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Swansea Bay University
Health Board

Combined Outline / Full Business Case (OBC/ FBC):

Executive Summary

Development of a dedicated Vascular Hybrid Theatre at Morrison Hospital

Document 1 of 3

V14 Final

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1. Introduction

1.1 Overview and Introduction

This Outline/ Full Business Case (OBC/FBC) has been prepared through a process of engagement with key stakeholders. Principally, it seeks support from Welsh Government in the form of investment of £10.135m (inclusive of reclaimable VAT & optimism bias), to support the development of a dedicated Vascular Hybrid Theatre at Swansea Bay University Health Board's (SBUHB's) Morriston Hospital, Swansea.

Morriston Hospital is the arterial centre delivering all major vascular interventions for South West Wales Vascular Network, serving a population of circa one million (Ceredigion, Carmarthenshire, Pembrokeshire, Bridgend, Powys and Swansea Bay). It is the only centre able to deliver the requirements of the Vascular Society of Great Britain (The Provision of Services for Patients with Vascular Disease 2021), and Wales Abdominal Aortic Aneurysm Screening Programme (WAAASP) standards.

This investment will further provide the population of South West Wales with access to a state of the art hybrid operating theatre environment for the delivery of vascular surgical services. It will combine theatre functionality, and high-quality advanced radiology imaging devices such as fixed C-Arm imaging system and integrate with teaching and communication facilities. It can also be combined with simulator technology, to enhance training opportunities. It will be utilised by Vascular Surgery and Interventional Radiology and will employ minimally invasive techniques improving patient pathways, reducing length of stay, waiting times and positively impacting on amputation rates.

Integrated health and social care will benefit from a reduction in the number of amputations. Amputation has major health impact, personal financial loss, rehabilitation and additional social care burden. This combined with loss of independence costs the wider health/social care in excess of £200k per major limb amputation.

1.2 Progress since Submission of the SOC

A Strategic Outline Case (SOC) to support the development of a dedicated Vascular Hybrid Theatre at Morriston Hospital, Swansea was submitted to Welsh Government (WGov) for approval on the 10th December 2021. This SOC was endorsed by WGov on the 31st May 2022.

Key changes since submission of the SOC are:

- The option appraisal has been reviewed and updated particularly as one of the shortlisted SOC options is now no longer available
- From a clinical service perspective there have been no significant changes since SOC submission

2. The Strategic Case

Part A: The Strategic Context

Swansea Bay University Health Board plans, commissions and delivers healthcare services for the people of Neath Port Talbot and Swansea, and works to improve their health and wellbeing. SBUHB serves a population of 379,765, has a budget of £1.167 billion and employs 13,500 staff.

There are three major hospitals providing a range of services: Morriston and Singleton hospitals in Swansea and Neath Port Talbot Hospital in Baglan, Port Talbot. There is also a community hospital at Gorseinon and primary care resource centres providing clinical and wellbeing services outside the main hospitals.

Hywel Dda University Health Board plans and provides healthcare services for people in Carmarthenshire, Ceredigion, Pembrokeshire and its bordering counties. Currently it has a budget of over £1 billion and employs 13,143 members of staff providing primary, community, in-hospital, mental health and learning disabilities authorities and public, private and third sector colleagues, including volunteer services in partnership with three local authorities for approximately 382,518 people across a quarter of the landmass of Wales through¹:

- Four main hospitals: Bronglais General in Aberystwyth, Glangwili General in Carmarthen, Prince Philip in Llanelli and Witybush General in Haverfordwest
- Seven community hospitals: Amman Valley and Llandovery in Carmarthenshire; Tregaron, Aberaeron and Cardigan in Ceredigion; and Tenby and South Pembrokeshire Hospital Health and Social Care Resource Centre in Pembrokeshire
- 48 general practices (four of which are managed practices), 40 dental practices (including three orthodontic), 97 community pharmacies, 44 general ophthalmic practices (44 providing Eye Health Examination Wales and 29 low vision services) and 17 domiciliary only providers and 11 health centres
- Numerous locations providing mental health and learning disabilities services

2.1 Vascular Services

Morriston Hospital is the arterial centre delivering all major vascular interventions for Southwest Wales Vascular Network, serving a population of circa one million (Ceredigion, Carmarthenshire, Pembrokeshire, Powys and Swansea Bay). It is the only centre able to deliver the requirements of the Vascular Society of Great Britain (The Provision of Services for Patients with Vascular Disease 2021), and Wales Abdominal Aortic Aneurysm Screening Programme (WAAASP) standards.

2.2 Business Strategies

This project has considered relevant national, regional and local strategies and will support the delivery of these by:

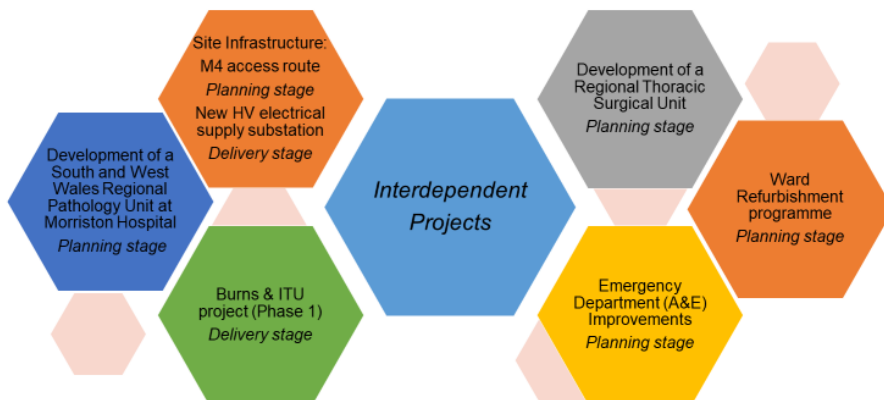
- The Provision of Vascular Services 2021 clearly states that a hybrid theatre is key to providing modern vascular interventions
- The principals of care, whereby facilities are used most effectively, and prevention/early treatment is beneficial to the patient and prevents waste in the health service has underpinned the NHS in Wales and described more fully in the Welsh Government presentation Securing Health and Well Being For Future Generations
- More recently the Welsh Government has set out the Health and Care Quality Standards 2023 in the Welsh Health Circular WHC/2023/013, replacing the Health and Care Standards 2015. This sets high-level standards that people in Wales can expect when accessing health services and comprise six domains of quality
- The development of the hybrid theatre in the Vascular Hub or the South West Wales Vascular Network, based at Morriston Hospital meets all of these quality standards set out by Welsh Government

¹ Source: HDUHB Annual Report 22/23

- Adopting MMC construction solutions into the design and construction of new buildings supports NHS Wales Decarbonisation Strategic Delivery Plan and Net Zero Carbon (NZC) targets:
 - Standardising the construction approach and thereby minimise construction waste and transportation of construction machinery
 - Championing incorporation of efficient low carbon heating and cooling - this facility will provide a full electric 'green energy' engineering solution with no fossil fuel being utilised
 - Off-site fabrication providing just-in-time delivery to minimise construction-related carbon emissions
 - MMC provides a high-quality product, which incurs less disruption to busy hospital sites than traditional build solutions
 - The new build will be fully compliant with Sustainable Drainage Approval Body (SAB) and Highways requirements
- Delivering treatments more efficiently, with fewer admissions to hospital and shorter hospital stays
- Reducing amputation rates – by using modern techniques at the time they are required
- Saves lives by treating more patients in a timely fashion – providing the 'right treatment, in the right place, at the right time'. Currently a cohort of patients requiring these facilities are referred out of Wales.
- Diagnostic information and imaging from CT scans across the network can be uploaded to the hybrid theatre imaging system, reducing the radiation exposure to patients and staff
- Improving training and research opportunities, with the knock on effect of attracting staffing and trainees, who are likely to remain locally when trained
- This investment 'fits' with A Regional Collaboration for Health (ARCH) programme wherein SBUHB and HDUHB and partners are working to further enhance healthcare service delivery, research, education and innovation in healthcare and life sciences within the region

2.3 Key Interdependent Projects

The following projects are service and clinical projects planned for the Morrision site, this project is not dependent upon any of these:



Executive Summary Figure 1: Key Projects for the Morrision Site

Part B: The Case for Change

The South West Wales Vascular Network serves the population of SBUHB and HDUHB. Morriston Hospital is the designated arterial intervention site for South West Wales and is the most advanced and mature and as the designated arterial intervention site. Ranked as the 18th busiest of over 80 vascular units within the UK. Currently, Morriston carries out 40 Endovascular aneurysm repair (EVARs) procedures. The number of combined peripheral procedures incorporating imaging and open surgery (emergency and elective) lower limb procedures equated to between 90-105 cases per year for imaging alone. The current EVAR rate is 50% compared to a typical level of 75% in other vascular surgery centres and procedures are carried out either within the theatre estate in generic theatres or in a DSA suite, neither of which are designed or purpose built to undertake these types of procedures.

2.4 Business Needs

The development of a hybrid theatre for more complex cases allows patients in South West Wales to be treated closer to home and would support clinical efficiencies and significant indirect economic benefits.

The population needs access to a dedicated and appropriately equipped hybrid theatre to allow vascular surgeons to combine conventional surgical techniques involving a skin incision with interventional techniques using some sort of catheter-based procedure guided by fluoroscopic or MRI imagining in a hybrid room without interruption. Local access to a hybrid theatre will allow Morriston's Vascular Surgeons to perform both minimally invasive, image guided procedures, as well as traditional open surgery. In some cases both types of surgery will be required on the patient and with a hybrid theatre, to be done in one operating session under a single anaesthetic, rather than in several stages in different theatre facilities within the hospital.

Overall, this investment will support the following:

- Delivery of a new service model and patient pathways in compliance with UK vascular surgery best practice
- Delivery of efficiency improvements in the overall vascular surgical pathway
- An opportunity to modernise the outdated, inadequate post-operative recovery area within the main theatre department and improve patient flows at Morriston Hospital
- Essential limb and life-saving interventions efficiently
- Prevents multiple or extended admissions for complex procedures
- Allows a timely revascularisation of limbs as a combined radiological and surgical procedure
- Increases the rate of minimally invasive procedures
- Improve patient pathways, reduce length of stay, waiting times and positively impact on amputation rates
- Reduce the requirement for external referral / commissioning for complex procedures
- Local access, eliminating significant travelling for patients and carers
- Improves the quality of care, provide fit for purpose, dedicated and networked Hybrid surgical services to the population of South & West Wales
- Improves patient safety

- Improves the patient experience and survival rates against UK standards - reducing infection risk - prosthetics, wounds
- Reduces radiation exposure to patients and staff in compliance with Ionising Radiation (Medical Exposure) Regulation ((IR(ME)R) Guidance 2017 legislation, currently within SBUHB the lack of an integrated imaging facility means that patients may require repeat imaging rather than an image transfer. This currently results in the patient having additional radiation exposure, which is contrary to IRMER guidelines
- Meets Vascular Society and MHRA recommendations for delivering treatments in an appropriate environment
- Makes SBUHB a competitive and attractive organisation within the recruitment market for Vascular Surgeons, Interventional Radiologists and Allied Health Professional staff
- Aligns Morriston Hospital vascular surgery theatre infrastructure with the majority of other vascular hub hospitals in the UK, where 59% of hub hospitals have access to at least one hybrid theatre on site (National Vascular Registry Annual Report 2018), an increase from 43% in 2015
- Complies with National Institute of healthcare and Clinical Excellence (NICE) recommend the treatment of infrarenal AAA by EVAR
- Complies with The Medicine & Healthcare products Regulatory Agency (MHRA) recommendation that EVAR be carried out in a Hybrid operating theatre and specify minimum standards for these facilities. The treatment of patients presenting with ruptured AAA, is recommended as part of clinical trials. Current evidence supports this approach for certain subsets, however as more data is acquired the indications will become clearer. ‘Gold standard’ assessment of vascular interventions includes post reconstruction imaging, with angiography. Other modalities are often used in combination. SBUHB currently does not utilise this modality

2.5 Scope, Objectives and Benefits

The scope of this business case is to provide the population of South and West Wales have access to a local high quality dedicated hybrid theatre service within facilities that meet minimum statutory requirements regarding environmental standards and agreed quality standards.

The following service interdependencies must be integrated or co-located with a hybrid theatre development:

- Theatre & Recovery services, Anaesthetic and Nursing Teams & Advanced Nurse Practitioners services
- Respiratory Medicine (this is the prime referring speciality for most conditions requiring Hybrid surgery. Respiratory physicians are core members of lung cancer and emphysema MDTs)
- Outpatient clinic space, including facilities for pre-op assessment and pre-admission
- Intensive Care

The main outcomes and benefits to patients, the Health Board and the wider health community are classified in terms of cash releasing benefits (CRBs), non-cash releasing benefits (NCRBs), quantifiable benefits (QBs), and non-quantifiable benefits (Non QBs) as follows:

Spending Objective	Benefits
Spending Objective 1: Equity of Access	<ul style="list-style-type: none"> ▪ Provide patients with access to more minimally invasive, innovative, and modern techniques and developments
	<ul style="list-style-type: none"> ▪ The ability to move increasingly towards endovascular procedures from open surgery is associated with improved clinical outcomes

Spending Objective	Benefits
	<ul style="list-style-type: none"> <li data-bbox="480 344 1382 443">▪ Provide more appropriate, safer, and more sustainable levels of surgical services via modern 'state-of-the-art' surgical technology delivering a high quality surgical service to the patients of South West Wales <li data-bbox="480 461 1347 560">▪ Provide co-location with ICU from main theatres to provide a safer transfer for complex and unstable patients, particularly those requiring endovascular interventions <li data-bbox="480 577 1382 676">▪ Provide the population of SW Wales with access to hybrid theatre services to support best practice for the treatment of aneurysmal disease and occlusive peripheral arterial disease (PAD)
Spending Objective 2: Safe and Sustainable Services	<ul style="list-style-type: none"> <li data-bbox="480 703 1273 757">▪ Improved mortality rates through immediate intervention of life-threatening vascular emergencies - abdominal aortic aneurysms <li data-bbox="480 775 1347 873">▪ Promote patient benefits from accessing 'time is tissue' faster to one-stage modern treatments, which reduce the risk of amputation, and improves patients' outcomes, patient experience, and patient recovery <li data-bbox="480 891 1369 990">▪ Improve patient safety, e.g. by allowing the immediate conversion within the right environment of a minimally invasive procedure into an open procedure if this is required <li data-bbox="480 1008 1094 1048">▪ Reduction in patient exposure to ionizing radiation <li data-bbox="480 1066 1021 1106">▪ Reduction in surgical site infections (SSI's) <li data-bbox="480 1124 1321 1223">▪ Provide a fully compliant environment for surgeons to perform open, hybrid and interventional radiology procedures / operations in an environment that is fully compliant with WHBN/WHTM standards <li data-bbox="480 1240 1018 1281">▪ Supports recruitment and retention of staff <li data-bbox="480 1299 1362 1361">▪ Provide safe endovascular aneurysm repair in accordance with specific guidance on appropriate facilities issued by the MHRA <li data-bbox="480 1379 1369 1442">▪ Supports the development of mentoring and innovative ways to train the medical staff of the future
Spending Objective 3: Efficient Services	<ul style="list-style-type: none"> <li data-bbox="480 1473 1369 1514">▪ Eliminate the need to transfer patients between Radiology and Theatres <li data-bbox="480 1532 1311 1594">▪ Enable patients to experience faster more integrated treatment and improvements in relation to overall care <li data-bbox="480 1612 1382 1653">▪ Availability of hybrid theatre capabilities to specialties other than vascular <li data-bbox="480 1671 1372 1733">▪ Co-location of procedures and earlier intervention provides opportunities to reduce clinical and non-clinical duplication <li data-bbox="480 1751 1362 1814">▪ Progress towards meeting the vascular service standards for a vascular network
Spending Objective 4: Effective Services	<ul style="list-style-type: none"> <li data-bbox="480 1845 1331 1944">▪ Provides minimally invasive vascular surgical procedures for a larger percentage of patients, especially those with multiple medical comorbidities <li data-bbox="480 1962 1292 2024">▪ Provides high quality digital images that allow the use of the most advanced endovascular devices

Spending Objective	Benefits
	<ul style="list-style-type: none"> ▪ Provides vascular surgeons with access to both traditional open surgery and modern endovascular surgery training opportunities
	<ul style="list-style-type: none"> ▪ Improve staff wellbeing and satisfaction
	<ul style="list-style-type: none"> ▪ Allows delivery on a level platform with other large regional providers of complex Cardiovascular services
Spending Objective 5: Value for Money	<ul style="list-style-type: none"> ▪ Reduced LOS in hospital ▪ Operational economies, e.g. from improved utilisation of theatres ▪ Maximises the opportunity costs associated with maintenance, reactive repairs and under-utilised theatre resources ▪ Reduces the opportunity costs e.g. breakdown of equipment, equipment not readily available within the theatre ▪ Supports achievement of NHS Net Zero Carbon targets (i.e. to reduce emissions by 78% by 2035 and achieve net zero by 2050) ▪ Maximises opportunities in relation to post project evaluation via provision of a centre of excellence and any lessons learned outcomes for Pathology services across the NHS

Executive Summary Table 1: Main Benefits

3. The Economic Case

3.1 The Long List

A framework options appraisal process has been undertaken for the scheme.

Critical Success Factors (CSFs) were identified. These CSFs were used alongside the spending objectives for the project to evaluate the long list of possible options for future phases.

The long list of options for this investment was generated within the following key categories of choice:

- **Potential Service Scope Options** – what is the potential coverage of the service to be delivered (the ‘what’)
- **Potential Technical Solution Options** – the potential technical (i.e. estates) options for delivering the preferred service solution option (the ‘where’)
- **Potential Implementation Options** – the potential timescales options for delivering the preferred service scope, preferred service solution, preferred technical solution options (the ‘when’)
- **Potential Service Delivery Options** – who will deliver the preferred service scope, preferred service solution, preferred technical solution, preferred implementation options (the ‘who’)
- **Potential Finance Options** – the potential funding and affordability options for delivering the preferred service scope, preferred service solution, preferred technical solution, preferred delivery options

The table below provides a summary of the assessment of each of these:

Framework Options	Business As Usual	Do Minimum	Intermediate	Do Maximum
Potential Service Scope Options – as outlined in the strategic case	1.0 - Population of South West Wales does not have access to a local high quality dedicated hybrid theatre service	1.1 - Core services: The population of South and West Wales have access to a local high quality dedicated hybrid theatre service	1.2 - Core services plus: <ul style="list-style-type: none"> improved staff changing facilities additional storage areas 	1.3 - Core and Desirable services plus: <ul style="list-style-type: none"> improved theatre patient pathways improved recovery areas
	Discounted	Preferred Way Forward	Carried Forward	Discounted
Potential Service/Technical Solution Options – in relation to the preferred scope	2.0 - Remodel two existing theatres to provide dedicated hybrid capabilities	2.1 - New build extension adjacent to main theatres to provide dedicated hybrid capabilities	2.2 - New build extension adjacent to main theatres to provide dedicated hybrid capabilities with additional space as shell and core only	2.3 - New build extension adjacent to main theatres to provide dedicated hybrid capabilities with additional space for staff changing/storage
	Discounted	Preferred Way Forward	Carried Forward	Carried Forward
Potential Service Delivery Options - in relation to preferred scope & solution	3.1 In-house		3.2 Strategic Partnership	3.3 Outsource
	Preferred Way Forward		Discounted	Discounted
Potential Implementation Options – in relation to preferred scope, solution & method of service delivery		4.1 Phased		4.2 Big Bang (single phase)
		Discounted		Preferred Way Forward
Potential Funding Options – in relation to preferred scope, solution, method of service delivery & implementation		5.1 Public Funding		5.2 Private Funding
		Preferred Way Forward		Discounted

Executive Summary Table 2: Long List Options Framework Summary

3.2 The Short List

The short list is as follows:

- Option 0 – Business As Usual: taken forward as a baseline comparator only
- Option 1 – New build extension to provide the do minimum scope
- Option 2 – New build extension to provide the do minimum scope with shell and core space for future expansion (intermediate service solution scope)
- Option 3 - New build extension to provide the do minimum scope with fitted-out staff changing/storage space (do maximum service solution scope)

3.3 Economic Appraisal

3.3.1 Capital Costs

The project's Cost Advisor, AECOM, has prepared capital costs in respect of the shortlist options. An allowance has been made for inflation. Planning contingency was estimated at 4.99% of works, non-works, equipment and fees. The summary of the capital costs for each shortlisted option are as follows:

	Option 0 Business as Usual £000	Option 1 Do Minimum (preferred) £000	Option 2 Intermediate £000	Option 3 Do Maximum £000
Works	0	5,170	6190	7108
Fees	0	610	730	838
Non Works Costs	0	213	213	213
Equipment Costs	0	2,050	2050	2050
Contingency	0	401	458	509
Forecast Project Outturn	0	8,444	9,641	10,718

Executive Summary Table 3: Capital Requirements (£000 excluding VAT & Optimism Bias)

	Option 0 Business as Usual	Option 1 Do Minimum (preferred)	Option 2 Intermediate	Option 3 Do Maximum
Capital Outturn	0	8,444	9,641	10,718
OB Adjustment	0	147	175	239
Total	0	8,590	9,816	10,957

Executive Summary Table 4: Capital Requirements (£000 excluding VAT, including Optimism Bias)

The key planning assumptions are as follows:

- Capital Costs include a breakdown of new build works based on £10,256.70/sqm² based on BCIS PUBSEC Firm Price Index for 1st Q 2024 (309) and abnormals elements
- The Location Factor is 0.97
- VAT has been excluded from this section of the case
- Planning contingencies of 4.99% has been allowed to the shortlisted options, as appropriate
- The Business as Usual option (Option 0) was retained as the baseline comparator

3.3.2 Revenue Costs

The baseline and indicative future recurring revenue cost for each shortlisted option are as follows:

	Option 0 Business as Usual	Option 1 Do Minimum (preferred)	Option 2 Intermediate	Option 3 Do Maximum
Pay				
Medical	2,567	2,900	2,900	2,900
Nursing	663	1,189	1,189	1,189
Other Clinical	288	624	624	624
Administration	276	276	276	276
Sub Total Pay	3,794	4,989	4,989	4,989
Non-Pay				
Consumables	640	1,425	1,425	1,425
Other	0	385	385	385
Theatre running cost	640	1,810	1,810	1,810
Overheads				
Equip & Maintenance		190	190	190
FM	83	167	178	212
Total overheads	83	357	36	393
Total Cost	4,517	7,156	7,167	7,192
Additional Costs	0	2,639	2,650	2,675

Executive Summary Table 5: Revenue Costs (£000 above baseline excl VAT)

3.3.3 Outputs of the Economic Appraisal

The relevant assumptions have been run through the CIA model and the findings are detailed below:

£000's	Option 0 BAU	Option 1 Do Minimum (preferred)	Option 2 Intermediate	Option 3 Do Maximum
Incremental Costs		(82.8)	(84.7)	(86.8)
Incremental Benefits		297.4	297.4	297.4
NPSV		214.5	212.6	210.6
Benefit/Cost Ratio		3.59	3.51	3.43
Ranking		1	2	3

Executive Summary Table 6: CIA model findings

The table shows that option 1 is the economically preferred option as it provides the most cost-effective capital solution and reduced running costs over the life of the asset. The difference, however, is relatively small as the direct cost of services are the same for all options and the benefits and risk are the same.

£000's	Option 0 BAU	Option 1 Do Minimum (preferred)	Option 2 Intermediate	Option 3 Do Maximum
BCR		3.59	3.51	3.43
BCR Below Preferred			(0.08)	(0.16)
BCR Switch Value		(0.08)	0.08	0.16

Executive Summary Table 7: Benefit Cost Ratio

3.3.4 Summary of Overall Economic Analysis Results

In summary option 1 is the preferred option with a BCR of 3.59 (0.08 BCR over Option 2 at 3.51) due to the differential capital and site running costs with all other revenue and benefits being the same across all options. It is also the more affordable in capital terms at a capital cost including VAT and OB of £10.1m compared to option 2 of £11.6m. Given the nature of the case with capital building being the main driver of difference sensitivity analysis highlighted no significant issues.

3.3.5 Option Appraisal Conclusion

Based on the above analysis the preferred option is confirmed as Option 1 – Do Minimum:

Service Scope Option	Core services: The population of South and West Wales have access to a local high quality dedicated hybrid theatre service
Service/Technical Option	New build extension adjacent to main theatres to provide dedicated hybrid capabilities
Delivery Option	In-house
Implementation Option	Big bang
Funding Option	Public funding

Executive Summary Table 8: Option Appraisal Conclusion

3.4 The Preferred Option

The Hybrid Theatre service at Morriston Hospital will be staffed by ten vascular surgeons providing scheduled and 24/7 emergency cover. Design of practices and services will comply with MHRA guidance and best practice Vascular Society recommendations and an evidence-based approach for optimising service delivery to patients and maximising survival rates. Access to minimally invasive procedures will result in a significant reduction in operative stress to the patient, reduce the need for critical care beds and shorten patient stays.

Space released in Morriston's main theatres could be utilised by other surgical services that require more intensive support, which have been limited in the past. Space released by re-providing, e.g. staff support facilities in the new build, could be utilised for essential equipment storage, improving pathways and efficiencies in the theatre area.

The new theatre will include best practice infection prevention measures health-care facilities. This will involve access to adjacent isolation facilities for infection prevention and control towards curbing the spread of Covid-19; Separation of clean and dirty areas and access routes within the existing theatre complex will comply with infection control requirements. Design within the storage and changing rooms in the new build will, within fire regulations constraints, enhance natural ventilation to maximise the movement of air within a space, and enhance daylight or sunlight to support good fenestrations and daylight in structures can sway the spread of airborne pathogens.

4. The Commercial Case

4.1 Required Services

The required services include enabling works at Morriston Hospital as required, including the supply of essential infrastructure services, development of a compliant Hybrid Surgery Centre, and technical commissioning. The Hybrid Surgical Theatre will be in compliance with the appropriate Welsh Health Building Notes (WHBN) & Welsh Health Technical Memorandum (WHTM), primarily NHS design guidance: WHBN 26: Facilities for Surgical Procedures.

4.2 Key Contractual Clauses

Contractual arrangements have been entered into with all parties using the NEC4 contract as prescribed under the Framework. For the Project Manager and Cost Advisor, the NEC4 Professional Services Contract (PSC) has been used, and for the SCP, the NEC4 Option C (gain share) contract has been used. Payments to the externally appointed team will be as prescribed in the individual NEC contracts and in line with the framework practices and procedures. There are no key contractual clauses over and above the standard framework clauses.

4.3 Community Benefits and Procurement

The Welsh Government actively seeks to derive benefits for the local community from procurement activity through the application of the Community Benefits policy approach. This approach ensures delivery of social, economic and environmental benefits through effective application of the policy and is integral to any consideration in procurement. The Health Board are therefore working with the Specialist Modular Supplier as part of the Considerate Construction Strategy to measure the identified benefits extended from this scheme.

5. The Financial Case

5.1 Capital

The fully tendered capital cost assessment was undertaken by AECOM, Cost Advisors. These are as summarised in the following tables:

	Option 1: Preferred £000
Works	6,204
Fees	732
Non Works Costs	255
Equipment Costs	2,460
Contingency	482
Forecast Project Outturn (pre VAT recovery)	10,133
Recoverable VAT	-174
Forecast Project Outturn	9,959
OB Adjustment	175
Total	10,135

Executive Summary Table 9: Capital Requirements

The following table shows the total capital funding profile for the preferred option:

	Capital Funding Received		Capital Funding Required	Total £000
	Prior Years £000	2024/25 £000	2024/25 £000	
Capital Costs	287	96	9,752	10,135
Capital Funding	287	96	9,752	10,135

Executive Summary Table 10: Preferred Option – Capital Expenditure £000's (including of non-recoverable VAT)

The key assumptions underlying the development of the capital costs are:

- Capital Cost includes works, non-works, abnormal allowances, equipment costs and risk contingency, which is assessed at 4.99%
- The indices at this stage are based on BCIS PUBSEC Firm Price Index for 1st Q 2024 (309). The Business Case Reporting Index will be the standard one for Wales of 0.97
- VAT is at 20% except for the professional fee and other recoverable elements

5.2 Revenue

The revenue analysis is outlined in the table below:

	WTE	Option 1: Preferred Option £'000
Medical	3.20	333
Nursing	11.30	526
Other Clinical	5.40	336
Indirect Pay (portering/cleaning)	3.00	84
Sub Total Pay	22.90	1,279
Non-Pay		
Consumables – activity related		785
Equipment maintenance		190
Theatre running cost		385
Sub Total Non-Pay		1,360
Total	22.90	2,639

Executive Summary Table 11: Revenue Impact £000's above baseline

The key revenue assumptions are as follows:

- Costed at 2023/24 prices
- No change to dedicated vascular CEPOD lists
- No change to bed base – continue to utilise the existing beds on short stay surgical ward, ward R (acute dedicated vascular ward), Pembroke and CITU for Vascular patients
- The costs include restoration of activity to pre-Covid levels
- No anticipated change to volume of patients – treated electively rather than via emergency route through the same bed base

- Theatre operational time will be Monday -Friday, 8:30am – 6pm
- All staffing costed at substantive rates with no allowance for any premium rates
- Patient retrieval service is not included, but assumed to be in place ahead of the new capacity opening
- 1 x 28 bed ward will provide sufficient bed coverage for the activity delivered through the new theatres (as per activity model)
- Equipment maintenance costs are based on 10% of the net equipment costs within the cost form

5.3 Impact on the Balance Sheet and Impairment

This scheme would result in an estimated AME Impairment of £6.140m on the initial valuation of the works. This will need to be taken through the Health Board's OCS, which the Health Board would require to be funded by the Welsh Government and this updated estimate will be included in the AME impairment funding submission to the Welsh Government.

The District Valuer will value the part new engineering elements on completion and the final value attributed to the buildings will be on the Balance Sheet of the Health Board.

A process of external audit for the project has already begun and will continue throughout the redevelopment and construction process.

000's	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Depreciation (DEL)		543	543	543	543	543
Impairment (AME) Initial Valuation	6,140					

Table 1: Revenue Expenditure £000's above baseline

The Health Board will engage the services of the District Valuer to provide a valuation of the scheme following completion. This scheme would result in an estimated AME Impairment of £6,140k on the initial valuation of the unit and this will need to be taken through the Health Board's SOCNE in 2024/25. The Health Board would require funding from WGov and this will be included in the AME impairment funding submission to WGov in 2024/25.

The Health Board will require additional recurring depreciation of £543k from 2025/26.

5.4 Overall Affordability

The revenue requirement includes an increase in activity, with an additional cost of £785k per year, based on a 10-year projection. The initial revenue investment is £1.854m. The Health Board will address the recurring revenue investment via the well-established annual financial planning process. The development will also allow a full consideration of the opportunities, identified within the case as non-cash releasing benefits, when the new theatre is fully operationalised.

The project requests capital investment 'not to exceed' £10.135m (including VAT) to be allocated by the WGov.

The Health Board requests AME Impairment funding of £6,140k in 2024/25 and funding to support recurrent depreciation costs of £543k from 2025/26.

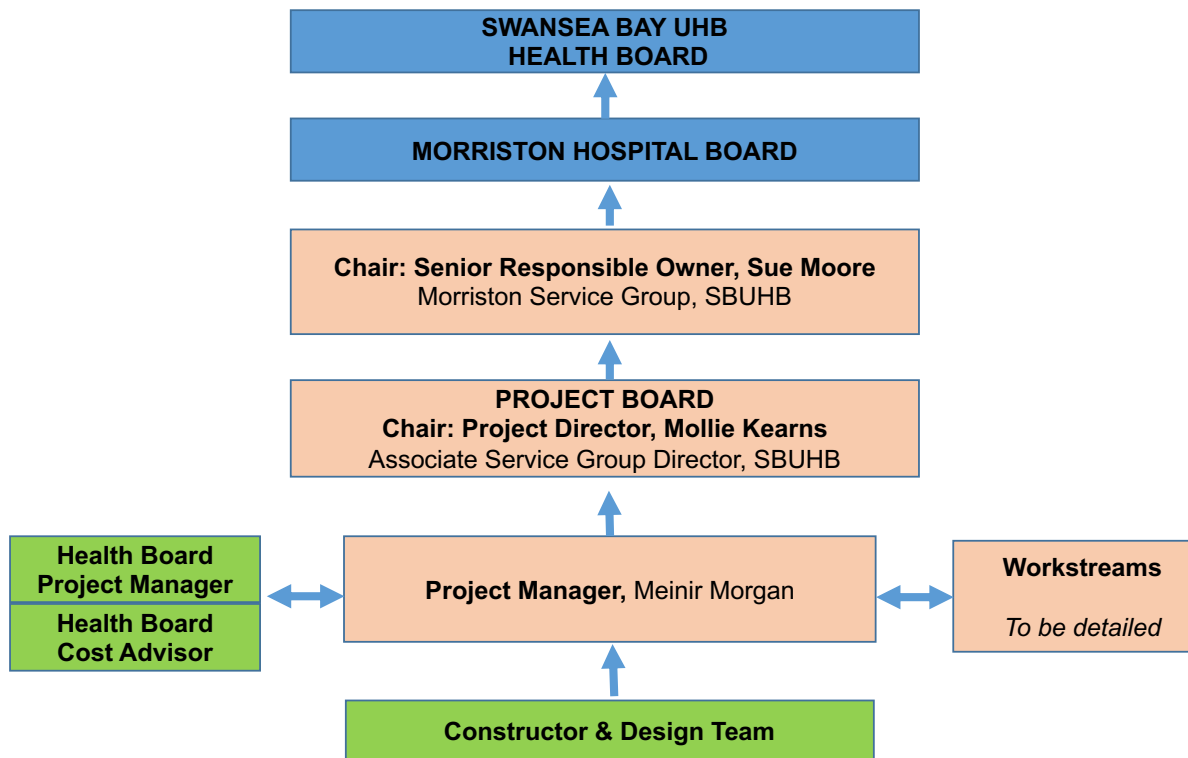
6. The Management Case

6.1 Project Management Arrangements

The Health Board’s experience of developing and delivering complex projects in a Prince2 environment ensures diligent management and thorough clinical involvement throughout all parts of the development:

- The Senior Responsible Owner (SRO) is Sue Moore, Morriston Service Group Director, SBUHB
- The Project Director, Mollie Kearns, Interim Divisional Manager Integrated Surgical Services, has the authority and responsibility to manage delivery of the project on behalf of the key stakeholders. The Project Director reports via the Project Board to the SRO
- The Project Manager, (Meinir Morgan) will support the Project Director

The reporting structure is shown below:



Executive Summary Figure 2: Reporting Structure

6.2 Project Plan

The indicative milestones are set out below:

Activity	Due Date
Submit OBC/FBC to Welsh Government for approval	May 2024
Welsh Government approval of OBC/FBC	July 2024
Enter contract with Modular Supplier (subject to funding approval)	August 2024
Enabling works and off site construction	December 2024
Completed (subject to contractor's programme)	February 2025
Handover	March 2025
Equipment installation	March 2025
Technical and clinical commissioning	March 2025
New build operational	April 2025
Technical Project Evaluation (approx. 3 months post new build handover)	August 2025

Executive Summary Table 12: Key indicative Milestones

6.3 Workforce Planning

Services have developed workforce plans that respond to demand profiles and the local/national recommendations regarding exposure to ionising radiation. Where possible, benchmarks have been utilised to inform the model.

The workforce requirements have been signed off by the Hybrid Theatres Project Board and have been subjected to rigorous scrutiny sessions by the senior team.

The following table shows a summary of the workforce planning tracker:

Service	Appraisal	Uplift Required WTE	Total Cost (£)
Vascular Surgery	SCP uplift to support patients pre and post operatively and to assist in theatre. SCF uplift to support 1:6 middle grade rota.	Surgical Care Practitioner - Band 8a - 2.0 WTE Senior Clinical Fellow - 2.0 WTE	318,924
Radiology	Enable use of the least invasive techniques and technology to diagnose and treat patients in order to minimize the risk of a procedure while reducing pain and recovery time.	Band 6 Radiographer - 2.3 WTE Band 7 Radiographer - 0.8 WTE Band 6 Radiology Nurse - 3.3 WTE	355,977
Radiation Physics	To ensure safe, effective, and legal use of the associated interventional X-ray system.	Band 7 Clinical Scientist - 0.1 WTE	6,412

Theatres	Vascular surgery theatre staffing workforce for both unscheduled and scheduled care pathway.	Band 6 - 1.6 WTE Band 5 - 4.8 WTE Band 3 - 1.6 WTE	346,666
Anaesthetics	Vascular surgery anaesthetic workforce for both unscheduled and scheduled care pathway.	Consultant Anaesthetist - 1.2 WTE	160,940
Pharmacy	ATO staff top up theatre once weekly and pharmacy technicians support controlled drug management.	Band 3 ATO - 0.2 WTE	6,106
			1,195,025

Executive Summary Table 13: Workforce Planning Tracker Summary

6.4 Benefits Realisation and Risk Management

Benefits are anticipated when a change is conceived and there are measurable improvements that result from the outcome which is perceived as an advantage by the organisation and/or stakeholders. Benefit management and realisation therefore aims to identify, define, track, realise and optimise benefits within and beyond the programme. A benefits register has been established during the development of this OBC/FBC that provides a framework for this aim and is overseen by the Project Board.

The register outlines the key objectives, benefits and measures, which will be used to evaluate the project, it also shows who has the accountability for its realisation. This is in order that a meaningful assessment can be made of the benefits yielded by the project and to benchmark the assessment criteria themselves so that lessons learned can be fed back into future projects. It ensures that the project is designed and managed in the right way to deliver quality and value benefits to patients, staff and local communities. Timescales for the achievement of these benefits have been identified and included in the register.

A risk framework has also been established which outlines the process for managing risk associated with developing this project, including a structure for identifying and mitigating operational and construction related risks. The risk register would use qualitative and quantitative measures to calculate the overall level of risk according to likelihood of any risk occurrence multiplied by the potential impact. The Project Board will formally review the risk register at key stages of the project.

6.5 Arrangements for Post Evaluation Arrangements

Post Evaluation and lessons learned will be undertaken as appropriate to this investment and in accordance with best practice and NHS guidance.

6.6 NHS Wales Gateway Review

A Risk Potential Assessments (RPA) has been carried out for this project.

6.7 Recommendation

This OBC/FBC presents a compelling case for change for the development of a regional Hybrid Vascular Theatre and the Health Board therefore recommends on this basis that WGov approve this project.

Abbreviations

AAA	Abdominal Aortic Aneurysm	REVAR	Radiation Dose Reduction During EVAR: Results from a Prospective Multicentre
AME	Annually managed expenditure		
ARCH	A Regional Collaboration for Health	RPA	Risk Potential Assessment
BAU	Business as Usual	SAB	Sustainable Drainage Approval Body
BIS	Business Innovation and Skills (Firm Price Index) Tender Price Index of Public Sector Building Non-Housing	SBUHB	Swansea Bay University Health Board
PUBSEC		SCP	Supply Chain Partner
CEPOD	Confidential Enquiry into Perioperative Deaths	SO	Spending Objective
CIA	Comprehensive Investment Appraisal	SOC	Strategic Outline Business Case
CRBs	Cash Releasing Benefits	SOCNE	Statement of Comprehensive Net Expenditure
CSF	Critical Success Factor	SRO	Senior Responsible Officer
DEL	Depreciation	SSI	Surgical Site Infection
DSA	Digital Subtraction Angiography	UHB	University Health Board
EVAR	Endovascular Aortic Aneurysm Repair	VAT	Value Added Tax
FBC	Full Business Case	VfM	Value for Money
HDUHB	Hywel Dda University Health Board	WAAASP	Wales Abdominal Aortic Aneurysm Screening Programme
ICU	Intensive Care Unit	WGov	Welsh Government
IR	Interventional Radiology	WHBN	Welsh Health Building Note
IR(MER)R	Ionising Radiation (Medical Exposure) Regulations	WHTM	Welsh Health Technical Memorandum
LOS	Length of Stay	WTE	Whole Time Equivalent
MDT	Multi-Disciplinary Team		
MHRA	Medicines and Healthcare products Regulatory Agency		
MMC	Modern Methods of Construction		
NCRB	Non Cash Releasing Benefit		
NEC	New Engineering Contract		
NICE	The National Institute for Health and Care Excellence		
Non QB	Non Quantifiable Benefit		
NZC	Net Zero Carbon		
OBC	Outline Business Case		
PAD	Peripheral Arterial Disease		
PSC	Professional Services Contract		
QB	Quantifiable Benefit		