



# Ysbyty Gwynedd Hospital

## Fire Safety and Infrastructure Compliance Programme Business Case

February 2021

### Version History

| Version    | Date      | Purpose  | Change  | Originator |
|------------|-----------|--|---|------------|
| <b>0.1</b> | September | Draft for initial discussion of scope, options to appraise, categories | Amended risk table following consideration of categories                            | P Fisher   |
| <b>0.2</b> | October   | 2 <sup>nd</sup> draft for Estates team discussion                      | Renamed and use of BCUHB risk assessment of Sept.                                   | P Fisher   |
| <b>0.3</b> | November  | 3 <sup>rd</sup> draft for Estates team review                          | Incorporates more BCUHB data  | P Fisher   |
| <b>0.4</b> | December  | For distribution within BCUHB  | Minor adjustments   | P Fisher   |
| <b>0.5</b> | February  | For Estates review   | Certain cost elements removed & programme recast                                    | P Fisher   |
| <b>0.6</b> | February  | For BCUHB review   | 'Works packages' replaced by risk tier stratification. Some re-ordering / rewording | P Fisher   |
| <b>0.7</b> | February  | For BCUHB CIG  | Changes to appendices C and D   | P Fisher   |
|            |           |  |   |            |
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# Aerial photograph of Ysbyty Gwynedd Bangor

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# 1. Executive Summary

The purpose of this Programme Business Case is to secure in principle agreement to a funding envelope of **£181M** (+VAT) to be invested in significant risk reduction activities at Ysbyty Gwynedd Hospital, Bangor. This investment will secure continuity of patient care at this location to required standards and removing intolerable risks, relating principally to fire safety.

The nature and severity of the risks are such that to maintain Ysbyty Gwynedd as the principal regional healthcare facility, as is the Board's strategy, requires urgent planning of a sequence of works with fire risk reduction a priority. Other infrastructure risks will be reduced in the process.

Ysbyty Gwynedd is one of three major acute hospitals in North Wales providing critical clinical activities to the catchment population. It is an ageing and increasingly outdated asset, with the majority of the structure built in the early 1980s, 40 years ago.

Healthcare provision from Ysbyty Gwynedd is a long-term expectation of the Board, therefore investment proportionate to the longevity of the facility to assure continuity of service in the order of 30 years is required.

There are immediate concerns relating to fire safety, with many facets of the hospital identified as non-compliant and indeed in breach of current guidance on standards, running the risk of site wide enforcement notice. Recent condition reports identified significant deficiencies in relation to fire protection measures. This raises a real concern of Fire and Rescue Service imposing a enforcement notice. Although aspects of the fire risks are being addressed now, this Programme Business Case seeks to secure significant investment in a series of targeted projects, outside of the scope of the Health Board's capital programme.

The scope of works outlined in this Programme Business Case is necessarily at a high level, as little survey / investigation information is currently available. Works described in outline here will be substantiated in detail in project specific Outline or Business Justification Cases, informed by investigation / survey data that is funded from this application as a first phase of works.

Each project specific Business Case will draw down funds from the in-principle envelope of £181M set out in this Programme Business Case. This Case recommends an initial scoping exercise to plan remediation works in their optimal sequence, beginning with surveys and investigations that will inform the plan of works in more detail than is currently possible with the condition information available.

The Case also indicates that the works programme is an opportunity for modernization / application of new "digital first" technologies, aligning Ysbyty Gwynedd with the Board's digital aspirations.

There are no current plans for wholesale hospital replacement at Ysbyty Gwynedd, therefore the scale of investment is commensurate with life extension for 30 years.

This Programme Business Case has been prepared by a Programme Development team consisting of representatives of the Estates team, fire safety officer and external advisers over the period 2020-21.

## 2 Case Structure

This Programme Business Case (PBC) proposes a series of inter-related risk reduction projects. Once approved, detailed programming will ensure that these projects are properly scoped, phased and cost-justified from the outset, to optimize the efficiency of the programme.

This PBC has been prepared using the agreed standards and format for business cases, as set out in the NHS Wales Infrastructure Investment Guidance<sup>1</sup>. This format is the *Five Case Model*, and comprises the following:

- **The Strategic Case** – section 3 - this chapter sets out the strategic rationale, the case for change and investment objectives;
- **The Economic Case** – section 4 - this chapter explores different ways forward – including what project level business cases will be developed to deliver the programme;
- **The Commercial Case** – section 5 - this assesses the ability of the marketplace to deliver the required goods and services, and summarises the programme commercial strategy;
- **The Financial Case** – section 6 - this chapter gives outline estimates of the capital and revenue implications of the scheme, and provides a view of affordability.
- **The Management Case** – section 7 - this chapter outlines how the programme will be administered and governed, including programme, risks and subsequent evaluation of the benefits of the investment.

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<sup>1</sup> Guide to Developing the Programme Business Case – Better Business Cases: for better outcomes HM Treasury, Welsh Government 2018

## 3 The Strategic Case

### Introduction

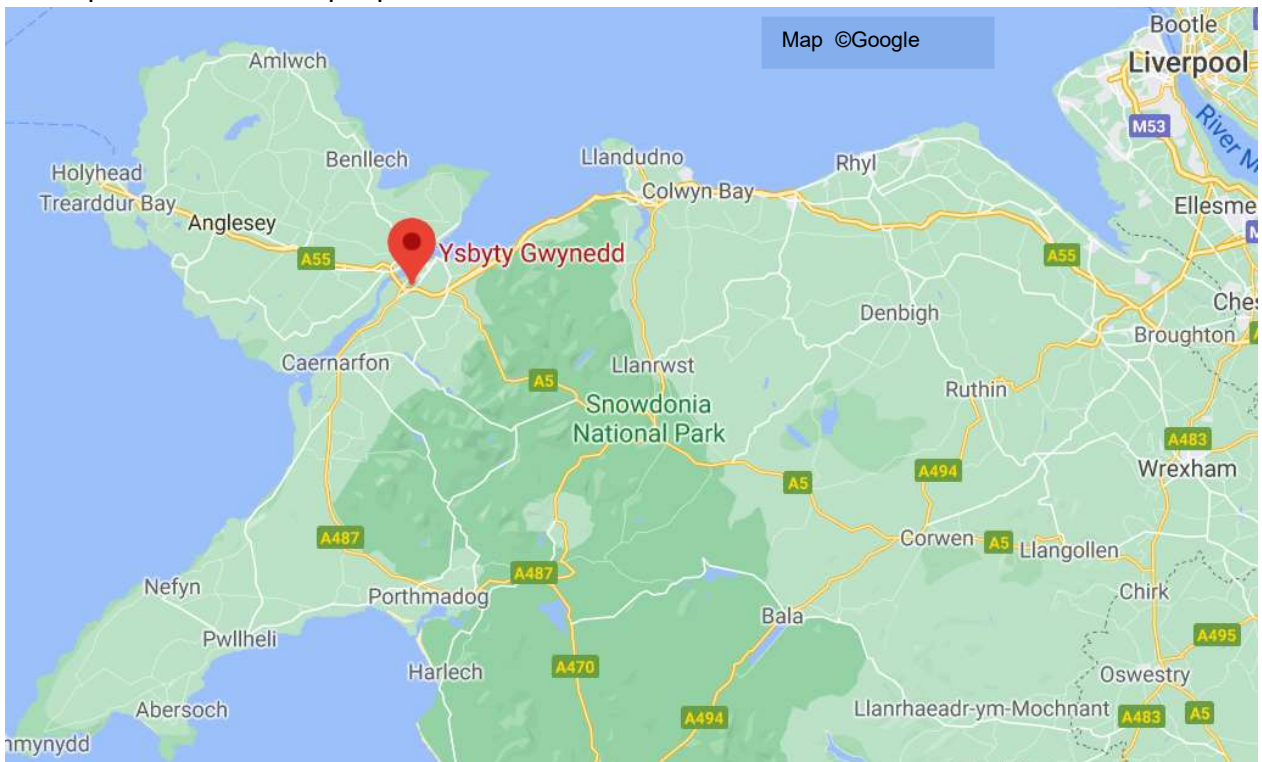
The purposes of this section are:

- to explain how the scope of the proposed scheme fits within the existing strategies of the Health Board; and
- to provide a compelling case for change, in terms of the existing and future operational needs of the service.

### 3.1 Organisational overview

Betsi Cadwaladr University Health Board (BCUHB) provides a full range of primary, community, acute and mental health services for a population of approximately 700,000 across Central / North Wales. BCUHB is responsible for the operation of over 90 health centres, clinics, community health team bases and mental health units, 19 community hospitals and 3 acute hospitals, of which Ysbyty Gwynedd is one. BCUHB employs close to 17,000 staff and has an annual revenue budget of approximately £1.6 billion.

Ysbyty Gwynedd is a 468 bed District General Hospital sited outside of Bangor. It provides a comprehensive range of services to the population of Gwynedd, Anglesey and parts of Conwy in the region of North West Wales shown above, serving a resident population in excess of quarter of a million people.



Ysbyty Gwynedd provides all the disciplines in General Medicine and Surgery in addition to all subspecialties, including Emergency Medicine, and has an Intensive Care Unit, Surgical High Dependency Unit and Coronary Care Unit. Patient attendances are currently 45,000 pa, and a high proportion of both major and minor trauma patients are seen, although like elsewhere in the UK there is a rising proportion of elderly patients with medical problems.

Ysbyty Gwynedd Hospital is one of three acute hospitals in North Wales, and primarily serves the Health Board's Western catchment population. It has a full 24/7 Emergency Department, and a comprehensive range of inpatient, day case and outpatient services. It also houses an acute inpatient mental health unit, and various rehabilitation facilities.

The following table gives a sense of the scale of the hospital via presenting one months, October 2020, admissions:

| ADMISSIONS   | Inpatient |           |          |           | Inpatient Total | Day case Total | Reg day/night Total | Grand Total |
|--------------|-----------|-----------|----------|-----------|-----------------|----------------|---------------------|-------------|
|              | Elective  | Emergency | Transfer | Maternity |                 |                |                     |             |
| October 2020 | 221       | 1672      | 159      | 168       | 2220            | 1260           | 502                 | 3982        |

### 3.2 Strategic Commitment to three main hospitals in North Wales

The configuration of Acute services has been reviewed several times in recent years - including the 2009/10 North Wales Clinical Strategy, 2012/13's Healthcare in North Wales is Changing, and 2017/18's Living Healthier Staying Well (LHSW). These reviews entailed in-depth explorations of the evidence base for the best configuration of acute hospitals, and various alternative models have been evaluated - including reducing the number of Acute hospitals and having a differentiated emergency take for some or all of the sites. The conclusion reached on each occasion has been in line with the one articulated in "Living Healthier, Staying Well: Our Strategy for the Future, LHSW<sup>2</sup> , in 2018, as follows:

*"In order to deliver services to meet future needs we will ensure that our three main hospitals at Ysbyty Gwynedd Hospital in Bangor, Ysbyty Glan Clwyd Hospital in Bodelwyddan and Ysbyty Wrexham Maelor Hospital provide core services to meet the needs of the population. Each hospital will continue to have:*

- *A 24 / 7 emergency department*
- *Consultant-led maternity and children's services*
- *A wide range of medical and surgical care, both for planned care and emergencies*
- *Day case surgery, diagnostic tests and outpatient clinics"*

Across North Wales the same direction of travel is described in LHSW:

*"Where clinics (and some diagnostic services) do not need to be at one of the main hospital sites, we will increasingly provide them more locally in our communities.*

- *When people need emergency care, they will be able to be assessed at any of our Emergency Departments and most will be treated at the hospital they go to. Some might need to be transferred to another hospital for more specialised care.*
- *We know from the evidence that for some more specialist services people have better outcomes when treated in larger centres by highly specialist teams. Our aspiration is that we will widen the range of specialist care we provide in North Wales so that in ten years' time people will have to travel outside the area less frequently. This will also help attract, retain and develop the specialist staff needed to provide high quality and sustainable care in our hospitals. We are already working to develop some services like this – such as the new Sub-regional Neonatal Intensive Care Centre, and robotic assisted surgery.*
- *Sometimes people will still have to travel outside North Wales to get very specialised care which is better provided for a larger population - such as neurosurgery at the Walton Hospital, or specialised paediatric care at Alder Hey. We have strong partnerships with hospitals outside North Wales and we will continue to do so in the future."*

<sup>2</sup> The Living Healthier Staying Well strategy: [www.wales.nhs.uk/sitesplus/documents/861/BCU%20HW%20Plan2%20En.pdf](http://www.wales.nhs.uk/sitesplus/documents/861/BCU%20HW%20Plan2%20En.pdf)

As part of the next stage of progressing the Health Board's services strategy the organisation will develop specific plans which describe and quantify the shape of services across North Wales. Within the context of the strategic decision to retain 3 major acute hospitals, the Health Board will work with partners to transform services in line with Welsh Government's 'A Healthier Wales: our Plan for Health and Social Care'.<sup>3</sup> This will entail both a shift in emphasis towards community-based services and a greater specialisation of services between the Acute hospitals. This is articulated in "A Healthier Wales" as follows:

*"Over the next decade we will see a shift of services from large general hospitals to regional and local centres. Routine diagnostics, outpatient services, day-case treatments, minor surgery and injury services can all be delivered safely and to high quality in smaller centres. Clinical expertise and specialisation can be shared through hub and spoke models. These changes will help to modernise services, allowing them to use new technologies and share good practice nationally, so that services are equally high quality across the whole of Wales."*

### 3.3 Rationale for investment

The purpose of this section is to demonstrate why investment at Ysbyty Gwynedd is a priority for BCUHB. The Strategic Case for investment is predicated on four key elements:

- Ysbyty Gwynedd is ageing and in need of significant investment to continue to comply with modern standards and to avoid enforcement notices effectively closing the facility
- Ysbyty Gwynedd is a committed core component of BCUHB future strategy
- The scale and range of clinical activity undertaken at Ysbyty Gwynedd means that the Health Board would not be able to meet the health care needs of the population if Ysbyty Gwynedd was significantly compromised in its current ability to cater for the catchment populace;
- There is no local substitute to Ysbyty Gwynedd for acute services for its 250,000 catchment population and there are no plans held for a replacement hospital in this region: Ysbyty Gwynedd is the long-term hospital for this region.

This Programme Business Case outlines at a high level the proposed areas of work, the nature of the risk and anticipates the reduction in the severity of the risk. The Programme is predicated on a requirement for the Board to ensure safe working for its staff, patients, visitors and clinical service continuity at Ysbyty Gwynedd, achieved by reducing excessive risk exposure, particularly and most pressingly relating to fire safety.

Of all the risks, risks to fire safety are the most pressing and dangerous issue requiring urgent attention to reduce the risk to life of hospital users and enforcement action by the Fire and Rescue Service. The Board are actively addressing this fire risk with a range of interim measures, such as fire door replacements, however the fundamental compartmentalization hazard will only be addressed by a major investment project, initiated by this Programme<sup>4</sup>.

Further fire safety investigation surveys and inspections have been undertaken. Findings added further detail to the Shared Services report and cost estimates included in this PBC. External specialist consultants assisted BCUHB and Fire Officers to implement an interim revised evacuation procedure plan, whilst funding is sought to undertake further remediation works.

The need for this investment is articulated in the Health Board's 3 Year Outlook and Operational Plan, and its Estates Strategy (both published in March 2019, 3 Year Outlook enclosed as Appendix A and the Estates Strategy enclosed as Appendix B).

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<sup>3</sup> A Healthier Wales: our Plan for Health and Social Care – Welsh Government [2018]

<sup>4</sup>The Health Board receives a capital allocation of approximately £14 million per annum to address routine estates maintenance, equipment replacement and investment in IT.

Risk assessment work has been undertaken - supported by NHS Wales Shared Services Partnership and Mott Macdonald - to identify, prioritise and cost the work needed to reduce infrastructure risks to an acceptable level. This has resulted in a proposal to undertake work in multiple areas to address the most severe infrastructure risks on the site.

Cost estimates within this Programme Business Case exclude significant technology investments, as will be seen the budget is very much focused on risk reduction by replacement of the failing fabric of Ysbyty Gwynedd.

The Case includes estimates of capital costs. These are based on comparative exercises and are indicative. The first activity in this programme, once approved, is to undertake surveys, planning and investigations necessary to improve upon the accuracy of the cost estimates and determine the most cost effective sequence of delivery.

The capital investment required and sought is a coherent professional estimate provided by qualified Quantity Surveyors based on a specific set of assumptions. In due course, each activity will be priced more accurately by contractors as the programme is rolled out, with firm costs being provided in the Outline Business /Justification Case for each individual project.

It is proposed that projects are phased to address the highest risks first while taking opportunities for symbiotic projects (e.g. when exposing roof voids undertake all roof void activity).

### 3.4 Business Needs – the Case for Change

This section of the case outlines what the problems are with the current situation, and why investment is required to resolve or mitigate these problems.

Fundamentally this case seeks to address unacceptable risks at Ysbyty Gwynedd. There is a high and increasing risk of physical infrastructure failure and legislative non-compliance at the Ysbyty Gwynedd Hospital with significant potential for adverse impact on the Trust's duty of care for patients and staff.

The underlying cause of this risk is the age and condition of the Estate. The hospital has major derogations from current fire standards and non-compliant protection systems.

The Health Board's Estates and Facilities Division has in place extensive 24/7 business continuity arrangements to ensure that clinical services, patients and staff are safe should a major incident occur. The Estates and Facilities teamwork with all utilities suppliers when dealing with business continuity issues to ensure service failures are managed safely. The Health Board spends approximately £700,000 (possibly reduced this year due to COVID-19 expenditure) per annum on maintaining the campus from its discretionary capital allocation. However, the risks associated with these failures are growing and cannot be mitigated through discretionary capital.

The Health Board's risk register has Ysbyty Gwynedd infrastructure risks amongst the "Tier 1" corporate risks:

*"There is a risk that the Health Board fails to provide a safe and compliant built environment. This may be due to insufficient financial investment and estates rationalisation. This could result in avoidable harm to patient, staff, public, reputational damage and litigation."*

This is supplemented by a Tier 2 (Directorate level) risk, specifically addressing Ysbyty Gwynedd fire safety compliance and infrastructure obsolescence.

As time passes the likelihood of more, and more significant, failures will only increase without substantial investment.

### 3.5 Investment Objectives

The proposed investment will significantly reduce risk exposure and increase the resilience of

the Hospital. It will improve the level of statutory compliance on the site. There will also, by virtue of modernisation, be benefits in terms of sustainability and enhanced staff and patient experience: reduction in energy consumption, carbon emissions, greater efficiencies / generally improved environments for staff, for patients and visitors.

Each project's specific, measurable targets and benefits realization plan will be developed in the project level business cases that follow on from this overarching programme business case.

As with all significant infrastructure investment, remediation brings with it the opportunity for modernisation and application of new 'digital first' approaches to healthcare. This investment will not bring about like-for-like replacement. Ysbyty Gwynedd will soon be 40 years old, with the exception of recent additions / replacements such as A&E. Healthcare provision, and expectation, has significantly moved on in the intervening 40 years, arguably with the greatest change in opportunity. requirement and expectation happening right now. The remediation programme will scope all applicable new healthcare innovations to build on nascent NHS best practice, to secure Ysbyty Gwynedd as fit for purpose and a fit for the future hospital, putting into action NHS Betsi Cadwaladr's digital strategy.

Investment at Ysbyty Gwynedd is an opportunity to apply the potential of technological advances that can bring about revenue savings and positive environmental impact, such as through increasingly efficient use of heating, ventilation, lighting and equipment use, use of occupancy and motion sensors for instance as well as modern materials for the fabric of the hospital with better thermodynamic properties and more power efficient systems. These will be explored as the programme develops.

### 3.6 Scope of the Programme

The primary objective – i.e. to reduce unacceptable risk and make the hospital compliant with current standards, HTMs etc. - is what determines the scope of this case. Which specific risks should be mitigated, and to what extent, are essentially value-for-money questions addressed in the options appraisal in the following Economic chapter.

In addition to fire, there are other infrastructure concerns at the hospital that require varying urgency of attention:

- replacement of non-compliant medical gas supply systems throughout,
- electrical and lighting infrastructure needing a complete upgrade,
- upgrading or replacing water distribution systems,
- upgrade or replacement of passenger and goods lifts,
- building fabric issues such as asphalt roofs, replacement of single glazing, external envelope and insulation considerations,
- ventilation/air handling systems at the end of / surpassed product life expectancy,
- replacement of inefficient heating boilers and radiators,
- telecoms upgrade from 'red-phone' system in use
- nurse call and CCTV systems require replacement,
- drainage, road and car park surfacing require upgrades,

Without intervention on an adequate scale, a piecemeal approach to addressing the above issues via backlog maintenance budget and planned maintenance system would take a very long time to resolve, during which time the infrastructure will continue to deteriorate and high or catastrophic grade risks may be realised, as well as increasing the threat of enforcement of non-compliance notices from internal and external inspections.

The entire hospital requires a space utilization review to take account of the way the hospital and

departments have changed over the past forty years to organically, rather than strategically, meet iterations of Building Regulations and HBN's.

### 3.7 Constraints to the Programme

The Programme will need to be delivered under operational constraints. Ysbyty Gwynedd Hospital is a fully operational hospital campus, with no vacant spaces of significant size. Remediation works will therefore need to be sensitive to ongoing functions, minimize disruption to services, to recognise the Board's land ownership curtilage and the potential impact of works on the Board's neighbours.

### 3.8 Risk to Programme Delivery

The Programme itself inevitably carries risk, as with all significant programmes of work. These risks are however manageable and are proportionate to the expected benefits of operational risk reduction. The Programme will be set up to manage its risks from the outset, including the principal risks of:

- Budget over-runs
- Ineffective interventions
- Insufficient intervention
- Missed opportunities for symbiotic work packages
- Care standard slippage during transitional arrangements

Active Risk Management will operate at Programme and Project levels. The Programme will report risk exposure monthly.

## 4 The Economic Case

### Introduction

The purpose of the Economic Case is to identify and appraise options that can achieve the Programme objectives and then to recommend the option which is likely to offer the best Value for Money (VfM). The Economic Case concludes by recommending a pipeline of individual business cases through which the programme can be developed and delivered.

#### 4.1 Critical success factors

The critical success factors for the project, used for option appraisal are as follows:

- CSF1: business needs – how well an option satisfies the existing and future business needs of the organisation.
- CSF2: strategic fit – how well an option provides holistic fit and synergy with other key elements of national, regional and local strategies.
- CSF3: benefits optimisation – how well an option optimises the potential return on expenditure – business outcomes and benefits (qualitative and quantitative, direct and indirect to the organisation) – and assists in improving overall VFM (economy, efficiency and effectiveness).
- CSF4: potential achievability – the organisation’s ability to innovate, adapt, introduce, support and manage the required level of change, including the management of associated risks and the need for supporting skills (capacity and capability). Also, the organisation’s ability to engender acceptance by staff.
- CSF5: supply side capacity and capability – the ability of the marketplace and potential suppliers to deliver the required services and deliverables.
- CSF6: potential affordability – the organisation’s ability to fund the required level of expenditure – namely, the capital and revenue consequences associated with the proposed investment.

#### 4.2 Risk Matrix

This Business Case is predicated on risks and the Board’s risk tolerance. The option appraisal that determines the quantum of investment refers to tiers of risks, such as ‘red risks’, which is explained here.

The Health Board has adopted a risk-based approach to determining the scope of the project. Risks are scored in the Health Board using a scale of 1 to 5 for probability and impact, the risk score being the product of these two numbers, between 1 (1x1) and 25 (5x5).

| <b>PROBABILITY</b>                | <b>IMPACT</b> | <b>RATING</b> |
|-----------------------------------|---------------|---------------|
| Rare                              | Negligible    | <b>1</b>      |
| Unlikely                          | Minor         | <b>2</b>      |
| Possible                          | Moderate      | <b>3</b>      |
| Likely                            | Major         | <b>4</b>      |
| Almost certain or certain (issue) | Catastrophic  | <b>5</b>      |

The product of the likelihood and impact ratings combine into the following 5x5 matrix of risk levels, with risk scores between 1 and 25 points.

|                           | <b>Impact</b> |           |           |           |              |
|---------------------------|---------------|-----------|-----------|-----------|--------------|
| <b>Probability</b>        | Negligible    | Minor     | Moderate  | Major     | Catastrophic |
| Almost Certain or Certain | <b>5</b>      | <b>10</b> | <b>15</b> | <b>20</b> | <b>25</b>    |
| Likely                    | <b>4</b>      | <b>8</b>  | <b>12</b> | <b>16</b> | <b>20</b>    |
| Possible                  | <b>3</b>      | <b>6</b>  | <b>9</b>  | <b>12</b> | <b>15</b>    |
| Unlikely                  | <b>2</b>      | <b>4</b>  | <b>6</b>  | <b>8</b>  | <b>10</b>    |
| Rare                      | <b>1</b>      | <b>2</b>  | <b>3</b>  | <b>4</b>  | <b>5</b>     |

The risk matrix above has four zones. As can be seen above, the highest scoring risks, 15 points and above are in the 'red zone'. The lowest risks, scoring 1, 2 or 3 points are in the 'green zone'. Between these extremes are the 'yellow' and 'orange zones', with yellow covering scores 4 to 6 and orange scores 8 to 12. 'Red risks' therefore present the greatest hazard, a combination of at least moderate consequences with a view that the hazard is at least likely to occur, if not very likely or inevitable.

### 4.3 Risk Workshop

A risk workshop was undertaken in 2020 to assess the risks to the Ysbyty Gwynedd Estate. This included participation from BCUHB's Estates and Fire Officers, Mott MacDonald as Engineers, QS and risk facilitators. The outcome has been validated by the site's management and the Programme Board. The exercise:

- identified risks
- scored the identified risks using the scales above;
- estimated the cost of risk reduction - based on local knowledge and the view of Mott Macdonald's Chartered Quantity Surveyors, informed by experience of work undertaken elsewhere and healthcare cost databases. Note that without detailed surveys / investigations, costs are of necessity budget approximations at this time.
- estimated the risk scores after mitigation;

Risks were identified in many different aspects of Ysbyty Gwynedd's infrastructure. Fire safety. Non-compliances. Obsolete equipment. Failing fabric. Over 20 works areas were identified and have been used to structure the following assessment. The full results of this exercise can be found in the workbook in Appendix D.

### 4.4 Risk Tiers

For the purposes of risk prioritisation for this Programme Business Case, the red zone has been further subdivided into 3 tiers. A fourth tier represents all other risks that are not in the above red zone. The higher the risk score: the greater the imperative to address the risk.

#### 4.4.1 Tier 1: 25 and 20pt risks.

The two highest scores, 20 and 25pts represent risks and issues (issues being an

unacceptable current situation) that are both unacceptable to the Board due to their catastrophic consequences / likelihood and must be addressed as a priority.

#### 4.4.2 Tier 2:16pt risks.

The second tier of risks score 16 points and represent hazards that are 'very likely' to occur /re-occur, with 'major' consequence. This includes, for example, risk of lift-failure with all its consequences. The differentiation from the top tier is either reduced likelihood or the scale of the consequence (e.g. a lift compared to a ward).

#### 4.4.3 Tier 3:15pt risks.

15pt risks can come in two types: 'moderate' hazards considered inevitable, and catastrophes that are 'likely' to occur. Only the former type arose in scoring. An example is the failing fabric of the building, admitting damp and condensation.

#### 4.4.3 Tier 4:'Orange zone' risks, and below.

Below the red risks are the orange, yellow and green risks which are more manageable to the Health Board from both a tolerance and an investment perspective. Highest amongst these are the 12pt risks, which represent both 'very likely' moderate risks and 'likely' major risks. Both types arose in scoring.

#### 4.5 Risks in Tier 1: 20pt+ risks

This table shows the risks to be addressed within the Programme that scored 20 points (no risks scored 25 points).

The first column describes the type of work, such as fire compartmentation, the second and third columns give definition to the particular work element addressed. This is followed by the base-budget in £millions (i.e. without on-costs or contingency) and the final column is the development team's estimate of residual risk exposure, after works are complete, is shown in the 'mitigated score' column. It can be seen the assessment, by Estates and independent risk advisor during 2020, reduces the risk to no higher than 5.

Risk reduction is primarily a result of reduced likelihood of occurrence.

Note over £14M of works for fire compartmentation / alarms at this highest tier and the base-cost of addressing these risks, with replacement equipment and associated builder work, is £42M.

| Works type                | SUB-REF | ELEMENT                              | Base Budget<br>£M | Mitigated Score |
|---------------------------|---------|--------------------------------------|-------------------|-----------------|
| 1 - Fire Compartmentation | 1a      | Compartmentation - fire walls/floors | £2.2              | 4               |
| 1 - Fire Compartmentation | 1a      | Fire stopping                        | £2.5              | 4               |
| 1 - Fire Compartmentation | 1b      | Fire doors                           | £3.0              | 4               |
| 1 - Fire Compartmentation | 1c      | Fire dampers                         | £3.3              | 4               |
| 2 - Fire Alarm System     | 2a      | Fire alarm system                    | £3.3              | 4               |
| 8 - Medical Gases         | 8a      | Oxygen                               | £0.2              | 5               |
| 8 - Medical Gases         | 8c      | Medical Air                          | £0.7              | 5               |
| 8 - Medical Gases         | 8e      | Medical Vac                          | £0.2              | 4               |
| 8 - Medical Gases         | 8f      | AGSS                                 | £0.7              | 4               |
| 8 - Medical Gases         | 8g      | MGPS                                 | £0.7              | 5               |

|                                       |     |   |             |   |
|---------------------------------------|-----|---|-------------|---|
| <b>8 - Medical Gases</b>              | 8h  | AVSU's  | <b>£0.7</b> | 4 |
| <b>8 - Medical Gases</b>              | 8k  | Cylinder storage  | <b>£0.1</b> | 5 |
| <b>10 - Electrical Infrastructure</b> | 10a | HV and Main LV systems                                    | <b>£1.6</b> | 5 |
| <b>11 - Electrical System</b>         | 11a | Nurse call (including emergency/panic alarm and WC alarm) | <b>£3.0</b> | 4 |
| <b>11 - Electrical System</b>         | 11b | CCTV  | <b>£1.2</b> | 4 |
| <b>16 - Ventilation</b>               | 16a | Air Handling Units  | <b>£7.4</b> | 5 |
| <b>16 - Ventilation</b>               | 16b | Distribution Ductwork                                     | <b>£4.4</b> | 5 |
| <b>16 - Ventilation</b>               | 16c | Local Extract/Exhaust Ventilation                         | <b>£1.6</b> | 5 |
| <b>21 - Catering Dept.</b>            | 21a | Catering Dept   | <b>£5.5</b> | 3 |
|                                       |     |   | <b>£42M</b> |   |

#### 4.6 Risks in Tier 2: 16pt risks

Tier 2 are the 16pts risks – meaning 'very likely risks with major consequences'.

Note over £10M of building fabric works at this second tier (final item).

| <b>Works type</b>                       | <b>SUB-REF</b> | <b>ELEMENT</b>                         | <b>Base Budget<br/>£M</b> | <b>Mitigated<br/>Score</b> |
|---|----------------|--|---------------------------|----------------------------|
| <b>3 - Fire Fighting Equipment</b>      | 3a             | Dry Risers/Wet Risers                  | <b>£0.2</b>               | 4                          |
| <b>4 - Emergency Lighting</b>           | 4a             | Emergency lighting                     | <b>£3.1</b>               | 4                          |
| <b>5 - Way Finding</b>                  | 5a             | Fire signage                           | <b>£0.1</b>               | 4                          |
| <b>6 - Escape Lifts</b>                 | 6a             | Escape Lifts                           | <b>£0.6</b>               | 4                          |
| <b>7 - Heating Systems</b>              | 7a             | Boilers                                | <b>£3.3</b>               | 4                          |
| <b>7 - Heating Systems</b>              | 7b             | Distribution Systems                   | <b>£4.1</b>               | 4                          |
| <b>7 - Heating Systems</b>              | 7c             | Pressurisation Unit                    | <b>£0.5</b>               | 4                          |
| <b>8 - Medical Gases</b>                | 8b             | Nitrous oxide                          | <b>£0.7</b>               | 4                          |
| <b>8 - Medical Gases</b>                | 8d             | Entonox                                | <b>£0.7</b>               | 4                          |
| <b>8 - Medical Gases</b>                | 8i             | Terminal Units including pendants      | <b>£1.4</b>               | 4                          |
| <b>8 - Medical Gases</b>                | 8j             | Medical gas alarm systems              | <b>£0.5</b>               | 4                          |
| <b>9 - Lifts</b>                        | 9a             | Main Electric Traction (H+T block)     | <b>£2.3</b>               | 4                          |
| <b>9 - Lifts</b>                        | 9b             | Other lifts                            | <b>£0.9</b>               | 4                          |
| <b>10 - Electrical Infrastructure</b>   | 10b            | UPS Systems                            | <b>£1.4</b>               | 5                          |
| <b>10 - Electrical Infrastructure</b>   | 10c            | IPS Systems                            | <b>£1.4</b>               | 5                          |
| <b>10 - Electrical Infrastructure</b>   | 10d            | Distribution Boards and Final Circuits | <b>£3.8</b>               | 5                          |
| <b>12 - Domestic Hot and Cold Water</b> | 12a            | Plate Heat Exchangers                  | <b>£0.1</b>               | 4                          |
| <b>12 - Domestic Hot and Cold Water</b> | 12b            | Pipework Distribution System           | <b>£8.2</b>               | 4                          |
| <b>13 - Steam Systems</b>               | 13a            | Pipework distribution systems          | <b>£1.9</b>               | 4                          |
| <b>15 - Fuel Supplies</b>               | 15a            | Dual Fuel                              | <b>£0.3</b>               | 4                          |
| <b>16 - Ventilation</b>                 | 16d            | Ultra Clean Ventilation Systems        | <b>£1.7</b>               | 4                          |

|   |     |                   |              |          |
|---|-----|-------------------|--------------|----------|
| <b>17 - Water Chillers and DX</b>         | 17b | DX Systems        | <b>£1.4</b>  | <b>4</b> |
| <b>18 - BMS</b>                           | 18a | BMS               | <b>£2.2</b>  | <b>4</b> |
| <b>20 - Building Fabric and Structure</b> | 20g | Space Utilisation | <b>£10.5</b> | <b>4</b> |
|   |     |                   | <b>£51M</b>  |          |

#### 4.7 Risks in Tier 3: 15pts Risks

The third tier are the 15pt risks – moderate issues (hazards that are or will occur). This tier includes replacement of the buildings windows which are a consistent cause of heating, ventilation and patient comfort concerns.

| Work Type                                 | SUB-REF | ELEMENT           | Base Cost<br>£M | Mitigated<br>Score |
|---|---------|-------------------|-----------------|--------------------|
| <b>20 - Building Fabric and Structure</b> | 20a     | Roofing           | £4.4            | <b>5</b>           |
| <b>20 - Building Fabric and Structure</b> | 20b     | Windows           | £12.3           | <b>3</b>           |
| <b>20 - Building Fabric and Structure</b> | 20c     | External envelope | £4.1            | <b>3</b>           |
|   |         |                   | <b>£21M</b>     |                    |

#### 4.8 Risks in Tier 4: Risks Below 15pts –

There are an array of less urgent risks which will be beneficial to the hospital to address as part of the Programme. There are economies of scale to be gained from addressing these risks while having occupancy of the various wards.

| Work Type                                 | SUB-REF | ELEMENT                                | Base Cost<br>£M | Current<br>Score | Mitigated<br>Score |
|---|---------|--|-----------------|------------------|--------------------|
| <b>3 - Fire Fighting Equipment</b>        | 3d      | Sprinklers + Other suppression systems | £3M             | <b>&lt;15</b>    | <b>4</b>           |
| <b>10 - Electrical Infrastructure</b>     | 10e     | Lighting                               | £6M             | <b>12</b>        | <b>3</b>           |
| <b>15 - Fuel Supplies</b>                 | 15b     | Oil storage and distribution           | £0.5M           | <b>12</b>        | <b>4</b>           |
| <b>17 - Water Chillers and DX</b>         | 17a     | Water Chillers                         | £0.5M           | <b>12</b>        | <b>3</b>           |
| <b>19 - Combined Heat and Power</b>       | 19a     | CHP                                    | £0.5M           | <b>12</b>        | <b>3</b>           |
| <b>20 - Building Fabric and Structure</b> | 20d     | Drainage                               | £1M             | <b>12</b>        | <b>4</b>           |
|   |         |  | <b>£12M</b>     |                  |                    |

## 4.9 Risk Tiers Base Cost Assessment Summary

To summarise the above, the provisional pre-survey estimate of cost of risk reduction for each tier is as follows.

| <b>Risk tier addressed:→</b> | <b>20 points+</b> | <b>16 points</b> | <b>15 points</b> | <b>Risks below 15pts</b> |
|------------------------------|-------------------|------------------|------------------|--------------------------|
| Base Cost Estimate           | £42M              | £51M             | £21M             | £12M                     |
| <b>BASE COST CUMULATIVE</b>  | <b>£42M</b>       | <b>£93M</b>      | <b>£114M</b>     | <b>£126M</b>             |
| TOTAL exc VAT                |                   |                  |                  |                          |

Base cost estimates of works excludes the costs of design, of inflation (works will be carried out over many years), decant and a contingency reflecting the uncertainty in all cost estimates at this early stage.

## 4.10 On Costs

The Base Costs above are predicated on established rates in quantity surveying databases and a measurement of areas or an inventory of numbers provided by the Estates team.

To this 'on-costs' must be added to be more representative of the realistic forecast of the cost of the works programme.

The 'on-costs' added here are in four categories, described below.

### 4.10.1 Decant

As Ysbyty Gwynedd is and will remain a live hospital during the programme of works, it will be necessary to carefully plan a sequence of ward occupancies, during which time the ward will need to be decanted to an alternative space, which may be temporary facilities in the grounds of Ysbyty Gwynedd or at a nearby location. This has yet to be explored. For estimating purposes, a series of 5 decants are forecast, each with a cost of £3M and spread over 5 years in the cost profiling of section 6.1. The extent of decant will be proportionate to the scale of works undertaken. At the lower end of the range, reducing the 20pt risks, decant costs are budgeted at £10M. For more comprehensive risk reduction, in more areas of Ysbyty Gwynedd, this decant allowance rises to £15M, quantum which can be compared with recent small scale facility conversion for covid care and vaccination purposes.

### 4.10.2 Advisers

This programme of works will require a wide range of adviser support. Designers in various disciplines, such as fire safety, CDM, ventilation, planning and structural engineering, will be required. Procurement, technical and legal advice may be needed. An allowance of 12.5% of Base-Costs is provided for current estimating purposes.

### 4.10.3 Inflation

The works are expected to be undertaken over several years, beginning in earnest in 2022. The financial website [statista.com](https://www.statista.com) makes the following predictions of inflation over the next few years:

|      |      |
|------|------|
| 2022 | 1.6% |
| 2023 | 1.7% |
| 2024 | 1.9% |
| 2025 | 2.0% |

2025 is the mid-point of our preliminary programme of works and therefore compound inflation from now until 2025 is used for the estimate of inflation: 7.5%.

#### 4.10.4 Contingency

All aspects of this cost estimating exercise carry uncertainty, not least of which is the consequence of the pandemic on the construction market and materials costs. Other uncertainties are in the areas requiring works, uncovered fabric failures, changes in health and building regulations and VAT. For current purposes, 10% of base-cost is added to the budget.

#### 4.10.5 Surveys and Investigations

In order to plan the Programme in detail, and devise a way of working that economises on decants and reinstatements, much more information is needed from physical surveys and inspections. These would be amongst the first activities undertaken, with activity specific investigations undertaken throughout the Programme/

£2M is allocated to covering these activities, the first £1M of which is set for the first year of the Programme.

#### 4.10.5 Summation of On-Costs

For this Programme Business Case therefore, the following allowances are made on top of the Base Costs above:

- Decant £10-£15M
- Advisers + 12.5%
- Inflation: +7.5%
- Contingency: + 10%
- Surveys / Investigations £2M

#### 4.11 Programme Cost Estimate

The cost estimates for addressing the individual tiers of risk are shown below. Example: addressing the 16 point risks in isolation has a cost estimate of £80M.

|          | Risk tier addressed:→                   | 20 points+  | 16 points   | 15 points   | Risks below 15pts |
|----------|---|-------------|-------------|-------------|-------------------|
| A        | Base Cost                               | £42M        | £51M        | £21M        | £12M              |
| B        | 3Advisers, Inflation, Contingency: +30% | £13M        | £15M        | £6M         | £4M               |
| <b>C</b> | <b>Sub-Totals</b>                       | <b>£55M</b> | <b>£66M</b> | <b>£27M</b> | <b>£16M</b>       |
| D        | Decant                                  | £10M        | £12M        | £15M        | £15M              |
| E        | Surveys / Investigations                | £2M         | £2M         | £2M         | £2M               |
| <b>F</b> | <b>Tier Total</b>                       | <b>£67M</b> | <b>£80M</b> | <b>£44M</b> | <b>£31M</b>       |

The cumulative total of the above, i.e. addressing increasing tiers of risk, starting from the highest, is as follows.

Note Decant costs and Surveys are largely accounted for under the first tier.

| Risk tier addressed:→                    | 20 points+  | 16 points+    | 15 point+s     | All risks      |
|--|-------------|---------------|----------------|----------------|
| Cumulative Tier Sub-Total from (C) above | £55M        | 67+66 = £133M | 135+27 = £162M | 165+16 = £181M |
| Increase in Decant (D)                   | £10M        | £2M           | £3M            | 0              |
| Increase in Surveys (E)                  | £2M         | 0             | 0              | 0              |
| <b>CUMULATIVE TOTAL exc VAT</b>          | <b>£67M</b> | <b>£135M</b>  | <b>£165M</b>   | <b>£181M</b>   |
| + VAT @20%                               | £80M        | £162M         | £198M          | £217M          |

## 4.11 Options Framework

The long list of options of 'what could be done' is generated using the Treasury's options framework, which systematically works through available choices for what (scope), who (service delivery), when (implementation) and funding. This process results in options being discounted, carried forward for further consideration in the short list or identified as a preferred choice. The Treasury options framework looks sequentially, via four frameworks, at different levels of scope, from narrow to wide, different means of acquiring the service, different sequences of roll-out and fourthly different approaches to funding.

For this project the Options Framework is developed as follows:

| <b>Option</b>   |
|---|
| <b><i>Framework 1 – Scope</i></b>   |
| <b>1.1 Business As Usual</b>  |
| i.e. continue with current arrangements, incurring current, & increasing, investment and degree of derogation from compliance standards |
| <b>1.2 Minimum Remediation</b>  |
| Address only the most pressing, imperative risks – i.e. tier 1 risks of 20pts and above,  |
| <b>1.3 Intermediate Remediation</b>   |
| Address all 'red' risks on the register -i.e. risks of 15 points and above  |
| <b>1.4 Maximum Remediation</b>  |
| Comprehensive risk reduction attending to nearly all risks on the register  |
| <b>1.5 Rebuild</b>  |
| Comprehensive risk reduction by reducing YG to its concrete core and rebuilding the hospital  |
| <b>1.6 Relocate</b>   |
| Comprehensive risk reduction by new build at new location – coupled with current YG maintenance programme                               |
| <b><i>Framework 2 – Service delivery</i></b>  |
| <b>2.1 in-house</b>   |
| <b>2.2 Extant national NHS frameworks for individual elements of work</b>   |
| <b>2.3 Single supplier, appointed via competitive tender</b>  |
| <b><i>Framework 3 – Implementation</i></b>  |
| <b>3.1 Single phase implementation – 'big- bang'</b>  |
| <b>3.2 Phased</b>   |
| <b><i>Framework 4 – Funding</i></b>   |
| <b>4.1 Private Funding</b>  |
| <b>4.2 Public funding</b>   |

## 4.12 Short-listed options

The following discusses the above long-listed options. Significantly, and the area subject to most consideration, is where to 'draw the line' in terms of risk reduction via this programme. The development team's appraisal of the above long-listing resulted in the following recommendations.

#### 4.12.1 Scope

The recommendation of scope is predicated on

- risk appetite
- continuing deterioration in the fabric of Ysbyty Gwynedd
- availability of discretionary funds to address backlog maintenance

NHS Betsi Cadwaladr's operating standards do not extend to accommodating fire related risks to staff and patients. Similarly the Board has very low risk appetite for conditions that give rise to improvement notices or negatively impact the standards of care at Ysbyty Gwynedd. The Board also recognise that the fabric of the hospital deteriorates with age, and that components that are currently at an intermediate risk level will across the coming years increase to unacceptable hazards.

Works in a live hospital environment are best minimised. Construction creates noise, dust, non-clinical labour movements, heavy plant and materials need to be moved across the campus.

The perspective taken by the development team therefore is to do as much as is practical at the same time to address the majority of identified estate risks. To utilise each opportunity to remove further risks of failure and non-compliance. With the added benefit of economies of scale, such as one contractor mobilisation / compound only, the development team recommendation is to address all listed risks (with two principal exceptions) while undertaking the highest priority works. It should be noted that addressing the non-red risks, tier 4, is only adding 20% to the total. Whereas undertaking these works at a later stage will both cost more and repeat disruption to the hospital environment.

Options 1.5 and 1.6, rebuild and relocate, have been subject to budget level cost estimating for comparison purposes, with an estimate of at least £400M being applicable for rebuilding of the same provision at the same site. Land costs for acquisition of another site for the North-West Wales hospital to relocate to have not been included. This indicative figure is however useful for comparison against budgets for addressing different levels of risk

#### 4.12.2 Service Delivery

In-house delivery can be ruled out due to capacity issues. Use of extant national frameworks matches well against a certain level of investment, but if addressing most or all risks and issues with Ysbyty Gwynedd, then a bespoke procurement competition may be required.

#### 4.12.3 Implementation

Clear preference for a phased approach given this is a live hospital. This phasing needs careful planning proposed as a specific study following on from in-principle approval of this investment.

#### 4.12.4 Funding

The preferred option is not 'business as usual' and is very much expected to be funded from public capital, in line with current national healthcare policy.

## 4.13 Recommended Option

Further to the appraisal, wide consultation and review over the course of 2020, 2021, the recommended option from the Programme Development Team is to mitigate all the identified costed risks. The cost estimate for the Programme, including decant, inflation, adviser fees and a contingency of 10% is £179M + £2M for programme planning (surveys, investigations etc): **Provisional Programme Total Investment £181M + VAT.**

Publicly funded and with construction works procured through the All Wales framework.

In view of the above assessments, the long-list option framework is completed as follows:

| <b>Framework 1 – Scope</b>  | <b>Assessment</b>  |
|---|--|
| <b>1.1 Business As Usual</b>  |  |
| i.e. continue with current arrangements, incurring current, & increasing, investment and degree of derogation from compliance standards | Retained only as a comparator against which to assess value for money. Is not a credible option in itself, as it incorporates unacceptable risk of YG closure. |
| <b>1.2 Minimum Remediation</b>  |  |
| Address only the most pressing, imperative risks – i.e. tier 1 20pts and above,   | Discounted as neglecting the lower risks is of short-term expediency only & inefficient in the long-run  |
| <b>1.3 Intermediate Remediation</b>   |  |
| Address all 'red' risks on the register -i.e. risks of 15 points and above  | Discounted as neglecting the lower risks is of short-term expediency only & inefficient in the long-run  |
| <b>1.4 Maximum Remediation</b>  |  |
| Comprehensive risk reduction attending to all risks on the register   | <b>Preferred</b> – recognises lower level risks will exacerbate with time. Retained for short-list   |
| <b>1.5 Rebuild</b>  |  |
| Rebuilding the hospital at current location   | Discounted for reasons of affordability  |
| <b>1.6 Relocate</b>   |  |
| New build at new location – coupled with current YG maintenance programme   | Discounted for reasons of affordability and Board strategy to retain YG.   |
| <b>Framework 2 – Service delivery</b>   |  |
| <b>2.1 in-house</b>   | Discount – the in-house Estates team is of insufficient scale to implement more than Business As Usual.  |
| <b>2.2 Extant national NHS frameworks for individual elements of work</b>   | <b>Preferred</b> for options 1.2 to 1.4. Retained for these options.   |
| <b>2.3 Single supplier</b><br>Appointed via competitive tender  | Would be applicable for options 1.5, 1.6.<br>Possible for other options.   |
| <b>Framework 3 – Implementation</b>   |  |
| <b>3.1 Single phase implementation – 'big- bang'</b>  | Would apply for option 1.6. Discounted for other options.  |
| <b>3.2 Phased</b>   | <b>Preferred</b> for options 1.2, 1.3, 1.4 and 1.5   |
| <b>Framework 4 – Funding</b>  |  |
| <b>4.1 Private Funding</b>  | Discounted as unaffordable / not current NHS policy  |
| <b>4.2 Public funding</b>   | <b>Preferred</b> for all options   |

## 5 The Commercial Case

## Introduction

The Commercial Case outlines how the preferred way forward can be purchased.

### 5.1 Procurement Strategy

How to package the works is a study that will follow on from the agreement in principal to Ysbyty Gwynedd's remediation. At an estimated £181M provisional budget for risk reduction work and with at least nine discrete types of work involved in the remediation, the packaging of works requires detailed planning and analysis to ensure expediency, practicality, efficiency and optimal value for money. With capital costs in the millions for each work-type, procurement is likely to be through a combination of national and local frameworks, with the possibility of a bespoke tender package for the largest building fabric components.

The specific procurement route will be determined as part of the development of each individual project business case.

### 5.2 Risk Allocation

This section provides an initial assessment of how the associated risks might be apportioned between the Health Board and the contractor. The general principle is to ensure that risks should be passed to 'the party best able to manage them', subject to value for money (VfM).

The table below outlines the potential allocation of risk, which is the standard distribution at this stage in the development of a scheme.

| Risk Category                         | Potential allocation |         |        |
|---------------------------------------|----------------------|---------|--------|
|                                       | Public               | Private | Shared |
| 1. Design risk                        |                      |         | ✓      |
| 2. Construction and development risk  |                      |         | ✓      |
| 3. Transition and implementation risk |                      |         | ✓      |
| 4. Availability and performance risk  |                      |         | ✓      |
| 5. Operating risk                     | ✓                    |         |        |
| 6. Variability of revenue risks       | ✓                    |         |        |
| 7. Termination risks                  | ✓                    |         |        |
| 8. Technology and obsolescence risks  |                      | ✓       |        |
| 9. Control risks                      | ✓                    |         |        |
| 10. Residual value risks              | ✓                    |         |        |
| 11. Financing risks                   | ✓                    |         |        |
| 12. Legislative risks                 | ✓                    |         |        |
| 13. Other project risks               | ✓                    |         |        |

### 5. Personnel implications (including TUPE)

It is anticipated that the TUPE – Transfer of Undertakings (Protection of Employment) Regulations 1981 – will not apply to this investment.

## 6 The Financial Case

### Introduction

The purpose of this section is to set out the indicative financial implications of the preferred option (as set out in the economic case section).

The detailed analysis of the financial case will be undertaken as part of the individual business cases that make up the programme.

### 6.1 Capital Cost Expenditure Profile

As outlined in the Economic Case, the estimated cost of the preferred option is **£181M**. While financial profiling is yet to be undertaken in detail, an indicative annual spend over seven years of the remediation programme could be broadly as follows.

|       | Financial Year |       |       |       |       |       |       |       |
|-------|----------------|-------|-------|-------|-------|-------|-------|-------|
|       | 21/22          | 22/23 | 23/24 | 24/25 | 25/26 | 26/27 | 27/28 | TOTAL |
| SPEND | £1M            | £18M  | £36M  | £44M  | £36M  | £30M  | £16M  | £181M |

As noted earlier, and as is appropriate at the Programme Business Case state, this is a high-level estimate. It is based on local knowledge of the infrastructure, recent remediation costs at Glan Clwyd and the view of Mott Macdonald's Quantity Surveyors.

As part of the business case, funding of £1M is being sought to undertake initial survey work in year 2021/22 to inform scoping sequencing and more accurate pricing for individual business cases that follow. These budget costs are of necessity based on a range of assumptions and exclude any potential for VAT recovery.

### 6.2 Revenue consequences

From a revenue perspective, the programme is broadly revenue-neutral as it is mainly like-for-like replacement. A small revenue saving should result from new building fabrics, as should a positive environmental impact, from the programme to replace and refurbish infrastructure and material components.

## 7 The Management Case

### Introduction

This section of the PBC addresses the achievability of the scheme. Its purpose is to set out the actions that will be required to ensure the successful delivery of the scheme.

#### 7.1 Programme management arrangements

The management arrangements for capital programmes and projects are outlined in the Procedure Manual for Managing Capital Projects, adopted by the Health Board in May 2015. The programme will be managed in accordance with PRINCE 2 programme management methodology. The Senior Responsible Owners for the programme will be the Executive Director of Planning and Performance. The Director of Estates and Facilities will be the Project Lead.

#### 7.2 Pipeline of Projects

Phasing of the projects is a pivotal task in the Remediation Programme, with careful planning fundamental to efficiency and success of the Programme. Planning will need to balance the urgent reduction of the highest risks, with operational requirements, decant arrangements, access and synergies with other workstreams.

This economic case concludes that the preferred option is a programme of work addressing the infrastructure identified risks on the Ysbyty Gwynedd site.

It may be appropriate to have different procurement / approval approaches to different projects, depending on their value and complexity.

A detailed planning exercise should follow on from approval in principle to this investment, to propose the most expedient methodology that prioritises risk reduction while maximizing opportunities for cost efficiency.

In due course, discussions will be held with Welsh Government to present and agree the approach.

Detailed programming, including scoping of information requirements sourced by building inspection / surveys, is an early priority task that will be triggered by approval in principal to this Remediation Programme.

The principal complexity of the Programme will be construction in a live hospital environment. This will be front and central as the core consideration of the Programme's design. Advisers with experience of construction in live healthcare environments will support the Programme design. For indicative purposes as to what pipeline projects will be prepared under this Programme, the following 9 packages are the initial proposal:

| <b>Phase</b> | <b>Package</b>                   |
|--------------|----------------------------------|
| 0            | Surveys                          |
| 1            | <b>Fire Compliance</b>           |
| 2            | <b>Evacuation Package</b>        |
| 3            | <b>Electrics</b>                 |
| 4            | <b>Building Fabric</b>           |
| 5            | <b>Heating &amp; Ventilation</b> |
| 6            | <b>Medical Gases</b>             |
| 7            | <b>Water works</b>               |
| 8            | <b>Catering</b>                  |

### 7.3 Phasing

Phasing of the projects will be prioritised on addressing the highest risks first.

The most pressing risks relate to fire-safety.

The early planning exercise that follows approval in principle to this application will look at what other work packages can be expedited simultaneously with fire risk reduction works, to maximise efficiency and minimize disruption.

An indicative year-by-year spend profile, predicated on a front-loaded “S” curve of expenditure once the programme is up and running, is provided in the financial case at section 6.1.

### 7.4 Target Milestones

Detailed planning, initially in the form of information requirements – gap analysis- will follow an initial approval in principle to this works programme.

### 7.5 Use of special advisers

Specialist advisers will be used as required. Those services within the scope of the Designed for Life / Welsh national frameworks will be drawn from those frameworks, other services by individual arrangements.

## 8 Conclusion and Recommendation

This Programme Business Case is recommended for approval.

## Appendices

|          |   |
|----------|---|
| <b>A</b> | BCUHB 3 Year Outlook and 2019/20 Operational Plan [copy available on request] |
| <b>B</b> | BCUHB Estates Strategy [copy available on request]                            |
| <b>C</b> | Independent Review of Fire Precautions  |
| <b>D</b> | Programme costed Risk Register November 2021                                  |
|          |   |

# Appendix A: BCUHB 3 Year Outlook:

copy available on request

## Appendix B: BCUHB Estates Strategy:

The NHS BCUHB 2019 Estates strategy is available here:

<https://bcuhb.nhs.wales/use-of-site/publication-scheme/class-five-our-policies-and-procedures/estates-strategy/>



# Estates Strategy

Enabling everyone to deliver excellent care



**February 2019** version 6

Appendix C: “NHS Wales Shared Services Partnership – Specialist Estates Services - Independent Review of Fire Precautions at Ysbyty Gwynedd

Copy available on request

# Appendix D: Risk Register



YG PBC v07 22  
February.xlsx

Embedded excel workbook (in word: right click icon, select "worksheet object")  
Prints available as .pdf