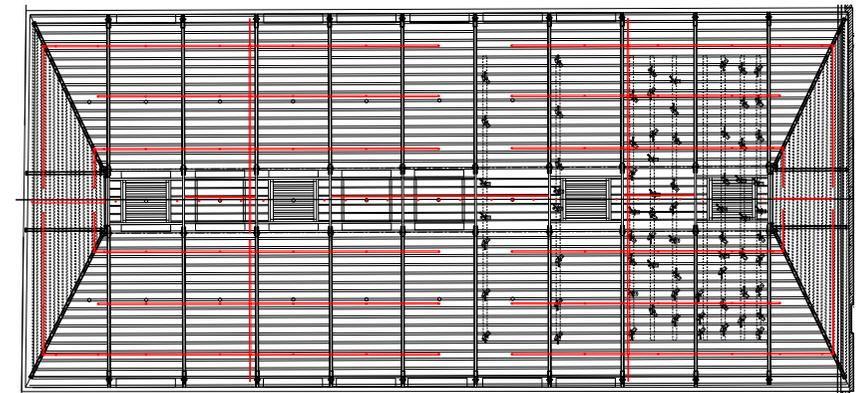
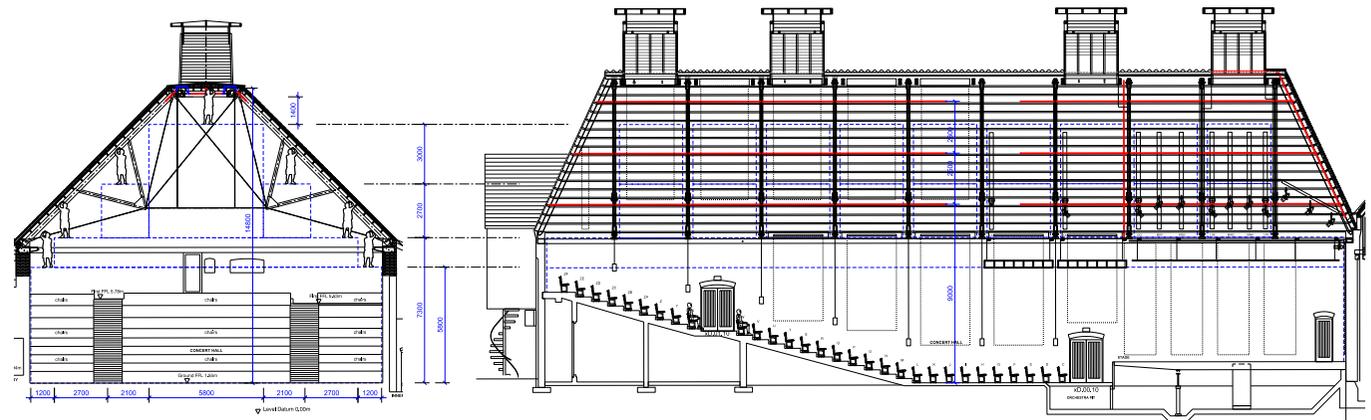


- - - New Fire seal - Perimeter seal
- - - New Fire seal Intumescent S
- - - New Fire seal - Floor Strip



2.5.27. Access and Construction

Access to the upper levels of the Hall soffit will require the erection of a bird cage scaffold inside the hall. The sketch attached shows the lifts of scaffold that would enable the most useful access zones to each area of works being undertaken.



2.6. CH3 : Concert Hall seating

2.6.1. Scope

The seats at Snape Maltings Concert Hall are unique and an important visual element of the listed building. However, they are uncomfortable and suffer frequent breakages, mainly of the wicker elements, but also other parts.

The design team has been asked to investigate potential solutions to the seating. Our understanding of the original Arup Associates design intent is that the chairs were not expected to contribute to the hall's acoustic, which was designed for the occupied condition only.

We need to ascertain whether re-using the existing seats is viable: these date from 1969 and many have been reinforced with steel plates. Next, to determine whether modifications to the function and comfort of the seat are possible using the same design principles.

The seats tip up to provide a sufficient seatway, but is not an automatic mechanism - it requires audience members to tip up their seat as they stand.

Many regular patrons bring cushions to improve the comfort. This is a potential hazard:

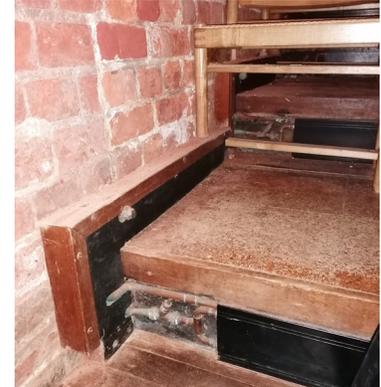
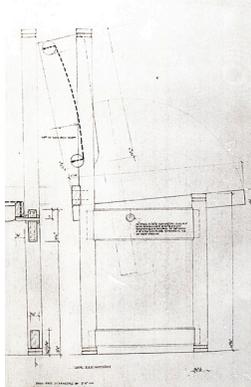
"cushions ... should not be provided where they prevent tip-up seats from functioning or could cause a trip hazard if dislodged into the seatway" (Yellow Book C2.57)

A brief has been prepared for an auditorium seating specialist to investigate whether the seats can be repaired, strengthened and adapted to provide:

- o greater comfort to the seat pan
- o an automatic tip-up mechanism
- o a more robust floor fixing

Should this prove unviable, the specialist is to develop with BPA and the design team a concept design for a new seat which is as close in appearance as possible to the existing seat.

We are not proposing to increase the occupancy numbers of the hall



Above : Seat rattan fixing area in the Concert Hall. Below : range of fixings needed to the Ash frames to fix cracking

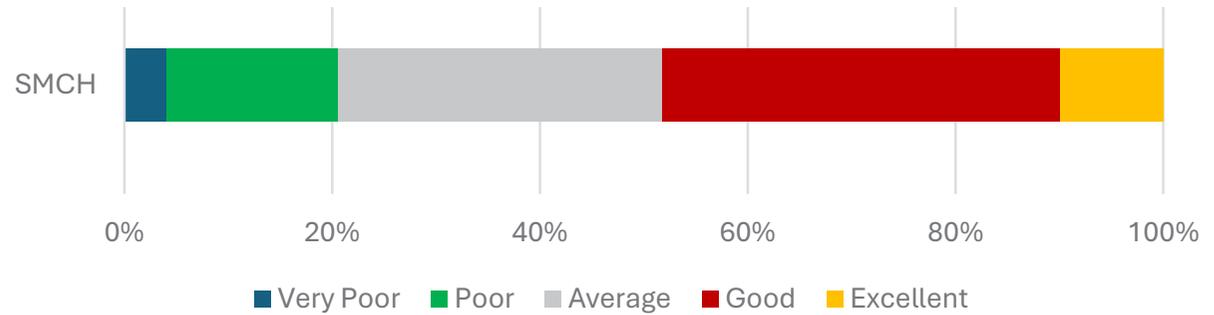


2.6.2. User Survey Feedback

BPA conducted a survey of visitors to the Concert Hall in the summer of 2024. 1740 people answered questions on the quality of visit (including seating, bar, toilets, catering)

Over 50% said SMCH seating was average or worse. 21% said poor or very poor.

There were 276 verbatims from SMCH bookers, 230 of which were negative comments about the seating. (Heating/cooling: 17; Toilets: 4; Accessibility: 4)



Seating

- Seats are uncomfortable
- The seats are uncomfortable for a 3 hour concert!
- Purchased a cushion from the shop at the interval
- The seats have zero grip so I was constantly sliding down which effected my posture
- Seats uncomfortable for taller people
- Members of the public who bring high cushions to sit on. Blocks your view
- Hard to access if in middle of a row
- Wooden seats were squeaky
- Seats need to be staggered
- I have balance issues & would appreciate a rail to hold on to , especially as I was in Row ZA
- The seats are iconic and very much part of the concert hall
- Unlike many, I do find the seats comfortable enough!
- My wife is a wheelchair user so seating arrangements were excellent

Concert Hall environment

- It is always too hot inside the concert hall
- Needs A/C...!
- the auditorium was far too hot and stuffy
- A vert hot day outside and uncomfortably hot in the hall. Needs temp control / Air Conditioning
- It was very hot for the closing concert on Sunday. They only opened the doors for the second half
- Concert hall was very hot, though upper doors open, could lower foot also be opened?

Access and Signage

- More info on lift access needed
- Car parking exit needs organising
- Disabled assistance from wonderful volunteers
- Slope into the building is difficult with a wheelchair or limited mobility
- Not enough seating in the foyer
- Food and drink offer had little or no obvious information

Historic England

*"The use of woven cane backs and seats is also very interesting in the way it makes the chairs as a whole act as absorbers of sound and so part of the acoustic design of the spaces as well. In this way the chairs make a significant contribution to the architectural and technical interest of the building. **Their removal would be harmful to the significance of the listed building and unlikely to be something we would encourage.***

We accept that the cane may be wearing out, the chairs in need of repair and reinforcement and the seats not as comfortable as some might expect today.

A program of repair and improvement might therefore be considered, such as replacing the seats and back to match the existing, but also adding removable upholstered cushions to them and perhaps investing options for making the seats tip-up."

The 20th Century Society

"While the cane chairs currently in use in the Concert Hall are not covered by the building's listing, they are mentioned in the listing itself and evidently hold great importance given their heritage.

We would ask that the new chairs proposed for the Concert Hall are in sympathy with the space, and with the design of the existing chairs.

We would also ask for consideration to be given to the preservation of a small number of the original chairs. We would ask that you consider retaining this proportion of the chairs, either in storage or relocated elsewhere on site to ensure their preservation."



2.6.3. Feasibility Report

INTRODUCTION

My initial observations, in response to question what can be done with the existing seating at the Maltings, are set out in the following pages. The images and captions should speak for themselves.

In sum:

- There is a tension between the pursuit of greater comfort, the retention of the original architectural intent, the likely (if any) impact on the acoustics when the auditorium is empty of people and the practical matters of daily maintenance, removability and storage, especially of the front seven rows.
- The seats and backs are impractical, uncomfortable (for a variety of reasons) and a burden to maintain, both in terms of cost and man-power.
- The options are:
 - replace seat with an upholstered version, leaving the basket weave visual effect on the underside and viewable when the seats are up
 - replace seat and back with an upholstered version, and accept no basket weave on the front of the back
 - replace seat and back with upholstered version and abandon the basket weave appearance altogether.
- There is also the option (discounted) of replacing the whole auditorium with modern alternatives.
- 75% of the structural timber elements can probably be retained, refurbished and continue to give good service for another generation or more.
- If this is to be achieved, there must be a major re-design of all the working and linking parts: the links between the seats and backs, connections to the floor, the tip-up mechanisms, the fine-tuning of the pitch of the seats and the rake of the back.
- The steel floor-fixing channels can almost certainly be retained and, with minor modifications, re-used so there need be limited disruption to the floor build-up.
- Standardising the lettering/numbering on rows and seat numbers will help harmonise the aesthetics (and be consistent with brand signage elsewhere).
- Potential procurement of both prototypes and finished products is complicated by the need to coordinate various manufacturing disciplines (woodwork, upholstery, specialist metal componentry) and logistics (removal from site, storage, movement between workshops, redelivery and installation). This is not insurmountable but will require detailed project management.

FURTHER DESIGN WORK

I suggest that the following is the requirement for additional design work, in phases:

1. development of the generic sketches into working products that will be comfortable, structurally sound and be capable of being manufactured to appropriate quality standards and a realistic budget
2. a set of preliminary working drawings, written specifications and quality criteria - in sufficient detail to remove doubt for prospective tenderers but also sufficient to ascertain prompt budget certainty from manufacturers.

3. additional design development to allow for further value-engineering during the production period (taking into account the particular skills, facilities and aptitudes of any selected suppliers) and include an allowance for visits for quality monitoring during production.

I would also suggest that the matrix below illustrates some of the headings for the required design and prototype scope (even though the timings have yet to be determined):

Design work required	Concept development	1 st prototype	2 nd prototype	Production prototype
Seats - construction	2 wks?	8 wks?	6 wks?	tbc
Backs - construction	2 wks?	ditto		tbc
Rake and pitch (adjustment)	2 wks?	ditto		tbc
Pivot mechanism	2 wks?	ditto		tbc
Proof of refurb. - timber elements		4-6 wks		tbc
Design package A	Design: 2 wks?	Make: 6-8 wks?	?	
Floor fixing: quick-release mechanism	4 wks	?	?	?
Floor fixing: link beams	4 wks	?		
Attachment of rear beam	4 wks	?		
Back fixings (to stanchions)	4 wks	?		
Design package B	Design: 4 wks	Make: 8-10 wks?	?	
Design to avoid double-legs in central block	2 wks	?		
Free-standing chair	2 wks	8 wks?	If reqd.	12 wks
Design package C	Design: 4 wks	Make: 8-10 wks?		
Proof of storage of rows of 6		1 wk		
Acoustic testing	tbc			
Preparation of tender packages				4 wks?
Production – trial batch				10 wks

WHERE DO WE GO FROM HERE?

My recommendation is that a seating supplier is appointed, one with proven aptitude in upholstery, metalwork and logistics, and one which is reasonably close to a likely woodwork workshop. It is unlikely they will have woodworking skills in house. Proximity between the workshops will be key to keeping costs down and communication flowing.

We set a budget of, say, £12K, to work up a number of upholstery options, based on a gang of six seats. Then review, adjust and fine-tune, with a view to running a second prototype batch (perhaps two or more whole rows in the auditorium?) in time for the Summer Festival.

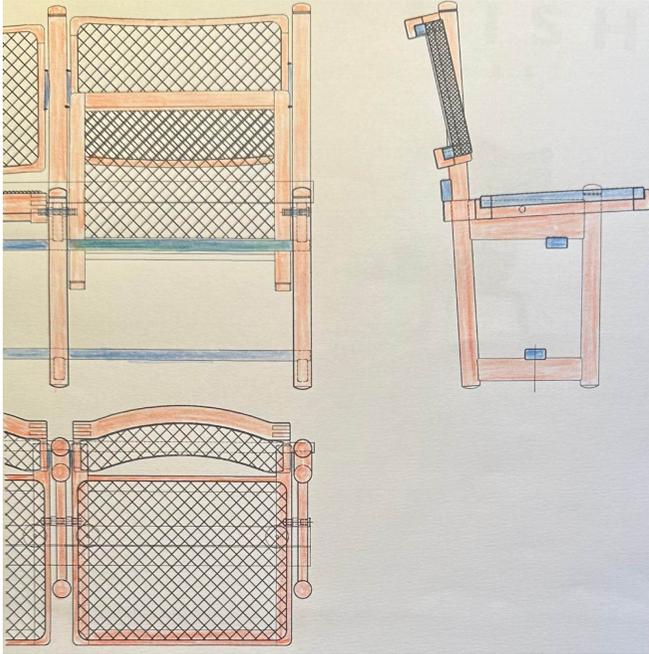
For the design packages, I estimate design fees (exc VAT) to be along the lines of:

- Design package A @ £3K
- Design package B @ £5K
- Design package C @ £4K

The costs of preparing tender packages at a later date will need to be reviewed once we are all clearer about the likely procurement route.

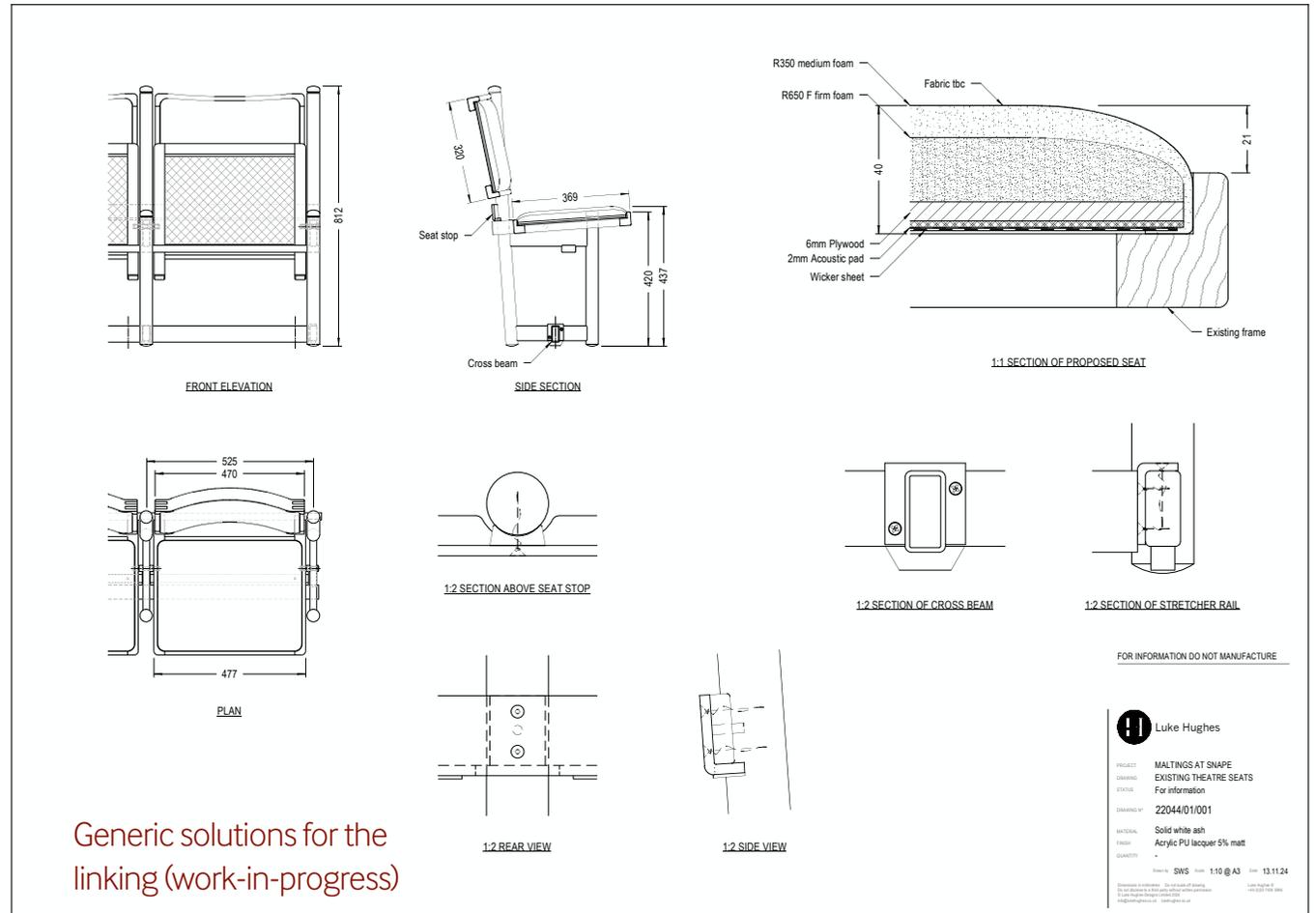
LUKE HUGHES FSA
23 Dec 2024

2.6.4. Proposed Changes to seats



what can probably be retained

what should certainly be replaced



Generic solutions for the linking (work-in-progress)

2.6.5. Wheelchair positions on upper level

Venues of this size must provide permanent wheelchair places for 1% of capacity, rounded up, plus additional provision with removable seating (Technical Standards for Places of Entertainment, known as "the yellow book", and Approved Document M). Wheelchair users should have the option of sitting with companions whether a wheelchair user or not; and choice of location rather than all wheelchair places being grouped together. This equates to 8 permanent places (which can be replaced with chairs at the last minute if not needed for wheelchair users). Given the demographic of many Snape audiences and in line with the 2018 BS 8300, additional provision of 2% (to make a a total of 3%) should be made available.

Currently wheelchair places can only be provided on the flat floor at the front of the auditorium. Providing a lift to the upper auditorium entrance level offers the opportunity to provide wheelchair places at the cross-aisle. To the sides, there is already a recess which allows wheelchairs to reverse back from the cross-aisle.

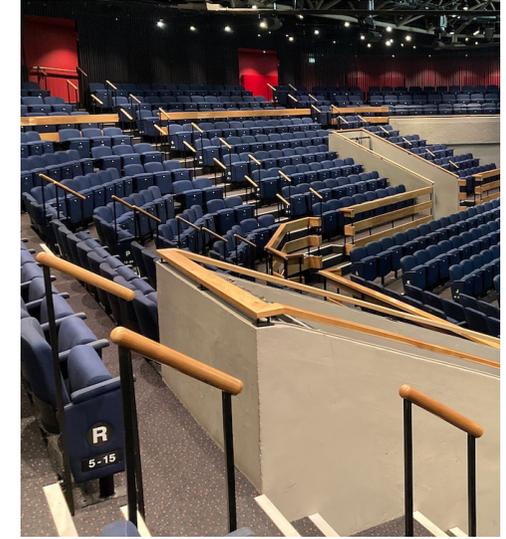
Extending this recess into the central section has been considered but appears not-viable: the concrete is backfilled. Extending the cross-aisle forward is the favoured option: when required, the number of wheelchairs here is limited only by the egress strategy. When no wheelchairs are required in the central section, plinth-mounted chairs can be provided on the front of the extension, to maintain the audience capacity.

There is no requirement for guardrails to the front of the extension (when seats are removed), but a removable rail may be helpful to prevent trips. This change is not expected to have an adverse impact on sightlines.

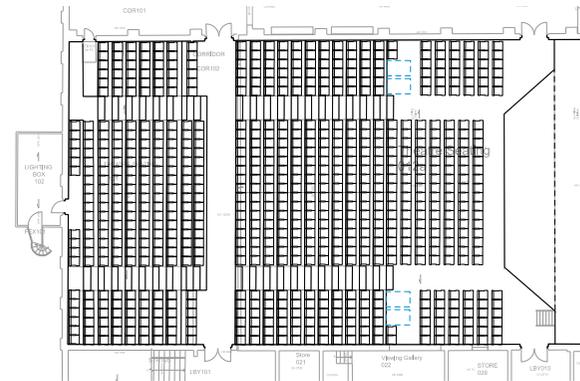
Grab rails are proposed along the stepped aisles to assist less mobile members of the audience.



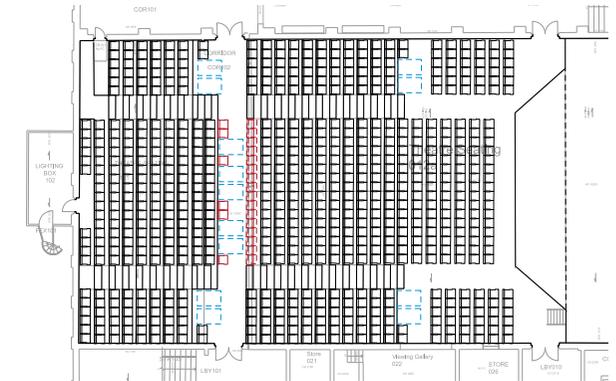
Existing upper walkway



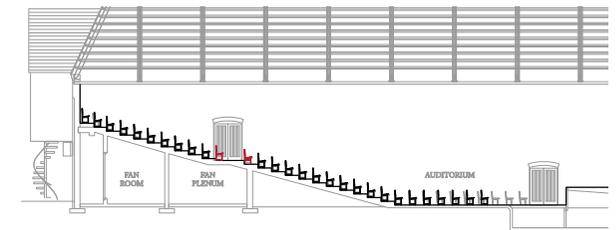
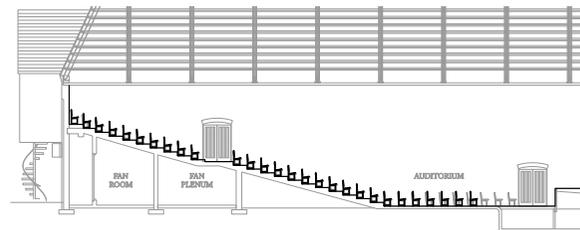
Grab rails along stepped aisles



Existing



Proposed



2.6.6. Removeable Seats and Storage

