



Heritage Impact Assessment

Glyndwr University, Plas Coch
Campus, Corridor C

Wrexham Glyndwr University

January 2022

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Wrexham Glyndwr University

Executive Summary

This report relates to a listed building consent application for minor alterations to facilitate essential upgrades to two existing laboratory spaces within and to Corridor C, at Wrexham Glyndwr University, Plas Coch Campus, Mold Road, Wrexham LL12 2AW.

This Heritage Impact Assessment has been written to identify the impact of the proposed development on the significance of the heritage assets. This is in accordance with national and local planning guidance contained in the Welsh planning guidance on the historic environment and the local plan.

Wrexham Glyndwr University, founded in 2008, has its Plas Coch campus located in the former Denbighshire Technical College, built after World War II between 1950 and 1953. The building is a well-designed modernist, purpose built technical college. It has a prominent frontage to Mold Road, acting as a local landmark to the town centre. Its innovation lies in the well-articulated building design with a strong and repetitive architectural pattern and its distinct and functional plan, engineering, heating, lighting, and acoustics design. It was the first technical college in Wrexham, coinciding with the demise of Wrexham's traditional coal and steel industries. The building was listed Grade II in 1994 as part of a wider comprehensive listing resurvey of buildings in Wrexham.

The building consists of three primary blocks – A, B, C - used for specific education functions. It has evidential, historic, aesthetic, and communal significance as a well-designed technical collage of the mid 20th century. It is still in use for tertiary education, with each block forming a key and distinct component of the building's use and function. Corridor C is a technical block, that runs parallel to the north-west of the principal frontage block facing south-west to Mold Road. It is on a south-west to north-east axis, forming the north-western boundary of a quadrant courtyard. Corridor C was specifically constructed for teaching physics, chemistry, and biological sciences, with laboratories to ground floor and classrooms to first floor, retaining scientific teaching use.

The proposal will allow the existing but dated laboratories to be brought up to modern day standards in a manner that is sympathetic to its historic character and appearance and the university's long term sustainable use and reputation. The changes to Corridor C are minor and for the most part, reversible. Furthermore, the changes are accompanied with repair and maintenance of the building's fabric, and the replacement of asbestos to the window fabric, which has resulted in the loss of the evidential aspect of the window fabric, and the careful removal of parquet flooring will allow for a slip resistant finish. The significance and setting of the heritage assets have been carefully considered as part of the development proposal. The proposals are positive and will preserve and enhance the use of the building. As such, the application should be supported.

1.0 Introduction

- 1.1 This heritage impact assessment has been prepared on behalf of Wrexham Glyndwr University, to accompany a listed building consent application for minor alteration to facilitate essential upgrades to two existing laboratory spaces within Corridor C, at Wrexham Glyndwr University, Plas Coch Campus, Mold Road, Wrexham LL12 2AW.
- 1.2 The purpose of the assessment is to describe the significance of nearby heritage assets and their setting. This information will subsequently highlight any impact of the proposal on the significance of the assets. It will identify mitigating measures, where necessary, to address this impact.
- 1.3 Under **Section 66 of the Planning (Listed Buildings and Conservation Areas) Act 1990**, there is a statutory duty of the local planning authority to “have special regard to the desirability of preserving a listed building or its setting or any features of special architectural or historic interest which it possesses” when considering development proposals.
- 1.4 Policies in Chapter 6 of **Planning Policy Wales Edition 11 (PPW) (2021), Technical Advice Note 24: The Historic Environment and local development plans**, set out national and local planning policy in respect to the conservation of the historic environment, set out national planning policy in respect to the conservation of the historic environment. It states that the planning system should look “to protect, conserve and enhance the significance of historic assets”. The impact of any planning decisions that change the historic environment in terms of its significance and heritage values where they contribute to the character of place must be fully considered by the decision maker.
- 1.5 **Historic assets** are described within PPW as historic buildings, parks, gardens, landscapes, townscapes, and archaeological sites.

- 1.6 The **historic environment** is described in Wales Technical Advice Note 24: Historic Environment, (October 2017) as “All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and deliberately planted or managed.” A historic asset is: “An identifiable component of the historic environment. It may consist or be a combination of an archaeological site, a historic building or area, historic park and garden or a parcel of historic landscape. Nationally important historic assets will normally be designated.”
- 1.7 **Setting** is not a heritage designation. However, “the setting of an historic asset includes the surroundings in which it is understood, experienced, and appreciated embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral. Setting is not a historic asset in its own right but has value derived from how different elements may contribute to the significance of a historic asset”. TAN 24 (paragraph 1.25)
- 1.8 The definition of **significance** in relation to heritage policy is defined in Conservation Principles for the sustainable management of the historic environment in Wales (Cadw, 2011). “To identify the heritage values of an asset, its history, fabric and character must first be understood. The relative significance of the different values then needs to be considered. It will be necessary to compare the values of the asset under consideration with others in the locality, region or even nationally, depending on its importance.”
- 1.9 **Wrexham Glyndwr University** faces south-west onto Mold Road. Corridor C is a technical block set behind and running parallel to the principal frontage block. This document has been prepared following a site visit in January 2022. It is to be read in conjunction with other associated documents in relation to the planning application.

2.0 The application site and identified heritage assets

- 2.1 The application site is Corridor C, Wrexham Glyndwr University, Plas Coch Campus, Mold Road, Wrexham. It is listed as Newi: Plas Coch (former Denbighshire Technical College), Rhosddu, Wrexham.
- 2.2 The designated heritage assets that are relevant in considering the proposed development are identified below:
- Listed Building: Newi: Plas Coch (former Denbighshire Technical College) (Grade II)

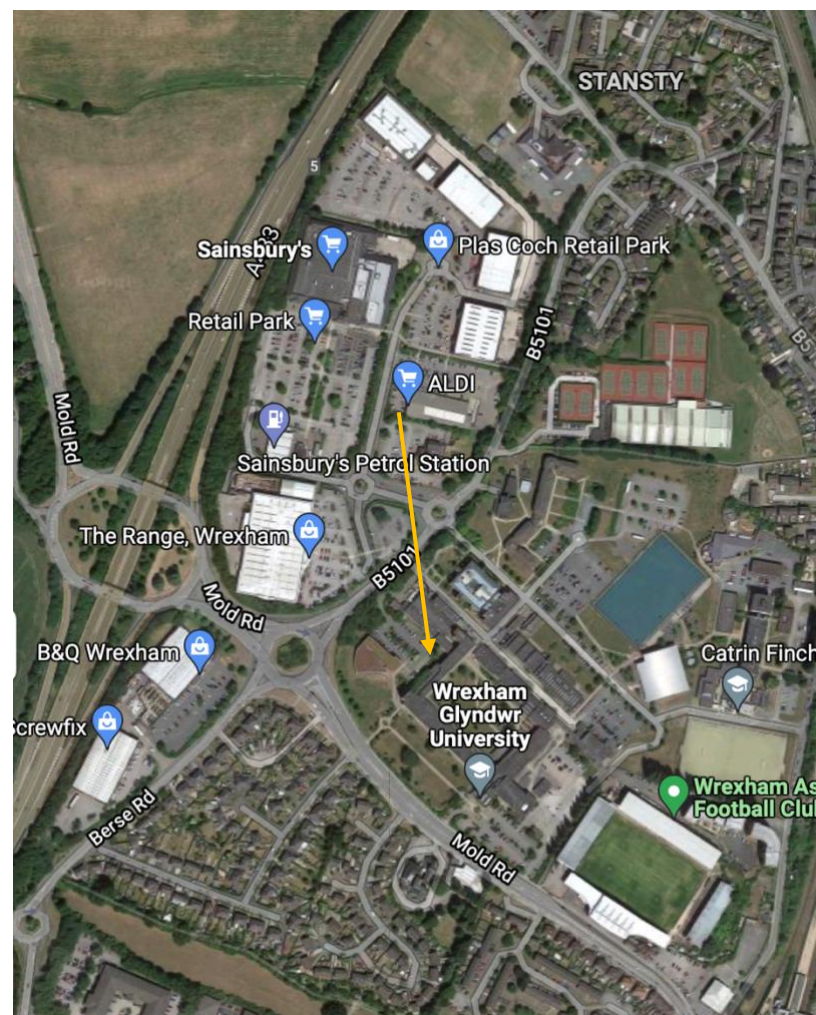


Fig 1. Location plan (Google Maps). Yellow arrow denotes Corridor C.

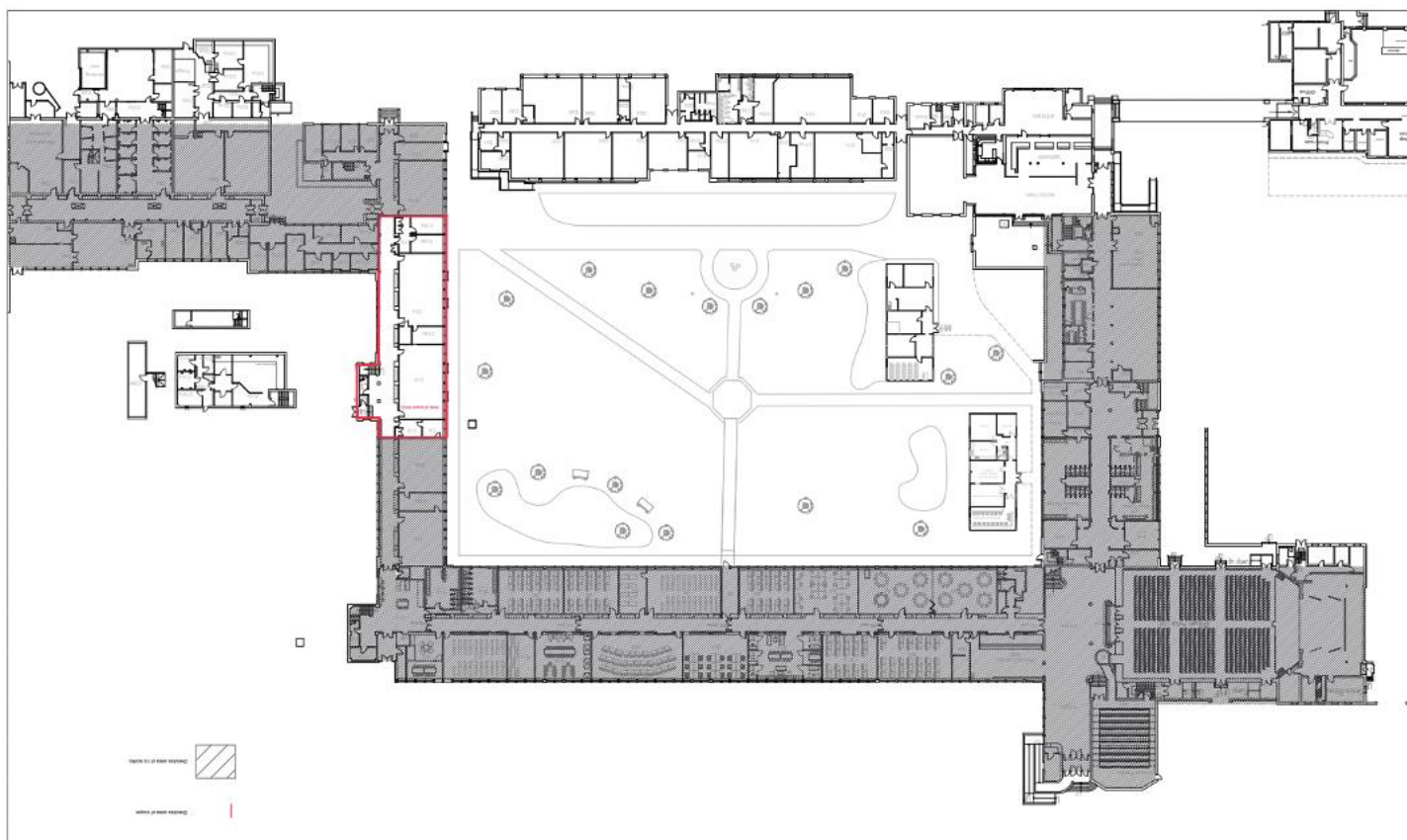


Fig 2. The location of Corridor C on plan (Copyright: DAY Architectural Ltd.)

3.0 Historical context and heritage assets

- 3.1 **Education - The former Denbighshire Technical College was built following the end of World War II between 1950 and 1953.** It is a purpose-built technical college. The technical college was constructed in response to an education system that was established in the 19th century. School reform for state education began in 1867 following the Reform Bill of the same year, and the Education Act of 1870 allowed for compulsory elementary schooling from 1880. State intervention in vocational training occurred via the Technical Instruction Act 1889. In Wales, The Welsh Intermediate Education Act 1889 allowed for the establishment of secondary schools. School planning developed further following medical inspections from 1907 to ensure the mental health and wellbeing of children.
- 3.2 **Technical Colleges** were long established in Britain, following the start of the Industrial Revolution. These began in Scotland in 1820 as Mechanic's Institutes. However, these were largely ad-hoc and dependent on the goodwill of benefactors or industrialists. During the 19th century the development of technical education largely began with The Science and Art Department of the Board of Trade (formed in 1853), transferring to The Education Department in 1856. Technical colleges included classrooms to train up young people of secondary school age to specific trades. Combined with these were gymnasium facilities to help with fitness. Some technical colleges were set up by local industrialists, such as Sir Joseph Verdin's Technical College at Northwich (Grade II) in 1896-7, while others catered for art and design.



Fig 3. Former Verdin Technical Schools and Gymnasium, Northwich 1896-7 (Grade II)

- 3.3 The school leaving age was increased from 12 to 14 following the 1918 **Education Act** and to 15 in the 1944 Education Act (the Butler Act), which created a **tertiary educational system** of grammar, modern and technical secondary schooling. This expansion occurred in both England and Wales. The creation of tertiary education was largely dependent on the commitment of local authorities.
- 3.4 **Technical colleges** could provide both technical trade training and commercial education and was seen as being of key importance to competing with world trade. This training was seen as fundamental to the country's post war economic success. Immediately following the war industries of coal and steel were nationalised. This, associated with major national economic problems created by WWII, meant that investment in the country was required.
- 3.5 In 1946 following parliamentary pressure regarding the slow pace of reform of the implementation of the 1944 Education Act, a timetable was established for raising the school leaving age **and for the provision of better buildings, county colleges, and some major colleges of further education**. In North Wales, Denbighshire Technical College and Flintshire Technical College, in Deeside, were opened in the early 1950's, and other colleges elsewhere in Wales opened, such as Aberdare College of Further Education, the College of Technology at Gorseinon, and Caernarvonshire's Technical College, Bangor in 1957.
- 3.6 **As traditional industries declined, technical education did too.** A House of Commons Debate in 1956 following the White Paper on Technical Education 1956, expert advisors, including the Trade Union Movement stated that "there was a serious shortage of trained scientists, particularly in physics, chemistry, all branches of engineering and metallurgy". It was outlined that there was too little coordination of educational provision at technical college and institute level by the local authorities, resulting in some regions being denied proper provision. One Welsh Minister said that "if the people of north and mid-Wales are to live and are to make their proper contribution to the British effort, they will need some science as well as scenery" calling the lack of technical education in much of Wales as a "'resounding vacuum". Over the next decade, the number of technical schools declined rapidly. The building became part of Wrexham Glyndwr University in 2008.

- 3.7 **Design - The last quarter of the 19th century** demonstrated a wide variety of school styles. Dedicated school pattern books emerged, such as that in 1874 by Edward Robson, to address specific practical issues of planning, design, heating, ventilating, and furnishing school buildings. Various plans are identified but of interest to Corridor C is specific considerations of depth and orientation of classrooms, where the **building's wings or blocks comprises single rooms with a corridor to the back of the classrooms to allow for the necessity of maximising the best natural light into the school rooms.**
- 3.8 After 1918 there was a **greater emphasis on a quadrangle courtyard plan, which tended to be based on the plan form of established historic public schools.** This courtyard pattern prevailed in many later buildings of this type, including the former Technical College.
- 3.9 In the 1930's, **Modernist designs, inspired by classical forms, were economic, innovative, and flexible in the use of space, lighting, and ventilation, using prefabricated steel framing.** The design allowed for the use of rectangular cubist massing and horizontal lines, with long, dominant areas of horizontal glazing patterns for classrooms. These were typically offset by glazed tower stairs, like the original tower staircase to the building.
- 3.10 Following a high degree of state intervention in Britain, plus a restriction on capital expenditure following WWII, **buildings had to be constructed quickly and economically, with embellishment pared down and confined to the building's form, function, and social needs.** British architectural schools that promoted the Modern Movement influences, both European and American, in the 1930's and 40's produced architects that could implement the principles and ideas. The Dutch Modernist architect and urban planner, Willem Dudok, was influential in such designs in Europe, and there are some parallels between some of his work and that of the architects, Saxon Smith, and Partners, who designed the Technical College.



Fig 4. Dudok's Vondelschool Hilversum, Netherlands (1928-29 and Hilversum Town Hall; and Saxon, Smith, and Partner's Wrexham Glyndwr University (1950-53)

- 3.11 The establishment of the Town and Country Planning Act in 1947, meant that buildings had to be in defined areas, and in the public interest. **The siting of Denbighshire Technical College** on a prominent location on Mold Road was deliberate and its corner tower was designed as a local landmark at the entrance to the town, a new confident age of architecture, looking forward rather than back. Pevsner called the design of the building ‘long and blocky’, but it is no doubt that the structure, using light faced Welsh brick, long fenestration bands, and projecting concrete cornices over a structural steel frame, creates an efficiently planned building with a clearly articulated rhythm and plan form. High quality Portland stone and decorative finishes is used sparingly in key public areas.
- 3.12 The Technical College **was required to accommodate different educational functions**, such as classrooms, lecture theatres, laboratories. Each area was well articulated and thoughtfully planned out to address the use of each area and to minimise noise. The impressive entrance and large entrance hall, the William Aston Lecture Theatre, a gymnasium, music block and refectory were added. Circulation space took the form of linear corridors leading off the main entrance hall, accessed and punctuated by stairs. Innovative lockers, part of the ventilation system, is in Corridors B and C.
- 3.13 **The plan** of each block is rectangular, with long linear rows of fenestration. The orientation of the windows was of key importance, as were specific functions and circulation spaces of each block. Corridor A runs parallel with Corridor C around a courtyard. **Corridor B**, on a north-west – south-east axis, is part of the primary frontage to Mold Road, set well back, with classrooms to each side of the corridor and the clock tower.

3.14 **Corridor C** was the designated Science Block. The laboratories were designed to face south-east, to maximise light into the building with only one aspect looking out, which is to the courtyard. The corridor, with 12 glazed original display cupboards and lockers, lies between the laboratories and the main road, presumably designed to keep noise levels to a minimum and to aid concentration. Corridor C housed the **science laboratories** – physics, chemistry and organic (biology), and associated preparation rooms. It also includes a dedicated lecture theatre, where the wooden bands of seats rise in tiers, facing a wooden lecture bench. The floors to the laboratories are herringbone pattern parquet wooden floors, rather than concrete, with air ducts underneath. The benches appear to have been replaced in the 1980's. Extract or fume cupboards are evident but are no longer in use. Modern suspended ceilings have been inserted. What is important however is that the function and purpose of these rooms have not changed since the college was built, which is a remarkable achievement.

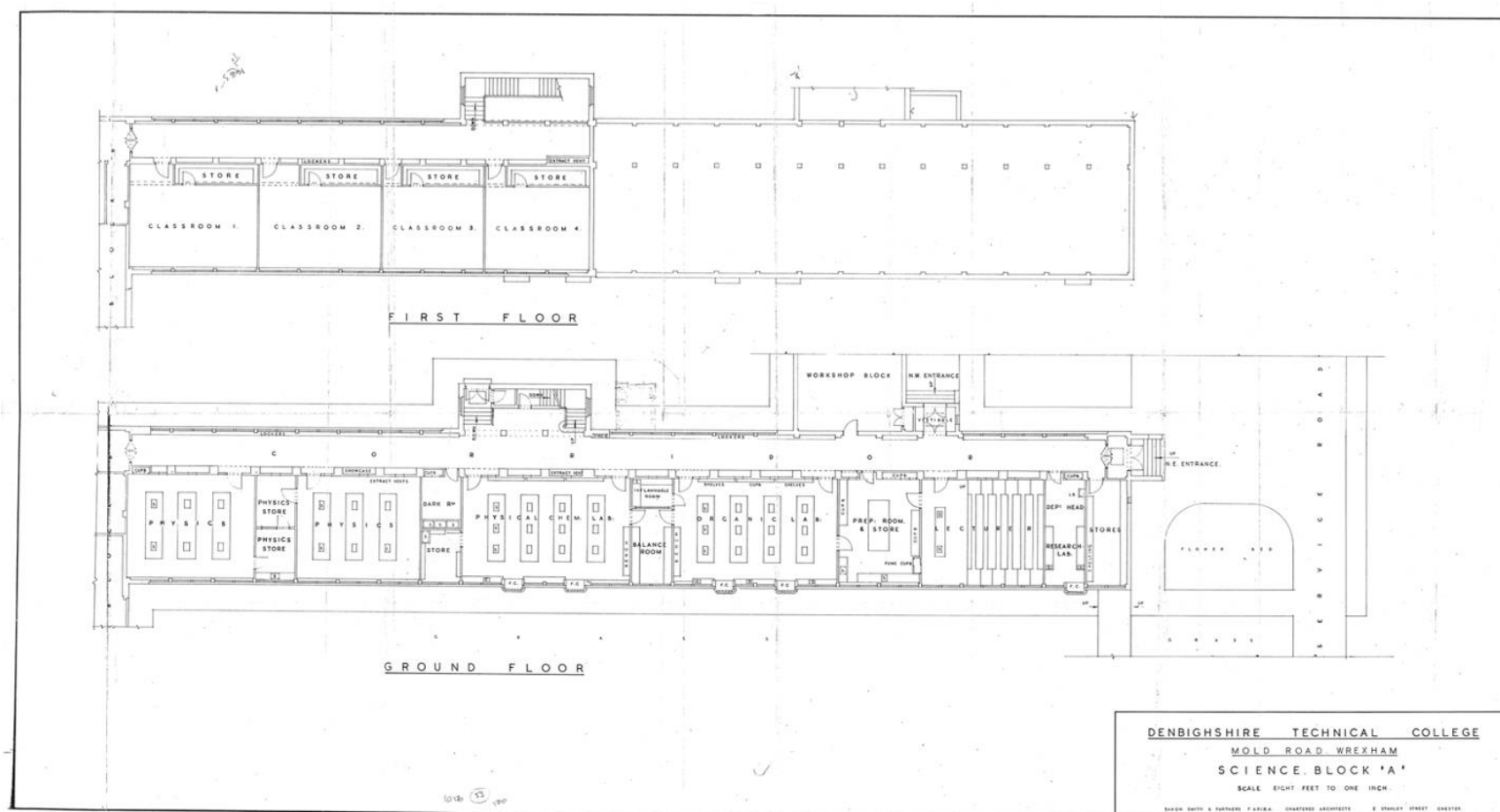


Fig 5. The original plan of Corridor C, entitled Science Block A. This shows the nature and function of the lab spaces, the store, and associated rooms (Dark Room, Balance Room, Inflammable Room, Prep Room) extract vents, showcase panels and cupboards. It also shows that the first-floor plan had potential to be extended, with structural supports in place (undertaken in the 1990's).



Fig 6. Corridor C, doors to the labs, modern desks, parquet flooring in herringbone pattern, dockets in floor to access air ducts, extract cupboards (some removed). Note suspended ceiling, fenestration and view out to the courtyard, and the room orientation.

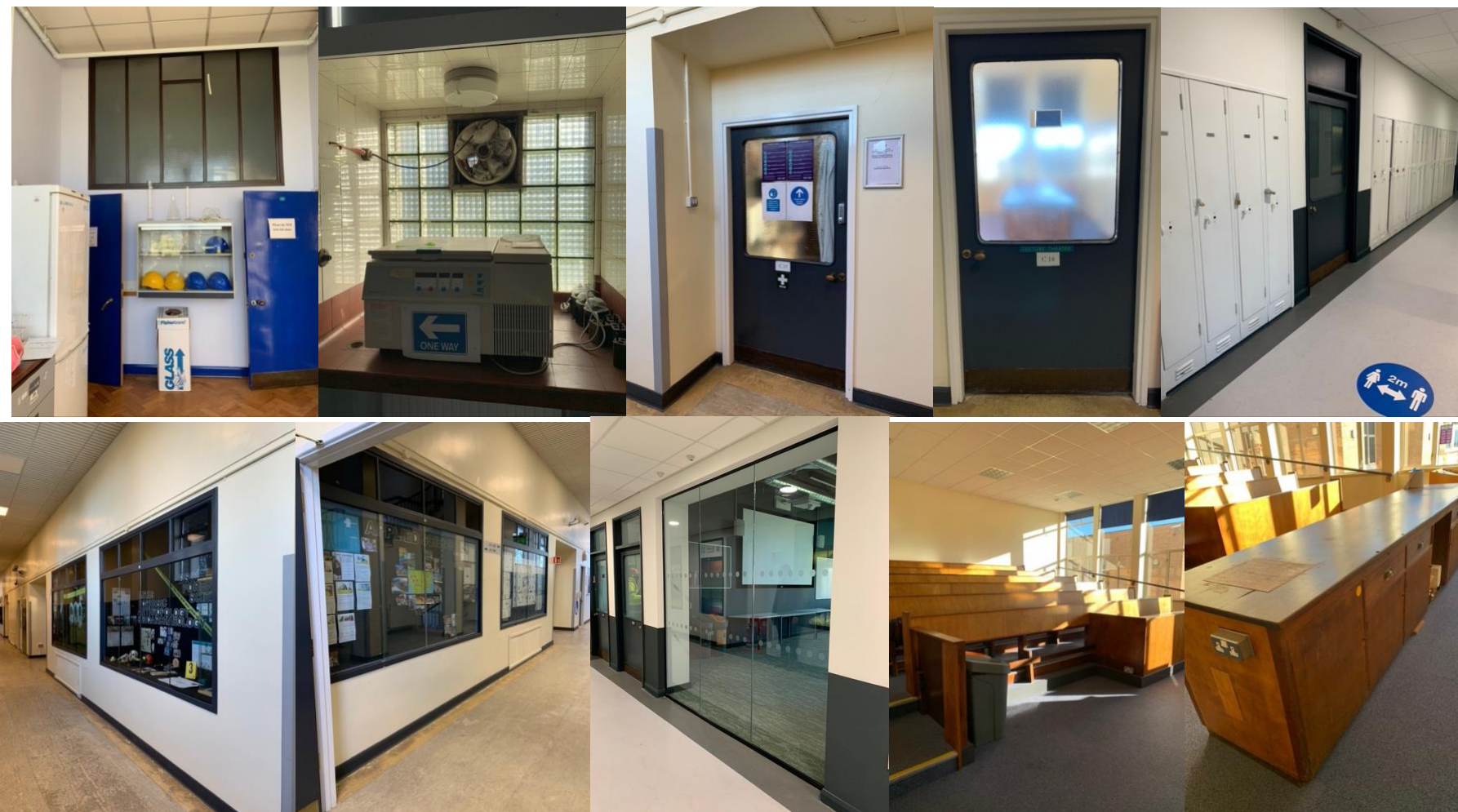


Fig 7. Corridor C prep rooms, glass brick workstations, original doors to the labs from the corridor, lockers in Corridor B, showcase cupboards to Corridor C which have asbestos within, replacement glazing to Corridor B, lecture theatre, teaching desk, Corridor C.

4.0 The significance of the heritage assets

4.1 **Assessing significance** is embedded in national planning policy. Heritage values that contribute to a greater understanding of significance are identified by Cadw's Conservation Principles for the Sustainable Management of the Historic Environment in Wales (2011) as being: -

- Evidential
- Historical
- Aesthetic
- Communal

4.2 There are six commonly accepted levels of significance. These are as follows: -

- Outstanding Highest level of importance, SAMs, WHS, Grade I / II* listed buildings, Historic Parks & Gardens
- High (significant) Grade II listed buildings, Historic Parks and Gardens and conservation areas
- Medium (moderate) Locally listed buildings, and those buildings that contribute to a listed building's setting
- Low (limited) Limited heritage value
- Neutral Neither positive nor negative features
- No significance Features that detract from the heritage values

4.3 A report by the Environment Dimension Partnership in March 2021 for work to Corridor B outlined several features of significance relating to Wrexham Glyndwr University Plas Coch Campus. These have been assessed and where relevant added to this report.

4.4 Wrexham Glyndwr University (Grade II)

Evidential Value – high	The building is a very good example of a mid-20 th century technical college, which has evolved over time to the University of Glyndwr in North-East Wales. Its external character, appearance and modular character are largely unchanged.	Overall significance High 
Historical Value – high	The former Denbighshire Technical College was established soon after the national education reforms of 1944 allowing for tertiary education, in a period where Britain required rebuilding, and required scientists and technical expertise to compete with World Trade. It was built in a style that was very much of its time in a response to a national economic scarcity of resources and a decline in Britain's historic industrial trades such as coal mining and steel. The interior space was carefully planned from a detailed study of technical tertiary schooling requirements, and part of the design brief allowed for future extension. The building is listed for its special architectural and historic interest.	
Aesthetic Value – high	The simplicity of the building's form and shape gives a very strong Modernist character. It is influenced heavily by the materials available at the time where form follows function. The linear bands of brickwork and aluminium windows run continuously along its facades, but the role of each is clearly articulated. Windows are very important and interrupted by thin concrete columns and the façade anchored by a vertical stair clock tower. Pipework and ventilation are largely concealed within the structure, and art panels were created by a well-known designer of industrial designs, tiles and wallpaper, artist, Peggy Angus (1904 – 93) who was taught by Surrealist, and later pioneer of Modernism, Paul Nash (1889 – 1946). 1950's features remain internally. The building is listed for its special architectural and historic interest.	
Communal Value – medium	The building was built as a post WWII technical college which has evolved over time as Glyndwr University.	

4.5 Key Points of Significance:

- **The Modernist design** of the building that dates from the middle of the last century.
- **The simple linear block plan around a courtyard**, which was carefully planned and based on historic influences and has not significantly changed.
- **Building materials** of steel, brick, glass and concrete with metal casement windows and timber doors **that add to the Modernist character**
- The historic relationship with Wrexham town centre as a building that is an innovatively designed and well-articulated **landmark gateway** that has not aged over time.
- Associations with noted **designers**.
- Its evidential, **historical, aesthetic, and communal value**, which clearly defines its sense of place.

4.6 Key Points of significance to Corridor C:

- The Science Block has a use **that has not significantly changed since the building was constructed**, remaining as science labs.
- **The layout and plan form** of the ground floor block has changed little since its construction.
- **Original features remain** that include showcase cupboards, lockers, doors, and flooring.

5.0 Relevant Conservation Planning Policy and Guidance

- 5.1 Under Section 66 (1) of the **Planning (Listed Buildings and Conservation Areas) Act 1990** local authorities must give special regard to the desirability of preserving a listed building or its setting or any features of special architectural or historic interest. The Planning (Listed Buildings and Conservation Areas) (Wales) Regulations 2012 as amended by the Planning (Listed Buildings and Conservation Areas) (Wales) (Amendment no 2) Regulations 2017 introduced the obligation to submit a Heritage Impact Assessment with all applications for listed building consent.
- 5.2 The Historic Environment (Wales) Act 2016 enables Welsh authorities to give more effective protection to the historic environment by further improve procedures for its sustainable management and to provide further transparency on decision making. This is read in conjunction with Planning Policy Wales and Technical Advice Note 24: The Historic Environment.
- 5.3 National guidance is within Planning Policy Wales (edition 11, 2021): Chapter 6: Distinctive and Natural Places. This places great emphasis on protecting the natural and built environment for historic, scenic aesthetic and nature reasons, recognising that they give places their unique identity and distinctiveness. This includes the protection of historic buildings, preserving sites on the register of historic parks and gardens and the character and appearance of conservation areas and setting, based on their significance and the impact of changes.
- 5.4 Wales Technical Advice Note 24: Historic Environment, (October 2017), Section 7 states in 1.7 that “In policy terms, the historic environment is defined as 6: “All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and deliberately planted or managed.” A historic asset is: “An identifiable component of the historic environment. It may

consist or be a combination of an archaeological site, a historic building or area, historic park and garden or a parcel of historic landscape. Nationally important historic assets will normally be designated.”

- 5.5 Setting is quantified in 1.25 which states that “The setting of an historic asset includes the surroundings in which it is understood, experienced, and appreciated embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral. 24 Setting is not a historic asset in its own right but has value derived from how different elements may contribute to the significance of a historic asset”.
- 5.6 The role of the applicant is further described in 1.26. This states that “It is for the applicant to provide the local planning authority with sufficient information to allow the assessment of their proposals in respect of scheduled monuments, listed buildings, conservation areas, registered historic parks and gardens, World Heritage Sites, or other sites of national importance and their settings. These principles, however, are equally applicable to all historic assets, irrespective of their designation”.
- 5.7 Other relevant Cadw guidance is contained in the ‘Setting of Historic Assets in Wales, Cadw (May 2017), ‘Heritage Impact Assessment in Wales, Cadw (May 2017). Managing Change to Listed Building in Wales.
- 5.8 **Relevant local plan policies** are in the Wrexham Unitary Development Plan: 1996 - 2011; adopted 2005. Policy EC9 relates to listed buildings and stipulates the legislative requirements.

6.0 Impact of The Development Proposal on The Heritage Assets

- 6.1 This report relates to a listed building consent application for minor alteration to facilitate essential upgrades to two existing laboratory spaces within Corridor C, at Wrexham Glyndwr University, Plas Coch Campus, Mold Road, Wrexham LL12 2AW.
- 6.2 The features of significance of Corridor C of the Plas Coch Campus building includes: -
- The use of the labs has not changed since the building was constructed and remains as science labs.
 - The layout and plan form of the ground floor block has changed little since its construction.
 - Original features that include showcase cupboards, lockers, doors, and flooring
- 6.3 The **plan form to Corridor C** is modular and its innovative design of the time means that internal room changes are minor and reversible. The key change will be the introduction of four new glazed openings, replacing the 1950's showcase windows to the corridor. Eight will remain as per original. The openings are designed in a deliberately contemporary style and faithful to the flexible living language of classrooms, being a 'kit of parts'. The showcase windows to Corridor C can still clearly be seen, the interventions are still read as part of the rhythm and articulation created by the windows in the corridor, openings are kept to a minimum, but views to the labs from the corridors can be appreciated. Borrowed light from the corridors will allow light into the lab space, and the windows will form part of a more immersive experience. Unfortunately, asbestos has been found following a UKAS Accredited (ISO 17020) Asbestos Survey undertaken by Bradley Environmental accredited asbestos surveyors and consultants, covering an extensive section of C-Corridor, including laboratories C12, C14 & C14a.
- Bradley Environmental operate in-house asbestos testing laboratories, accredited by UKAS to ISO 17025, for the analysis of samples.
 - Results confirmed the presence of chrysotile asbestos in samples taken from panels within the display windows fronting C-Corridor on labs C12, C14 & C14.
 - It is chrysotile asbestos, and there is a threat to human health. Removal is recommended.

- 6.3.1 The result would be the loss of the evidential aspect of the window fabric and as this has to be removed as it is harmful to health, the loss of fabric and replacement with facsimile to retain the opening size can be more readily justified. There is no great loss of any fabric, and the changes are outlined overleaf.
- 6.4 Parquet flooring will also need to be replaced. In the 1920's and 1930's parquet flooring became a standard treatment in schools, colleges, and gymnasiums. Part of the use was down to the availability of materials after the war. It was also related to the development of a warm air heating system, in an era where insulation was non-existent. Wood was a warm and hardwearing material and its use within the requirements of school buildings regulations of the time. It was also a practical response to light and reducing the presence of glare in labs that are well glazed along one wall, and therefore with only one source of light. It was also easy to install in rectangular rooms and did not require skilled labour to lay it.
- 6.4.1 The parquet flooring is not a practical material for a modern laboratory environment and does not meet the slip resistance requirement and in a laboratory setting where the users are handling hazardous materials/glass etc this can cause a serious incident. Liquids spilt on the floor are also difficult to see and where it has occurred, has caused irreplicable damage. Fixing ply over the parquet flooring requires many nails and this will cause damage to the floor, as moisture will get trapped resulting in the blocks de-bonding from the subfloor. It is proposed to record, lift, and store the parquet flooring in the college basement.
- 6.5 All other features will be retained, and some features will be reinstated. It is noted that there have been piecemeal and more comprehensive changes approved over the years to the building but there is a distinct 1950's character that is retained. It was felt that the desks were not of any heritage significance after discussion with the conservation officer and it was agreed that these did not form part of the listing as they appear to have been installed in the 1980's. These are to be replaced.

6.6 Proposals and assessment of impact – Glyndwr University, Plas Coch Campus - laboratories

Proposal	Features affected	Heritage Value	Significance	Scale of change	Heritage Impact	Justification
Reconfiguration of internal prep room C14a	Internal walls to prep areas.	Evidential. Historic.	Medium	Minor. Reversible	Neutral.	This involves minor internal change, altering blockwork partitions to facilitate more storage.
Upgrade of labs to meeting the needs of current health and safety legislation and biological and chemistry safety standards. Removal of desks, installation of new, removal of parquet flooring and installation of new slip resistant flooring suitable for a laboratory setting.	Modern desks. Original lab floors	Evidential. Historic. Aesthetic.	High	Minor. Reversible.	Neutral.	Modern environmental standards have changed for lab work. To achieve high class facilities and encourage students to study science at Glyndwr, changes are required to make the labs up to date, fit for purpose and to add a degree of flexibility. The parquet floor is to record, removed and stored and a new lining placed over the floor. This enables deep cleaning, to protect against chemical spillage and make it fit for purpose. New fixed lecture benches will not be fixed to the floor but be of freestanding weight.

A contemporary ventilation system including associated plant equipment, including altering the height of the modern suspended ceiling.	The roof and courtyard windows.	Evidential. Historic. Aesthetic.	Medium.	Medium.	Slight adverse	The introduction of a void mounted mechanical Ventilation Heat Recovery System is the same as that approved to Corridor B in 2021. This involves slightly lowering the ceiling by 680 mm, ducting out to higher level glazing panels. It will upgrade the current facilities in line with current regulations. Window vents have been previously approved to Corridor B and if there is an appropriate pattern, rhythm and symmetry and they are colour matched to the windows, they would not unduly detract from the courtyard facade. Internally there would be little change to how the space is experienced.
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6.6 Proposals and assessment of impact – Glyndwr University, Plas Coch Campus - Corridor

Proposal	Features affected	Heritage Value	Significance	Scale of change	Heritage Impact	Justification
Blocking up internally a doorway to Labs C12 and C14	Original door entrances	Aesthetic. Historic. Evidential.	Medium.	Minor. Reversible.	Minor.	Each lab has two corridor entrance doors to each corner of the room to make better use of space. The blocked-up door will be retained in situ.

4	no.	Window	Aesthetic.	Medium	Moderate.	Minor.	The removal of 4 showcase windows and lengthening of the opening, plus removing asbestos, will involve the loss of some historic fabric but the scale of change is minor and furthermore, utilises four existing openings. The width of the window proportions will be replicated so that the rhythm is largely retained to the corridor. The new window is designed to be very clearly a new intervention of its time. It is a glazed frameless full-length window, slightly recessed to allow for interactive real time view of science, without making new openings into the original structure. This is a contemporary approach using appropriate materials, scale, and form. This would superficially alter the linear form. Its impact is positive as it is a new intervention that contrasts with but respects the context in which it is located. There is a clear change of material which is fundamentally honest and lightweight. The integrity and honesty of the windows is borne from the structure's construction, built in a modern way, and which should be expressed in a modern way.
Replacement	to	partially	Historic,				
showcase		missing.	<u>Evidential</u>				
windows	of						
corridor.							
Removal							
asbestos							

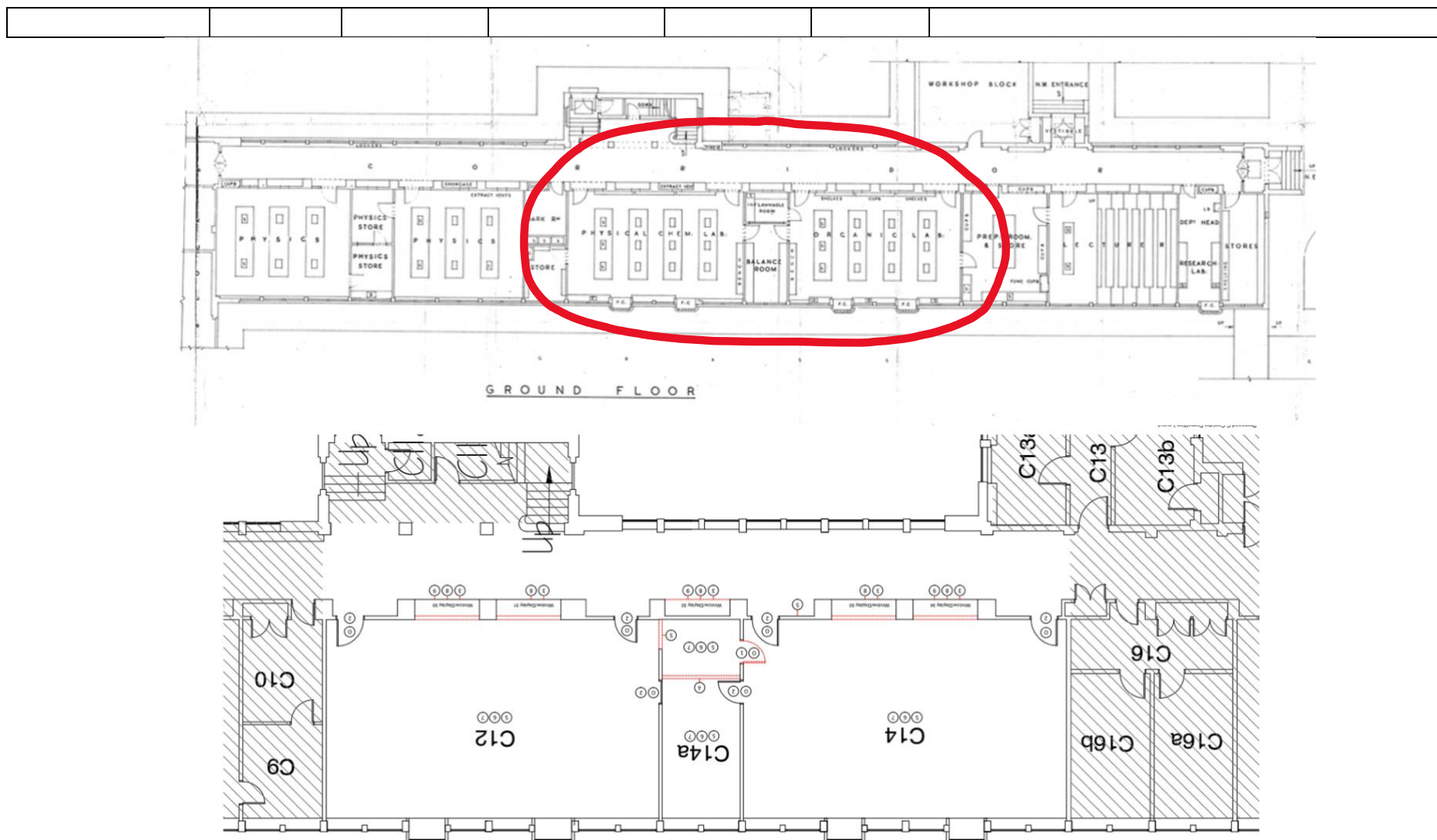


Fig 8. Original and Proposed Plans of Corridor C (Proposed: Copyright: DAY Architectural Ltd.)

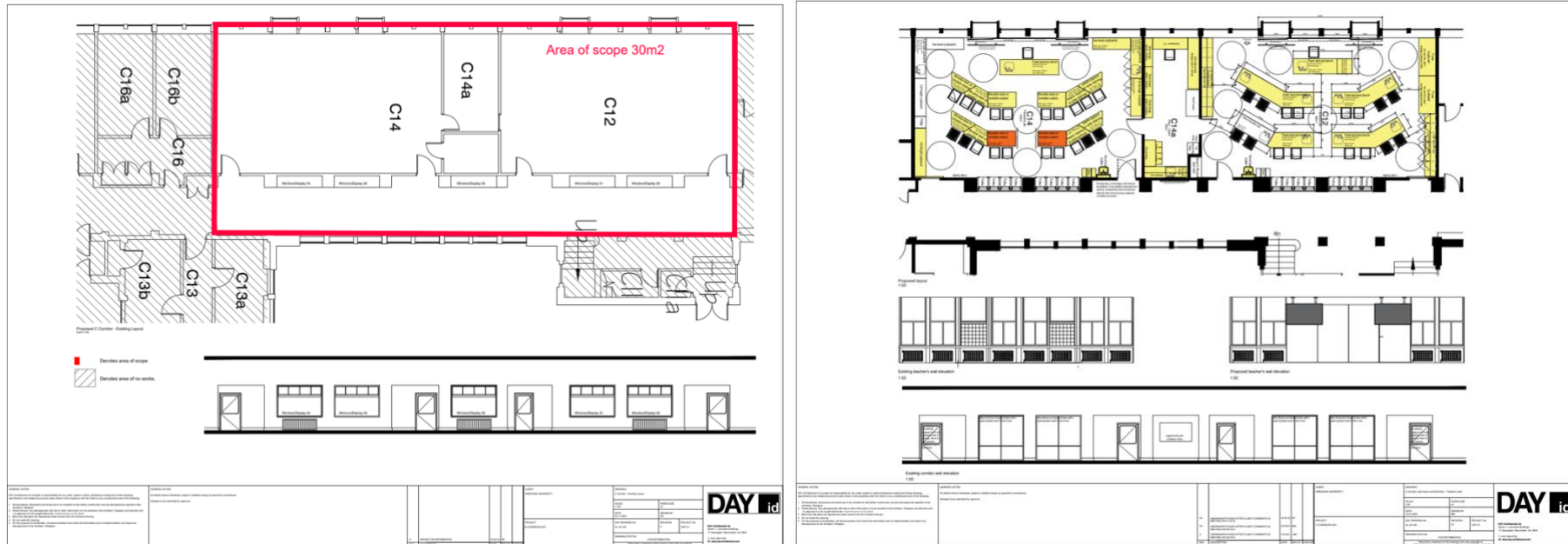


Fig 9. Areas of works in Corridor C, as existing and as proposed. (Copyright: DAY Architectural Ltd.)

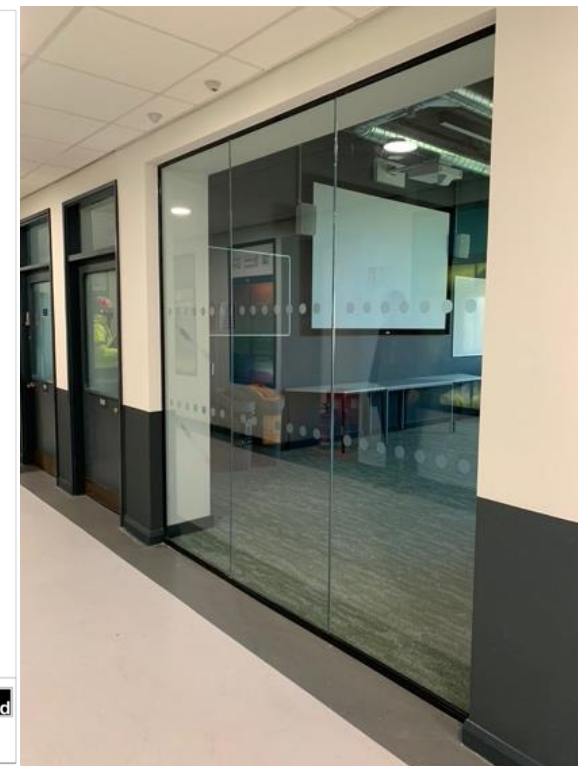
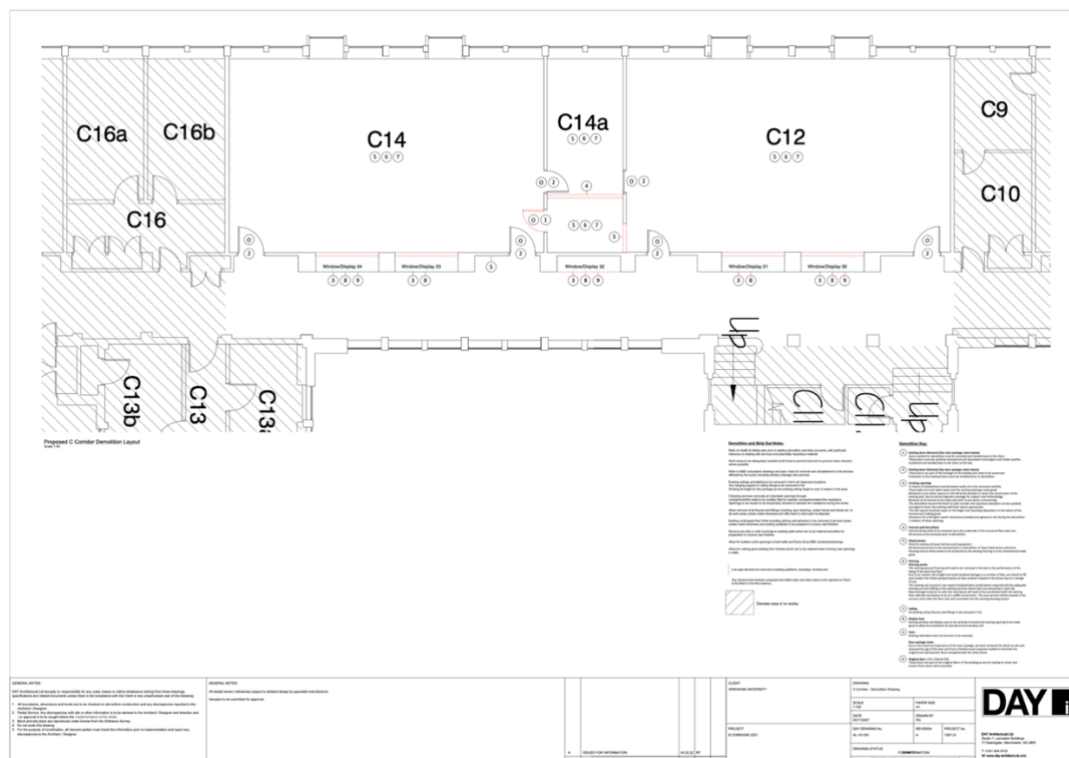


Fig. 10. Areas of proposed works, and Corridor B precedent – the creation of a contemporary opening.

6.7 To summarise: -

- Corridor C **has several specific heritage features that will be retained**. These are both internal and external.
- The general presumption of **minimum intervention** should be considered on a case-by-case basis. In this case science-based courses must adhere to certain technological advances and changes to health and safety legislation that do not always tally with the fabric of the building. There is a balance against the fabric of the period, the requirements of **highly regulated processes and facilities, and the ambitions of the University**.
- **Original doors will be retained in situ**.
- **The original parquet flooring** is being recorded, removed, and stored.
- **Desk alterations** are considered not to be of significance as they are modern. The layout of the desk reflects modern teaching practices. The white board are additions that are reversible.
- **Ventilation requirements** and the relationship between windows and their functional role have changed, where internal rearrangements of ventilation are now more passive and better serve current teaching and research focuses.
- **The showcase cupboards** are quite dated, have asbestos within the linings, and difficult to dress to properly convey the scientific teaching journey at Glyndwr. Compared to the contemporary balance achieved through recently approved works to Corridor's A and B, there is an opportunity to have **a more active, contemporary, and innovative showcase windows, based on a balanced judgement on the juxtaposition of old and new to Corridor C**.
- **There is scope for further innovation regarding the showcasing of course content and studies and this will rely also on creative and digital platforms. However, being able to see the interaction and practice of science will be a very positive benefit to the university in the short, medium, and longer term.**
- **The impact on the listed buildings and setting** – This will remain largely unchanged. the order and sequence of development is legible, the unity and expression are similar, and allowing the building to be honestly expressed, retaining its Modernist character, but with clearly post-modern references that reflect the changes elsewhere to the building. The plan and section are generally unaffected, and where there are some interventions, they are minor and reversible.

- It should be noted that the technical college was never designed to be preserved as a museum piece but to evolve in line with the best and cutting edge of innovative practices. This will result in enhanced immersive features which aims to encourage both university and student ambitions and aspirations. Whilst the removal of some historic fabric may be considered harmful, it can be recorded and carefully removed and stored on campus.



Fig 11. Historic photos - Lecture Theatre, Glasgow University; Historic UMIST labs. Features like that at Wrexham Glyndwr University

7.0 Conclusion

- 7.1 Wrexham Glyndwr University's Plas Coch Campus is of high significance. There are several distinct areas of varying significance, but there is a uniformity and cohesiveness of the interior that is a careful and well considered juxtaposition of old and new.
- 7.2 The proposals to Corridor C follow a pattern of development that has been bold in its intervention of fabric to Corridor A and B, which has been tempered with well executed and well considered alterations that follow the five principles outlined for 'new work or alteration to a significant place' in Section 28 of Cadw's 'Conservation Principles for the sustainable management of the Historic Environment in Wales', March 2011. These are:
- The need for the work is fully justified - The works are justified in terms of allowing the modernisation of two science labs within Corridor C to further grow science technology at Wrexham Glyndwr University to further develop its expertise and knowledge to students in an innovative and appropriate way. Importantly it retains the original use as intended, but with necessary upgrades. It largely retains important features of Corridor C, in a positive way.
 - There is sufficient information to understand the significance of this part of the building and the proposals upon it.
 - The proposals would not materially harm the values of the listed buildings which are reinforced or further revealed.
 - The proposals overall are minor and have a neutral impact on the value of the heritage asset and by establishing a beneficial, sustainable, and more immersive use for Corridor C will strengthen it.
 - The quality of the design and execution must add value to the existing asset. The designs and materials chosen are a carefully response to the building's character and historic fabric. There is a clear distinction between historic and new fabric.
 - The long-term consequences of the proposals are positive, and the special interest of the building is preserved. It would positively affect the ability to appreciate and understand the special architectural and historic interest of the listed building and is an evolutionary process of use and appearance.
- 7.3 The proposed development would therefore be in accordance with the statutory duties of legislation, and local and national relevant plan policies. The application should respectfully be supported.

Appendices

Parquet flooring and modern laboratory slip resistant floor finishes

The existing flooring is not suitable for a modern laboratory environment. There are a few issues as follows.

Slip resistance

The flooring does not meet the slip resistance requirement and in a laboratory setting where the users are handling hazardous materials/glass etc. this can cause a serious incident. Liquids spilt on the floor are also difficult to see.

Resistance to laboratory materials

There is evidence from all over the laboratories where laboratory materials (liquids / solids / samples etc.) have been spilt on the floor and these have eaten into the parquet and have permanently removed the surface finish and some of the wood. Typical liquids used in labs include oils and grease as well as bacterial samples, chemicals, and acids. In these situations, the flooring could not be cleaned adequately, and this can create a situation where it becomes a biohazard, as well as permanently damaging the floor and becoming a visual eyesore. The fact that it cannot be adequately cleaned then leaves an opportunity for contamination and the associated health and safety risks.

All new laboratory floors are typically sheet vinyl or tiles as they need to be slip-resistant, non-staining, non-permeable / non-absorbent / moisture-proof, durable, easy to clean and easy to maintain. They can be cleaned with scrubbing machines and have manufacturer guarantees for slip resistance and chemical resistance.

Glyndwr University Capital Estates team have carried out research into the various options for refinishing the parquet flooring and fixing new vinyl sheeting to the existing floor. Advice has also been sought from manufacturers and specialist floor laying contractors. The options are as follows.

Refinishing the existing floor

Specialist contractors have confirmed that refinishing the floor will not address the problems identified above. The floor will still not be able to achieve a required slip resistance and will not be chemical resistant.

Over boarding with ply and then Vinyl covering

Contractors and manufacturers have confirmed that fixing the ply to the floor will involve nails at close centres, this will cause damage to the flooring that remains in situ.

More seriously, they have confirmed that this will not meet the British Standards and the vinyl floor will trap moisture in the flooring and this will result in delamination of the parquet blocks, lifting and warping. They would not have the opportunity to move and breathe and this would result in a complete failure of the floor. I have been informed of many instances where this has occurred and has caused considerable damage including preventing doors from opening. On the basis that the single door to the laboratory is the fire escape route this problem should be avoided.

Please see the email below from Forbo (manufacturer) for their advice.

Good Afternoon,

We would not recommend any of our flooring to go directly over a parquet floor.

The problem with these types of floors is that there is not usually a damp proof membrane beneath and the moisture within the floor at ground level usually comes up between the wood blocks and evaporated into the air stream, if the wood block flooring is covered (sealed) then this moisture cannot escape, the consequence of trapped moisture is it will eventually cause the blocks to de-bond from the main sub floor they will then lift up.

The only real way to deal with this type of floor would be to uplift it and prepare the base floor accordingly.

Kind Regards

Adam Knox
Sales & Technical Support Coordinator

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Proposed solution

The proposal is to lift all the parquet blocks, number and store them on pallets within the undercroft of the building. The undercroft is a considerable size and has been used to store the doors etc. removed from previous phases of work so that listed building elements are not lost.

The floor will then be levelled with a self levelling compound and a vinyl floor laid. This will meet all the requirements of the laboratory environment and preserve the parquet blocks on site. They can then be used in other areas of the building. Note: upon investigation there are many rooms where the parquet remains in situ, underneath carpet floors. As the carpets breathe, the issue of the floor warping is not a risk.

Appendix - Sources

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