Bwrdd Iechyd Prifysgol Hywel Dda University Health Board

CYFARFOD BWRDD PRIFYSGOL IECHYD
UNIVERSITY HEALTH BOARD MEETING

DYDDIAD Y CYFARFOD: **DATE OF MEETING:**	30 March 2023
TEITL YR ADRODDIAD: **TITLE OF REPORT:**	New Velindre Cancer Centre Full Business Case Approval
CYFARWYDDWR ARWEINIOL: **LEAD DIRECTOR:**	Lee Davies, Executive Director of Strategy and Planning
SWYDDOG ADRODD: **REPORTING OFFICER:**	Lee Davies, Executive Director of Strategy and Planning

Pwrpas yr Adroddiad (dewiswch fel yn addas) **Purpose of the Report** (select as appropriate)
Ar Gyfer Penderfyniad/For Decision

ADRODDIAD SCAA
SBAR REPORT

Sefyllfa / Situation

The new Velindre Cancer Centre (nVCC) Project, supported by the Treasury of the Welsh Government under their Mutual Investment Model (MIM) Policy, continues to progress through the planning permission and procurement phase. Following the Velindre University Health Board Trust Board approval of the outcome of the nVCC competitive dialogue on the 28 July 2022, two bidders were notified of the outcome and no challenge was received from the unsuccessful bidder. The Acorn Consortium were confirmed as the Successful Participant (SP) and received an SP letter which set out a range of outstanding matters that needed at be resolved between before Contractual and Financial Close (FC) could be achieved.

The nVCC Project Team have been working closely with Acorn to close down all outstanding matters in order to achieve FC in March 2023, or as soon as possible thereafter.

Velindre University NHS Trust (VUNHST) can only progress to FC, and enter into a contract, once the Full Business Case has been approved by the Trust, its commissioning Local Health Boards (LHBs) and by both Welsh Government Ministers (Treasury and Health).

Cefndir / Background

The scope of the new Velindre Cancer Centre Project is to develop a new fit for purpose Velindre Cancer Centre (nVCC). The nVCC will deliver the majority of specialist non-surgical cancer services for the population of South-East Wales.

On the 19 March 2021, the Welsh Government announced its approval of the nVCC Outline Business Case (OBC), this approval enabled the formal procurement of the nVCC to commence via a competitive dialogue procedure. The outcome of the nVCC procurement is nearing Financial Close (FC) and this progress allows for the population of this Full Business Case (FBC) which is aligned to the Successful Participants (SP) tender. The nVCC OBC revisited the project's earlier Strategic Outline Case assumptions and identified a preferred way forward. This FBC will also revisit those assumptions and confirm strategic alignment, value for money and a means to implement the preferred solution which is part of Velindre's approved

Clinical Operating Model. The construction of a new nVCC is currently planned to be completed during 2025.

Asesiad / Assessment

The Full Business Case (FBC)

The FBC consists of 5 cases (Strategic; Economic; Commercial; Management; and Financial) which are inter-connected and set out the case for investment. Of the 5 cases, four (Strategic; Economic; Management; and Financial) are complete. It should be noted that at the time of this report, the Commercial Case is commercial in confidence and therefore not able to be released to Local Health Boards at this stage.

The completion of the Commercial Case is the final element to conclude and will close when planning matters and the Project Agreement (PA) are finalised.

The aim of the Commercial Case is to set out the commercial arrangements i.e., the solution (the nVCC final design), together with the contract (Project Agreement). The nVCC Project is being procured using the Welsh Government MIM, under WG policy.

The Commercial Case is considered a matter for the VUNHST and Welsh Government. The Case requires commercial confidentially of the arrangements which are at a sensitive stage of the procurement process.

In this context, it can be highlighted that the Welsh Government (Central Treasury) is the funder for the Annual Service Payment (ASP) - which is the annual revenue payment to the Acorn Consortium for the 25-year term of the PA - and the Welsh Government (Health) is the funder of the NHS capital equipping costs. This clarity is important in respect of the approvals sought from each of the stakeholders. The primary areas of decision-making/approvals for each stakeholder is:

- Velindre University NHS Trust: overall approval including PA (commercial aspects); capital costs, revenue costs, management arrangements and retained risk as the contracting party.
- Velindre University NHS Trust/Local Health Boards: Identified revenue investment (recurring and non-recurring).
- Welsh Government: Treasury all matters relating to the Annual Service Payment and Health Department all matters relating to NHS Capital Equipping Costs.

The Local Health Boards have agreed the scope of, and approach to, investment in the nVCC (e.g., increased cleaning costs of a bigger floor area, and the costs of transition) within the OBC. The OBC also set down what costs are outside the scope of investment (e.g., the commercial deal with the Acorn consortium which is being funded by the Welsh Government (via the ASP). In respect of the commercial matters within the Commercial Case, the funding position is clear with the Trust planning on investment by the Welsh Government for the ASP.

The funding role of the ASP by the Welsh Government is, we believe, important to note, as it frames the approval required on the four Cases (Strategic; Economic; Management; and Financial) by commissioning Local Health Boards. The Local Health Boards are not an investment party to any ASP funding requirements that flow from the commercial arrangements with ACORN as set down in any Commercial Case.

A two-staged approach to FBC approval has been discussed with Welsh Government and the Local Health Boards:-

Stage 1: consideration and approval (or otherwise) of the four Cases (Strategic; Economic; Management; and Financial) by the Trust and Local Health Boards in February 2023.

Stage 2: consideration and approval (or otherwise) of the Commercial Case by Velindre University NHS Trust as soon as possible and subsequently the Welsh Government At this stage, Velindre University NHS Trust can provide the Local Health Boards with assurance that the commercial arrangements (and subsequent Commercial Case) will be robust and represent an acceptable commercial position. This assurance will also be demonstrated through the detailed governance arrangements that are in place with Welsh Government to secure approval.

The two-stage approval process enables Velindre University NHS Trust to receive formal approval letters from its Commissioners, which will be required by the WG Scrutiny and approval process.

This process also facilitates the external assurance reviews required (Gateway 4 and a Commercial Approval Point (CAP) 5) prior to WG approval.

Developing the nVCC FBC: updates from OBC to FBC and assurance

The FBC has been developed following the Treasury Green Book and Better Business Case Guidance for Public Sector Projects. The four Cases (Strategic, Economic, Management and Financial) are set out in Annexes 1 – 4. A summary of each of the cases is set out below, together with the key issues contained within them and the levels of assurance for each (using the Treasury Green Book checklist).

a) <u>Strategic Case</u>

The Strategic Case has been reviewed and updated from the Outline Business Case approval in October 2018. The key issues and levels of assurance are set out below in Table 1:

Table 1 – Strategic Case Updates / Assurance

Update	Activity between OBC & FBC	Requirement of Treasury Green Book Achieved Yes / No
Strategic Alignment: is the nVCC project aligned to national/regional/ Trust strategy and policy?	Case updated to reflect the changes to national/regional and Trust strategy and policy.	Yes: strategic alignment clear and robust
Existing Arrangements and Business needs	General updates to improve flow and backlog maintenance update.	Yes: case for change clear and robust
Clinical Operating Model	External Independent Advice provided by the Nuffield Trust and regional action plan agreed and being implemented.	Yes: Clinical Operating Model clear and robust action plan being

		implemented regionally
Forecast demand, activity and capacity	The forecast planning assumptions have been assured with actual activity (up to 2019/2020 pre-covid). This demonstrates that the projections were robust. Further work undertaken on forecast activity for Day 1 2025 and up to 2032 which demonstrate sufficient capacity on Day 1 of opening and thereafter within the Clinical Operating Model (e.g., home; local; specialist). The footprint/functional/capacity of the nVCC are sized appropriately and elements of the design are flexible.	Yes: Initial forecast assumptions robust. nVCC sized appropriately against planning assumptions/actual activity and Clinical Operating Model.
Equipment update	The proposed major clinical equipment in the nVCC has been updated for all equipment and a procurement strategy and commissioning programme developed	Yes: equipment requirements are robust
Environmental Sustainability	The ambition to deliver the Greenest Hospital in the UK has been developed and translated into the nVCC design; this includes options to remove embodied carbon and minimise the carbon once the nVCC becomes operational; and securing support/revenue funding from LHBs and Welsh Government to make the strategic shift from the current hybrid (gas/electric) solution to the electric solution.	Yes: design all electric and plans in place to support the reduction of embodied carbon. Risks remain about ability to fully realise reduction in embodied carbon and funding of strategic shift to electric solution; will be picked up in further discussions with WG/LHBs

The clinical operating model within the TCS PBC describes how services will be delivered in the future. The founding principles were as follows:

- The service model seeks to promote a new set of relationships which work in partnership to improve the way we collectively design and deliver tertiary non-surgical cancer services around patients' needs and to achieve these improvements in a truly sustainable way.
- Patients are central to our plans with an integrated network of services organised around them. The organising principle seeks to 'pull' high quality care towards the patient, that is accessible in their preferred location and supports them achieving their

personal goals during treatment and subsequently as they live with the impact of cancer.

- Patient safety is paramount, and the highest standards will always be met.
- The relationship between patients / families / carers and clinicians / professionals will be an equal and reciprocal one.
- Patients will be provided with the support, information and skills to manage their own needs effectively at, or as close to, home as possible wherever appropriate.
- Optimising information technology, quality improvement systems, patient involvement, education and embracing innovative approaches to healthcare will all be essential to achieve high levels of service quality in a sustainable way.

The Clinical Operating Model will see more care delivered within patients' homes; and locally through the development of a number of Velindre@ facilities on Local Health Board sites across South-East Wales, providing chemotherapy, outpatient, and support services; a Radiotherapy Satellite Centre (RSC) in Nevill Hall Hospital, Abergavenny; and the redevelopment of the Velindre Cancer Centre on a new site in Whitchurch, Cardiff.

It is important to note that the Strategic Case has taken account of the Nuffield Trust Independent Advice Report December 2020, which the recommendations of were accepted by Local Health Boards, Velindre University NHS Trust and the South-East Wales Cancer Collaborative Leadership Group. Given the dynamic nature of cancer care and the evolving regional clinical operating model of cancer, it is important to highlight a number of important areas which have strategic importance for the region and its health partners. There were a number of recommendations which point to the need for the nVCC to support future strategic developments (see Table 2).

Table 2 – Nuffield Trust Independent Advice

Nuffield Trust Independent Advice Recommendation Number	Recommendation
6	The ambulatory care offer at the VCC should be expanded to include SACT and other ambulatory services for haemato-oncology patients and more multidisciplinary joint clinics. Consideration should be given to expanding a range of other diagnostics, including endoscopy, to create a major diagnostic resource for South-East Wales that will be able to operate without the risk of services being disrupted by emergencies and which would also protect these services in the case of further pandemics.
10	Flexibility in design is going to be important both for the new VCC and for whatever is developed at the new UHW due to the rapid change in the nature of treatment and research.
11	There are future strategic development opportunities provided by the development of a new VCC and a proposed UHW2. Working together over the 15- to 20-year window, the health system should look to exploit these development opportunities in light of future service needs.

These recommendations are important as they are intended to ensure that the nVCC can support the current and future clinical operating models across South-East Wales over its planned life-span (40 – 60 years). Each of these recommendations has been considered in both the design of the clinical operating model and the design of the nVCC as set out below-

Utilisation of nVCC as a regional asset

It is imperative that the nVCC is considered and utilised as a regional asset which is part of a range of service/infrastructure that delivers improved quality of care and better population outcomes. The nVCC design supports this in a number of ways:

i) immediate: provision of non-surgical tertiary cancer services as required by LHB commissioners;

ii) development of a regional clinical operating model which supports the regional clinical needs. This is illustrated in the provision of enhanced assessment/ambulatory care services and additional capacity at nVCC which seeks to reduce the number of patients who unnecessarily attend unscheduled care/emergency services at LHBs;

iii) the possibility of using the capacity regionally rather than organisationally. Initial work has identified that clinical pathways can be remodelled which would see a planned shift in patient flows / what care is provided where. An example of this is haematology where there is likely to be range of patients who currently receive treatments in LHB settings who could be treated at nVCC. The V@LHB model therefore can also be seen as Cardiff@nVCC; Aneurin Bevan@nVCC; CTM@nVCC. Initial work has been undertaken to explore this and could be accelerated as the overall demand/capacity and clinical model is developed;

iv) diagnostics: the development of the nVCC has taken account of the potential strategic opportunity with regard to diagnostics across South-East Wales. The nVCC has designed in capacity to address immediate to medium terms needs (CT; MRI etc.) and also flexibility to successfully support potential strategic developments e.g. provision of PET-CT; provision of significant step up in diagnostics services

Flexible Design

The nVCC has been designed to provide maximum flexibility to cope with the changing nature of cancer care and regional strategic developments. The design has a number of aspects which provide future flexibility:

1) Template design allows for design development and any required changes due to service developments.

2) Orientation of the building: the nVCC has been designed to allow maximum flexibility which is achievable with the minimum of disruption/cost. The design consists of two areas of service contained in separate elements of the building.

a) Service Area 1:

i) Radiotherapy: the radiotherapy area has been built to future proof future flexibility. The bunkers have been designed to allow different types of manufacturer/machines to be installed as technology advances and the potential for service development;

ii) Imaging/diagnostics block: the major diagnostics and imaging kit is here with additional capacity and development control plans in place to support any strategic requirements to increase capacity/provision;

b) Service Area 2:

i) Assessment/ambulatory/inpatient block: this area of the nVCC provides optimum adjacencies for current service provision together with a template approach to the design. This allows the split of assessment/ambulatory/inpatient capacity to be changed very easily with no building works required for the majority of changes required;

3) Future strategic developments: the nVCC project will also include a strategic service continuity plan which will set out 10 – 15 likely regional cancer system service and non-surgical tertiary service developments that Acorn will be required to develop plans for which will set out how the nVCC building will be able to adapt/be reconfigured/support any additional construction to implement it.

The benefits of the nVCC are set out below:

- The patient environment at the nVCC will be optimal and promotes patient dignity, recovery and well-being;
- The nVCC will have sufficient patient and family car parking;
- The nVCC accommodation will be compliant with statutory requirements and that will enable high levels of patient safety to be met; and,
- The nVCC will have expansion space that will enable the Trust's to expand its footprint to meet the increasing demand for its clinical services across a range of specialities / departments.

It is noted that the TCS Programme, that includes Local Health Boards and Velindre University NHS Trust, have achieved significant investment in cancer services for South-East Wales. This relates to the following:

- **Integrated Radiotherapy Solution:** some of the key benefits are reduced risk of service failure due to more up to date machines; reduced risk of obsolescence with improved functionality due to more up to date machines; increased flexibility with better continuity due to the flexibility provided by matched machines; better patient outcomes and safety due to the improved functionality and better compliance with good practice; benefits of increased automation and use of integrated systems resulting in reduced clinical time required for patient scheduling and reduced appointment times; improved patient and carer experience with improved resilience will reduce risk of cancelled appointment resulting in a better experience for patients and carers; improved staff experience due to more up to date machines; increased R&D opportunities as a result of newer equipment and collaboration with a single vendor.

- **Velindre Radiotherapy Satellite Centre:** The Radiotherapy Satellite Centre (RSC) at Nevill Hall has recently had its Full Business Case approved. The centre once implemented will provide radiotherapy treatment for approximately 20% of our patients (provided by two new Radiotherapy treatment machines and one CT Simulator). The benefits of the RSC investment include better access and reduced travel for patients and less use of transport services. This will mean that fewer patients need to travel to the VCC for their radiotherapy.

- **nVCC Enabling Works:** The FBC approved all enabling works needed to provide primary and secondary access to the new Velindre Cancer Centre Site (including the provision of utilities).

b) Economic Case

The purpose of the Economic Case at FBC is confirm the preferred option from the OBC is still valid and to reappraise the costs, benefits and risks associated with the proposed investment. The Economic Case does not include VAT, or inflation as it aims to compare the options at today's prices to determine the most economically advantageous option. The Economic Case has been reviewed and updated from the Outline Business Case approval in October 2018. The key issues and levels of assurance are set out below in Table 3:

Table 3 – Economic Case Updates / Assurance

Update	Activity	Achieved Yes / No
Comprehensive Investment Assessment (CIA): was the process robust and in accordance with Treasury Green Book requirements	An external advisor has supported the Trust in developing the CIA. This has required a range of financial inputs that have been modelled. These inputs have been signed off by respective leads and the Assistant Project Director	Yes: professional external advice and all requirements followed
Delivery of a Preferred Option: does the preferred option at OBC still offer the best value at FBC	The CIA (based on current prices) has evaluated the options in the FBC and concluded that the preferred option is the implementation of a new Velindre Cancer Centre, this is aligned to the preceding Outline Business Case (OBC).	Yes: the do minimum plus option still remains the Preferred option as per OBC.

The nVCC project is utilising the Welsh MIM Policy, which is a Public Private Partnership (PPP) approach. The OBC undertook a Public Sector Comparator (PSC) which compares the public sector (traditional capital scheme) with the PPP scheme to determine which offers the best value-for-money. The MIM scheme offered the best value-for-money at OBC stage and the MIM procurement route was chosen.

c) Management Case

The Management Case sets out how Velindre University NHS Trust will manage the implementation of the nVCC through its construction and in life phases. It also sets out the expected benefits to be realised; the risks to successful delivery and how they will be managed. The Management Case has been reviewed and updated from the Outline Business Case approval in October 2018. The key issues and levels of assurance are set out below in Table 4:

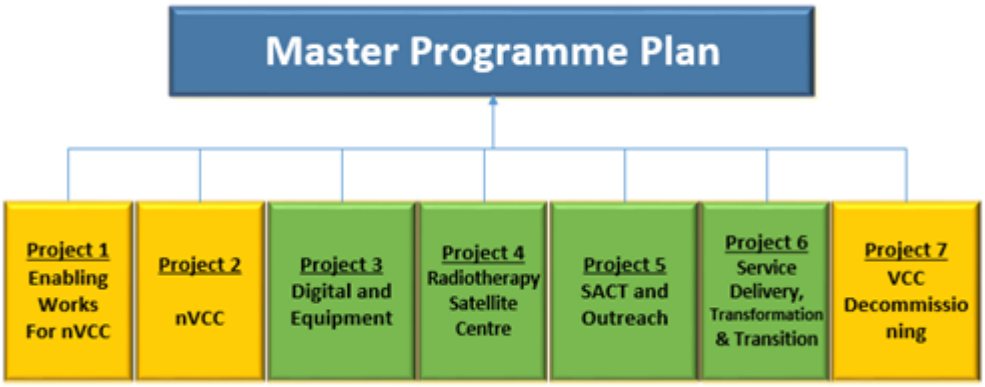
Table 4 – Management Case Updates / Assurance

Update	Activity	Achieved Yes / No
Governance Arrangements:	The Governance Structure has been reviewed and reflects the Trusts new arrangement	Yes

Leadership: Roles and Responsibilities	Roles and responsibilities have been updated from those submitted in the OBC	Yes
Benefits Register: are all of the benefits captured	The benefits register has been updated to reflect the CIA	Yes

The Transforming Cancer Services Programme sets out the scope, aim and spending objectives for the programme and consists of 7 projects as set out in Fig. 1.

Fig 1 – TCS Programme Projects



The description of the Projects are outlined in Table 5.

Table 5 – TCS Programme Projects Descriptions

Project Number / Name		Description
1	Enabling Works	All Enabling works needed to provide Primary and secondary access to the new Velindre Cancer Centre Site (includes the provision of utilities).
2	New Velindre Cancer Centre	The re-provisioning of a new Velindre Cancer Centre in the Whitchurch area of Cardiff.
3	Digital and Equipment	The provision of integrated Digital Information and Equipment Services across the TCS Programme. This Project oversees the IRS Project.
4	Radiotherapy Satellite Centre	Provision of a Radiotherapy Satellite Centre at Nevill Hall Hospital.
5	SACT and Outreach	The Provision of SACT and Outpatient services embedded in Local Health Boards.
6	Service Delivery Transition and Transformation	This project is responsible for establishing and transforming all service delivery functions across the clinical model. It is also responsible for planning and implementing the transition between the old and new cancer centre.
7	Site Decommissioning	The decommissioning of the old Velindre Cancer Centre brownfield Site.

With regards to benefits, the Programme and Project benefits are outlined in the FBC. The Programme Business Case sets out the range of benefits that are expected to be realised through the delivery of the programme; who is the expected beneficiary; when it

is expected to be realised. The 7 projects within the programme are the primary vehicle to deliver the programme benefits and are subject to business cases (OBC/FBC); each of which set out the benefits that are expected to be realised from the specific project. It is important to note each project must clearly scope benefits that can be realised but the project; can only claim the benefit set out within its scope and can only realise a benefit once. This is vital in ensuring the programme/project economic cases are robust and some avoids over-emphasising the benefits and the potential for double counting.

Within the TCS Programme the following FBC business cases have been approved and these are set out below in Table 6:

Table 6 – TCS Programme Projects Benefits

Project	Title	Benefits include
1	**Enabling works: infrastructure to access nVCC**	• Reduced travel times for patients/families/staff • Reduced carbon emissions
3	**Integrated Radiotherapy Solution**	• Improved clinical care and treatment for patients • Increased levels of efficiency and productivity
4	**Radiotherapy satellite centre: Nevill Hall**	• Increased access to radiotherapy • Care close to home for patients • Reduced travel times for patients and families • Improved integration of cancer care

2.25 With regard to the nVCC FBC, it is important to note that the primary need to for investment is the need to replace the existing Velindre Cancer Centre as it is the only building that provides specialist non-surgical tertiary oncology services in South-East Wales. The building is nearly 70 years old and not considered to be fit-for-purpose now or sustainable in the future (as set out in the Business Needs section of the Strategic Case). Whilst the provision of the nVCC has a clear strategic importance in the regional clinical model (now and in future years), at its simplest form the FBC sets out the need for investment to replace an old building with a new building.

2.26 Consequently, the FBC nVCC only sets out benefits that are within scope of the business case and does not seek to claim benefits which can only be realised by changes/actions elsewhere in the cancer system. For example, the provision of an nVCC will not directly improve detection of cancer in primary care; or directly assist in moving staging of cancers from 4 to 3 to 2; or improve 1 and 5 year survival rates of itself; these can only be achieved by actions across the whole system

2.27 However, the nVCC will directly contribute to the quality, safety, experience and sustainability of cancer care across SE Wales and 1 and 5 year survival through the tertiary services it provides as part of the pathway of care. There will also be a direct dis-benefit if the nVCC is not built i.e. the ability to meet required demand and quality of care will reduce and this is likely to result in reduced quality of care and 1 and 5 year survival rates.

2.28 The nVCC will also indirectly contribute to the overall improvement of cancer care (e.g. diagnosis; staging; pathway transformation etc.) through collaborative working; the provision of data/insights etc. and multi-disciplinary working.

2.29 The nVCC FBC benefits are set out in Table 7.

Table 7 – TCS Programme Projects Benefits

Project	Title	Benefits include
1	**New Velindre Cancer Centre**	• **Improved productivity**, with improved adjacencies; more flexible facilities and greater ability to comply with standards • **Improved recruitment and retention**, with improved staff recruitment and retention resulting in reduced reliance on overtime, bank and agency • **Centre for Learning and Innovation,** with additional income from Centre for Learning and Innovation • **Direct benefits of the new clinical model,** with reduced length of stay; reduced admissions; improved utilisation; less value of reinvestment in capacity to meet demand • **Improved survival rates,** with economic benefit of survivors re-entering employment; economic benefit of survivors providing childcare • **Improved energy efficiency,** resulting in changes to carbon emissions and air quality

d) Financial Case

The Financial Case sets out the costs relating to the preferred option and takes into account many different financial inputs. These include capital and revenue (recurring and non-recurring) costs. As funding is coming from various sources, the Financial Case sets out the funding requirement from WG and the Trusts Commissioners. It also states a range of financial treatments relating to VAT, CPI and Statistical Treatments. The Financial Case has been reviewed and updated from the Outline Business Case approval in October 2018. The key issues and levels of assurance are set out below in Table 8:

Table 8 – Finance Case Updates / Assurance

Update	Activity	Achieved Yes / No
Update of Costs	All costs have been revisited, revised and input into the Comprehensive Investment Appraisal. A comparative exercise of costs to identify/understand/analyse any material changes in costs from OBC to FBC has been undertaken, validated and documented.	Yes: all costs updated, and changes understood and justified. Support/advice provided by professional advisors
Financial Assumptions	Financial assumptions relating to statistical treatment, VAT, Inflation have been reviewed	Yes: all assumptions updated with

	and remain extant from those considered at OBC.	support of professional advisors
Affordability	The ASP remains within the agreed Welsh Government OBC approval (at this juncture) Revenue affordability: discussions within the Trust and with Local Health Boards have identified a revenue funding position.	Yes: at this juncture

Affordability and Funding

The funding requirements for Velindre University NHS Trust, Local Health Boards and Welsh Government are set out below.

Costs and Funding

Capital Costs

The capital costs are **c£52.6m** and are set out below in Table 9:

Table 9 – Capital Project Delivery Costs

Cost category	Funding requirement £000
Project (nVCC) capital expenditure - Equipment	38,209
Other Capital Costs	1,400
Project 'Delivery Capital' costs	10,478
IRS Implementation Costs	2,515
Total Capital Funding incl. VAT	**52,602**

Note: All costs are at 2022-23 prices

Recurring Revenue Costs

In October 2018, the Commissioners (LHBs) approved the OBC that set out the funding requirements of **c£7.5m** (at 2016-17 prices) in Table 10.

Table 10 – OBC Recurring Revenue Costs

Cost category	VCC Baseline £000	nVCC £000	Funding source
Soft FM	1,504	2,126	Commissioners
Hard FM	481	813	Commissioners
Utilities	572	1,032	Commissioners
Rates	192	1,027	Commissioners
Equipment Maintenance	1,300	1,900	Commissioners
IM&T Maintenance	300	445	Commissioners
Insurance	0	200	Welsh Govt/Commissioners
Total revenue costs	**4,349**	**7,543**	

2.34 In developing the FBC, Velindre University NHS Trust has considered the necessary updates to the OBC costs which is outlined as follows:

- Reduction in OBC requirements due to the IRS maintenance costs being funded in the IRS business case;
- Inflation on adjusted OBC figures;
- Additional 'new' investment:
  - Cost of move to an all-electric cancer centre;
  - Digital

2.35 The updated FBC costs are set out below in Table 11.

Table 11 – FBC Recurring Revenue Costs

Cost Category	Original OBC	Reduction OBC	Adjusted OBC	OBC Inflated	New Investment	Other	TOTAL	Funding Source
	£000	£000	£000	£000	£000	£000	£000	
Soft FM	2,126	0	2,126	558	0	221	**2,905**	Commissioners
Hard FM	813	0	813	213	0	-125	**901**	Commissioners
Utilities	1,032	0	1,032	271	961	577	**2,841**	Commissioners
Rates	1,027	0	1,027	269	0	-253	**1,043**	Commissioners
Equipment Maintenance	1,900	-1,006	894	235	0	472	**1,601**	Commissioners
IM&T Maintenance	445	0	445	117	0	-312	**250**	Commissioners
Digital	0	0	0	0	753	0	**753**	Commissioners
Insurance	200	0	200	52	0	198	**450**	Welsh Govt / Commissioners
Recurring Revenue Costs	**7,543**	**-1,006**	**6,537**	**1,715**	**1,714**	**778**	**10,744**	

In summary the investment requirement is as follows:

- Original nVCC OBC c£7.5m
- Removal of IRS equipment mtce (c£1.0m)
- Adjusted OBC costs c£6.5m
- Inflation on the OBC costs c£1.7m
- Additional investment c£1.7m
- Other (movements) c£0.8m
- TOTAL c£10.7m

Therefore, the recurring revenue costs of nVCC are **c£10.7m** and the funding strategy is set out below in Table 12 together with the Welsh Government, DHCW and Local Health Board funding requirements:

Table 12 – FBC Recurring Revenue Funding

Cost Category	Preferred Option	DHCW (DPIF)	Welsh Government	LHBs
	£000	£000	£000	£000
Soft FM	2,905	0	0	2,905
Hard FM	901	0	0	901
Utilities	2,841	0	-961	1,880
Rates	1,043	0	0	1,043
Equipment Maintenance	1,601	0	0	1,601
IM&T Maintenance	251	0	0	251
Digital	753	-456	0	297
Insurance	450	0	0	450
Recurring Revenue Costs	**10,744**	**-456**	**-961**	**9,327**

Note: All costs are at 2022-23 prices

The Utility Costs have been agreed with the Collective Commissioners Group as fair and reasonable and reflects the current position. Commissioners have advised that the costs arising from the decision to procure a hospital designed with an electric only energy solution, which is a Welsh Government policy cost, should seek alternative funding sources. This is due to the current financial deficit of each of the four main Commissioning Health Boards, which are anticipated to worsen over the next three-year IMTP 2023-2026. Whilst LHBs recognise the benefit of an early contribution to meeting the Welsh Government decarbonisation target, that the procurement of an electric only energy solution will help deliver, they note that their own estate also requires significant investment to address the 'green' agenda, which they cannot currently prioritise given the pressures on service funding. These issues have been understood and acknowledged by Velindre Trust. It has, therefore, been agreed that an element (£0.961m current prices) of this cost category, namely the switch to an all-electric solution, should seek an alternative funding source through transitional funding arrangements. It is proposed that the cost of an all-electric advance design to meet Government decarbonisation policy be mitigated by transitional funding relief as an element of the Welsh Government MIM financing support. At this time, based on the above, it has been agreed that Commissioners would not be requested to fund the all-electric solution element of £0.961m in advance of those transitional funding discussions with Welsh Government.

The revenue digital requirements cover four key areas at a cost of **c£1.2m** and is out below in Table 13:

Table 13 – Digital Costs

Cost Category	Net Costs	VAT	Gross costs
	£000	£000	£000
nVCC Infrastructure Requirements (Day 1)	247	50	297
Strategic Clinical & Operational Requirements	380	76	456
Digitisation of Health Records	370	75	445
Transitional Requirements	38	8	46
TOTAL	**1,035**	**209**	**1,244**

Note: All costs are at 2022-23 prices

In managing the funding of these Digital requirements, Velindre University NHS Trust proposes that it takes responsibility for the costs of digitisation of health records and transitional costs through its baseline funding. In respect of the clinical and operational requirements, the Trust has had positive discussions with DHCW, where the structure of a collaborative funding arrangement has been agreed for the 'strategic clinical and operational' elements of the nVCC Project. As such, funding from the Digital Priorities Investment Fund (DPIF) or other Welsh Government digital funding sources is planned to be provided. This collaborative funding approach will continue to be shaped with LHBs. Given the proposed arrangements above, LHBs are only being requested to fund the nVCC infrastructure requirements (Day 1) at this stage in the process. Should the DPIF or other WG digital funding be non-recurrent, further discussions would be necessary to consider ongoing funding for these costs.

It is important to consider the overall movement in the recurring revenue funding required from Commissioners when compared to the agreed OBC funding inflated to 2022-23 prices. The movement is **c£1.0m** and is set out below Table 14:

Table 14 - Movement in Recurring Revenue Costs for Commissioners

Cost Category	FBC Costs	OBC Inflated	Movement
	£000	£000	£000
Soft FM	2,905	2,684	222
Hard FM	901	1,026	-125
Utilities	1,880	1,303	577
Rates	1,043	1,297	-254
Equipment Maintenance	1,601	1,129	472
IM&T Maintenance	251	562	-311
Digital	297	0	297
Insurance	450	252	198
Recurring Revenue Costs	**9,327**	**8,252**	**1,075**

Note: All costs are at 2022-23 price levels.

The movement in the recurring revenue costs that will be funded by Commissioners using the agreed Commissioner Shares is **c£1.0m** as set out below in Table 15:

Table 15 - Movement in Recurring Revenue Costs for Commissioners

Health Boards	Commissioner Split	TOTAL
	%	£000
Proposed funding from commissioners:		
Aneurin Bevan	36.52%	391
Cardiff & Vale	30.90%	331
Cwm Taf Morgannwg	28.11%	301
Swansea Bay	1.40%	15
Hywel Dda	1.49%	16
Powys	1.59%	17
Total	**100%**	**1,075**

The recurring revenue costs that will be **funded** by Commissioners using the agreed Commissioner Shares is **c£9.3m** as set out below in Table 16:

Table 16 - Summary of Funding Sources

Health Boards	Commissioner Split	TOTAL
	%	£000
Proposed funding from commissioners:		
Aneurin Bevan	36.52%	3,406
Cardiff & Vale	30.90%	2,882
Cwm Taf Morgannwg	28.11%	2,622
Swansea Bay	1.40%	131
Hywel Dda	1.49%	139
Powys	1.59%	148
Total	**100%**	**9,327**

Note: All costs are at 2022-23 price levels.

However, in respect of the increase in funding from Commissioners that is in addition to the baseline, which is already funded, the increase is **c£5.1m** and is set out below in Table 17.

Table 17 - Summary of Additional Funding for Recurring Revenue Costs

Cost Category	Baseline 2021-22	Recurring Revenue	Additional Funding reqd from Commissioners
	£000	£000	£000
Soft FM	1,846	2,905	1,059
Hard FM	454	901	447
Utilities	945	1,880	935
Rates	179	1,043	864
Equipment Maintenance	723	1,601	878
IM&T Maintenance	25	251	226
Digital	0	297	297
Insurance	0	450	450
Recurring Revenue Costs	**4,172**	**9,327**	**5,155**

Note: All costs are at 2022-23 price levels

The additional funding required from Commissioners is set out below in Table 18.

Table 18 - Summary of Additional Funding from Commissioners

Health Boards	Commissioner Split	TOTAL
	%	£000
Proposed funding from commissioners:		
Aneurin Bevan	36.52%	1,883
Cardiff & Vale	30.90%	1,593
Cwm Taf Morgannwg	28.11%	1,449
Swansea Bay	1.40%	72
Hywel Dda	1.49%	77
Powys	1.59%	82
Total	**100%**	**5,155**

Note: All costs are at 2022-23 price levels

It is planned that the Welsh Government will fund the Annual Service Payment and increased buildings and equipment depreciation. It should be noted that there is a recurring revenue requirement for Depreciation of **c£10.9m** (at 2022-23 prices). In respect of the Annual Service Payment for the Project, this will not be finalised until the day of Financial Close. Given commercial confidentiality, it has been deemed appropriate not to present an ASP.

Non-Recurring Revenue Funding

Non-recurring revenue costs, including accelerated depreciation, dual running, and project support will be funded by the Welsh Government and Commissioners and are set out in Table 19.

Table 19 - Summary Non-Recurring Revenue Requirements

Cost category	Funding Reqd £000	Source of Funding
Accelerated depreciation	31,437	Welsh Government
Dual Site Running Costs	2,412	Commissioners
Total Non-Recurring Revenue Costs	**33,849**	

Note: All costs are at 2022-23 price levels.

Table 20 outlines the non-recurring revenue costs for financial years:

Table 20 - Profile of Non-Recurring Revenue Requirement

Cost category	2023-24 £000	2024-25 £000	2025-26 £000
Accelerated depreciation	10,479	10,479	10,479
Dual Site Running Costs	0	0	2,412
Total Non-Recurring Revenue Costs	**10,479**	**10,479**	**12,891**

Note: All costs are at 2022-23 price levels

As outlined above, the additional funding required from the Health Board compared to when the OBC was previously approved is £0.077m.

The Strategic Case and Management Case are attached as appendices to this report. Due to the commercial sensitivities relating to the Economic and Financial Cases, these will be considered during the In-Committee Board meeting.

The Commissioners Q&A Document and Governance Guidance from the Director of Corporate Governance in Velindre University NHS Trust have also been shared for reference.

Argymhelliad / Recommendation

The Board is requested to:

- **NOTE** that the process to develop the FBC from the previously agreed OBC has followed Treasury Green Book Guidance;
- **NOTE** the updates made from OBC to FBC and the assurance provided by the Collective Commissioning Group (CCG);
- **NOTE** the movement in recurring revenue funding, from the uplifted OBC approved sum, for the Health Board is £0.016m. Please note that this figure is annual commitment set at 2022/23 price base;
- **APPROVE** the investment requested of £0.077m from the Health Board by Velindre University NHS Trust. Please note that this figure is annual commitment set at 2022/23 price base;
- **APPROVE** the Full Business Case, excluding the Commercial Case.

This approval would be subject to the finalisation of the Commercial Case, which is a matter of consideration between Velindre University NHS Trust and Welsh Government, not the Health Board. However, if there are any changes in the Commercial Case which would have an impact on the 'Approved' status of the other four cases from a commissioner's perspective, these cases would be brought back to the Board for consideration.

Amcanion: (rhaid cwblhau) Objectives: (must be completed)	
Cyfeirnod Cofrestr Risg Datix a Sgôr Cyfredol: Datix Risk Register Reference and Score:	1350 (Risk of not meeting the 75% SCP waiting times target for 2022/26 due to diagnostics capacity and delays at tertiary centre) – Risk Score 12
Safon(au) Gofal ac Iechyd: Health and Care Standard(s):	2. Safe Care
Amcanion Strategol y BIP: UHB Strategic Objectives:	All Strategic Objectives are applicable
Amcanion Cynllunio Planning Objectives	5A_22 NHS Wales Delivery Framework Targets
Amcanion Llesiant BIP: UHB Well-being Objectives: Hyperlink to HDdUHB Well-being Objectives Annual Report 2018-2019	8. Transform our communities through collaboration with people, communities and partners

Gwybodaeth Ychwanegol: Further Information:	
Ar sail tystiolaeth: Evidence Base:	Contained within the body of the report
Rhestr Termau: Glossary of Terms:	MIM - Mutual Investment Model nVCC - New Velindre Cancer Centre OBC - Outline Business Case PA - Project Agreement SP - Successful Participant VAT - Value Added Tax WG - Welsh Government
Partïon / Pwyllgorau â ymgynhorwyd ymlaen llaw y Cyfarfod Bwrdd Iechyd Prifysgol: Parties / Committees consulted prior to University Health Board:	Executive Director of Strategy and Planning Executive Director of Finance

Effaith: (rhaid cwblhau) Impact: (must be completed)	
Ariannol / Gwerth am Arian: Financial / Service:	Please see the financial sections outlined in Section 2 of the report. Funding is required from Welsh Government and Local Health Boards as the Commissioners.
Ansawdd / Gofal Claf: Quality / Patient Care:	The Clinical Service Model has been approved by commissioners and assured by Nuffield Trust.

Gweithlu: **Workforce:**	Not applicable.
Risg: **Risk:**	Not applicable.
Cyfreithiol: **Legal:**	The nVCC Project is part of the WG Mutual Investment Model (MIM).
Enw Da: **Reputational:**	Not applicable.
Gyfrinachedd: **Privacy:**	Not applicable.
Cydraddoldeb: **Equality:**	Completed at Programme Level.

Full Business Case: March 2023

new Velindre Cancer Centre (nVCC)

Strategic Case

STRATEGIC CASE

Contents Page:

1 INTRODUCTION AND PURPOSE

Introduction

1.1 The scope of the new Velindre Cancer Centre Project is to develop a new fit for purpose Velindre Cancer Centre (nVCC). The nVCC will deliver the majority of specialist non-surgical cancer services for the population of South-East Wales.

1.2 On the 19th of March 2021, the Welsh Government announced its approval of the nVCC Outline Business Case (OBC), this approval enabled the formal procurement of the nVCC to commence via a competitive dialogue procedure.

1.3 The outcome of the nVCC procurement is nearing Financial Close (FC) and this progress allows for the population of this Full Business Case (FBC) which is aligned to the Successful Participants (SP) tender.

1.4 The nVCC OBC revisited the project's earlier Strategic Outline Case assumptions and identified a preferred way forward. This FBC will also revisit those assumptions and confirm strategic alignment, value for money and a means to implement the preferred solution which is part of Velindre's approved Clinical Operating Model.

1.5 The construction of a new nVCC is currently planned to be completed during 2025.

Purpose

1.6 The purpose of this Full Business Case (FBC), is therefore to:

- Confirm that the Project Spending Objectives (PSOs) have been reviewed and are still valid;
- Confirm that the preferred way forward identified in the nVCC OBC remains unchanged;
- Identify the marketplace opportunity which offers optimum Value for Money (VfM);
- Set out the commercial and contractual arrangements for the negotiated deal(s);
- Confirm the deal(s) are still affordable; and
- Put in place the detailed management arrangements for the successful delivery, monitoring and evaluation of the scheme.

1.7 In seeking approval, this FBC will provide assurance on the points outlined above to the Trust Board, the Trust's Commissioners and Welsh Government.

2 STRATEGIC CASE STRUCTURE AND CONTENTS

Context of Proposed investment

2.1 The Trust and its partners are committed to providing safe, efficient and effective care to all our patients. To achieve this from a cancer services perspective, it is essential that a nVCC is developed. The key drivers supporting the case for investment are:

- The Welsh Government's health and cancer policy to improve the quality of cancer treatment and care; to further improve the experience of care; and patient outcomes.
- Continuing growth in the incidence of cancer and the demand for cancer services across Wales; with incidences expected to grow at approximately 2% per annum.
- The role of Velindre Cancer Services and Velindre Cancer Centre in the South-East Wales region as being the sole provider of highly specialist non-surgical tertiary oncology for the resident population.
- The need to keep pace with the advances in treatments and technology which support the provision of cancer care that achieves the required clinical standards.

2.2 The bullet point themes above will be explored and introduced as a "golden thread" running through this FBC and are at the heart of the Trust's ambition and business needs.

2.3 Of note, there are currently significant limitations relating to the fabric and functionality of the existing Velindre Cancer Centre which was built in 1956, these are:

i. The existing Velindre Cancer Centre has insufficient space and if built on a 'like for like' basis, and in line with Health Building Notes (HBN's), it would have a footprint of circa 28,000m2 compared to the existing building footprint of 17,777m2;

ii. There is no expansion space on the existing Velindre Cancer Centre. This severely limits, the Trust's ability to expand its footprint to meet the increasing demand for its clinical services across a range of specialities / departments.

iii. A high proportion of accommodation at the existing VCC is non-compliant with statutory requirements and creates challenges in maintaining high levels of patient safety and confidentiality.

iv. The existing patient environment at the VCC is sub-optimal in promoting patient dignity, experience and well-being.

v. The existing VCC has limitations in its ability to provide the most up to date treatments for patients to support improved outcomes and quality of life.

vi. There is insufficient car parking at the existing VCC.

2.4 Therefore, it is clear that the existing Velindre Cancer Centre is significantly inhibiting the Trust's ability to both maintain and progress its clinical services. Conversely, the nVCC project is critical to the successful delivery of the Trust's long-term Cancer Strategy and the delivery of the benefits set out within the Trusts Transforming Cancer Services in South-East Wales programme (TCS).

2.5 The TCS Programme is an ambitious programme that aims to deliver transformed tertiary non-surgical Cancer Services for the population of South-East Wales. It is described in detail below.

TCS Programme Scope

2.6 It is important for the reader of this nVCC FBC to be able to "locate" where the nVCC Project sits within the wider TCS Programme which has seven interdependent projects that will deliver the Trusts approved strategies and Clinical Operating Model. The projects are led by a number of defined Boards within Velindre University NHS Trust. These arrangements are set out in more detail in the Management Case.

2.7 The wider TCS Programme has been developed to deliver a number of aspects of the Welsh Governments strategic cancer/wider policy requirements (Healthier Wales; Cancer Quality Statement; Well-being for Future Generations (Wales) Act 2015; Decarbonisation Plan) and Velindre Cancer Services Strategy "Building our Future Together 2017 – 2027".

2.8 The seven TCS Projects are briefly described in Table 1 overleaf:

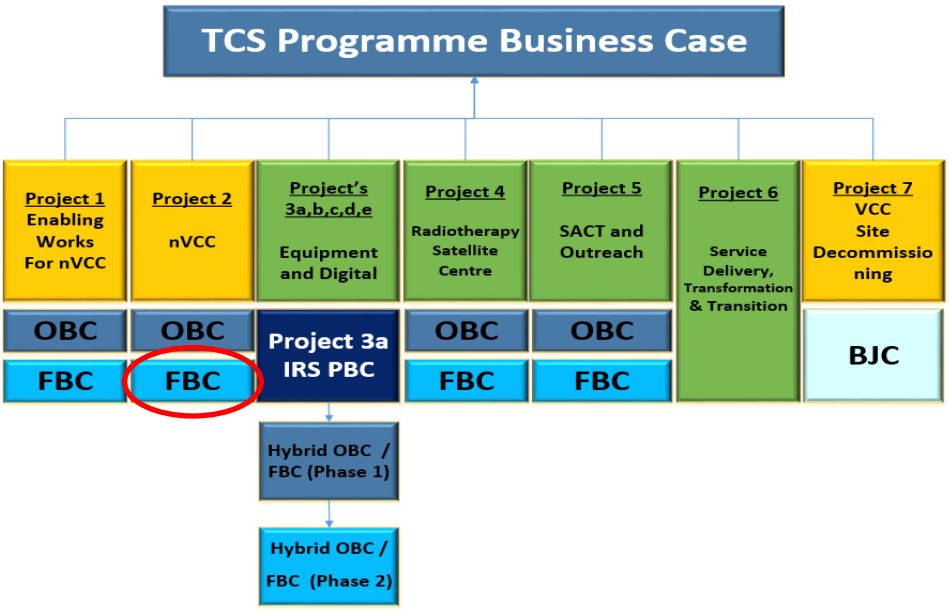
Table 1 - TCS Projects Described

Project Number / Name		Description
1	Enabling Works	All enabling works needed to provide primary and secondary access to the new Velindre Cancer Centre Site (including the provision of utilities).
2	New Velindre Cancer Centre	The re-provisioning of a new Velindre Cancer Centre in the Whitchurch area of Cardiff.
3	Digital and Equipment	The provision of integrated Digital Information and Equipment Services across the TCS Programme. This Project oversees the Integrated Radiotherapy Solution (IRS) Project.
4	Radiotherapy Satellite Centre	Provision of a Radiotherapy Satellite Centre at Nevill Hall Hospital.
5	SACT and Outreach	The Provision of Systemic Anti-Cancer Therapy (SACT) and Outpatient services embedded in Local Health Boards.
6	Service Delivery Transition and Transformation	This project is responsible for establishing and transforming all service delivery functions across the clinical model. It is also responsible for planning and implementing the transition between the old and new cancer centre.
7	Site Decommissioning	The decommissioning of the old Velindre Cancer Centre brownfield site.

2.9 To implement the TCS Programme, as described in the TCS Programme Business Case (PBC), a suite of Business Cases is required. It is important that these business cases are seen in the context of the other investment cases that are being developed.

2.10 Figure 1 sets out the TCS Programmes Business Case Framework and how it aligns to the seven defined projects.

Figure 1 - TCS Programme Business Case Framework



2.11 This FBC seeks investment for the nVCC Project (Project 2 circled above). Other business cases within the TCS Programme have been approved and an update is set out in the Table 2 below:

Table 2 - TCS Programme Business Case Status

Project Number / Name		Approval Status
1	**Enabling Works**	Full Business Case Approved
2	**new Velindre Cancer Centre (nVCC)**	Full Business Case Complete (includes digital)
3	**Digital and Equipment**	Integrated Radiotherapy Solution – Full Business Case approved other digital equipment in this case for nVCC
4	**Radiotherapy Satellite Centre (Lead by ABUHB)**	Full Business Case Approved
5	**SACT and Outreach**	Business Case Process not yet commenced
6	**Service Delivery Transition and Transformation**	No Business Case Required – Transition costs included within nVCC Full Business Case
7	**Site Decommissioning**	Business Justification Case (BJC) will be commenced following this Business Case submission

Business Case Approvals and Timeline

2.12 The approval process for this FBC is outlined in the Table 3 below.

Table 3 - nVCC FBC Approval Timeline

Approval Step	Purpose	Submission Target Date
Phase 1: Draft FBC excl. Commercial Case to Trust Board	For review	January 2023
Phase 1: Draft FBC excl. Commercial Case to Trust Commissioners and Welsh Government	For review	January 2023
Phase 2: Final FBC incl. Commercial Case to Trust Board *(dependent on Financial Close being achieved)*	For approval	February 2023
Phase 3: Final FBC to Health Board Commissioners	For approval	February 2023
Phase 4: Final FBC to Welsh Government	For approval	March 2023

Structure and content of FBC

2.13 The FBC has been prepared in accordance with HMT Green Book and Welsh Government Better Business Case guidance. Table 4 below outlines the approach that has been applied to the Five Case model.

Table 4 - nVCC FBC Structure and Content

Chapter	
Strategic Case	Sets out the strategic context and the case for change, together with the supporting investment objectives for the scheme.
Economic Case	Completes an economic appraisal that outlines the main benefits of shortlisted options. Appraises the economic costs, benefits and risks for the short-listed options based on the results of the procurement process. Demonstrates the preferred option continues to meet the needs of the service and optimises value for money.

Chapter	
Commercial Case	Describes the procurement process adopted and outlines the content and structure of proposed contract and associated contractual arrangements. Provides the results of the procurement process and final proposed contractual arrangements.
Financial Case	Sets out the financial implications of the preferred option based on the results of the procurement process. Confirms funding arrangements and affordability and explains any Balance Sheet impact.
Management Case	Demonstrates that the scheme is achievable and can be delivered successfully to cost, time and quality.

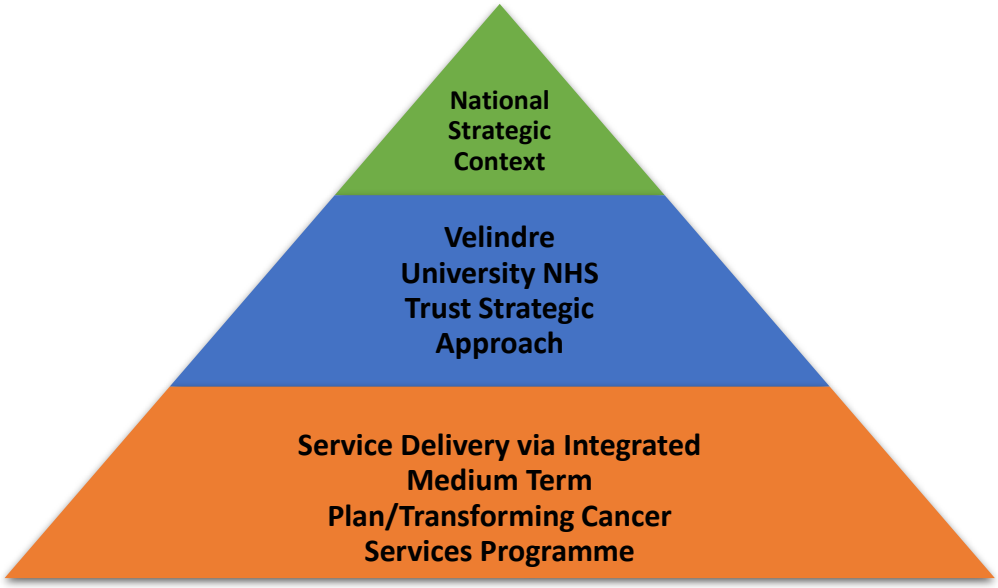
Strategic context of proposed investment

2.14 This section of the Full Business Case (FBC) summarises the strategic context for the development of a new Velindre Cancer Centre (nVCC) Project by explaining how the nVCC Project supports the delivery of local, regional and national policy goals.

2.15 Specifically, in Figure 2 overleaf it considers the fundamental drivers behind these proposals including:

- Links to national strategy and policy.
- The Trust's enabling Strategies and Programme Arrangements linked to the above National Drivers, and;
- The Service Delivery / Business as Usual needs: the need to maintain business as usual activities and to regularly and routinely replace major medical equipment.

Figure 2 - Fundamental Policy Drivers



2.16 Figure 3 below summaries the main National strategic drivers linked to this FBC.

Figure 3 - Strategic Context in Wales for Health Services

National Context

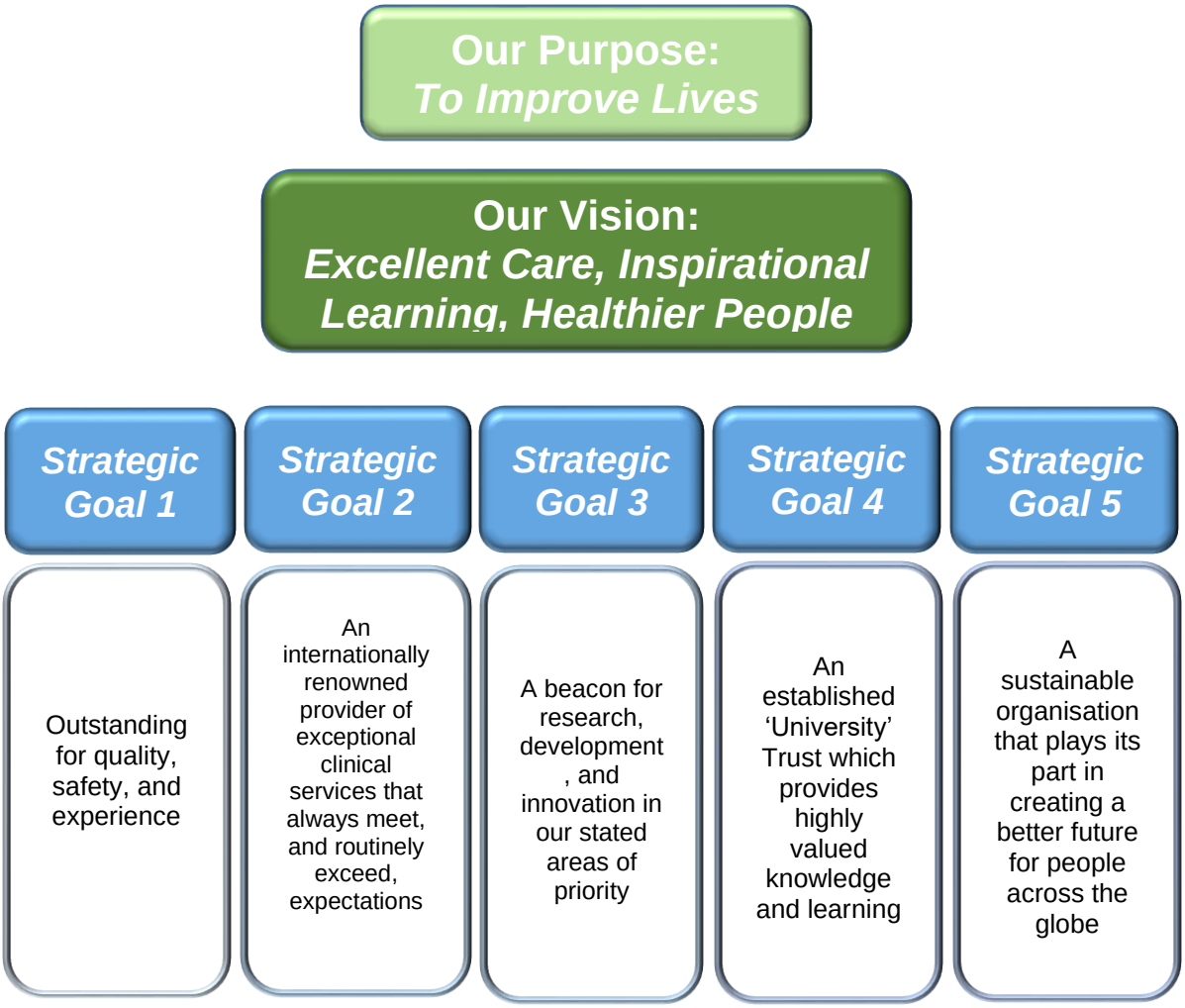
Statutory Duties and Key Policies:

- **A Healthier Wales 2018**
- **Well-Being of Future Generations Act (2015)**
- **Health and Social Care (Quality and Engagement (Wales) Act 2020**
- **Public Health Wales Act (2017)**
- **Social Services and Well-being Act (2014)**
- **Nurse Levels (Wales) Act (2016)**
- **Equalities Act 2010**
- **Welsh Language (Wales) Measure (2011)**
- **Equality Act (2010)**
- **Health & Safety at Work Act (1974)**
- **Socio-economic Duty 2021**
- **A Healthier Wales**
- **Prudent Health Care/Value Based Health Care**
- **Working Differently- Working Together**
- **De-carbonisation strategy**
- **WG Digital Strategy**
- **National Clinical Plan and National Clinical Framework (2021)**
- **Cancer Quality Statement (2022)**

Velindre University NHS Trust's Strategic Response

2.17 In response to the regional and national policy drivers Velindre University NHS Trust has developed its Corporate Strategy called 'Destination 2032'. This Strategy sets out a new purpose, vision and set of strategic goals for the Trust and was approved during 2022. The approach is set out in Figure 4 below:

Figure 4 - VUNHST Purpose, Vision and Goals



2.18 In support of Velindre's, Purpose, Vision and Goals that make up 'Destination 2032', the following divisional service strategies have been developed:

- Welsh Blood Service Strategy 2022 – 2027
- Velindre Cancer Strategy 'Shaping our Future Together 2017- 2027'

2.19 These are also supported by a range of refreshed enabling strategies / frameworks which are available upon request:

- Quality and Safety Framework
- Clinical and Scientific Strategy (being developed)
- Sustainability Strategy 2022 – 2032
- Workforce Strategy 2022 – 2032
- Digital Strategy 2022 – 2032
- Estates Strategy 2022 – 2032.

Alignment with Velindre Cancer Services Strategy 'Shaping our Future Together 2017 – 2027' and the Transforming Cancer Services Programme

2.20 Velindre Cancer Services strategy 'Shaping our Future Together 2017 – 2027' sets out five strategic priorities, these are set out in Table 5 below:

Table 5 – The Five Strategic Priorities and Aims of 'Shaping our Future Together 2017 – 2027'

Priority	Aim
Strategic Priority 1:	**Equitable and consistent care, no matter where; meeting increasing demand.**
Strategic Priority 2:	**Access to state-of-the-art, world-class, evidence-based treatments**
Strategic Priority 3:	**Improving care and support for patients to live well through and beyond cancer**
Strategic Priority 4:	**To be an international leader in research, development, innovation and education**
Strategic Priority 5:	**To work in partnership with stakeholders to improve prevention and early detection of cancer.**

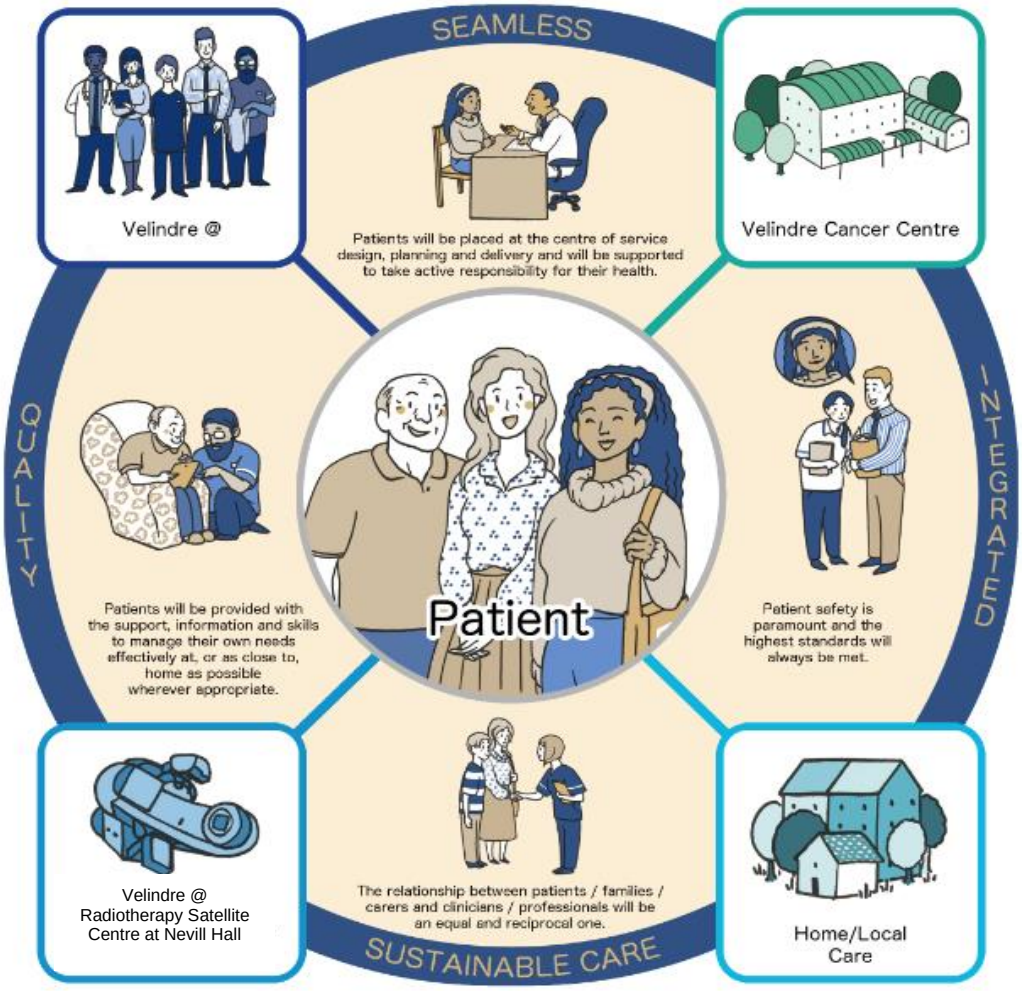
2.21 The Trusts range of strategies, together with the Velindre Cancer Service strategy 'Shaping our Future Together 2017 – 2027', are directly aligned to the Welsh Governments range of strategic policy goals and requirements. The delivery of these strategies (priority; timelines) are managed through the Integrated Medium Term Planning (IMTP) process with delivery managed and

monitored via the Trusts' established performance management and governance arrangements.

Translating Strategic Plans into the delivery of improved quality of care: the Clinical Operating Model

2.22 The TCS Programme used the Velindre Cancer Service strategy 'Shaping our Future Together 2017 – 2027 to support the development of a Clinical Operating Model. This was facilitated through workshops/events/meetings involving more than 400 people - professionals, patients and public from a range of organisations including Health Boards, Third Sector and the Community Health Council (CHC). The clinical model is set out in Figure 5 below:

Figure 5 - Approved Clinical Model



2.23 The clinical operating model within the TCS PBC describes how services will be delivered in the future. The founding principles were as follows:

- The service model seeks to promote a new set of relationships which work in partnership to improve the way we collectively design and deliver tertiary non-surgical cancer services around patients' needs and to achieve these improvements in a truly sustainable way.
- Patients are central to our plans with an integrated network of services organised around them. The organising principle seeks to 'pull' high quality care towards the patient, that is accessible in their preferred location and supports them achieving their personal goals during treatment and subsequently as they live with the impact of cancer.
- Patient safety is paramount, and the highest standards will always be met.
- The relationship between patients / families / carers and clinicians / professionals will be an equal and reciprocal one.
- Patients will be provided with the support, information and skills to manage their own needs effectively at, or as close to, home as possible wherever appropriate.
- Optimising information technology, quality improvement systems, patient involvement, education and embracing innovative approaches to healthcare will all be essential to achieve high levels of service quality in a sustainable way.

2.24 The Clinical Operating Model will see more care delivered within patients' homes; and locally through the development of a number of Velindre@ facilities on Local Health Board sites across South-East Wales, providing chemotherapy, outpatient, and support services; a Radiotherapy Satellite Centre (RSC) in Nevill Hall Hospital, Abergavenny; and the redevelopment of the Velindre Cancer Centre on a new site in Whitchurch, Cardiff.

2.25 To deliver the principles of the new Clinical Operating Model, care will be delivered differently and at different locations. This will require a number of infrastructure and technology projects as well as service change projects to be established.

2.26 These key elements of the model and their functions are described briefly below:

- **Health Boards:** A range of cancer care occurs within the Health Boards, with a proportion of patients having all their care delivered by the Health Board teams. For other patients who need non-surgical treatment, their care needs to be seamlessly planned with the non-surgical aspects of the pathway, as patient care can often transition from one team to another. The Velindre Outreach facilities and collaborative working will support this approach.

- **Velindre Outreach Centres:** These facilities will provide (if clinically indicated) SACT, outpatient services, education and information provision and ambulatory care procedures within Health Boards.
- **Velindre Radiotherapy Satellite Centre:** The Radiotherapy Satellite Centre (RSC) at Nevill Hall has recently had its Full Business Case approved. The centre once implemented will provide radiotherapy treatment for approximately 20% of our patients (provided by two new Radiotherapy treatment machines and one CT Simulator).

  The benefits of the RSC investment include better access and reduced travel for patients and less use of transport services. This will mean that fewer patients need to travel to the VCC for their radiotherapy.
- **new Velindre Cancer Centre:** The new Velindre Cancer Centre will provide specialist and complex cancer treatment including SACT, radiotherapy (including brachytherapy and unsealed sources) and specialist palliative care, inpatient facilities (being open for admission 24 hours/day, 7 days/week), a specialist acute oncology assessment unit and outpatient services, radiology, and nuclear medicine.

Assurance of the clinical operating model and its ability to deliver high quality, safe services which meet the expectations of patients and families

External advice from the Nuffield Trust

2.27 In December 2020, a number of concerns were raised regarding the ability of the Trust's proposed clinical operating model to achieve the range of expected benefits. The focus of the concerns where primarily related to the proposed regional networked model of care. This was mainly due to the current Velindre Cancer Centre not being co-located on an acute site as this business case proposes.

2.28 In recognition of the concerns raised, the Trust commissioned the Nuffield Trust to provide independent advice on the proposed regionally networked model of care. This advice included the proposed location of the nVCC in Whitchurch as part of that model.

2.29 The Terms of Reference for the advice was jointly agreed between the Trust and Local Health Board partners. The Nuffield Trust published its conclusions in December 2020 in a paper entitled 'Advice on the proposed model for non-surgical tertiary oncology services in South-East Wales' which can be found appended to this business case at **FBC/SC1**.

2.30 The Nuffield Trust's Independent Advice was made publicly available and was considered by Velindre University NHS Trust Board and Local Health Board

partners who accepted the report in full, together with all of the recommendations contained within it.

2.31 The Nuffield recommendations cover the wider cancer system in South-East Wales and not simply the non-surgical tertiary oncology elements of it. The South-East Wales Collaborative Cancer Leadership Group (CCLG) received the report and accepted the recommendations in full and are providing the regional leadership to deliver them.

2.32 Welsh Government considered the Nuffield Trust report as part of the approval of the Outline Business Case for the nVCC in 2021.

2.33 The CCLG, Local Health Boards and Velindre University NHS Trust continue to make progress against the recommendations. The current position is set out in **FBC/SC2**; which was approved by the CCLG at its quarterly meeting in November 2022.

Programme Enabling Strategies / Ambitions – relevant to nVCC Project

2.34 To support the delivery of the assured Clinical Operating Model there are a number of approved enabling strategies within the TCS Programme that link strongly to this FBC, these are:

Figure 6 - TCS Enabling Strategies / Ambition

TCS Equipment Strategy

2.35 The Equipment Strategy agreed with Welsh Government has been updated since OBC, but primarily remains extant with the main principles as follows in Table 6:

Table 6 - Equipment Strategy Approach

Category	Approved Decision
Replacement Options	• Extend the operational life of some existing equipment assets where possible, preventing replacing this equipment in the existing VCC and then having to transfer into nVCC.

	• accept some accelerated depreciation where it is not economically viable to consider transferring to the nVCC • replace all other items as new in nVCC.
Transition Options	Replace as many Radiotherapy Treatment Machines as possible in the nVCC, but acknowledge that a minimum of 2 Linacs will have to transfer.
Maintenance Options	Maintenance of major equipment will be delivered via a co-produced model, this will be made up of In-house and Vendor support (as now) for Linacs.
Transfer Options	Transfer major clinical equipment if economically viable (most likely CT Sims).

2.36 The updated TCS Equipment Strategy can be found at appendix **FBC/SC3.**

Cognitive by Design (Digital Strategy)

2.37 At OBC stage the Trust had outlined its vision for future digital services by producing a strategy called Cognitive by Design. This vision and the Trust's planning and capability in this area had been subject to an external assurance review carried out by a company called Channel 3 (C3) at OBC stage. As part of this FBC submission the digital strategy has been reviewed by Velindre's Chief Digital Officer. The output of this review confirms that Cognitive by Design remains aligned in terms of the Trust's vision and alignment to National Digital Strategies.

2.38 Since the OBC submission, VUNHST has been progressing significant developments in Information Management and Technology (IM&T) systems. These have been a combination of national programmes, internationally used systems and bespoke local developments all of which have enabled an improvement in services for professionals, patients, and donors.

2.39 The Trust has prioritised the development of its IM&T Strategy to support the identified organisational and clinical priorities and to ensure that next generation IM&T is used to transform service delivery.

2.40 At the heart of the informatics delivery are the four principles from the "Informed Health and Care: A Digital Health and Social Care Strategy for Wales" (2015). These are:

a) Information for you (the patient).
b) Supporting Professionals (digital tools).
c) Improvement and Innovation (better use of information / whole systems approach).
d) A Planned Future (joint planning regional and national).

2.41 The VUNHST approach is also aligned to the wider and more recent "Digital Strategy for Wales" (2021) and the missions that deal with:

a) Digital services – deliver and modernise services so that they are designed around user needs and are simple, secure and convenient.
b) Digital inclusion – equip people with the motivation, access, skills and confidence to engage with an increasingly digital world, based on their needs.
c) Digital skills- create a workforce that has the digital skills, capability and confidence to excel in the workplace and in everyday life.
d) Data and collaboration – services are improved by working together, with data and knowledge being used and shared.

2.42 VUNHST has produced an ambitious strategic informatics programme, "Digital Excellence", which up to 2032, will implement a range of national technology solutions, while growing our capacity, capability, and culture to build innovative digital services.

2.43 Since the OBC the Trust has used its assured digital vision, plans and expertise

to inform, influence and optimise the competitive dialogue process to achieve a digitally enabled nVCC which can support the Trust, its staff and patients in achieving digital excellence.

2.44 The outlined approach is based on the fundamental premise that high quality healthcare in the 21st century cannot be delivered with out of date or obsolete legacy systems, and/or paper-based information recording and delivery.

2.45 By utilising IM&T as a critical enabler to support service transformation, Velindre University NHS Trust aims to fundamentally redesign administrative, operational and clinical processes into simple services around patients, donors and colleagues needs. These will maintain high levels of data quality, and not only ensure information is accurate and up to date, but also embed state of the art technologies to deliver exceptional services.

2.46 The enablement of, and connectivity of patients, donors and colleagues is critical to the success of the Digital strategy. To this end, the Trust is working with colleagues from across NHS Wales to ensure mobile computing requirements, patient engagement systems, as well as digital staff communication tools are at the forefront of the Digital Programme. We will continue to look to national programmes such as Digital Services for Patients and the Public (DSPP) to deliver the strategic framework for digitally transforming our services.

2.47 To ensure the Trust continues to provide the most effective informatics services, we will continue to explore further opportunities for standardisation of processes, rationalising systems and solutions, alignment of resources, where possible, and share best practice both from across the divisions, and also externally, by incorporating the lessons from other Health Board/Sector experiences.

2.48 The updated Trust Digital Strategy 'Digital Vision for the new Velindre Cancer Centre' can be found at appendix **FBC/SC4**.

Environmental / Sustainability (Green Credentials)

2.49 Velindre University NHS Trust has developed a Sustainability Strategy and is aware of its legal obligations under the Well-being of Future Generations Act 2015. Additionally, the Welsh Government Environment Act 2016 mandates that public organisations must be carbon neutral by 2030, five years after the planned go live of the nVCC.

2.50 It has therefore been an imperative that the Trust factored into its procurement process the requirement for the Successful Participant (SP) to deliver a design capable of supporting this future compliance with Welsh Government Policy and relevant Acts. It is anticipated that not preparing for this future legislation now on such a large-scale development would lead to greater costs and disruption in an attempt to retrofit compliance at a later date.

2.51 To enable this approach the bidders were given a brief which was mapped against the seven goals of the Well-being of Future Generations Act (WFGA)

2015 and their response was evaluated as part of the final tender submissions, specific sections of the Trust Brief are set out in Table 7 below:

Table 7 – nVCC Sustainability Brief

Goal	The Brief
A globally responsible Wales – A nation which, when doing anything to improve the economic, social, environmental, and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being.	While Velindre is acting primarily to improve the health of the Welsh population the Green section of the nVCC Design Brief takes account of the contribution this might make to global well-being, in particular global warming. The Green section specifically asks for: - • Designs that minimise energy use and the environmental impact of building materials. • Design features which encourage active travel. The practical section calls for designs which will minimise maintenance and avoids where possible reliance on expensive mechanical equipment.

2.52 As a result, the SP's design will deliver one of the "Greenest" hospital developments with further opportunities available to meet the 2030 aspiration to be carbon neutral.

2.53 Therefore, given the importance of the sustainability agenda the green credentials and their benefits will feature strongly in the FBC's Economic, Commercial and Management Cases.

Strategic Alignment: Summary

2.54 Velindre University NHS Trust strategic approach and plans are fully aligned with the Welsh Governments strategy and policy and the Programme for

Government 2021-26 which prioritises Cancer Treatment and the need to address COVID-19 backlog and waiting times.

2.55 It is also fully integrated and aligned with the South-East Wales regional cancer strategies and plans; with strategic regional leadership provided by the CCLG.

2.56 The nVCC project, and its associated Project Spending Objectives, will support the delivery of national, regional, and local ambition by:

- **Providing effective, high quality and sustainable healthcare** by creating a 21st century NHS that tackles health inequalities and focuses on prevention. Specifically, by improving access to Radiotherapy services.
- **Building an economy based on the principles of fair work, sustainability and the industries and services of the future** by building an economy based on sustainable jobs. Specifically, by creating skilled jobs and apprenticeships.
- **Building a stronger, greener economy as we make maximum progress towards decarbonisation** by developing a modern and productive infrastructure which acts as an engine for inclusive and sustainable growth.
- **Embedding our response to the climate and nature emergency in everything we do by delivering a green transformation**. Specifically, through greater green energy.

3 EXISTING ARRANGEMENTS

Introduction

3.1 The purpose of this section of the FBC is to provide an overview of Velindre University NHS Trust and the existing arrangements at the current Velindre Cancer Centre.

3.2 The latter will describe the current arrangements for the delivery of services covered within the scope of the nVCC project; provide a description of the existing Velindre Cancer Centre estate and supporting infrastructure; and outline the existing land arrangements. Together, they will provide a baseline for identifying the business needs and for measuring future improvements.

Velindre University NHS Trust Overview

3.3 The purpose of this section is to provide an overview of Velindre University NHS Trust (the Trust) and Velindre Cancer Centre and to summarise the role of the Velindre Cancer Centre in delivering non-surgical specialist cancer services to the population of South-East Wales now and in the future.

3.4 The Trust has evolved significantly since its establishment in 1994 and is operationally responsible for the management of the following two divisions:

- Velindre Cancer Centre; and
- the Welsh Blood Service.

3.5 The Trust is also responsible for hosting the following organisations on behalf of the Welsh Government (WG) and NHS Wales

- NHS Wales Shared Services Partnership (NWSSP); and;
- Health Technology Wales (HTW).

Velindre Cancer Centre (Existing Arrangements)

3.6 Velindre Cancer Centre is located in Whitchurch on the North-West edge of Cardiff and is one of the ten largest regional clinical oncology centres in the United Kingdom (UK Radiotherapy Equipment Survey, 2008), it is the largest of the three cancer centres in Wales. Velindre Cancer Centre is housed in a building – parts of which are almost 70 years old – and therefore it does not

have the facilities, space or modern infrastructure required to meet future service standards and predicted activity.

3.7 The Velindre Cancer Centre is responsible for the delivery of non-surgical treatment to the catchment population of 1.5 million across South-East Wales. The service provision includes radiotherapy and SACT, recovery, follow-up and specialist palliative care. Following their specialist cancer treatment, Velindre Cancer Centre continues to support patients during their recovery and through follow up appointments. A significant proportion of Outpatient and SACT activity is already delivered in Health Board settings by Velindre Cancer Centre staff, although this did reduce somewhat as a result the COVID-19 pandemic but is now normalising. However, all Radiotherapy activity is currently delivered at the Velindre Cancer Centre.

3.8 Specialist teams provide care using a well-established multi-disciplinary team (MDT) model of service for oncology and palliative care, working closely with local partners and ensuring services are offered in appropriate locations in line with best practice standards of care. The range of services delivered by Velindre Cancer Centre includes:

1. Radiotherapy;
2. Systemic Anti-Cancer Therapies (SACTs);
3. Inpatients;
4. Ambulatory care;
5. Outpatient services;
6. Pharmacy;
7. Specialist radiology/imaging;
8. Nuclear Medicine;
9. Specialist Palliative care;
10. Acute Oncology Service (AOS);
11. Living with the impact of cancer;
12. Education and Learning; and
13. Research, Development and Innovation.

3.9 The following patient services are delivered in outreach settings across South-East Wales from the Velindre Cancer Centre in Health Board settings:

1. SACT delivery;
2. Outpatient appointments;

3. Inpatient reviews; for patients receiving care and treatment in HB locations
4. Health Board MDTs; and
5. Research and Education.

3.10 The Trust also works in partnership with a wide range of partners to deliver high quality cancer care and undertake clinical research. Partners include:

1. Voluntary sector;
2. Third sector;
3. Higher Education Institutions (HEIs); and
4. Industry/Commercial Partners.

Planning of Cancer Services in South-East Wales

3.11 The planning and delivery of cancer services in Wales is the responsibility of the seven Health Boards as part of their statutory responsibility to meet the health needs of the populations they serve.

3.12 The Health Boards are supported by the Welsh Health Specialist Services Committee (WHSSC), which commissions specialist cancer services on their behalf.

3.13 The four Health Boards in South-East Wales served by Velindre Cancer Centre are:

- Aneurin Bevan University Health Board;
- Cardiff and Vale University Health Board;
- Cwm Taf Morgannwg University Health Board; and
- Powys Teaching Health Board.

3.14 The Health Boards also work in partnership with the Wales Cancer Network, NHS Trusts, Community Health Councils, Voluntary Organisations and Public Health Wales.

Regional Leadership and Collaboration of Cancer Services in South-East Wales

3.15 In 2019, the four South-East Wales Health Boards listed above and Velindre University NHS Trust, in conjunction with other stakeholders including Public

Health Wales and the Wales Cancer Network (WCN), established the South-East Wales Collaborative Cancer Leadership Group (CCLG).

3.16 The CCLG oversees Collaborative Cancer Programmes across the South-East Wales region, providing leadership and coordination with a focus on benefit delivery for patients. Thus, putting into practice, the national policies, standards and procedures for the benefit of patients. The CCLG functions at a regional level in support of the work of the Wales Cancer Network and other partner organisations.

The Cancer Pathway

3.17 The delivery of cancer services across Wales is set out in a well-defined pathway of care which includes the five key stages outlined below in Table 8.

3.18 The approach is also consistent with the National Optimal Pathways (NOPs) developed by the Wales Cancer Network through their multidisciplinary Cancer Site Groups. The NOPs set out what should happen according to professional guidance and standards for any patient in Wales presenting with a certain type of cancer through their cancer pathways.

3.19 The NOPs are available in Welsh Health Circular (2022) 021.

Table 8 – The National Cancer Pathway Described

Cancer Prevention: Enhancing public awareness and education to make informed decisions about lifestyle choices that promote a healthy, cancer free population.
Cancer Diagnosis: Cancer can be identified through a National Screening Programme or where cancer symptoms are identified by the patient/health care professional. If cancer is suspected the patient is assessed by a multi-disciplinary team in the Health Board (often supported by Velindre Cancer Centre staff) and cancer may be diagnosed.
Treatment: The treatment options for every patient are discussed and considered by multi-disciplinary teams (MDTs). The treatment options include surgery, non-surgical treatment e.g., Radiotherapy or Systemic Anti-Cancer Therapy (SACT), a combination of these treatments and supportive care. Care often straddles organisational boundaries.
Recovery/Follow Up: Regular follow up appointments are important to monitor recovery, manage and reduce the aftereffects of treatment and to ensure any signs of cancer relapse/recurrence are identified at their earliest stage.
End of Life Care: Sadly, not all patients survive cancer – openness about the need to plan end of life care is essential. A focus on living and dying well, early identification of needs and access to fast, effective palliation are important to reduce distress for both the patient and their family.

Service Delivery Arrangements

3.20 The Trust delivers specialist non-surgical cancer services to a catchment population of 1.5 million people using a hub and spoke service model. Services are currently provided across South-East Wales from:

- **Velindre Cancer Centre:** The hub of the Trust's tertiary cancer services is a specialist treatment, training, research and development centre for non-surgical oncology; and

- **Outreach Centres:** Some services are delivered on an outreach basis within facilities across South-East Wales, including District General Hospitals and from patients' own homes.

3.21 Patients are referred to Velindre Cancer Centre for treatment by the following routes:

- Following referral by a GP to the relevant HB; or

- Following presentation as an emergency at an A&E department.

3.22 Prior to referral to Velindre Cancer Centre, all patients will have been investigated and diagnosed with a solid tumour. Some patients may have already undergone surgery. Velindre Cancer Centre's role is to deliver specialist and tertiary cancer treatment until the patient can be referred back to their host HB for ongoing treatment, management, and follow-up.

3.23 An overview of the core services delivered by the Trust at the Velindre Cancer Centre and the existing functional capacity of the Centre to deliver these services (e.g., number of inpatient beds), is provided in Table 9 overleaf.

Table 9 – Existing Functional Capacity

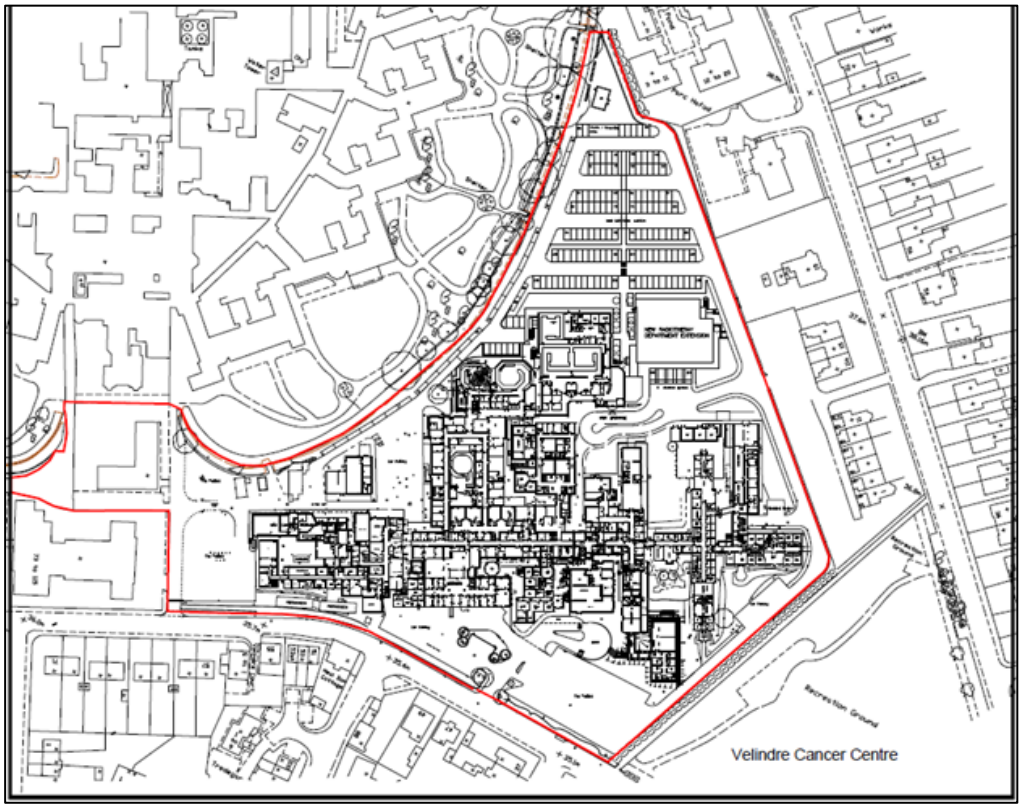
Service	Overview	Velindre Cancer Centre	Functional Content (February 2020 Pre-COVID)
Outpatients	• Outpatient services include consultation, examination, follow-up, SACT assessment, phlebotomy, psychology, clinical trials, therapy services and specialist palliative care.	• Outpatient clinics are held five days a week. • Outpatient clinics are distributed across morning and afternoon sessions (2 sessions a day).	• Velindre Cancer Centre has 26 Outpatient consultation rooms.
Radiotherapy	• Radiotherapy services include radical, palliative and emergency planning and treatment, brachytherapy, chemo-radiotherapy and radiotherapy research.	• The radiotherapy service provides core services for 9.5 hours per day, 5 days per week. • The service provides an emergency service at weekends.	• Velindre Cancer Centre has 8 Linear Accelerators (Linacs).
Systemic Anti-Cancer Therapies	• SACT services cover a range of biological therapies and cytotoxic chemotherapies. • SACT services include: ○ Intravenous, oral and subcutaneous treatments; ○ Research including early and late phase trials; and ○ Stratified, targeted and personalised treatments and vaccine therapies.	• The SACT service operates Monday to Friday between 08:00 – 18:00 hrs.	• Velindre Cancer Centre has 19 SACT chairs across two units.

Service	Overview	Velindre Cancer Centre	Functional Content (February 2020 Pre-COVID)
Inpatients	• Inpatient services cover elective and non-elective admissions including: ○ Elective SACT admissions; ○ Toxicity management of SACT; ○ Outpatients requiring hydration prior to treatment; and ○ Patients receiving Radiotherapy and SACT treatments.	• The inpatient service operates a 7 day/24-hour service.	• Velindre Cancer Centre has 47 Inpatient beds and 2 isolation beds.

Velindre Cancer Centre Infrastructure

3.24 Velindre Cancer Centre was built in 1956 and in the intervening period has been subject to extension and redevelopment. It consists of traditional build, single and two storey accommodation. The current site plan is provided below in Figure 6.

Figure 6 – Current Velindre Cancer Centre Site Plan



3.25 Approximately 30% of the estate pre-dates 1964 in terms of its construction. This is evident in the value of current backlog maintenance recently recorded in all Wales Estate Facilities Performance Management System (EFPMS). The definition of condition in terms of backlog can be identified as:

- **Condition A:** as new and can be expected to perform adequately to its full normal life;
- **Condition B:** sound, operationally safe and exhibits only minor deterioration;
- **Condition C:** operational but major repair or replacement is currently needed to bring up to condition B;
- **Condition D:** operationally unsound and in imminent danger of breakdown; and
- **Condition X:** supplementary rating added to C or D to indicate that it is impossible to improve without replacement.

3.26 Tables 10 & 11 below set out the backlog maintenance estimated as of April 2020.

Table 10 – Backlog Maintenance Position (as at April 2020)

Measure	Unit	Value
Cost to eradicate High Risk Backlog	£	85,013
Cost to eradicate Significant Risk Backlog	£	1,623,329
Cost to eradicate Moderate Risk Backlog	£	4,740,688
Cost to eradicate Low Risk Backlog	£	2,496,082
Risk Adjusted Backlog Cost	£	1,875,521
Cost to achieve Physical Condition B	£	1,257,583
Cost to achieve Statutory Health and Safety Compliance Standard B	£	113,121
Cost to achieve Fire Safety Compliance Standard B	£	98,632
Total	**£**	**12,289,969**

Table 11 – Backlog Maintenance Position – Percentage of patient occupied floor area (as at April 2020)

Measure	Unit	Value
Percentage of total occupied floor area in physical condition C plus D	%	35
Percentage of patient occupied floor area not in Statutory Health and Safety compliance	%	5
Percentage of patient occupied floor area not in Statutory Fire Safety compliance	%	5

3.27 From the previous EFPMS submission, the cost to eradicate high risk and significant risk backlog has decreased. This is due to the moderate capital investment associated with water infrastructure at the Velindre Cancer Centre.

3.28 Over 90% of the Estate fire safety is being managed within category B, a very similar position as the previous year. Risk Adjusted Backlog has also shown a small decrease, since 2015/16. It must be stated that the overall condition of the building is condition B. However, space availability and site restrictions prevent future investment from achieving spatial compliance or functional suitability without considerable investment and disruption to the existing facilities and surrounding community.

3.29 To achieve and maintain overall Physical Condition B investment has increased from £0.735m in 2012/13 to £1.3m in 2020-21. This represents a 71% increase over this time frame.

3.30 Table 12 below provides an overview of the asset profile for the current Velindre Cancer Centre. This demonstrates that there has been little modernisation in the existing infrastructure over recent years. This has led to a reduction in the quality of the patient environment and subsequently in the overall patient experience.

Table 12 - Overview of the Asset Profile

Age and Asset Profile	%
Age Profile – 2005 to present	14
Age Profile – 1995 to 2004	18
Age Profile – 1985 to 1994	22
Age Profile – 1975 to 1984	6
Age Profile – 1965 to 1974	12
Age Profile – 1955 to 1964	29
Age Profile – 1948 to 1954	0
Age Profile – pre 1948	0

Velindre Cancer Centre Footprint

3.31 The existing Velindre Cancer Centre has a footprint of approximately 18,000m2. A breakdown of the space necessary to deliver services is summarised in Table 13 below:

Table 13 – Existing Velindre Cancer Centre Footprint (February 2020 Pre-COVID)

Functional Area	m^2
Radiotherapy	5,126
Inpatients	1,879
SACT & Ambulatory Care	1,024
Outpatients & Therapies	1,280
Imaging and Nuclear Medicine	1,069
Pharmacy	637
Hospital Clinical / Non-Clinical Administration & Support Services	4,369
Hospital Education, Training and Associated Support Services	349
IM&T	144

Functional Area	m^2
SPR & On Call	12
Staff Facilities	299
Mortuary	47
Catering & Restaurant	377
Hospital Main Entrance	581
Central FM Areas	583
Total Gross	**17,777**

Existing Major Medical Equipment

3.32 The delivery of non-surgical cancer services is dependent upon having access to a range of major medical equipment – this is essential to support the safe and effective delivery of patient care. All major medical equipment which is currently operational at the Velindre Cancer Centre, and which has a unit value of over £0.125m (excl. VAT), is summarised in Table 14 below.

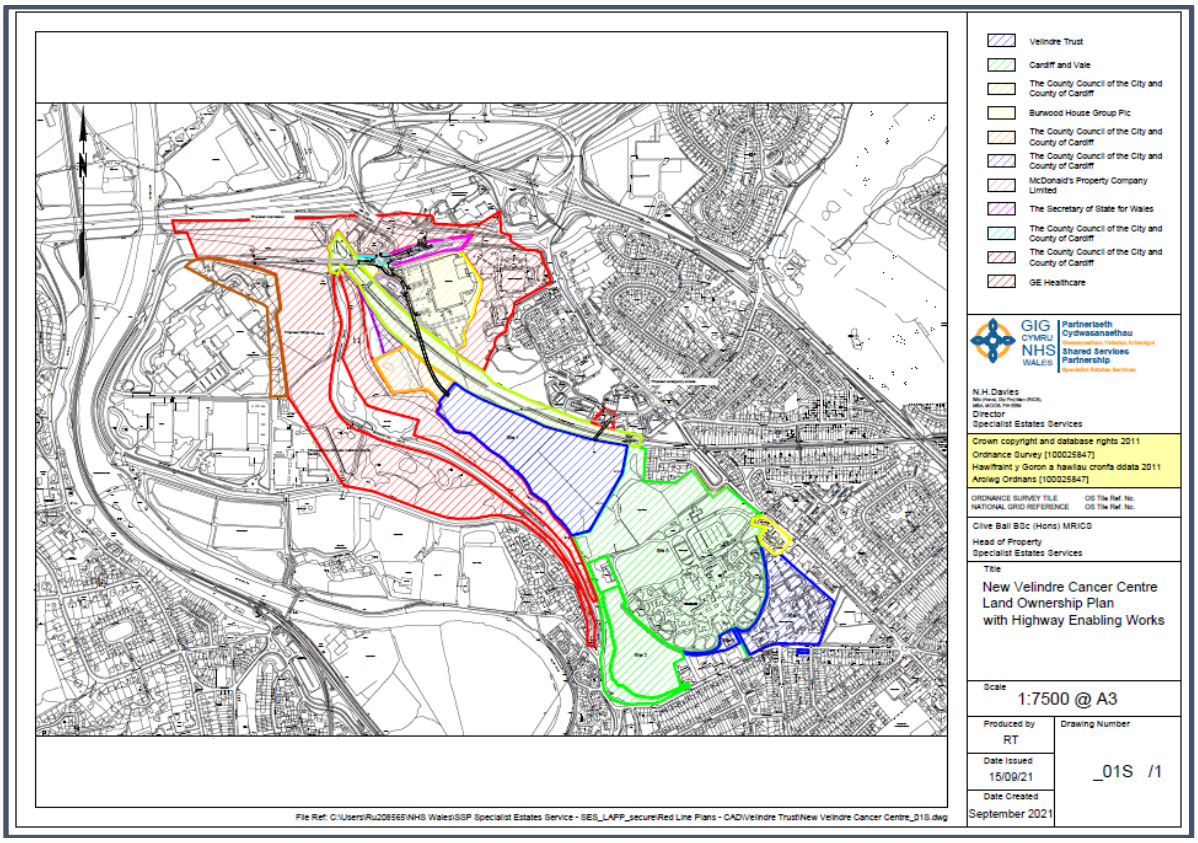
Table 14 – Summary of Major Medical Equipment – Existing Cancer Centre

Department	Equipment	Total
Radiotherapy	Linear Accelerators	8
Radiotherapy	CT Simulators	2
Radiotherapy	Brachytherapy System	1
Radiology	MRI Scanner	1
Radiology	CT Scanner	1
Radiology	Imaging Systems (Plain Film/Fluoroscopy System)	2
Nuclear Medicine	Gamma Camera	1

Existing Land Ownership

3.33 The current land ownership arrangements are set down overleaf in Figure 7:

Figure 7 – Current Land Ownership Plan



3.34 The land owned by the Trust is identified in the map above (in blue). It consists of the land transferred from Cardiff and Vale University Health Board (CVUHB) in April 2021 which is the development site for the nVCC and land used by the current Velindre Cancer Centre. The existing VCC site will be decommissioned once the nVCC is operational and the ownership of this land will be transferred to CVUHB.

3.35 The land owned by CVUHB is identified in the map (in green) above and contains the non-operational Whitchurch Hospital site. In addition, the Trust has developed a letter of comfort with CVUHB for a southern emergency and ancillary access being provided to the nVCC site via the Whitchurch Hospital site.

4 CASE FOR CHANGE

Introduction

4.1 This section of the FBC establishes the case for change for the development of a new Velindre Cancer Centre by:

- Outlining and reaffirming the Project Spending Objectives (PSOs) which provided a basis for appraising potential options and for post-project evaluation; and,

- Providing a clear understanding of the business needs (what is required to close the gap between existing arrangements and what is required in the future). A key aspect will be the 'rightsizing' of the new Velindre Cancer Centre.

Project Spending Objectives

4.2 The following nVCC Project Spending Objectives (PSOs) were developed in partnership at a stakeholder workshop, which was attended by representatives with a broad range of service views. In presenting the nVCC PSOs it is important to emphasise that:

- The scope of the FBC is limited to the replacement of the existing VCC with a new VCC; and

- The FBC for the new VCC will focus only on the additional infrastructure costs directly attributable to the nVCC. The rationale is, that variable workforce costs as a result of modelled demand is a cost pressure that will need to be addressed irrespective of the decision on the replacement of the VCC and can be taken forward with Commissioners as part of the Long-Term Agreement (LTA) commissioning framework.

4.3 Table 15 overleaf sets out the agreed project spending objectives that have been reaffirmed and revalidated as part of the development of this FBC.

Table 15 – Project Spending Objectives

Project Spending Objective	Description
Project Spending Objective 1	**To build a new hospital that supports quality and safe services.**
Project Spending Objective 2	**To provide sufficient capacity to meet future demand for services.**
Project Spending Objective 3	To **improve patient, carer** and **staff experience.**
Project Spending Objective 4	To provide **capacity** and **facilities** to support the delivery of high-quality **education**, **research**, **technology** and **innovation.**

4.4 The PSOs were approved by the nVCC Project Board who provided assurance to the Trust Board that they were:

- Aligned with the national context for healthcare developments in Wales;
- Aligned with the scope and strategic context of the nVCC Project;
- Specific, measurable, achievable relevant and time-constrained (SMART); and
- Focused on business needs and vital outcomes rather than potential solutions.

4.5 The PSOs were subsequently shared and agreed with Welsh Government officers.

Performance Metrics

4.6 To support the delivery of these objectives a number of key performance metrics have been developed and mapped against the five drivers for investment outlined within the Welsh Governments Business Case guidance. These are set out in Table 16 overleaf.

Table 16 – nVCC OBC Project Spending Objectives – Key Performance Metrics

Project Spending Objective	Performance Metrics
PSO1 – To build a new hospital that supports **quality** and **safe** services	• Number of Velindre Acquired Healthcare Associated Infections • Percentage compliance with Health Building Notes • Compliance assessment against BREAM • Percentage assessment against WHTM Estate Code (Category A Condition of Buildings)

PSO2 – To provide sufficient **capacity** to meet future **demand** for services	• Percentage of patients receiving radical radiotherapy treated within 28 Days
	• Percentage of patients receiving palliative radiotherapy treated within 14 Days
	• Percentage of patients receiving emergency radiotherapy treated within 2 Days
	• Percentage of non-emergency chemotherapy patients treated within 21 Days
	• Percentage of urgent therapies outpatients seen within 2 Weeks
	• Percentage utilisation of equipment / accommodation:
	  ○ Linear accelerator utilisation
	  ○ SACT chair utilisation
	  ○ Inpatient bed utilisation
	  ○ Non-clinical accommodation utilisation

PSO3 – To **improve patient, carer** and **staff experience**	• Percentage of patients rating their experience as excellent • Distance (m2) between key clinical functions • Percentage staff satisfaction • Percentage recruitment of workforce • Percentage retention of workforce
PSO4 – To provide **capacity** and **facilities** to support the delivery of high-quality **education**, **research**, **technology** and **innovation**	• Percentage of patients who have the opportunity to participate in clinical research trials at VCC • Percentage of VCC Site Specific Teams (SSTs) to include national or international leaders • Percentage of patients recruited into interventional clinical trials for each cancer site • Percentage of patients for each cancer site entered into clinical trials each year • Percentage of clinical trials sponsored by VCC • Percentage of portfolio trials who have a VCC chief investigator

5 BUSINESS NEEDS

5.1 There are a range of business needs which this FBC seeks investment to address. These are set out below and tend to fall into two main areas. These are:

a) The current VCC infrastructure deficiencies relating to an aging estate and its constraints on service delivery, future expansion and backlog maintenance.

b) The inability of the existing VCC to fulfill future anticipated activity increases and confirmation of the appropriate sizing of the nVCC.

Infrastructure Deficiencies: Overview

5.2 Velindre is widely acknowledged as providing high quality, patient focussed cancer services through a compassionate and caring culture where staff consistently go the 'extra mile' to meet the needs of patients.

5.3 However, the current Velindre Cancer Centre infrastructure is making it increasingly difficult to maintain this high standard of care, particularly in relation to patient and staff safety and welfare, and in patient privacy and dignity. The following section of the FBC focuses on the deficiencies of the existing Velindre Cancer Centre and the key factors influencing the need to replace the existing Velindre Cancer Centre.

The Existing Patient Environment at the Velindre Cancer Centre is Sub-optimal and does not Promote Patient Recovery and Well Being

5.4 It is widely recognised that the physical environment at the Velindre Cancer Centre is not fit-for-purpose and is not appropriate for providing high quality, patient centre services.

5.5 The current estate has also been extensively developed over its lifecycle. This has been in incremental fashion and without a 'development control plan'. This has left the Velindre Cancer Centre with a number of 'add-ons' leading to deficiencies in circulation and service adjacencies, which are not consistent with current health care design standards and efficient means of patient care. For example, Figure 8 overleaf illustrates the current poor adjacency between the current pharmacy and outpatient's department. These would ideally be immediately adjacent to each other.

Figure 8 – Example of a Typical Inefficient and Inconvenient Patient Journey within the Outpatients Department at the Velindre Cancer Centre

5.6 The example provided, which is replicated across the hospital, shows that:

- There is no separation between patients, visitors, staff and external workers;
- There are multiple crossovers in terms of the movement of patients, visitors, staff and goods. This provides a poor patient and visitor experience, is inefficient for staff and provides a potential safety risk;
- The adjacencies of services are inappropriately located, and this results in poor service flow and workforce inefficiencies;
- The locations of those services, which a patient may need to access, are sub-optimal. Patients are required to make multiple journeys to access such services e.g., to be weighed, and
- The main entrance to the outpatient department is located immediately outside a doctor's consultation room.

5.7 Examples of the infrastructure deficiencies across the Velindre Cancer Centre estate are provided from Figure 9 through to Figure 11 below.

Figure 9 – Example of Narrow Circulation Space

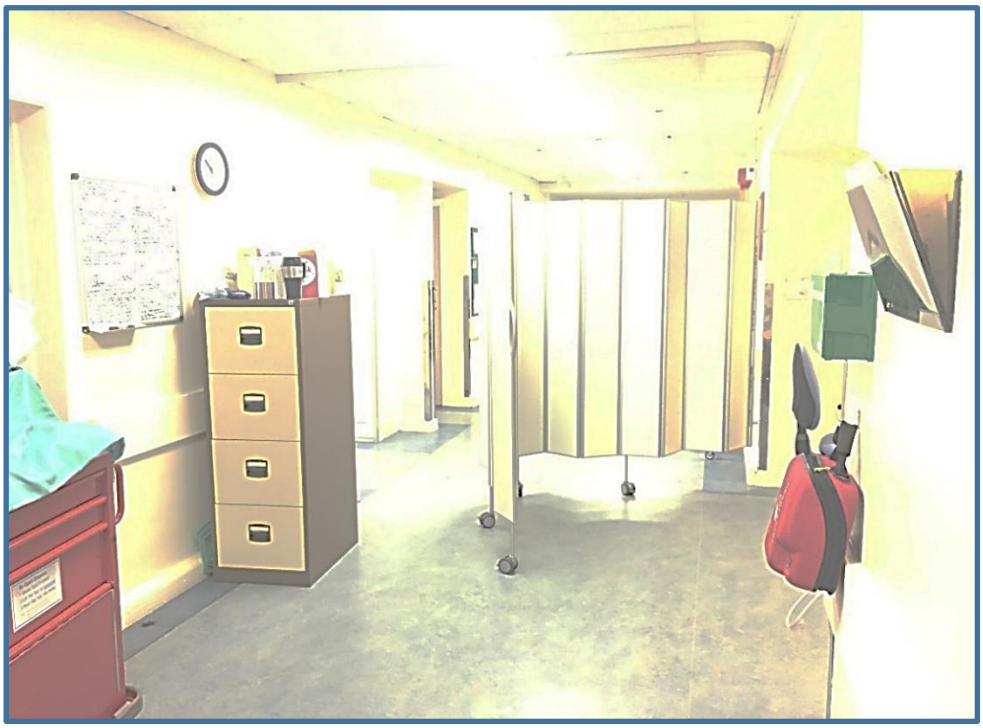


Figure 10 – Example of Crossover of Patient and Working Areas

Figure 11 – Example of Cramped Support Accommodation

A High Proportion of the Accommodation at the Existing Velindre Cancer Centre is Non-Compliant with Statutory Requirements

5.8 If the Velindre Cancer Centre is to maintain standards for the longer term, it will not only need the major arteries of infrastructure to be upgraded and/or replaced, but also the secondary, more localised infrastructure. There are many risks associated with these works. Phasing, decant and isolation issues will have a major impact on patient care and experience. With limited space, decant facilities are not guaranteed to be on the Velindre Cancer Centre site.

5.9 The performance in terms of functional suitability and space utilisation has generally been maintained at status quo over the last three years. However, this does not identify key areas of concern in relation to non-compliance against Health Building Notes (HBN).

5.10 It is evidenced that approximately 75% of the existing estate does not comply with current space standards. As an example, existing outpatient consultation rooms range from as low as 9m² compared to guidance, which identifies a 16m² requirement.

5.11 To demonstrate and evidence the high-level 'non-compliance' of the existing Velindre Cancer Centre, the Trust undertook a comparative sizing exercise. This involved comparing the current hospital footprint against the required footprint for a new hospital as if it was built in compliance with HBNs and current relevant standards. This analysis showed that the footprint of the existing Velindre Cancer Centre would increase from the current footprint of

17,777m2 to circa 28,000m2 if it was built today on a 'like for like' basis i.e. same functional content number of inpatient beds.

5.12 This analysis, which is summarised in Table 17, has been presented to, and validated by, NHS Wales Shared Services and WG Officers.

Table 17 – Comparison of the Existing Velindre Cancer Centre Footprint versus a New Build Velindre Cancer Centre on an Equivalent Basis

Functional Area	Current VCC (m^2)	VCC built 'in line' with HBNs
Radiotherapy	5,126	8,046
Inpatients	1,879	3,183
SACT & Ambulatory Care	1,024	1,873
Outpatients & Therapies	1,280	1,720
Imaging and Nuclear Medicine	1,069	1,840
Pharmacy	637	1,106
Hospital Clinical / Non-Clinical Administration & Support Services	4,369	4,491
Hospital Education, Training and associated Support Services	349	497
IM&T	144	439
SPR & On Call	12	91
Staff Facilities	299	891
Mortuary	47	171
Catering & Restaurant	377	1,022
Hospital Main Entrance	581	1,380
Central FM Areas	583	1,360
Total Gross	**17,777**	**28,110**

External Site Constraints

5.13 Another major challenge for the Velindre Cancer Centre site relates to car parking. Table 18 overleaf identifies the current allocation of parking 'on site'.

Table 18 – Parking Arrangements (as at February 2020 Pre-COVID)

Type of Parking Space	No of spaces
Visitor/patients spaces	165
Emergency vehicle parking spaces	4
Visitor Cycle parking	10
Staff parking spaces	176
Consultant parking spaces	25
Staff Cycle parking	25
Total	**405**

5.14 The Trust undertook a traffic analysis. This demonstrated that the Trust has a significant shortfall in the availability of both patient and staff car parking today which is further compounded by the predicted number of patients expected over the coming years.

Summary – Infrastructure Deficiencies

5.15 In summary, the main physical challenges related to the patient environment include the following:

- 100% of the current inpatient accommodation is well below the required standard for modern healthcare.
- There is no overnight accommodation available for families and visitors.
- The majority of circulation routes are too narrow for the volume of traffic and patients and staff/families have to stand tight to the wall in the main corridor if a trolley or wheelchair is passing, as there is insufficient room for two-way traffic.
- Patients, staff and services have to cover large distances due to the poor adjacencies that have resulted from piecemeal design and developments e.g., the pharmacy department at the furthest point away from the outpatient's department.
- The main outpatient reception area is located in direct visual line with a vast number of consultant rooms leading to privacy issues during consultation/treatment.
- The relatively short distances between patient waiting areas and clinical areas presents difficulties when communicating sensitive or confidential information.
- The hot and cold-water infrastructure across the estate is insufficient and there is no spare capacity to accommodate any increases in demand for services.
- The current backup power generation resilience of the site is insufficient and only covers approximately 55% of the site, mainly clinical areas, but excluding the Linac treatment machines.
- The existing working environment often causes staff to make compromises as they deliver care. For example, using smaller hoists in patient rooms due to the limited space.

5.16 The facilities also present a range of challenges for patients and families:

- The facilities do not always provide patients with their basic and fundamental needs e.g., the showers on the 1st floor ward are shared.
- Patient dignity is compromised due to the lack of space and privacy for inpatients. For example, there is little space between beds on the first floor. There is a similar picture for outpatients where the design of the consulting rooms does not allow for total privacy.
- The majority of the inpatient, outpatient and therapies environment is not synonymous with a Cancer Centre that supports well-being and healing.

- There is insufficient car parking This results in patients having long waits on occasions trying to find a space to park. This causes additional stress during what can already be a challenging time for patients and families and at worst can result in patients being late for their appointments.

Forecasting Future Activity, Actual Activity, and links to our Service Design

5.17 This section of the Strategic Case concentrates on the methodology used to determine the future forecasting of activity and how this has informed the design of the nVCC and our Clinical Operating Model. The section will set out:

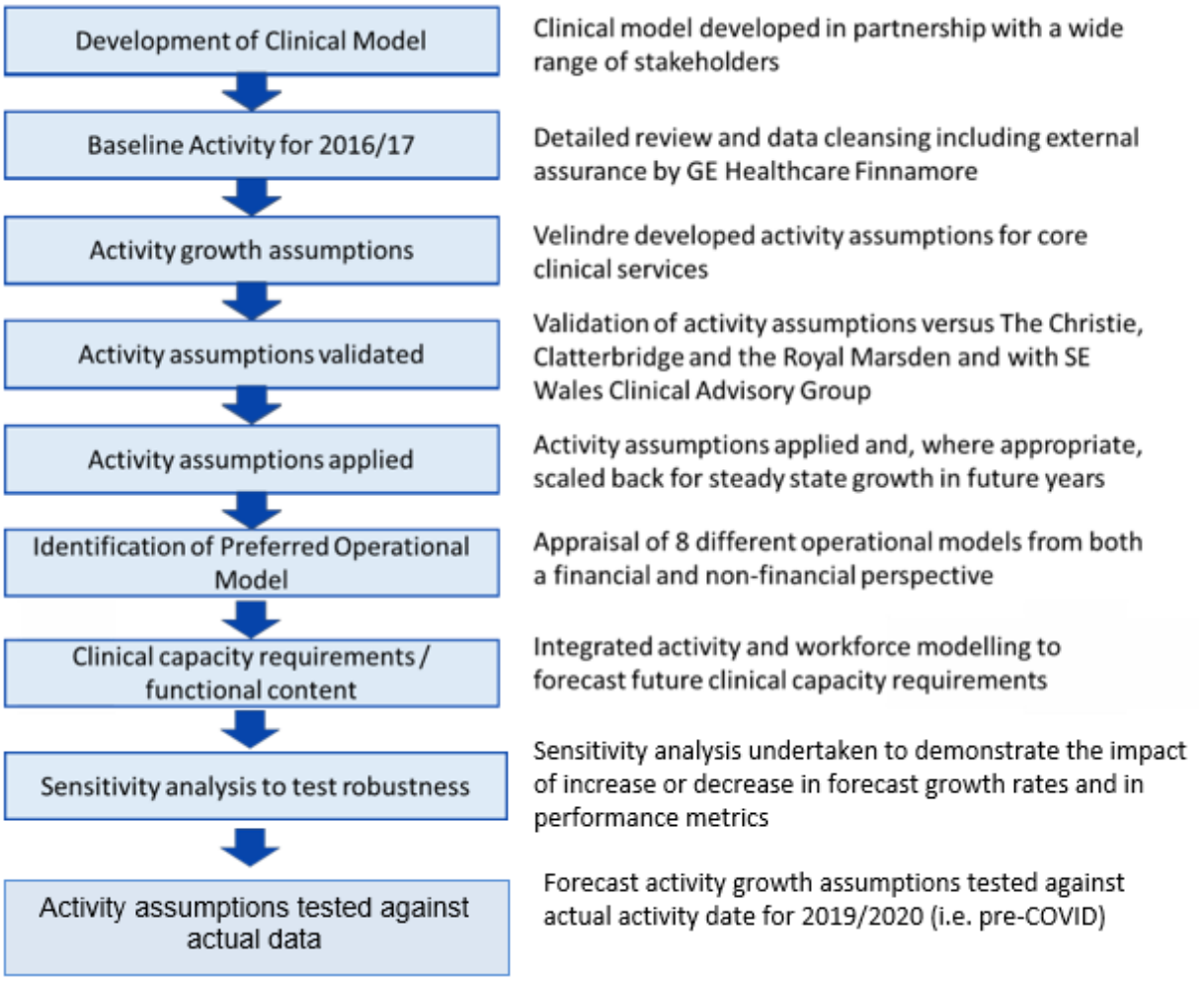
- the methodology which has been applied for forecasting future activity and capacity requirements in relation to the new Velindre Cancer Centre (nVCC)
- Summarise the forecast activity and capacity requirements for the new Velindre Cancer Centre.

Forecasting Future Activity and Capacity Requirements

5.18 The Trust has developed a comprehensive activity model to forecast future capacity requirements for the nVCC.

5.19 A summary of the process followed in forecasting future activity and capacity requirements is shown in Figure 12 below. This methodology was approved by the nVCC OBC Collaborative Scrutiny Group and remains relevant for FBC purposes.

Figure 12 - Methodology for Forecasting Future Capacity Requirements



Note: *the final step shown above was completed subsequent to the approval of this methodology with the purpose of providing assurance that the capacity outputs detailed within the OBC are still valid*

Activity Assumptions

5.20 The Trust developed a set of activity assumptions for its core services. These clinical growth assumptions were developed in partnership with clinical colleagues from across South-East Wales and were informed by cancer incidence projections provided by the Welsh Cancer Intelligence and Surveillance Unit (WCISU).

5.21 The activity assumptions were set across two-time frames. The first time frame was through to 2021/22 where the Trust, and Health Board colleagues, believed it had a fair degree of certainty in terms of forecasting future activity. The second timeframe was from 2022/23 - 2031/32 where there was, at the time of developing the OBC, less certainty when forecasting future demand (e.g., stratified approach for SACT versus greater incidence of cancer) and the Trust therefore opted to revert to the forecast incidence of cancer (2%) as provided by WCISU in 2016/17 and reconfirmed as a valid planning assumption in 2022/23.

5.22 The clinical growth assumptions were supported by Health Board cancer clinical leads and were agreed by Health Board's Officers as part of the nVCC OBC Collaborative Scrutiny process, they are set out below in Table 19 below.

Table 19 - Clinical Growth Assumptions for Core Services

Service	Annual Clinical Growth Assumption
	2016/17 - 2022/23
▪ Radiotherapy	2%
▪ SACT	5%
▪ Inpatients	2%
▪ Outpatients and Ambulatory Care	2%

5.23 In addition, a validation exercise was undertaken to compare the Trust's activity assumptions against the following Cancer Centres from across the UK:

- The Beatson West of Scotland Cancer Centre
- The Clatterbridge Cancer Centre NHS Foundation Trust
- The Christie Cancer NHS Foundation Trust
- Leeds Teaching Hospital NHS Trust
- The Royal Marsden NHS Foundation Trust.

5.24 The validation exercise demonstrated that the Trust's activity assumptions were in line with those from other Cancer Centres across the UK, where comparable data was available.

Clinical Operational Model

5.25 The Trust evaluated a number of different operational models which were subsequently approved by the Trust's commissioners and as previously stated and have been subject to external independent assurance by the Nuffield Trust.

5.26 The primary objective of this appraisal was to identify a model which could provide the sufficient levels of service capacity, which responded to the needs of patients and families and which made effective and efficient use of resources.

5.27 At OBC eight different operating scenarios were evaluated by a multidisciplinary group, including the current operational model. The different scenarios considered extended working hours as well as five, six and seven day operational models. The outcome of the options appraisal has then informed the requirement for the new Velindre Cancer Centre and were tested during the competitive dialogue process, which has led to the final design.

5.28 The assessment undertaken was based upon:

- A non-financial assessment of options against the Projects Spending Objectives and Critical Success Factors
- A financial (capital and revenue) assessment of options.

5.29 The preferred operating scenario (Scenario 8) scored the highest based on a combined non-financial and financial score. This scenario included the following components for core patient services:

- **Radiotherapy service** - 5 days a week, 9.5 hours a day (7-day Radiotherapy service for category 1 emergency patients and for urgent palliative patients).
- **Outpatient service** – 5 days a week, 2 sessions a day
- **SACT service** – 5 days a week, 12 hours a day
- **Inpatient service** – 7 days a week, 24 hours a day.

5.30 Once the preferred operating scenario was agreed the Trust developed its Clinical Operating Model which has already been set out in the Section 3 of this Strategic Case.

5.31 In parallel the Trust has undertook a detailed analysis to understand where treatments should be best delivered and what the percentage split should be, this is set out in Table 20 overleaf.

Table 20 - Percentage Activity Delivered by Location

Service	VCC	Outreach	Home
Radiotherapy	80%	20%	0%
SACT	45%	45%	10%
Inpatients	100%	0%	0%
Outpatients	55%	35%	10%

5.32 This section now further explores the clinical growth assumptions by service area for; Radiotherapy, Systemic Anti-Cancer Therapies, Outpatients and Ambulatory Care and Inpatients. It sets out the growth assumptions and compares these with actual activity since the OBC to ensure there still remains good alignment.

Radiotherapy Service

Clinical Growth Assumption:

5.33 In line with the methodology, outlined in Table 19 above, the forecast clinical growth assumption for radiotherapy services was 2% from 2016/17 through to 2022/23. This was agreed and approved by all commissioning Health Boards as part of the nVCC OBC Collaborative Scrutiny process and set out in Table 21 below:

Table 21 - Radiotherapy Growth Assumption

Service	OBC Annual Clinical Growth Assumption
	2016/17 - 2022/23
Radiotherapy	2%

Actual Radiotherapy Activity Versus 2% Growth Assumption (2019 comparison (pre-COVID)):

5.34 Using our most recent full-year 'pre-COVID' data (2019) this demonstrates that actual radiotherapy activity (fractions) delivered supports our original baseline planning assumption of a 2% increase in activity year-on-year with a variance of less than 1% over the three-year time period. This provides a high level of assurance that the physical capacity (number of linacs) planned within the nVCC is appropriate based upon actual activity recorded post the submission of the nVCC OBC, this figure does not take into account the increasing complexity of Radiotherapy Treatments. The actual and forecasted figures are set in Table 22 overleaf.

Table 22 - Forecast v Actual RT Activity

Service	Activity Measure	2016/17 (baseline)	Forecast 2019/20	Actual 2019/20	Difference (total / %)
Radiotherapy	Fractions	51,915	55,092	54,899	193 (≤1%)

5.35 The forecast and actual fractions set out in Table 22 above generate a requirement of the following numbers of Linear Accelerators, set out in Table 23 below and these numbers are accommodated in the nVCC design.

Table 23 - Linac Requirement Based on Activity

Service	Description	2016/17 (baseline)	2025/26 (nVCC)
Radiotherapy	Linacs	**8**	**8**

Note: The implementation of the Radiotherapy Satellite Centre (RSC) at Nevill Hall will also provide 2 additional linacs in the community i.e., 20% of total activity.

Actual Radiotherapy Activity (COVID) / Forecast Radiotherapy Activity (Post-COVID):

5.36 Table 24 below sets out actual radiotherapy activity post COVID-19 pandemic.

Table 24 - Post COVID Activity

Service	Activity Measure	Actual 2019/20	Actual 2020/21	Actual 2021/22	Current % increase in 2022/23 (ytd)	Forecast increase in 2023/24
Radiotherapy	Fractions	54,899	36,861	40,507	8%	6%

5.37 The COVID-19 pandemic, commencing in March 2020, caused a significant fall in radiotherapy activity due to a number of factors including:

- Reduced presentations to GP's
- Reduced LHB referrals
- Disruption to routine screening, and
- Reduced capacity due to social distancing, increased infection control procedures and reduced workforce to deliver services.

5.38 However, actual demand for radiotherapy has increased significantly since March 2021 (circa 10% year-on-year) and is expected to continue to increase over the next year(s).

Radiotherapy Summary and Conclusion

Key Points:

- The 2% activity growth assumption, included within the nVCC OBC, has been reviewed at FBC and id supported by actual activity up to 2019/2020.
- Based upon forecast activity, tested against actual activity to 2019/20, there is an appropriate number of linacs included within the nVCC FBC to meet service demand. This will ensure that the Trust has capacity to meet all relevant performance targets.
- The implementation of the Radiotherapy Satellite Centre (RSC) at Nevill Hall will also enable the achievement of the TCS planning assumption i.e., 80% of activity delivered at nVCC and 20% in the community.

Systematic Anti-Cancer Therapies (SACT)

Clinical Growth Assumption:

5.39 In line with the methodology, outlined in Table 19, the forecast clinical growth assumption for SACT services was 5% from 2016/17 through to 2022/23, noted in Table 25 below. This was agreed and approved by all commissioning Health Boards as part of the nVCC OBC Collaborative Scrutiny process.

Table 25 - SACT Clinical Growth Assumption

Service	OBC Annual Clinical Growth Assumption
	2016/17 - 2022/23
SACT	5%

Actual SACT Activity Versus 5% Growth Assumption (2019 comparison (pre-COVID)):

5.40 Using our most recent full-year 'pre-COVID' data (2019) demonstrates that actual SACT activity (attendances) delivered supports our original baseline planning assumption of a 5% increase in activity year-on-year with a variance of less than 1% over the three year time period. This provides a high level of assurance that the physical capacity (number of SACT chairs) planned within the nVCC is appropriate based upon actual activity recorded post the submission of the nVCC OBC. The SACT attendances are set out in Table 26 below:

Table 26 - Actual SACT Activity v Growth Assumption

Service	Activity Measure	2016 (baseline)	Forecast 2019	Actual 2019	Difference (total / %)
SACT	Attendances	22,685	26,107	26,282	175 (≤1%)

Forecast Capacity Requirements at the New Velindre Cancer Centre

5.41 The forecast and actual activity set out in Table 26 above generates a requirement of the following numbers of Linear SACT Chairs as set out in Table 27 below.

Table 27 - SACT Chair Requirements nVCC

Service	Description	2016/17 (baseline)	2021/22	2025/26 (nVCC)
SACT	Chairs	17	19	20

Note: *Implementation of the SACT Clinical Operating Model, as outlined in Table 20, will result in 55% of total activity being delivered across South-East Wales.*

Actual SACT Activity (COVID) / Forecast SACT Activity (Post-COVID):

5.42 The Covid-19 pandemic, commencing in March 2020, caused a significant fall in activity for SACT due to a number of factors, including:

- Reduced presentations to GP's
- Reduced LHB referrals
- Disruption to routine screening, and
- Reduced capacity due to social distancing, increased infection control procedures and reduced workforce to deliver services.

5.43 However, actual demand for SACT services has increased significantly since March 2021, and is expected to continue to climb over the next year(s), and, in line with our forecast growth assumption of 5% through to 2022 and 2% thereafter (Note – not flat line - 'ups and downs'), as set out in Table 28 below.

Table 28 - SACT activity

Service	Activity Measure	Actual 2019	Actual 2020	Actual 2021	Actual 2022	Forecast increase in 2023/24
SACT	Attendances	26,107	20,618	26,001	29,121	6%

Summary and Conclusion:

Key Points:

- The 5% activity growth assumption, included within the nVCC OBC, has been supported by actual activity up to 2019/2020.
- Based upon forecast activity, tested against actual activity though to 2019/20, there is an appropriate number of SACT chairs included within the nVCC FBC to meet service demand. This will ensure that the Trust has capacity to meet all relevant performance targets.
- The implementation of the SACT Clinical Service Model will result in 55% of total activity being delivered across South-East Wales.

Outpatients and Ambulatory Care

Clinical Growth Assumption:

5.44 In line with the methodology, outlined in Table 19, the forecast clinical growth assumption for Outpatient services was 2% from 2016/17 through to 2022/23. This was agreed and approved by all commissioning Health Boards as part of the nVCC OBC Collaborative Scrutiny process and is set out in Table 29 below.

Table 29 - Outpatients Growth Assumption

Service	OBC Annual Clinical Growth Assumption
	2016/17 - 2022/23
Outpatients and Ambulatory Care	2%

Actual Outpatient Activity Versus 2% Growth Assumption (2019 comparison (pre-COVID)):

5.45 Using our most recent full-year 'pre-COVID' data (2019) demonstrates that actual Outpatient activity (attendances) supports our original baseline planning assumption of a 2% increase in activity year-on-year with a variance of less than 1% over the three-year time period. This provides a high level of assurance that the physical capacity (number of Outpatient rooms) planned within the nVCC is appropriate based upon actual activity recorded post the submission of the nVCC OBC, set out in Table 30 below.

Table 30 - Outpatient Forecast V Actual

Service	Activity Measure	2016 (baseline)	Forecast 2019	Actual 2019	Difference (total / %)
Outpatient	Attendances	58,403	63,779	63,609	170 (≤1%)

Note: Excludes research, palliative care, clinical psychology and radiotherapy review and planning activity.

Forecast Capacity Requirements at the New Velindre Cancer Centre

5.46 The forecast and actual activity set out in Table 29 above generates a requirement of the following numbers of Outpatient rooms as set out in Table 31 below.

Table 31 - Outpatient Room Requirements

Service	Description	2016/17 (baseline)	February 2020	2025/26
Outpatients	Rooms	26	26	30

Note: *Implementation of the Outpatient Clinical Operating Model, as outlined in Table 20, will result in 45% of total activity being delivered across South-East Wales.*

Actual Outpatient Activity (COVID / POST-COVID):

5.47 Unlike other service at VCC the Covid-19 pandemic, commencing in March 2020, resulted in a significant increase in activity for Outpatients due to a number of factors, including:

- Increased virtual clinics to support patients who weren't able to attend VCC in person
- Growth in SACT activity which impacted Outpatient capacity requirements
- Reduced capacity within Health Boards
- Increased number of MDT sessions

5.48 The post COVID-19 activity is set out in the Table 32 below.

Table 32 - Outpatient Activity Post COVID-19

Service	Activity Measure	2016 (baseline)	Actual 2020	Actual 2021	Actual 2022
Outpatient	Attendances	58,403	66,583	84,097	88,802

Note: Excludes research, palliative care, clinical psychology and radiotherapy review and planning activity.

5.49 However, and despite the actual significant increase in demand for Outpatient services over the last three years, we are confident that the annualised (compounded) activity planning assumption used to size the nVCC is still robust and valid as a large proportion of additional Outpatient activity is / will be supported through digital solutions.

Summary and Conclusion:

Key Points:

- The 2% activity growth assumption, included within the nVCC OBC, has been supported by actual activity up to 2019/2020.
- Based upon forecast activity, tested against actual activity though to 2019/20, there is an appropriate number of Outpatient rooms included within the nVCC FBC to meet service demand. This will ensure that the Trust has capacity to meet all relevant performance targets.
- The implementation of the Outpatient Clinical Service Model will result in 45% of total activity being delivered across South-East Wales.

Inpatients

Clinical Growth Assumption:

5.50 In line with the methodology, outlined in Table 19, the forecast clinical growth assumption for inpatient services was 2% from 2016/17 through to 2022/23. This was agreed and approved by all commissioning Health Boards as part of the nVCC OBC Collaborative Scrutiny process, this is set out in Table 33 below.

Table 33 - Future Growth Assumptions of Inpatients

Service	OBC Annual Clinical Growth Assumption
	2016/17 – 2024/25
Inpatients	2%

Actual Inpatient Activity Versus 2% Growth Assumption (2019 comparison (pre-COVID)):

5.51 Using our most recent full-year 'pre-COVID' data (2019) shows that inpatient activity, as measured by occupied bed days actually reduced from 2016 (nVCC OBC submission) – 2019. However, this was not related to an evidenced reduction in demand for inpatient services at VCC. Instead, a capacity constraint was placed upon the service during this time period as there was a requirement to undertake essential estates works to the inpatient wards in order to improve the patient environment and to ensure compliance with our statutory compliance responsibilities. In order to facilitate these works there was a requirement to close beds / wards for sustained periods of time.

5.52 In addition, and during the same time period, we made significant enhancements to our inpatient service model which resulted in shift towards an enhanced ambulatory / assessment care model; this reduced the number of inpatient admissions at VCC. Table 34 below sets out inpatient activity.

Table 34 - Inpatient Bed Availability

Service	Activity Measure	2016 (baseline)	Forecast 2019	Actual 2019
Inpatients	Oncology Bed Available	43	43	28 (Constraint capacity)

5.53 Over the course of 2020 – 2022 (COVID impacted timeframe) we continued to experience reduced inpatient activity at VCC. However, and although full-year data for 2022 is not available at the time of producing this FBC, data which we have available for September – November 2022 shows that total inpatient activity is returning in line with pre-COVID levels, this is set out in Table 35 below.

Forecast Capacity Requirements at the New Velindre Cancer Centre

Table 35 - Inpatient Activity Post COVID-19

Service	Activity Measure	Current Capacity at VCC	February 2020	2025/26 (nVCC)
Inpatients	Oncology Beds	34	39	31
	Assessment / Ambulatory Care Spaces	8	8	17
	Isotope Cubicles	2	2	3
	Total	**44**	**49**	**51**

Inpatient Services – An Evolving Service Model

5.54 In line with the recommendations from the Nuffield review in relation to the he VCC / regional clinical model there have been significant changes and enhancements to the inpatient clinical service over recent years and subsequent to the approval of the nVCC OBC (Note: the majority of these improvements were already being progressed prior to the publication of the Nuffield review). Fundamental to these changes has been the transition to a more resourced ambulatory / assessment care model. Key to supporting this service development has been the implementation of a regional acute oncology service. The development of the inpatient service model has, and will continue, to deliver a number of quantifiable benefits. These include:

- Reduced average length of stay at VCC and in Local Health Boards.
- Reduced inpatient admissions at VCC and in Local Health Boards.
- Patients admitted to the most appropriate location for their treatment 'first time'.

- Increased oncology presence within Local Health Boards.
- Improved patient experience.

5.55 The New Velindre Cancer Centre – A Flexible Inpatient Design Solution which is built around Patient Experience, Quality and Improving Outcomes.

5.56 The design of the Inpatient areas at the nVCC has responded to the feedback received from our clinical teams and other key stakeholders. This feedback emphasised the need for:

- Flexibility in the design covering a range of areas:
  - Ability, on the day of opening the nVCC, to only open the number of beds which are required at that point in time to reduce the risk of any 'non-required' costs
  - Ability to use the space within the designed inpatient areas for alternative uses
  - Ability to continue, over time, the development of our inpatient service model by reducing the number of oncology beds and increasing the number of ambulatory / assessment spaces
- The requirement for additional ambulatory / assessment care spaces and less traditional oncology beds
- The requirement for additional single oncology bedrooms as a proportion of total rooms

Key Points:

- Inpatient activity has been impacted by the following since 2019:
  - Essential estates work to the inpatient wards, requiring the closure of inpatient beds.
  - Workforce shortages due to a variety of reasons and which have been outside of the control of the Trust.
  - Impact of COVID from 2020 – 2022.
- In line with the recommendations from the Nuffield review of the clinical model there have been significant changes and enhancements to the inpatient clinical service. This has been supported by the transition to a more focused ambulatory / assessment care model. Key to supporting this service development has been the implementation of a regional acute oncology service.
- Although the nVCC has space to accommodate 31 oncology beds the hospital has been designed in a way to promote flexibility of use i.e. can increase / decrease the number of beds as appropriate and / or use for alternative uses e.g. increased ambulatory care provision.
- Inpatient beds will only be made available (opened) if and when demand presents.

Overall Summary and Conclusion of Growth and Activity Assumptions:

5.57 The clinical growth assumptions and actual activity that support the need to replace the existing cancer centre and inform the size of the nVCC have been reviewed and updated between OBC and FBC and have been set out in the preceding section. Despite activity and service delivery changing as a result of the COVID-19 pandemic there is still a compelling case for investment.

5.58 Based on the update activity it remains clear that the existing estate is severely constrained and inhibits the Trust in delivering its services now. The site is landlocked by building and infrastructure owned by the Trust, which renders any expansion of the site boundary unviable. The only possible option for expansion would be onto the staff and patient car park but this has been discounted, as it would impact on an already sub-optimal parking facility.

5.59 This therefore represents a very immediate and high-risk issue for the Trust given the current pressure on the system. This is compounded by the anticipated growth in demand for services. While planning is underway to mitigate capacity limitations in the short term, it is imperative that a long-term solution is established urgently.

5.60 Without significant transformation, the Velindre Cancer Centre faces a very immediate and high risk in our ability to continue to deliver services and to maintain current performance levels.

Sizing of the nVCC

5.61 Following the activity and capacity modelling process outlined above, the Trust has been able to establish its core capacity requirements, referred to hereafter as the 'Do Minimum' requirements, in relation to:

- Building footprint requirement for the nVCC;
- Functional content requirements e.g., number of Inpatient beds, for the nVCC; and
- Major Medical equipment requirements for the nVCC.

Building Footprint for the New Velindre Cancer Centre – Do Minimum

5.62 The activity and capacity analysis has demonstrated that the required building footprint for the nVCC, based upon the Do Minimum service requirements, is 30,689m2 compared to the existing Velindre Cancer Centre footprint of 17,777m2. This analysis, which is summarised in Table 36 overleaf has been presented to, and validated by, NHS Wales Shared Services and WG Officers.

Table 36 - Do Minimum Building Footprint for the New Velindre Cancer Centre

Functional Area	m^2
Radiotherapy	8,090
Inpatients	3,534
SACT & Ambulatory Care	2,067
Outpatients & Therapies	2,034
Imaging and Nuclear Medicine	2,073
Pharmacy	1,518
Hospital Clinical / Non-Clinical Administration & Support Services	4,726
Hospital Education, Training and associated Support Services	669
IM&T	439
SPR & On Call	91
Staff Facilities	1,41
Mortuary	171
Catering & Restaurant	1,022
Hospital Main Entrance	1,855
Total Gross	**30,689**

Functional Content Requirements for the New Velindre Cancer Centre – Do Minimum

5.63 The activity and capacity analysis has demonstrated the following Functional Content requirements for core service delivery at the nVCC, based upon the Do Minimum service requirements. Table 37 summarises these requirements compared against functional capacity, which is currently available at the existing Velindre Cancer Centre (Feb 2020 Pre-COVID).

Table 37 - Functional Content Requirements for Core Services within the New Velindre Cancer Centre

Department	Existing (Feb 2020 Pre-COVID)	nVCC	Variance
Radiotherapy Linear Accelerators	8	8	0
Outpatient Consultation Rooms	26	30	+ 4 rooms
SACT Chairs	19	20	+1 chair

Department	Existing (Feb 2020 Pre-COVID)	nVCC	Variance
Inpatients	49	51	+ 2 beds

Note: *Inpatient beds reflects capacity that is subject to the confirmation of the clinical model but could represent 'flexible' bed capacity.*

Major Medical Equipment Requirements for the New Velindre Cancer Centre – Do Minimum

5.64 The activity and capacity analysis has identified the Major Medical equipment requirements for the nVCC, based upon the Do Minimum service requirements. The Major Medical equipment requirements for the nVCC, with a unit value of over £0.125m (excl. VAT), compared to Major Medical equipment, which is currently operational at the existing Velindre Cancer Centre (Feb 2019 Pre-COVID) are summarised in Table 38.

Table 38 – Major Medical Equipment Requirements for the New Velindre Cancer Centre

Department	Equipment	Existing (2018)	nVCC	Additionality
Radiotherapy	Linear Accelerator / Treatment Machines	8	8	0
Radiotherapy	CT Simulator	2	2	0
Radiotherapy	Brachytherapy System	1	1	0
Radiotherapy	MR SIM	0	1	1
Radiology	MRI Scanner	1	2	1
Radiology	CT Scanner	1	2	1
Radiology	Imaging System (Plain Film/Fluoroscopy System)	2	2	0
Nuclear Medicine	Gamma Camera	1	2	1
Pharmacy	Robotic Dispensing System	0	1	1

Conclusion

5.65 In summary, this section of the FBC examined in detail service activity from the original base line, through Covid, to today and compared then with the Trusts approved growth assumptions for all major service areas. This analysis has demonstrated that the Trust's forecast growth assumptions have been accurate to within very small margins of variance against actuals. Therefore, there is a high degree of confidence that the activity and future growth assumptions can be relied upon in terms of the design of the nVCC and wider Clinical Model.

6 POTENTIAL SCOPE OF THE NEW VELINDRE CANCER CENTRE PROJECT

Introduction

6.1 The scope of the Project is limited to the building of a nVCC. In taking forwards this scope, the Trust sought formal approval from commissioners and from the Welsh Government in relation to the Outline Business Case (OBC) for a nVCC. In seeking approval of the OBC, the Trust provided assurance in relation to:

- The need for a nVCC;
- The Preferred Option identified within the OBC;
- The building footprint of the nVCC;
- The additional costs directly attributable to the nVCC; and
- The Project Management and Governance arrangements for delivering the nVCC Project.

6.2 The following has been confirmed as outside of the scope of the nVCC Infrastructure Project:

- All variable clinical costs of modelled demand which will be considered through the development of the commissioning LTA framework and therefore excluded from the nVCC OBC;
- All service development Projects e.g., Acute Oncology Service, which will be subject to separate Business Cases and therefore excluded from the nVCC OBC;
- All outreach capital Projects e.g., Radiotherapy Satellite Centre, which will be subject to separate Business Cases and therefore excluded from the nVCC OBC; and
- All Digital Projects which the Trust needs to complete irrespective of the nVCC Project. These will be the subject of separate Business Cases.

Potential Business Case Options

6.3 Although the scope of the Project is well defined, there was the potential to develop a range of options for delivering the objectives of the Project. The range of options have been considered against a continuum of need ranging from:

- Minimum scope: Core and essential service requirements/outcomes which are currently provided by VCC;
- Intermediate scope: Core and desirable service requirements/outcomes which the Project can potentially justify on a cost/benefit and thus value for money basis; and
- Maximum scope: Core, desirable and optional service requirements/outcomes which the Project can potentially justify on a cost/benefit and thus value for money basis.

6.4 The outcome of this is outlined in Table 39 and was used as the starting point to develop the longlist of options within the Economic Case of the OBC.

Table 39 - Potential Project scope

Service / Function	Minimum	Intermediate	Maximum
Radiotherapy	✓	✓	✓
SACT	✓	✓	✓
Inpatients	✓	✓	✓
Specialist Palliative Care	✓	✓	✓
Outpatients	✓	✓	✓
Ambulatory Care	✓	✓	✓
Radiology and Nuclear Medicine	✓	✓	✓
Pharmacy	✓	✓	✓
Acute Oncology Service (existing arrangements)	✓	✓	✓
Research and Development (existing arrangements)	✓	✓	✓
Learning, Technology and Innovation (existing arrangements)	✓	✓	✓
Research and Development (enhanced scope)		✓	✓
Learning, Education and Innovation (enhanced scope)		✓	✓
Capacity to introduce PET CT Service		✓	✓
Capacity to introduce Proton Beam Service			✓
Capacity to introduce Advanced Technologies, including: • **Platform specific stereotactic service** • **Cyclotron service**			✓
Relocation of Trust Corporate Function			✓

7 PROJECT RISKS, CONSTRAINTS, DEPENDENCIES AND ASSUMPTIONS

Risks

7.1 Identifying, mitigating, and managing the key risks is crucial to successful delivery, since the key risks are likely to be that the Project will not deliver its intended outcomes and benefits within the anticipated timescales and spend.

7.2 A full risk register for the nVCC Project has been developed which includes the following categories:

- **Business risks:** Risks that remain 100% with the Trust and include political and reputational risks;
- **Service risks:** Risks associated with the design, build, financing and operational phases of the project and may be shared with other organisations; and
- **External Non-System risks:** Risks that affect all society and are not connected directly with the proposal. They are inherently unpredictable and random in nature.

7.3 The nVCC risk register is managed by the Project Management Office (PMO). The exact role of the PMO in managing risks is described within the Management Case.

Constraints

7.4 The main constraints in relation to the nVCC Project are outlined in Table 40.

Table 40 - Main Constraints of the nVCC Project

Constraint	Overview
Financial Constraints	The infrastructure solution for the nVCC would be ideally deliverable within the affordability threshold of c£299m (including VAT but excluding equipment) at 2021-22 prices funding cap agreed with the WG.
Timescale Constraints	The nVCC must be operational in line with the Programme agreed with the Welsh Government.
Service Continuity	Delivery of patient services must be maintained during the period of construction.
Compliance with Statutory Requirements	The nVCC must be fully compliant with all relevant statutory compliance requirements.

Dependencies

7.5 A number of dependencies have been identified in relation to the nVCC Project. These are provided in Table 41.

Table 41 - Main Dependencies of the nVCC Project

Dependency	Overview
Capital Funding Availability	Access to capital funding is critical to deliver the Project, especially in relation to the procurement of Major Medical equipment and IM&T.
Revenue Funding Availability	Access to revenue funding is essential to support the recurring revenue implications associated with the nVCC Project.
Welsh Government Approval	The Full Business Case must be approved by the WG.
Partnership Working	Co-production in the design and implementation of the Project that involves all stakeholders from across the health and social care economy is essential to the Project's success.
Wider Health Strategy and Governance	It is important that general health strategy and governance in Wales, that underpins the nVCC Project remains broadly consistent over the period of change.
Site Enabling Works	The site enabling works Project, which is outside of the scope of this FBC, must be completed by the start of construction for the nVCC.

Assumptions

7.6 The key assumptions underpinning the nVCC Project are provided in Table 42

Table 42 - Main Assumptions for the nVCC Project

Assumption	Overview
Implementation of the wider TCS programme	It is assumed that the following capital Projects identified within the TCS Programme are funded and the nVCC has been 'sized' based on this assumption. • Radiotherapy Satellite Centre at Nevill Hall Hospital; and • Non-surgical cancer Outreach centres across South - East Wales delivering SACT and Outpatient services.
Clinical Growth Assumptions	The nVCC has been 'sized' on the basis of a number of clinical growth assumptions, summarised below:

Assumption	Overview
	• Radiotherapy activity will increase by 2% per annum through to 2025; • SACT activity will increase by 5% per annum through to 2025; • Outpatient activity will increase by 2% per annum through to 2025; • Inpatient activity will increase by 2% per annum through to 2025; and • Radiology and Nuclear Medicine activity will increase by 9% per annum through to 2025.

Flexibility for Expansion on the Site of the New Velindre Cancer Centre

7.7 It is important to highlight that there is approximately 6,500 m2 of expansion space (compared to the approved Outline Planning Application) on the identified site for the nVCC. This expansion capacity is fundamental to the Trust's mitigation strategy in the event that either:

a) The other capital Projects within the TCS Programme are not supported; or
b) The clinical growth assumptions prove to be understated.

7.8 Conversely, the Trust has identified alternative uses for some of the proposed nVCC accommodation in the event that clinical growth assumptions do not fully materialise.

8 CONCLUSION

8.1 The Strategic Case has demonstrated a compelling case for investment to support the replacement of the existing Velindre Cancer Centre. The key factors supporting the case for investment are:

- The existing patient environment at the Velindre Cancer Centre is sub-optimal and does not promote patient recovery and well-being;
- There is insufficient patient and family car parking at the existing Velindre Cancer Centre;
- A high proportion of accommodation at the existing Velindre Cancer Centre is non-compliant with statutory requirements and creates challenges in maintaining high levels of patient safety;
- The existing Velindre Cancer Centre, built on a 'like for like' basis and in line with Health Building Notes, would have a footprint of circa 28,000m2 compared to the existing building footprint of 17,777m2; and
- There is no expansion space on the existing Velindre Cancer Centre. This severely limits, the Trust's ability to expand its footprint to meet the increasing demand for its clinical services across a range of specialities / departments.

9 APPENDICIES

For Information

The following appendices are available in support of this chapter**.**

Appendix Reference	Title
FBC/SC1	Nuffield Trust Report – 'Advice on the proposed model for non-surgical tertiary oncology services in South-East Wales'
FBC/SC2	Nuffield Trust Recommendations and Progress Summary
FBC/SC3	TCS Equipment Strategy (draft)
FBC/SC4	Digital Vision for the new Velindre Cancer Centre

Full Business Case: March 2023

new Velindre Cancer Centre

Management Case

MANAGEMENT CASE

Contents Page

1 INTRODUCTION

Approach

1.1 The OBC laid out a proposed Project Management structure and governance approach to ensure the effective delivery of the nVCC Project. This included recruiting and developing a number of skilled and experienced project officers to meet the future demands relating to the implementation of the nVCC Project.

1.2 A resourced structure has been in place to guide the project through the commercial set up, pre-qualification, competitive dialogue and successful participant phases, these arrangements have now been refreshed to support the implementation phase of the nVCC Project.

1.3 As previously set out in the Strategic Case the nVCC Project is one of seven projects that make up the Transforming Cancer Services (TCS) Programme. This Programme has the responsibility to ensure effective co-ordination and congruence with the other elements of the TCS Programme and wider Trust.

1.4 This FBC provides an update to the management arrangements to cover the construction, post-construction and evaluation phases of the nVCC Project to time, cost and quality. This FBC Management Case outlines the approach to the following and is supported with a range of detailed appendices:

- Project Management arrangements;
- External advisors;
- Use of specialist advisors within NHS Wales;
- Project scrutiny and assurance;
- Procurement and contracts management;
- Change control;
- nVCC project plan;
- Benefits realisation;
- Communication and engagement;
- Risk management; and
- Arrangements for post-project evaluation.

2 PROJECT MANAGEMENT ARRANGEMENTS

Introduction - Project Leadership

2.1 This section of the Management Case provides an overview of the Project Management structure and individual roles and responsibilities as detailed in Appendix **FBC/MC1**.

2.2 Velindre has recruited (and largely retained) a Project Leadership team to deliver the procurement phase of the project. The aim (as set out in this FBC) is to refresh and confirm this structure to cover the effective management of the construction, post-construction and post-project evaluation phases of the nVCC Project.

2.3 The key individual roles and responsibilities in this structure are set out in Table 1 below:

Table 1 - nVCC Project Leadership Team and Roles and Responsibilities

Role	Name/Status	Responsibility
Senior Responsible Owner (SRO)	Steve Ham	The SRO is accountable for the success of the nVCC Project and the wider TCS Programme. The SRO is responsible for enabling the organisation to exploit the new environment resulting from the nVCC Project, meeting the new business needs and delivering new levels of performance, benefit, service delivery and value. The SRO owns the vision for the nVCC Project and is required to provide clear leadership and direction.
Project Director	David Powell	The Project Director reports to the SRO and is accountable for the nVCC Project delivery to time cost and quality. The Project Director will provide leadership and positive team working to create an environment that facilitates effective project delivery across all phases of the project.
Assistant Project Director (APD)	Mark Ash	A senior role that provides professional advice and support to the nVCC Project Director. Responsible for the financial and commercial aspects of the nVCC Project. This includes the financial planning for the project, financial reporting, and financial risk management. This role leads on management of the Mutual Investment Model (MiM) Project Agreement, Service Level Specifications and the Annual Service Payment mechanism.

2.4 The Project also contains specialist support roles as shown in Table 2 below.

Table 2 - nVCC Project – Specialist Support Roles

Role	Name/Status	Responsibility
Strategic and Commercial Director	Huw Llewellyn	This role provides support and advice on commercial issues as well as providing a bridge to the equipment and digital elements of the TCS Programme.
Technical Director	Phil Morgan (MDA Consult Ltd)	This post oversees the technical elements of the project and ensures oversight of the Developer's technical solutions. This role also links across to the enabling works project within the TCS Programme.
Technical Support Managers	To be Appointed in due course	The Technical Support Managers will report to the Technical Director and have responsibility for monitoring elements of the construction and commissioning of the nVCC and ensuring compliance with all technical obligations.

2.5 The Project Team includes clinical/operational leads as shown in Table 3 below.

Table 3 - nVCC Project - Clinical and Service Leads

nVCC Clinical Leads	Prof Tom Crosby and team	The nVCC Project has a clinical lead responsible for leading a group of clinicians in order to ensure clinical focus on the nVCC Project and that patient experience and quality is always a primary consideration. The role includes 'sense-checking' design solutions and cross-checking these to service requirements, service developments and initiatives elsewhere.
nVCC Service Transformation Director	Andrea Hague and team	The nVCC Project has a Service Transformation Director who will be responsible for delivering the operational requirements of the project. This role, will work closely with the clinical lead and includes responsibility for leading on equipment, digital and hospital transition and commissioning.

Project Management (The Methodology)

2.6 The delivery of the nVCC Project is managed in accordance with PRinCE2 ('Projects in a Controlled Environment') methodology suitably adapted for local circumstances (in order to meet the needs of this Project).

2.7 The nVCC Project follows a set of principles contained within the TCS Programme Execution Plan (PEP) and Project Initiation Document (PID), these principles are:

- Consideration of the views and interests of patients, staff and all stakeholders in all decision-making;

- Compliance with corporate governance and policy;
- Compliance with good project management practice;
- Open and regular reporting of Project progress and performance.
- Effective monitoring/review processes (continuous Quality Assurance (QA);
- Effective change/issues/problem management;
- Comprehensive acceptance procedures;
- Appropriate documentation and record keeping.

Project Governance and Management

2.8 The nVCC Project controls and co-ordinates a series of workstreams that are updated to reflect each phase of project delivery.

2.9 The nVCC Project also looks outwards to the TCS Programme, Velindre's Corporate Governance arrangements and that of Welsh Government's sponsorship, scrutiny and approvals process. In particular, focus is on timely approvals and the effective escalation of risks and issues to senior sponsors.

2.10 The Project Governance Arrangements work on three levels:

- Welsh Government (Strategy & Policy) – **Level 1**
- Velindre University NHS Trust (Corporate) – **Level 2**
- Velindre University NHS Trust (Operational / Project) – **Level 3**

2.11 The details of the Project Governance Arrangements are in Appendix **FBC/MC2**.

2.12 The governance arrangements include a TCS Programme Scrutiny Sub-Committee that provides assurance to the Trust Board. The terms of reference of this sub-committee are included in Appendix **FBC/MC3**.

2.13 An Integrated Assurance and Approvals Plan (IAAP) for the nVCC Project sets out all the required approvals for the Project and the governance route for each key deliverable. This enables alignment of approval decisions with the Trusts' governance schedule of meetings. The IAAP (v3.0) is set out in Appendix **FBC/MC4**.

Project Management Office (PMO): Roles and Responsbilities

2.14 The nVCC Project has a central Project Management Office (PMO) to control and co-ordinate activities. The roles within this team are set out in Table 4 below.

Table 4 - Project Management Office (PMO) and Administration Specific Roles and Responsibilities

Role	Name / Status	Responsibility
Principal Project Manager (PPM)	Andrew Davies	The Principal Project Manager has overall responsibility for the delivery of all sub projects/workstreams to time, cost and quality. The Principal Project Manager also ensures the project is aligned to the overarching TCS Programme. Key to the success of this role is the efficient and effective recruitment and use of project resources, the identification and management of, interdependencies, risks and issues, benefits delivery, providing project assurance and ensuring effective decision making through VUNHST internal governance and Welsh Government governance structures.
Authority Construction Surveyor (ACS)	To be confirmed	The Authority Construction Surveyor will oversee delivery of the nVCC Projects construction works in accordance with the Trust's requirements. The ACS will monitor the work of contractors and subcontractors and notify the Client's Agent (CA), Independent Tester / Certifier and contractor of any potential issues. The ACS will review the quality of works on site taking into consideration workmanship, building in accordance with the design/ specification, overseeing the commissioning etc and will be the daily site liaison officer with all site stakeholders.
Senior Project Managers (SPM)	Peter Sowerby *(Additional recruitment TBC)*	The Senior Project Managers have the responsibility for supporting the sub-project leads with the initiation, planning, execution, monitoring, controlling and eventually closure of their sub-projects. They provide a structured approach to support the delivery of the key deliverables and provide an escalation route for risks. They report professionally to the Principal Project Manager.
Project Managers (PM)	Craig Salisbury; Hannah Moscrop; Michelle Pearce *(Additional recruitment TBC)*	The Project Manager(s) are responsible for supporting the PPM with the delivery, monitoring, controlling and eventual closure of the nVCC Project. As with the SPM, they will provide a structured approach to support the delivery of the key products and provide an escalation route for risks.
Finance Business Partner	Eurwen Williams	The Finance Business Partner will provide financial accounting, planning, management and governance advice along with support and information to the Project.

Role	Name / Status	Responsibility
Role	**Name / Status**	**Responsibility**
Project Support Officer (PSO)	Jenny Welsby	The Project Support Officer will provide project support and administration services. This will include co-ordinating meetings, capturing issues, decisions and actions. The post-holder will act as a configuration management librarian and oversee all document control.
Project Administrator (PA)	Sue Poole; Stefan Dale; Ellie Gregory; Jessica Jenkins	The Project administrator's duties include scheduling meeting times and locations, taking meeting minutes, capturing action points and arranging training for project staff. In addition, the project administrators participate in budget administration, providing analysis and maintaining project records and facilitating procurement.

Other Roles

2.15 There are a range of ancillary roles within the nVCC Project which are set out in Table 5 below.

Table 5 - Other Roles

Role	Overview
Project MIM Transactor	The Transactor is a Welsh Government (WG) Officer responsible for Government oversight of the project and managing the interface of the nVCC Project with the WG team.
Chief Digital Officer	The Chief Digital Officer is responsible for delivering the enabling digital requirements for the nVCC ensuring congruence with Velindre and Welsh NHS digital strategies and initiatives.
Communication	The Communication Lead is responsible for managing internal and external communications during the construction, post-construction and evaluation phase.
Engagement	The Engagement Lead is responsible for managing engagement activities with staff, patients, public and key stakeholders.
Estates & FM	The Estates and Facilities Management (FM) Lead is responsible for ensuring the Project addresses the operational requirements of Velindre.

Project Delivery Model

2.16 nVCC Project's delivery will be managed through a series of workstreams, each supported by a Terms of Reference, led by a member of the nVCC Project Leadership Team as set out in Table 6 below:

Table 6 - Project Delivery Model (workstreams)

Workstream	Lead
Construction Monitoring	Project Director
Hospital (Design Management)	Project Director
Commercial / Legal	Assistant Project Director
Community Benefits	Assistant Project Director
Facilities Management	Assistant Project Director
Transition & Commissioning (All)	nVCC Service Transformation Director
Equipment	nVCC Service Transformation Director
Digital	nVCC Service Transformation Director
Post Project Evaluation / Benefits Realisation	Project Director
Management Forum	Assistant Project Director
Communication & Engagement	Assistant Director of Communications
Enabling Works Alignment	Project Director

2.17 The Project Management Office (PMO) will support the project delivery workstreams. Their roles will migrate through the next stages of the nVCC Project to include all matters pertaining to the implementation and commissioning.

TUPE and Employment Matters

2.18 It is not anticipated that there will be any Velindre University NHS Trust staff transfers under the "Transfer of Undertakings (Protection of Employment) Regulations (TUPE) 2006" as amended by the "Collective Redundancies and Transfer of Undertakings (Protection of Employment) (Amendment) Regulations 2014" to Project Co (or its Sub-Contractors) in respect of the Project.

2.19 This assumption has been made as a result of detailed discussions with service leads within the existing Velindre Cancer Centre and by using their local and detailed knowledge of future service changes and advancement of clinical treatments.

2.20 As the project approaches Financial Close, the Authority will continue to monitor all workforce assumptions, including those relating to TUPE.

2.21 If there are any non-Trust staff identified as being at risk at the end of the 25-year period when the building's ownership is handed over to the NHS the Trust will act in accordance with the TUPE legislation that is applicable at that time.

Project Tolerances and Delegated Authority

2.22 The nVCC Project tolerances have been approved by the Trust Board as part of the approval of the procurement strategy and will be monitored throughout the project lifecycle. These are set out in Table 7 below:

Table 7 - Project Tolerances

Description	Category	Measure	Escalation trigger
Overall project completion date	**Time**	Plan as approved by Programme Delivery Board	+3months or moves 1st Patient to beyond 4th quarter of 2025
Overall annual cost of solution	**Cost**	Unitary Charge approved in OBC	+5%
Project capital costs	**Cost**	Capital cost approved in OBC	+5%
Project transaction costs	**Cost**	Project costs as approved by WG	+5%

2.23 In addition to the approved tolerances the nVCC Project has a delegation framework, which allows for streamlined approvals and the effective escalation of risks and issues to a level where senior sponsors can intervene as necessary. Any expected breach of the tolerances outside of those specified above will be escalated to the Strategic Capital Board (SCB), or a higher authority.

2.24 Delegation of authority is integrated within, and aligned to, the Trusts' governance arrangements. This will provide clarity in respect of delegated authority for the Leadership Team and ensure that the nVCC Project Board and Trust Board have the appropriate level of scrutiny, oversight and control during the process, and overall accountability throughout the lifecycle of the project.

Equipment and Digital Procurement, Commissioning and Implementation

2.25 The Director of Strategic Transformation, Planning and Digital is the Project Director for Digital and Equipment for the nVCC Project.

2.26 During implementation, oversight of the digital and equipment commissioning process is provided by an Equipment Committee. This Committee is prescribed in the Project Agreement and supported by the Successful Participant, Equipment Advisors, suppliers and NHS Wales Shared Services Partnership (NWSSP) Specialist Estates Service. The Equipment Committee will deal with the detailed planning, coordination and implementation of all equipment at the nVCC.

2.27 A detailed Digital Activity Plan has been produced to set out the full range of activities required to ensure the digital capability of the new Velindre Cancer Centre. The Digital Activity Plan is included within appendix **FBC/MC5.**

2.28 The equipment for the nVCC divides into a range of groups 1 to 5, each equipment group has different specification, procurement and installation responsibilities which are aligned to the commercial deal with the Successful Participant (SP). A copy of the draft Key Clinical Equipment Outline Commissioning Programme (KCEOCP) is set out at appendix **FBC/MC6**.

2.29 The groups of equipment 1-5 and their respective descriptions and responsibilities are set out below:

Group 1A

This equipment is specified by the Authority and provided and installed by the SP – the programmes and processes for selection and installation are included in the SP's commissioning programme.

Group 1B

This equipment is specified, provided and installed by the SP – the programmes and processes for selection and installation are included in the SP's commissioning programme.

Group 2A

This equipment is provided and installed by the Authority – this relates mainly to the Trusts Integrated Radiotherpay Solution (IRS) equipment. This element of equipment is subject to an interface agreement as laid out in the commercial case. The Authority's IRS team will oversee the management of the commissioning process and use the Equipment Committee to deal with planning and interface issues.

Group 2B

This equipment is specified, procured and delivered by the Authority, but installed by SP. The Trust in collaboration with the relevant procurement frameworks will seek to further enhance the standard framework terms and conditions to include a stronger commercial link with the MiM Project Agreement.

Group 2C

This equipment is specified, procured by the Authority but delivered and installed by the SP. The Trust in collaboration with the relevant procurement frameworks will seek to further enhance the standard framework terms and conditions to include a stronger commercial link with the MiM Project Agreement.

The project procurement documents cover a set of principles in relation to this element of equipping (The SP letter confirms these principles (see appendix **FBC/MC7**).

Group 3

This equipment is provided and commissioned by the Authority. This breaks down into 3 principle groups:

- **IRS Equipment:** as described above, the IRS equipment co-ordination and installation (mainly Group 2a) will be overseen by the IRS Implementation Board.

- **Furniture and Fittings:** due to the interface with interior design, the Authority design team will oversee the procurement and installation of this element.

- **Miscellaneous equipment including FM equipment:** the Authority equipment team will oversee the procurement and commissioning of this category. It will require co-ordination with the furniture and fittings workstream.

Group 4

This equipment group is predominantly low-cost equipment that often does not have a requirement for fitting or are consumable in nature. This equipment is the responsibility of the Trust to specify and procure. Some Group 3 and 4 equipment will be suitable to transfer.

Group 5

All Group 5 equipment is equipment, that is being transferred from the existing VCC and is further split into two subgroups 5A and 5B

- **5A** – The Authority is responsible for the delivery and installation, via a sub-contractor eg IRS Linacs.

- **5C** – SP is responsible for the delivery and installation and initial technical commissioning eg CT SIMS.

Management of Programme Interdependencies

2.30 There are a number of key programme interdependencies that need to be managed to ensure successful delivery of the nVCC Project. This relates especially to the major equipment interface.

2.31 These, and other dependencies, currently sit under the TCS Programme overseen by the TCS Programme Delivery Board (PDB). This arrangement has been in place from the inception of the nVCC planning. However, Velindre is currently refreshing these governance arrangements to reflect new Board Structures set out in Table 8 below, as the Trust moves into the implementation phase of the programme:

Table 8 – TCS Governance future arrangements

Strategic Capital Board (SCB) (former PDB)	Velindre Futures
Project 1 – Enabling Works	Project 3a IRS (Implementation)
Project 2 – nVCC	Project 4 – RSC (Clinical Service model only)
Project 3a – IRS (Capital aspects only)	Project 5 – Outreach (Clinical Service Model)
Projects 3b & c – Equipment (Clinical and Non-clinical)	Project 6a – Design of nVCC Clinical Model
Project 4 – RSC infrastructure only	Project 6b – nVCC Clinical Model delivery
Project 5 – Outreach (Capital aspects only)	Nuffield Recommendations for VCS
Projects 7 – VCC Decommissioning	
Digital (content and scope TBC)	
Project 6c Transition to nVCC (to report into both VF and SCB)	

2.32 The interdependencies and project alignment will be reviewed monthly against the Master Programme, with regular risk reviews and exception reporting also being undertaken.

2.33 The Integrated Assurance and Approval's Plan (IAAP) (see appendix **FBC/MC4**) allows the nVCC Project Board and overarching TCS Programme Delivery Board to coordinate key deliverables and Programme interdependencies with the required levels of scrutiny and governance.

2.34 In order to maintain co-ordination and alignment of these connected initiatives the nVCC Leadership Team have direct links into both projects. The overarching Programme Plan, which includes the nVCC Project, identifies the connections between each Project and the critical path of dependent activities. All the Project Directors are members of the currnet TCS Programme Delivery Board.

2.35 The design of the IRS Project (and the resultant IRS Contract) relates to all facilities. The project also supports the maintenance of operational services at the existing Cancer Centre through the transitional period into the new operating arrangements. Interfaces between each of the projects are monitored and risks managed at both project and programme level. The current TCS Programme Plan sets out the critical interdependencies between the respective Projects within the TCS Porgramme, this is regularly reviewed for alignment and to ensure that the respective projects are on track.

2.36 The nVCC Project also interfaces with projects within Velindre's service change initiative the Velindre Futures Programme, where there are also critical interdepencies.

3 CHANGE CONTROL AND CHANGE MANAGEMENT

Introduction

3.1 This section of the Management Case sets out the approach to change control and change management.

Change Control

3.2 The Change Control process is managed by the Project Management Office (PMO). The Change Control administration comprises of:

- Change Control Management Document - which gives guidance of version control in regard to documents and the change control procedure;
- Change Management Log - captures all version controlled PMO documents/products;
- Change Form - formal process staff are required to follow to request change to a version-controlled document/products; and
- Change Log - this captures all change requests.

3.3 The Project Team, and external contractors, are expected to comply fully with the Change Control Procedure.

Change Management Principles

3.4 The Change Management principles of the framework are to:

- Recognise the need to maximise the benefits of the change for patients, who should be at the heart of the changes made;
- Take advantage of the time required to complete the development to start the change process immediately and avoid risks related to a 'big bang' approach;
- Test and prove the changes through careful piloting of any aspects of the new models and processes that can be implemented before the new facility is finally commissioned;
- Work in partnership with staff and other stakeholders both within and outside VCC to engage all those involved in the delivery of care in the change process; and
- Focus on staff skills and development required so staff are both capable and empowered to deliver healthcare effectively and to a high-quality standard in the new facility through new models of care.

The Project Change Management Approach

3.5 The PMO has designed a change management approach that encompasses the framework and principles outlined above.

3.6 The change management process was implemented alongside the development of the OBC.

3.7 Where proposed changes to service impact on the workforce, the NHS Wales Organisational Change Policy will apply. This document makes clear the onus upon the service to consult with staff affected and their individual employment rights.

The Change Management Plan

3.8 A Change Management Plan will be developed. Once the FBC has been approved, three actions will occur:

- The Core Plan will be reviewed to identify other relevant areas that need to be included;
- Detailed plans will be developed for each of the tasks in the Core Plan; and,
- A change timetable will identify the high-level milestones.

3.9 Table 9 below sets out the core plan and the main tasks identified to date.

Table 9 - Change Management Plan

Area	Planned tasks
Planning phase	✓ Appoint key Project roles and Change Managers, confirming responsibilities and leadership ✓ Confirm stakeholders and interested parties both within and outside VCC ✓ Develop core plan in more detail, identifying high level milestones for the Change Management Plan, mapped to the overall Project Plan ✓ Confirm involvement of HR, managers and other individuals/groups in the process
Communications and stakeholder engagement	✓ Confirm communications lead and protocols (route and timing of approval of communications) ✓ Develop communications routes, including face to face briefings bulletins, intranet pages ✓ Formulate and agree key communications messages against high level milestones ✓ Set up stakeholder map and engagement plan ✓ Launch change Programme ✓ Ongoing communications work

Area	Planned tasks
Training and development	✓ Complete detailed workforce planning to identify 'shadow' structures, roles and competencies for those roles ✓ Work with staff through workshops and other training to clarify the workings of the new Service Models and how these will impact in practice ✓ Identify training and development required to fulfil roles and competencies ✓ Develop training plan, aligned to pilot work and overall milestones in implementation plan ✓ Link training and development into communications plan
Piloting	✓ Identify and confirm areas where piloting of new models and practice will be implemented ✓ Confirm schedule of pilot work, mapped against high level project and change management milestones ✓ Agree feedback arrangements from pilots and how this links into training/development, communications and overall change management plan ✓ Execute pilots, feedback and report progress
Full Implementation	✓ Identify scheduling/phasing of full implementation at VCC ✓ Using results of piloting and training work, develop detailed implementation and transition plan, mapped to project phasing ✓ Discussion and agreement with key staff ✓ Execute implementation and transition plans

3.10 Detailed planning to manage the transition of the current service and operations at the existing Velindre Cancer Centre to the new site will form the basis of a dedicated project (Project 6c Service Transition) under the direction of the Director of Transformation.

3.11 Project 6c reports jointly to both the Velindre Futures Programme Board and Strategic Capital Board to ensure alignment and consistency of planning.

3.12 A comprehensive Transition Plan will be developed as part of this project.

3.13 Assurance of the transition process will also be provided via a Gate 4 Review: Readiness for Service which will be undertaken after the project has been approved as ready for service.

4 EXTERNAL ADVISORS

4.1 This section sets out the external consultant arrangements that support the delivery of the nVCC Project and their respective roles.

4.2 The contract management arrangement for external advisors is set out in the Procurement Section of this Management Case.

4.3 Table 10 below sets out the Project's external advisory team:

Table 10 - External Advisors

Technical Advisors

Consultant	Roles and Responsibilities	Trust Lead
MDA Limited	Engineering design advice and services	Project Director
JCA Limited	Architectural advice and services	Project Director
Phil Roberts	Design and sustainability consultancy	Project Director
Mott MacDonald	Facilities Management and Energy advice	APD
Hulley & Kirkwood	Mechanical Engineering advice and support	APD
Macgregor Smith	Provide Landscape advice and support	APD
Phil Jones	Environmental design support	APD
Urbanists	Planning advice for the nVCC and associated access	APD
WSP	Civil and Structural engineering support	APD
Simon Fenoulhet	Arts consultancy	APD

Professional Advisors

Consultant	Roles and Responsibilities	Trust Lead
Pricewaterhouse Coopers	Financial and modelling advice	APD
DLA Piper	Provide legal and procurement advice	APD
Willis Tower Watson	Provide specialist insurance advice and services	APD
Archus UK Limited	Business Case and economic modelling services	APD
Faithful & Gould	Cost consultancy	APD

Other Advisors

Consultant	Roles and Responsibilities	Trust Lead
Down to Earth	Environmental design and community benefits advice	APD
Channel 3	Digital advice and support	APD

**APD – Assistant Project Director*

5 USE OF SPECIALIST ADVISORS WITHIN NHS WALES

5.1 The nVCC Project utilises a number of specialist advisors provided via the NHS Wales Shared Services Partnership (NWSSP) and other areas of the NHS in Wales.

5.2 These include the following:

- NWSSP – Specialist Estates Services;
- NWSSP – Procurement Services;
- NWSSP – Legal and Risk Services;
- Health Education and Improvement Wales (HEIW); and
- Digital Health and Care Wales (DHCW)

6 EXTERNAL PROJECT SCRUTINY AND ASSURANCE

6.1 To provide project assurance, a range of external reviews and audits will take place. These fall into the following categories:

- Gateway Reviews or Project Assurance Reviews;
- Commercial Approval Points (Mutual Investment Model); and
- Internal Audit.

Gateway Reviews

6.2 The Infrastructure Projects Authority (IPA) Gateway Review process examines Projects at key decision points in their lifecycle. As part of this process, an independent expert team assesses the delivery confidence of a Project or Programme.

6.3 The different gates are identified below in Table 8 and are as follows:

Table 8 - Gateway Review Themes

Gate	Scenario
0	Strategic Fit (Programmes Only)
1	Business Justification
2	Delivery Strategy
3	Investment Decision
4	Readiness for Service
5	Operations Review and Benefits Realisation

Commercial Approval Points (CAPs)

6.4 The Welsh Government MIM assurance framework includes Commercial Approval Points (CAPs).

6.5 A CAP considers the impact of project-specific commercial factors in relation to:

- Affordability;
- Value for Money;
- Deliverability; and
- Commercial and compliance aspects of a Project.

6.6 The sequence and stage of Commercial Approval Points (CAP's) are set out in the Table 9 overleaf.

Table 9 - CAP Sequence

Description of Procurement Activity	CAP No.
Pre OJEU	1
Pre-Competitive Dialogue	2
Mid Dialogue	3
End of Dialogue	4
Pre-Financial Close	5

Internal Audit

6.7 NHS Wales Shared Services Partnership provides Internal Audit services to Velindre. The nVCC Project forms an integral part of the Trust's annual audit cycle due to its significance to the organisation.

6.8 There is a continuous stream of Internal Audit reviews of the Project and Internal Audit attend the nVCC Project Board.

6.9 Table 10 below sets out the audit and assurance reviews that have been undertaken on the nVCC Project to date. A Gate 3 review "Investment Decision" is due to coincide with the Welsh Government scrutiny of this Full Business Case (see appendix **FBC/MC8** for Welsh Government Gate 2 (Critical Friend Review) report undertaken in April 2018).

Table 10 - Assurance Reviews Summary and Outcomes

Assurance Review	Stage / Title	Date	Outcome
Commercial Approval Point	1	February 2021	Proceed
	2	July 2021	Proceed
	3	February 2022	Proceed
	4	May 2022	Proceed
	5	Feb/Mar 2023	tbc
Gateway	1	N/A*	N/A*
	2	January 2017	Amber
	2 (Critical Friend Review)	April 2018	Amber
	3	Feb/Mar 2023	tbc
	4	tbc	tbc
	5	tbc	tbc
Internal Audit	MIM Procurement	June 2022	Substantial Assurance

*Note * - Gateway 2 in January 2017 was the first gate review of the project.*

7 PROCUREMENT AND CONTRACT MANAGEMENT

Introduction

7.1 This section of the Management Case describes the Trust's approach to managing the procurement of the nVCC. It will cover the following areas:

- The managerial and governance approach to delivering a successful MIM Competitive Dialogue process;
- Scope of all procurements relating to nVCC;
- The management and oversight of the construction period; and
- The Trust's organisation to manage contractual arrangements during the operational phase.

Procurement Scope

7.2 The overall scope of procurements required to deliver the nVCC are outlined in Table 11.

Table 11 – Scope of Procurements

Project	Procurement Arrangements
Construction of nVCC	Supported by NWSSP – Procurement Service and External Advisors **Route** OJEU/FTS **Process** 1. Project Agreement and Procurement Documents; 2. Competitive Dialogue; 3. Preferred Bidder
Clinical and Non-Clinical Equipment	Supported by NWSSP – Procurement Service and Capital Equipping Team **Route** OJEU for Integrated Radiotherapy Solution Procurement (*See Radiotherapy solution PBC*) Other Major Equipment (OJEU or Framework)
IM&T	Supported by NWSSP-Procurement Service and Capital Equipping Team **Route** Exploit existing IM&T Frameworks

New Velindre Cancer Centre (nVCC)

7.3 The nVCC will be funded, procured and maintained via Welsh Government's MIM. This model has a standard form Project Agreement (PA) which requires the Trust to personalise it (within agreed parameters) to meet the needs of the specific nVCC Project.

7.4 As outlined in the Commercial Case, the nVCC launched the procurement via an Official Journal of the European Union (OJEU)/ Find a Tender Service (FTS) advertisement.

7.5 The method of procurement was via a Competitive Dialogue process where bidders competed against one another to improve on a reference design. Final tenders were submitted from the bidders and Acorn consortium was selected as the Successful Participant (SP).

7.6 The Acorn consortium team includes Kajima Partnerships, Sacyr, Aberdeen Investment, and Kier Facilities Services.

Method and Approach

Process to Financial Close

7.7 Following appointment of the SP, Acorn and Velindre are working together to secure the following:

- Determination of Reserved Matters;
- Completion of Design to Stage 3;
- Completion of competent set of enabling works;
- Refinement and completion of PA;
- Confirmation of financial and commercial terms;
- Funder sign-off.

7.8 Following these actions, the Trust and Acorn will execute a Financial Close and sign the PA.

Contract Management during Construction

7.9 The Successful Participant will develop agreed plans for the nVCC, have submitted a Reserved Matters application in October 2022 and will commence construction after Financial Close.

7.10 Due to the size and complexity of the build there will be the need to consider the management of change controls throughout the construction. Issues will

arise, whether these are simply points of clarity, unforeseen design challenges, or omissions in the original design. The Project Agreement makes provision for the formal notification of changes during construction.

7.11 All change controls and early warnings must follow the specified governance arrangements which will remain in place for monitoring and approval purpose throughout the construction, post-construction and evaluation phases.

7.12 To fully control this process the Trust has purchased the Asite sharing portal which was successfully used during the procurement phase. It is proposed Asite will be used to manage all construction change controls as it is a fully auditable system that allows for the mark-up of architect's drawings, recording early warning notifications and compensation events.

7.13 The Trust will provide an internal team to liaise and monitor the performance and delivery of the MIM contractor:

i) The nVCC Project Director (supported by the Project Team) will be accountable for managing all change controls during construction, post-construction and evaluation phases and early warning notifications, thus ensuring the best possible balance of time, cost and quality is achieved.

ii) The team will meet regularly with the MIM contractor to review:
   a. Programme;
   b. Change Controls;
   c. Compliance with external site restrictions imposed;
   d. Equipment Commissioning;
   e. Medical Equipment Commissioning; and
   f. The Independent Tester / Certifier reports.

7.14 The Trust will support the team by the appointment of:

i) The Trust's Legal and Financial Advisors (to advise on any change controls or early warning notifications).

ii) A "Shadow Design" team (to provide engineering, architectural and design consultancy advice) who will be at the Trust's disposal during the construction period to advise on any change controls or early warning notifications.

iii) The Trust will also have access to Shared Services, Specialist Estates Services to provide input into any issues around the Technical functionality of the Design, as and when required, and to provide assurance during the commissioning of the hospital facility working with / alongside the Independent Tester/ Certifier.

Role of the Independent Tester / Certifier

7.15 The project will use an Independent Tester / Certifier in accordance with the MIM guidance, which is set out in Schedule 13 of the Project Agreement. The Project Agreement specifies the certification requirements, informed by lessons learned from other major schemes such as Edinburgh Schools.

7.16 The role of the Independent Tester / Certifier is to ensure that the project meets completion tests in accordance with the requirements of the contract. The Authority Construction Surveyor will monitor the quality of the work and align closely with the Independent Tester.

7.17 It is a core requirement of Welsh Government that a specialist team of advisers are in place to provide additional levels of assurance. They will undertake an appropriate level of due diligence during the design and construction of the hospital to ensure all aspects are being delivered in accordance with the requirements and terms of the Project Agreement.

7.18 The level of due diligence to be applied will be determined through an informed assessment of the associated risk and the implications of non-compliance.

7.19 The team structure will be developed around the core structure in Figure 1 to ensure robust contract management, record keeping, reporting, escalation and communications protocols are in place:

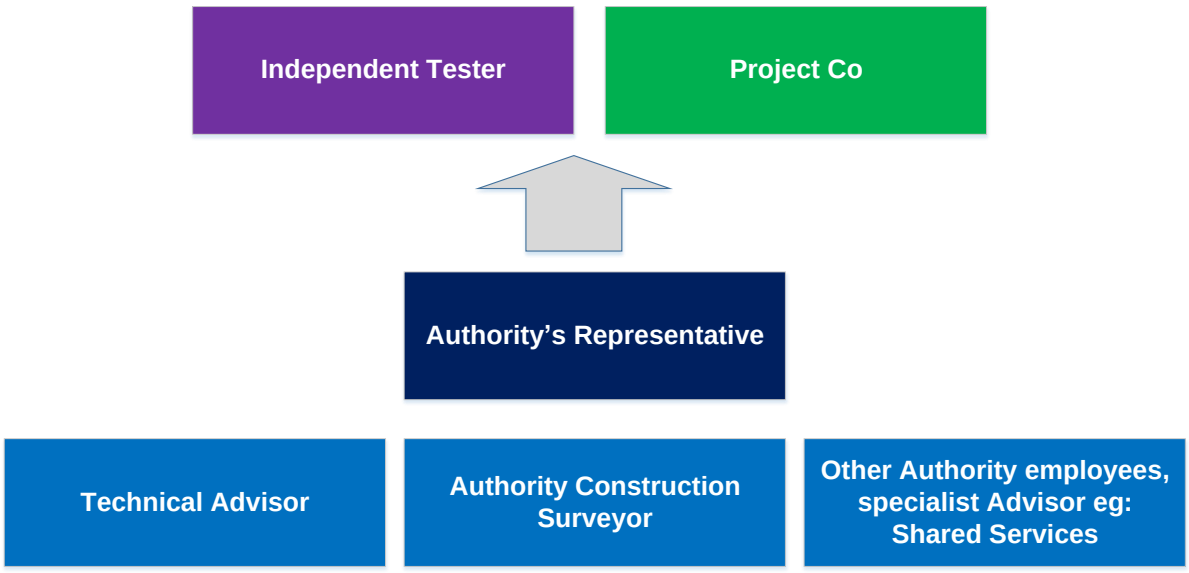


Figure 1 - Structure around Independent Tester / Certifier

In-life Contract Management

7.20 The Trust has assessed the anticipated requirements of the In-life Contract Management and has formulated a management structure that will ensure the effective management of the operational contract to ensure it is efficient, effective and achieves optimal performance. The Trust has identified the competence and capacity to achieve this, which is set out in Appendix **FBC/MC9**.

7.21 The Trust has recognised that the implementation of this new way of working will require a change in functional capability and structure within the Trust. The Trust will ensure that the knowledge, capacity and expertise to manage the contract and hold the supplier to account is provided through dedicated individuals within the new management team.

7.22 The roles of the team will vary from individuals with technical knowledge of the delivery of services, through to individuals with the knowledge and experience of contract management and have the appropriate and suitable negotiation skills to ensure that the contract is run to its optimal level.

7.23 The Team will be supported by external advisors (as and when required) and agreed reports from the Independent Tester. This will be in addition to the continuous support from colleagues in NWSSP Specialist Estates Services.

7.24 The management of the contract will be mindful of the agreed standards and the monitoring regime required to comply with:

i) Schedule 12, the Service Level Specifications.
ii) Thermal Energy and Efficiency Testing Procedure (Green Credentials).
iii) Building Information Modelling (BIM) requirements.
iv) Community Benefits.
v) Change Procedures.
vi) Hand back Procedures.
vii) Helpdesk performance

7.25 The in-life management team will be fully conversant with the administration and application of the pay mechanism associated with the contract. Agreed protocols for deductions or increases will be agreed with the Welsh Government prior to implementation.

7.26 The management structure will ensure continuous liaison with colleagues in the Welsh Government, to develop protocols around medium to large change procedures within the contractual agreements of the MIM contract and to report on the effective and efficient delivery of the contract.

8 nVCC PROJECT PLAN

Introduction

8.1 This section sets out:

- The Project Stage Boundaries;
- Project Planning Methodology;
- High Level Planning Assumptions; and
- Estimated Construction Timeline.

8.2 All Projects are effectively split into stages; these stages often reflect the key activities that are being undertaken during the defined time period. Stage Boundaries provide useful review and authority to proceed to points in the Project.

8.3 The nVCC Project comprises five defined stages that are described in the Figure 2 below that illustrates an estimated timeline.

Project Stages	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026
Design & Planning (Stage 1)	PS1																								
Procurement & Enabling (Stage 2)			Project Stage 2																						
Construction (Stage 3)											Project Stage 3														
Commissioning & Operational (Stage 4)																				PS4					
Consolidation & Closure (Stage 5)																						PS5			
** Table in calendar years / quarters*	*Q1 - January to March Q2 - April to June Q3 - July to September Q4 - October to December*																								

Figure 2 - Project Stage Boundaries

Project Planning Methodology

8.4 To achieve a baseline Project Plan major areas of delivery have been scoped and estimated timescales have been derived with advice from the Trust's technical advisors and Welsh Government colleagues. This has allowed baseline activity durations to be developed. This planning process, based on estimated "earliest time to complete" has allowed the development of a baseline Project Planning position.

8.5 This project planning methodology has not had any adjustment for optimism bias or schedule risk analysis and therefore provides an optimistic project timeline.

8.6 The key milestones of the nVCC Master Programme and enabling projects are outlined in Table 12 overleaf.

Table 12 - nVCC Project – Key Milestones (Quarters refer to *calendar* year not *financial* year)

Key tasks	Target Completion Date	Complete
Planning Application for the nVCC approved by Cardiff City Council's Planning Committee	**December 2017**	✓
nVCC OBC approved by commissioners	**April 2018**	✓
nVCC OBC approved by Trust Board	**July 2019**	✓
nVCC OBC submitted to Welsh Government	**July 2019**	✓
Asda's Development Agreement approved by Welsh Government	**December 2019**	✓
Pre-procurement activities: Issue Prior Information Notice (soft market testing) for nVCC Project	**January / February 2020**	✓
Asda planning process "triggered"	**February 2020**	✓
nVCC Project Agreement and Procurement Documents approved	**February 2020**	✓
Planning Application for Asda (access) approved by CCC	**September 2020**	✓
SRO requests CAP1 for nVCC Project	**Quarter 4 2020**	✓
Planning Application for Asda access - Reserve Matters and Judicial Review completed	**Quarter 4 2020**	✓
Welsh Government scrutiny of nVCC OBC completed	**Quarter 4 2020**	✓
Welsh Government scrutiny of Enabling Works OBC completed	**Quarter 4 2020**	✓
Easements and land matters (excluding Utilities) complete	**Quarter 1 2021**	✓
nVCC CAP 1	**Quarter 1 2021**	✓
Ministerial Approval of nVCC OBC	**Quarter 1 2021**	✓
Ministerial Approval of Enabling Works OBC	**Quarter 1 2021**	✓
nVCC OJEU publication issued	**Quarter 1 2021**	✓
ITPD Issued	**Quarter 3 2021**	✓
ITSFT Issued	**Quarter 2 2022**	✓
Enabling Works – Phase 1	**Quarter 1 2023**	✓
nVCC Competitive Dialogue concludes (Financial Close)	**Quarter 1 2023**	
Commencement of nVCC construction	**Quarter 2 2023**	
nVCC open (First Patient)	**Quarter 3 2025**	
nVCC Fully Operational after Transition	**Quarter 4 2025**	

Construction Timeline

8.7 The construction timeline has been developed by Acorn. The current construction timeline is 25 months; this overall timeline includes handover of the Imaging Block to happen after 22 months, followed by 5 months of major equipment commissioning. The first patients will be treated at the nVCC in Quarter 3 2025; however other non-clinical areas will still be being finalised up until the 27-month timeline (see appendix **FBC/MC10**).

8.8 Figure 3 below sets out the Project plan for Construction and Commissioning.

P2. nVCC Construction	**810 days**	**Tue 01/11/22**	**Mon 08/12/25**	
IRS Link	**120 days**	**Mon 28/10/24**	**Fri 11/04/25**	
Lead time for radiotherapy treatment machines - order to delivery	120 days	Mon 28/10/24	Fri 11/04/25	14,380FF-240 days
Site preparation and habitat management activities	**261 days**	**Tue 01/11/22**	**Tue 31/10/23**	
On-site activities	**230 days**	**Mon 12/12/22**	**Fri 27/10/23**	
Habitat enhancement / creation (offsite and on site)	80 days	Mon 12/12/22	Fri 31/03/23	
Reptile fencing and winter clearance (Phase A - Southern End)	46 days	Fri 10/03/23	Fri 12/05/23	137,148,146
Reptile translocation (Phase A - Southern End)	35 days	Mon 15/05/23	Fri 30/06/23	374
Stage 2 vegetation clearance (Phase A - Southern End)	75 days	Mon 15/05/23	Fri 25/08/23	374
Reptile translocation and stage 2 clearance (Phase B - Northern End)	40 days	Mon 04/09/23	Fri 27/10/23	376
Construction - Acorn	**709 days**	**Wed 22/03/23**	**Mon 08/12/25**	
Acorn mobilisation and early works	69 days	Wed 22/03/23	Mon 26/06/23	360
Phase 1 Radiotherapy/imaging block (incl. 1a construction - bunkers	467 days	Mon 03/07/23	Tue 15/04/25	144,360,171,48FF,5
1a Exclusive access	34 days	Wed 16/04/25	Mon 02/06/25	380
1a Beneficial access	20 days	Tue 03/06/25	Mon 30/06/25	381
Initial linac commissioning	54 days	Wed 16/04/25	Mon 30/06/25	380
Phase 2 - rest of hospital including landscaping	515 days	Tue 11/07/23	Mon 30/06/25	144,360,171,48FF,5
Service Transition	15 days	Tue 01/07/25	Mon 21/07/25	384,382
Milestone - First Patient Treated	0 days	Mon 21/07/25	Mon 21/07/25	383,385
Phase 1b (bunkers 5-6)	516 days	Mon 03/07/23	Mon 23/06/25	380SS
1b Exclusive access	56 days	Tue 24/06/25	Tue 09/09/25	387
1b Beneficial access	15 days	Wed 10/09/25	Tue 30/09/25	388
Phase 1c (bunkers 7-8)	546 days	Mon 03/07/23	Mon 04/08/25	380SS
1c Exclusive access	31 days	Tue 05/08/25	Tue 16/09/25	390
1c Beneficial access	10 days	Wed 17/09/25	Tue 30/09/25	391
Commissioning / Transfer of final linacs	120 days	Tue 24/06/25	Mon 08/12/25	387,390FF
Milestone - Fully open - all patients treated	0 days	Mon 08/12/25	Mon 08/12/25	393,386,389,392

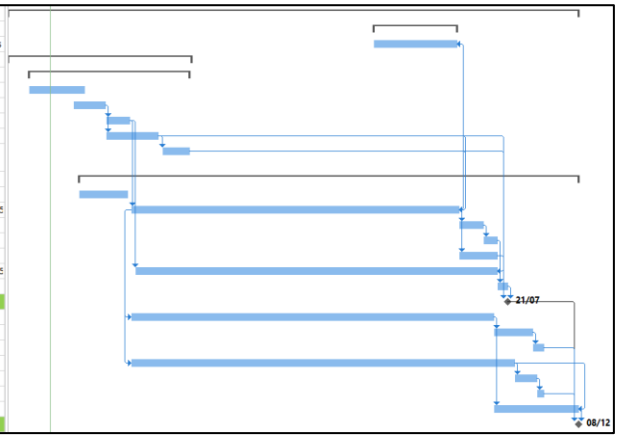


Figure 3 - The Project Plan for Construction and Commissioning

8.9 The Trust is continually reviewing the Master Project Plan for the nVCC Project, part of the TCS Programme, and is in regular contact with the Welsh Government and key stakeholders regarding this matter (see Appendix **FBC/MC11**). There are a range of potential risks that could threaten the current timeline that are currently being mitigated.

9 BENEFITS REALISATION AND ARRANGEMENTS FOR POST-PROJECT EVALUATION

Introduction

9.1 This section of the Management Case will describe how the Trust will manage the delivery of the benefits associated with the nVCC Project.

9.2 The Outline Business Case outlined the approach to quantified benefits. The quantification of benefits relating to the nVCC include macro benefits / societal benefits from the wider TCS Programme but only where they can be directly attributable to the re-provisioning of the Velindre Cancer Centre, or care pathway attributed to Velindre as an organisation. The Full Business Case assesses the validity of these benefits.

Wider Project Success Measures

9.3 The project has recognised that benefits of successful implementation of the nVCC Project extend further than those articulated/directly quantified in the Economic Case. The project also recognises the value of prospective evaluation (i.e., not waiting until after the Project is complete). This has led the nVCC Project and the TCS Programme Delivery Board to design a dynamic process to evaluate a set of 34 success measures that cover:

- Design outcomes
- Quantifiable benefit outcomes
- Community benefit outcomes
- Commercial outcomes
- Process

9.4 The nVCC Project Initiation Document includes details of these benefits, outcome descriptors, SMART measurement methods, and data sources. They are drawn from the project vision and objectives articulated in the Outline Business Case, Procurement Documents, and the Design Brief.

Dynamic Evaluation and Post-Project Evaluation

9.5 The nVCC Project has established a Research, Development and Innovation (RD&I) group which will lead on the dynamic evaluation of the project during its lifetime as well as facilitating additional benefits arising from the project.

9.6 The RD&I group has already launched a range of projects in partnership with local research institutions. The RD&I group will continue to launch projects during the construction, commissioning and bedding-in phases of the project. The current projects (November 2022) are appended (see **FBC/MC12**).

9.7 The project will capture the results of this evaluation process in a Benefits Register. The project will build this register throughout the stages of the project and disseminate learning to all interested parties. The register will include the quantified benefits analysed in the economic case as well as the wider benefits (see **FBC/MC13)**.

9.8 The RDI group reviews the projects in delivery, future opportunities and the project list at its monthly meetings.

9.9 The RD&I group reports into the nVCC Project Board.

9.10 Once the project has completed the construction phase, it will undertake a Gate 5 review to review this work.

9.11 The nVCC Project Director will be responsible for delivery of the post-project evaluation (PPE). The Assistant Project Director will be responsible for day-to-day oversight of the PPE process, reporting to the nVCC Project Director.

10 COMMUNICATION AND ENGAGEMENT

Introduction

10.1 Following the development of the Programme Business Case and the nVCC Outline Business Case, the project developed a communication and engagement strategy (Appendix **FBC/MC14**).

10.2 The strategy identified a list of key stakeholders including the following groups:

- Patients, families and carers;
- Staff and staff representatives;
- Health Boards;
- Higher Education Institutions;
- Potential strategic/commercial partners;
- Local community groups;
- The Local Authority;
- Local Politicians; and
- Welsh Government Ministers.

10.3 The project issues monthly update reports on engagement. The Project Team presents these reports to the Project Board.

10.4 The Programme Team incorporates the project engagement plans into an overall Programme report.

10.5 As part of the approach to Future Generations, the Project Team has referenced all the project activities and objectives to the Future Generations Act.

10.6 The project has tied the Future Generations objectives including method and depth of engagement into its RD&I workstream.

11 RISK MANAGEMENT PLAN

Introduction

11.1 This section of the nVCC FBC sets out the Projects approach to risk and issues management and presents:

- Risk Management Overview;
- Issue Management and Risk Management Philosophy;
- Recording and Assessment of Risk;
- Risk Management Framework;
- Responsibility for Managing Risk Registers;
- Risk Mitigation;
- Review and Escalation of Risk; and
- Current Risk Register.

Risk Management Overview

11.2 The nVCC Project utilises its governance structure and arrangements to ensure the effective management of risk. The governance structures allow for risks to be escalated from project groups and subgroups, through to the nVCC Project Board, Strategic Capital Board (which replaces the PBD) and onto the TCS Programme Scrutiny Sub-Committee and / or the Trust Board as appropriate.

11.3 All risk registers (which are present in all levels of the nVCC project) are regularly reviewed and updated. A monthly risk report is presented at the nVCC Project Board and Strategic Capital Board. This risk report will highlight new risks, the movement in existing risks and issues and where appropriate it will recommend the closure of resolved risks or issues. Risks and Issues are escalated to the Strategic Capital Board, if applicable.

11.4 The TCS Programme Scrutiny Sub-Committee, upon receiving the nVCC risk register (via the SRO), will consider if the mitigating actions are sufficient and if the identified risks are receiving the right level of treatment. The TCS Programme Scrutiny Sub-Committee will consider the escalation of nVCC Project Risks onto the Trust Risk Register as appropriate, using Datix. The remainder of this section sets out the detailed management of risks and issues.

Issue Management and Risk Management Philosophy

11.5 The nVCC Project Board's philosophy for managing risks is by adopting a holistic approach, seeing effective risk management as a positive way of achieving the project's wider aims. The nVCC Project Board regards risks as the mirror opposite of benefits. Inadequate risk management would therefore reduce the potential benefits to be gained from the delivery of the nVCC Project.

11.6 Effective Risk Management supports the achievement of wider aims, such as:

- Effective Change Management;
- Enhanced use of resources;
- Better Project Management;
- Minimising waste and fraud; and
- Innovation.

11.7 The Project utilises the Trusts' Risk Management Framework to systemically identify, actively manage and minimise the impact of risk. This is achieved by:

- Identifying possible risks before they manifest themselves and put stringent mechanisms in place to minimise the likelihood of them materialising with adverse effects on the project;
- Putting in place robust processes to monitor risks and report on the impact of planned mitigating actions;
- Implement the right level of control to address the adverse consequences of the risks if they materialise into issues; and
- Having strong decision-making processes supported by a clear and effective framework of risk analysis and evaluation.

11.8 Once risks are identified, the response for each risk will be one or more of the following types of action:

- **Prevention**, where countermeasures are put in place that either stop the threat or problem from occurring, or prevent it from having an impact on the project;

- **Reduction**, where the actions either reduce the likelihood of the risk developing or limit the impact on the project to acceptable levels;

- **Transfer**, where the impact of the risk is transferred to the organisation best able to manage the risk, typically a third party (e.g., via a penalty clause or insurance policy, or contractual responsibility);

- **Contingency**, where actions are planned and organised to come into force as and when the risk occurs; and

- **Acceptance**, where the nVCC Project Board decides to go ahead and accept the possibility that the risk might occur, believing that either the risk will not occur or the potential countermeasures are too expensive. A risk may also be accepted on the basis that the risk and any impacts are acceptable.

11.9 The nVCC Project Board will adopt a proactive approach to the identification, assessment and management of risks throughout the whole project lifecycle. The effective management of risk and the prevention of issues arising will support the timely delivery of the nVCC Project, by preventing delays, avoiding costs and ensuring quality is upheld.

11.10 The management of nVCC Project risk will be in accord with the principles of the Trust's Risk Management Policy.

Recording and Assessment of Risk

11.11 The nVCC Project will have a Risk Register, which will be updated with all new identified risks being assessed. All risks will have an individual identifier, an assigned owner and be scored using the standard impact v likelihood criteria to ascertain the risk-rating colour.

11.12 It is worth reiterating that as set out in the Commercial Case a number of the risks associated with the MIM procurement will be wholly either transferred or shared with the Successful Participant partner.

11.13 In developing the preferred solution, the Project Management Office examined three categories of risks for each option. These are set out in Table 13 below, together with a summary of how these were assessed.

Table 13 - Risk areas

Area	Description	How assessed
Capital Risks	Capital risks relate to unknown or unidentifiable factors that increase the cost and time of the project construction.	Qualitative and quantitative risks assessed by Quantity Surveyor and / or through workshops.
Optimism Bias	Optimism bias is the demonstrated Systemic tendency for appraisers to be over optimistic about key project parameters. This creates a risk that predicted outcomes do not fully reflect likely costs	Standard methodology to identify extent of optimism bias, with mitigating factors confirmed through nVCC Project assessment
Revenue Risks	These are risks relating to everyday management encompassing cost and activity as well as external environmental factors	Risks identified, with quantitative and qualitative assessment through workshop

11.14 The risk values for the shortlisted options were identified and evaluated as part of the assessment process in choosing the preferred option in the Economic Section. Although the focus of this section is on the approach to managing the risks of the preferred solution, the scope of Risk Management will continue to cover all three areas of risk.

Risk Management Framework

11.15 Velindre University NHS Trust have designed a Risk Management Framework that focuses on identification, reporting and management of risk.

11.16 The Project Management Office (PMO), led by the nVCC Principal Project Manager (PPM), will oversee the operation of the Risk Management Framework and will be the Risk Management Lead for the Project. It will be the responsibility of the PPM to coordinate the Risk Management Sub-Group and to liaise with project's risk champion to ensure individual risk owners actively manage risk mitigations

11.17 Although overseeing the Risk Management Framework the PPM will not be responsible for the actually taking forward risk mitigating actions (this will be the nominated risk owner). The risk management roles are set out in Table 14 below.

Table 14 - Risk Management Roles

Role	Responsibility	Reporting & accountability
Risk Management Lead	Manages the process for identifying and addressing risk, maintaining the risk register on a day-to-day basis	SRO and Project Board
Risk Management Sub-Group	Brings together key risk owners to co-ordinate the identification and assessment of risks plus the management of key risks	Project Team and Project Board
Risk Owner	Individual or group responsible for developing and implementing risk mitigation measures for individual risks they are responsible for	Risk management lead and Risk Management Sub-Group

11.18 The Trust has recognised and acted upon its responsibility for leading effective risk management throughout each stage of the nVCC project. This is particularly important at FBC stage, to ensure that the risks associated with the preferred solution have been identified and addressed. The paragraphs below set out the work completed to date, demonstrating the proactive approach to risk management.

Responsibility for Managing the nVCC Project Risk Register

11.19 The nVCC Project Director is accountable for ensuring that there is robust and proportionate risk management for all their accountable projects. To do this it is important that the relevant information on risk is available. The responsibility for managing the nVCC Project Risk Register lies with the nVCC Principal Project Manager who will review the Risk Register and where necessary hold Risk Reduction Meetings as and when required. Otherwise, the Risk Register will be issued monthly with updated changes.

11.20 The Risk Register will be updated and reviewed continuously throughout the course of the nVCC Project lifecycle and capture the following information for each risk:

- Risk Register Risk number (unique within the Register);
- Risk type Author (who raised it);
- Date identified;
- Date last updated;
- Description (of risk);
- Likelihood / Impact;
- Interdependencies (between risks);
- Expected impact;
- Cost;
- Bearer of risk;
- Mitigating actions; and
- Risk status (action status).

11.21 All the risks identified in the Strategic Case and Economic Case sections of the nVCC Project must be accounted for within the nVCC Project Board Risk Register (see Appendix **FBC/MC15**).

Quantification of Project Risks

11.22 The build of quantified risk has been developed in a number of areas within this FBC. Capital risks have been completed as part of the capital risks utilising expert advice from advisors such as PWC.

Mitigation of Risk

11.23 The nVCC Project Board risk register will be formally reviewed monthly at the Project Board meetings. All Project Groups and Sub-Groups will also have their individual risk registers. All Risk Registers must have mitigating actions associated with them. All risks will then be re-evaluated after considering the effect of the mitigating actions, resulting in a post mitigation risk score.

Review and Escalation of Risk

11.24 The Project Groups and Sub-Groups will consider and mitigate risk and maintain those, which can be actively managed by the Sub-Group. However, when a risk is deemed so potentially severe post mitigation that it could affect the overall delivery of the nVCC (to time, cost or quality) the risk will be escalated to the nVCC Project Board for more senior oversight. The nVCC Project Board will manage risk that directly affects their prescribed deliverables. The members of the nVCC Project Board will review the Risk Register at each meeting adding, reassessing, escalating or closing risks as necessary.

Issue Management

11.25 Issues are Risks that have materialised. Similar to risk, the nVCC Project Board will hold an Issues Register and follow the same escalation path (see Appendix **FBC/MC16**).

11.26 All issues should have an owner and an allied action plan, will be reviewed during all nVCC Project Board meetings, and are categorised as high, medium and low priorities.

11.27 Issues will be regularly reported to the nVCC Project Board and escalated to the TCS Programme Scrutiny Sub-Committee and Trust Board as appropriate.

11.28 Issues that are outside the scope or authority of the nVCC Project Board will be referred to the Strategic Capital Board and / or the Trust Board as appropriate.

12 APPENDICES

For Information

The following Appendices are available in support of this Case:

Appendix Reference	Title
FBC/MC1	Project Management Structure – Roles and Responsibilities
FBC/MC2	TCS Project Governance Arrangements by Committee or Board
FBC/MC3	nVCC TCS Programme Scrutiny Sub-Committee, Programme Delivery Board and Strategic Capital Board – Terms of Reference
FBC/MC4	Integrated Assurance and Approvals Plan
FBC/MC5	Digital Activity Plan
FBC/MC6	Key Clinical Equipment Outline Commissioning Programme (KCEOCP) – *Acorn's draft submission on 16.01.2023,*
FBC/MC7	Successful Participants Clarification Issues
FBC/MC8	Welsh Government Gate 2 Report (NB - Gate 3 to follow)
FBC/MC9	In-Life Contract Management Role and Responsibilities
FBC/MC10	Acorn Construction timelines
FBC/MC11	MIM Project Plan
FBC/MC12	Benefits Realisation and Project Evaluation
FBC/MC13	Benefits Register
FBC/MC14	Communication and Engagement Plan
FBC/MC15	Project Board Risk Register (February 2023)
FBC/MC16	Project Board Issues Register (February 2023)