

Haematology Service Capital Development in the Edinburgh Cancer Centre at the Western General Hospital

NHS Lothian Full Business Case

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Contents

1	EXECUTIVE SUMMARY AND PURPOSE	4
1.1	Introduction	4
1.2	The Strategic Case.....	4
1.3	The Economic Case	6
1.4	The Commercial Case.....	6
1.5	The Financial Case.....	6
1.6	The Management Case	7
2	THE STRATEGIC CASE	7
2.1	Introduction	7
2.2	Existing Arrangements.....	8
2.3	Business Needs	9
2.4	Benefits	11
2.5	Strategic Risks	12
2.6	Constraints and Dependencies	12
2.7	Preferred Strategic Option.....	13
2.8	Preferred Decant Option	14
3	THE ECONOMIC CASE	16
3.1	Introduction	16
4	THE COMMERCIAL CASE	17
4.1	Introduction	17
4.2	Procurement Strategy.....	17
4.3	Commercial Arrangements.....	18
4.4	Contractual Arrangements	19
5	THE FINANCIAL CASE	20
5.1	Introduction	20
5.2	Capital Costs.....	20
5.3	Revenue Costs.....	21

5.4	Other Non-Recurring Costs.....	22
5.5	Statement of affordability	23
6	THE MANAGEMENT CASE	24
6.1	Outline Management Case	24
6.2	Project Management Arrangements	24
6.3	Change Management Arrangements.....	26
6.4	Benefits Realisation Plan	27
6.5	Project Risk Register	27
6.6	Commissioning Process Arrangements	27
6.7	Project Monitoring and Evaluation.....	28
7	APPENDICES.....	Error! Bookmark not defined.

1 EXECUTIVE SUMMARY AND PURPOSE

1.1 Introduction

The purpose of this Full Business Case is to seek approval to redesign and upgrade the Haematology facilities at the Western General Hospital (WGH) into a purpose built, modern facility which co-locates both inpatient and day case work streams within the Edinburgh Cancer Centre using a substantial charitable donation.

The new environment will allow the transformation of Haematology care delivered at the WGH by providing an environment to administer some treatments traditionally delivered in the inpatient setting in an extended day case facility in advance of the full reprovision of Cancer Services in the new South East Scotland Cancer Centre.

An additional benefit of the work will be to release space in Ward 1 (Systemic Anti-Cancer Therapy Day Case) to address the capacity issues resulting from the increasing demand for its services and allow expansion of the satellite pharmacy unit based in that area.

1.2 The Strategic Case

1.2.1 Organisation Profile

At present, in-patient Haematological care is provided in both Ward 8 and Ward 8 Unit at the Western General Hospital, both wards administer Systemic Anti-Cancer Therapy (SACT). This group of patients are highly susceptible to infection and have a high incidence of multi drug resistant organisms; currently the facilities are non-compliant with modern healthcare guidelines. The area lacks ventilation, storage and has no facilities to segregate waste.

Ward 8 consists of 14 beds, five single en suite rooms and a further single room with designated bathroom facilities located in the corridor outside the room. It also has two rooms consisting of four beds - each with a shared bathroom.

Ward 8 Unit comprises of ten single en suite rooms and accommodates the autologous haemopoietic stem cell transplant service for the South East Scotland Cancer Network (SCAN).

Ward 1 (Area 4) delivers daycase SACT and supportive therapies to the same patient group in 16 chairs; it is experiencing difficulties in meeting the demand for its services (increase in demand of 3.5% per annum) and does not meet current guidelines for the safe administration of SACT (chair spacing currently circa 2.0m²/chair against the recommended 10m² chair [Health Building Note 02-01 Cancer Treatment Facilities]). It also does not have isolation facilities for immune-compromised patients.

1.2.2 Business Strategy and Aims

National Strategic Context:

2020 Vision for Health and Social Care

This project will enable the transformation of Haematology services within South East Scotland, enabling patients (when assessed safe to do so) to receive care in a day case facility rather than being admitted to hospital.

National Cancer Strategy

- Improve the experience of and outcomes for people affected by cancer across Scotland by improving service delivery and reducing health inequalities.
- To ensure that people with cancer have equity of access to sustainable, high quality, timely treatment.
- To reduce variation in practice/inequities in access to the most advanced treatments in accordance with individual clinical need and thereby improving outcomes.

Six Essential Actions To Improve Unscheduled Care

Essential Action Five: Seven Day Service

- The extended day-case facility will operate seven days per week, currently out-patient services are provided over five days.

Quality Strategy

Safe:

- A reduction in overcrowding (by increasing chair spacing) will improve patient safety
- Improving isolation facilities will reduce the transmission of pathogens
- Meets the requirements of Scottish Chief Executive Letter 30 (CEL 30)

Person Centred:

- Providing care as a day case procedure will benefit the patient by allowing them to return home during or after their treatment, increasing the time they can spend with family and allowing them the opportunity to self care in a non-clinical environment whilst having the support of the service should they require it.

Effective:

- By providing the treatments as a day case it will reduce the cost of treatment by reducing bed occupancy.
- Reduces the inefficiencies due to the reconfiguration of the unit.
- The redesign of the service supports the delivery of the target of 31 days from decision to treatment for those requiring SACT.

Local Strategic Context:

- Releases physical space in Ward 1 for Oncology Day case SACT delivery and expansion of satellite pharmacy.
- Develop a model of care which, if successful, could be duplicated within Oncology further reducing the need for in-patient stay.
- Capital development is part of the Cancer Centre five year business plan.

1.3 The Economic Case

1.3.1 Preferred Way Forward

After extensive Option Appraisal the preferred way forward has been identified as the co-located inpatient and outpatient Haematology services within the current Ward 8 and Ward 8 Unit and the West Wing and Breakthrough Laboratory facilities on the Western General Hospital site. The details of the option are described in section 2.7.

1.3.2 Decant Options

The original decant solution was originally identified as decant of Breast Theatres, Breast Clinics and Ward 6 to the Department of Clinical Neurosciences (DCN), along with inpatient wards 2 and 4. It was recognised at that time that some refurbishment works would be required in DCN in order to make the facilities fit for purpose and suitable for cancer patients, many of who are immuno-compromised. Rising cost uncertainty and concerns regarding Infection Control following the recent incidents of pseudomonas within DCN necessitated a review of the available decant options.

The revised option is described further below (in section 2.8) and associated costs are documented in Appendix 6.

1.4 The Commercial Case

The procurement strategy is part of the wider WGH Programme of Works which includes the (other) Oncology Enabling Projects and the drafting of the Initial Agreement to support the new Cancer Centre.

RMF has been appointed as PSCP, along with Thomson Gray Partnership as Project Managers and Cost Advisors, under Frameworks Scotland 2. The PSCP will be responsible for all aspects of design and construction including the decants.

The risk register has been developed, and the contract option for the project is Option C: Target Price with Activity Schedule with monthly payments to PSCP and variations added by means of compensation events.

1.5 The Financial Case

The total cost and agreed funding is summarised in the table below:

	Project Costs (£k)	Incremental Recurring Revenue Costs (£k)
Total Capital Costs	10,866	
Total Decant Costs	2,927	
Annual Revenue Increase		434
Total Project Costs	13,793	434
Funding in place		
Charitable Donation	12,282	
NHSL Funding	811	434
SG Funding	700	
Total Funding	13,793	434
Residual Funding Required	0	0

The funding streams for each of the elements have been confirmed and agreed with the responsible parties.

The costs noted above represent an increase from the OBC (total non-recurring costs of £13.7m) of £109k which is proposed to be funded through NHS Lothian's formula allocation.

1.5.1 Capital Cost

The capital cost of the Haematology project has been estimated at £10.87m (inc. VAT) and will be funded by the charitable donation. This represents a decrease from the OBC cost of £206k (OBC cost (£11.072m)). This is offset by an increase in the decant costs.

The target cost negotiations are nearing completion and it is anticipated that these will be closed out prior to the F&R meeting. No increase in costs is anticipated but a detailed verbal update will be provided on any changes from the information included in this FBC.

1.5.2 Revenue Costs

The revenue cost implications for clinical and support services are £434k per annum. Revenue savings generated from the switch to the biosimilar Rituximab, improvement in Stem Cell Transplant billing and closing Ward 1 on Saturday mornings will cover these incremental costs.

1.5.3 Decant Costs

The total of the decant cost has been estimated at £2.93m (capital element of £1.99m and revenue of £940k). A private charitable donation (£1.4m), NHS Lothian revenue savings (£515k), NHS Lothian capital funding (£296k) and Scottish Government funding (£700k) has been identified to fully fund the decant costs.

1.6 The Management Case

The Project organisation and structure is defined in Section 6.2. The start date of the project is November 2019 and the projected completion date is October 2020 (see Appendix 4).

A Benefits Register and Benefits Realisation Plan are attached as Appendix 2 and Risk Management workshops have been held. The Risk Register has been priced and is included in Appendix 3 to this FBC.

2 THE STRATEGIC CASE

2.1 Introduction

The Western General Hospital site has undertaken a significant Master Planning exercise with a new South East Scotland Cancer Centre forming the focal point of the campus modernisation. Feedback from the Scottish Government has indicated uncertainty in relation to the timescale for funding a

new Cancer Centre. In recognition that 2025 is the earliest a new centre could be delivered, a number of clinical areas within the Cancer Centre have been identified as requiring immediate upgrade and redesign. Progression of these upgrades is considered high priority to enable the delivery of a safe clinical service between now and the opening of a new purpose built Cancer Centre. Collectively the proposals to make these essential upgrades are referred to as the Oncology Enabling Projects and are intended as an interim solution until full Cancer Centre re-provision.

A substantial charitable donation has been received by NHS Lothian to upgrade the Haematology service and facilities within the Western General Hospital. The donation allows the design of a significantly improved, modern state of the art environment for day-case and in-patients, as well as allowing the integration and co-location of the Haematology services within the Edinburgh Cancer Centre. A further benefit of this development will be the release of space within Ward 1 (The MacMillan Day Treatment Centre providing Systemic Anti Cancer Therapies- SACT) which is currently experiencing challenges due to lack of capacity and non conformity with current guidelines regarding spacing between therapy chairs. Additionally the pharmacy department hosted within Ward 1 is currently too small to meet the ever increasing demands for its services therefore removing the Haematology service will also allow expansion of the Pharmacy Department.

The re-provision of Haematology services also integrates into the interim aforementioned upgrades planned within the Cancer Centre in advance of a full South East of Scotland Cancer Centre re-provision - the Donors are aware of this situation and the indicative timescales.

The new environment will allow clinicians to transform the way Haematological care is provided with an emphasis on care being provided in the community, thereby reducing the need for in-patient admission.

The requirements for this development were outlined in the Initial Agreement (IA) then Outline Business Case (OBC) and the circumstances have not changed.

2.2 Existing Arrangements

At present in-patient Haematology care is provided on Ward 8 and Ward 8 Unit at the Western General Hospital. The wards provide care for patients with both non malignant and malignant haematological conditions which require intensive medical and nursing interventions including systemic anti-cancer therapies (SACT) and supportive therapies such as blood and/or platelet transfusions. The patients are highly susceptible to infection therefore the treatment of sepsis is a large part of the workload.

This arrangements described below have not changed from what was described in both the IA and OBC.

2.2.1 Ward 8

- 16 beds of which 5 are en suite, a further single room has designated bathroom facilities but these are not within the room. The two 4 bed bays have a shared bathroom in each room.

- Two of the single rooms are very small and cannot be used for patients if they have mobility problems, the four bed bays are also cramped for space.
- The ward has minimal storage facilities and non compliant waste disposal arrangements and therefore is no longer fit for purpose to provide modern healthcare.

2.2.2 *Ward 8 Unit*

Ward 8 Unit accommodates the autologous haemopoietic stem cell transplant service for the South East Scotland Cancer Network (SCAN).

- 10 single rooms, all en suite and requiring modernisation.
- Minimal storage.

Audits have raised several concerns about the physical environment in both ward 8 and Ward 8 Unit (Patient Quality Indicators (PQI), Standard Infection Control Procedures and Scottish Patient Safety Executive Walk Rounds).

Additionally, multi drug resistant organisms are becoming more prevalent within health care, our patient group is highly susceptible to cross transmission and therefore single room accommodation would be of great benefit.

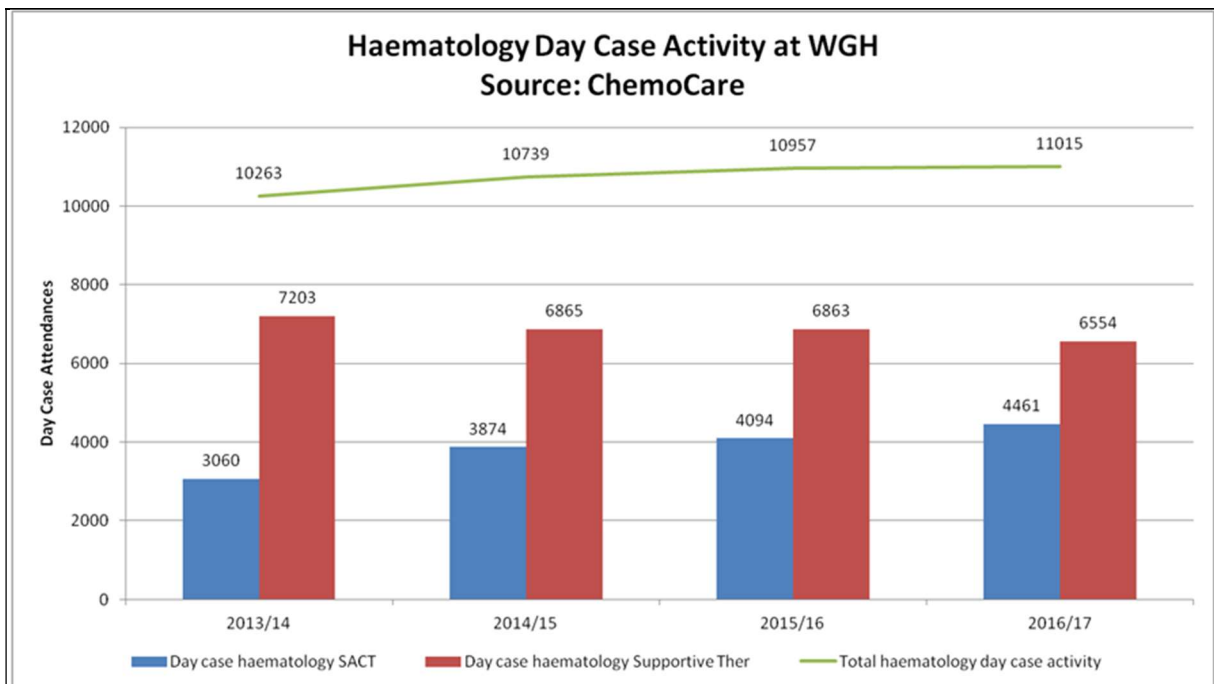
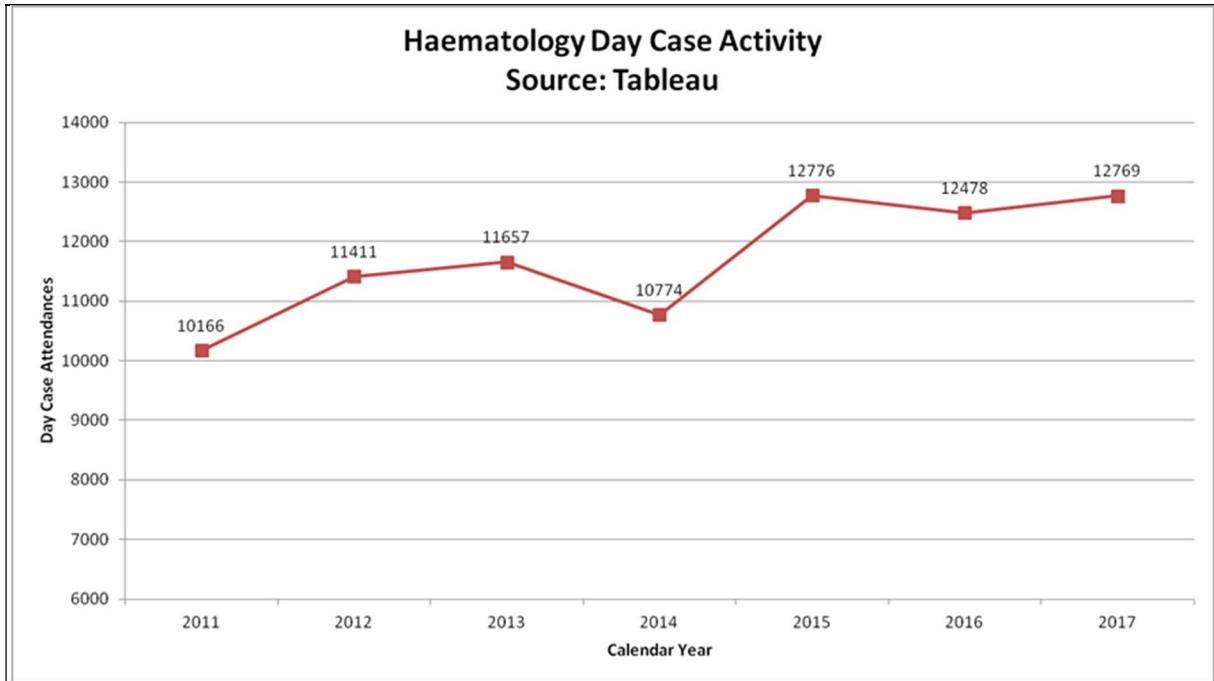
2.2.3 *Day Case SACT administration- Ward 1 (Area 4)*

- Currently 16 chairs with limited scope for either protective isolation of patients or those with infections.
- Provides a service for patients from South East Region (NHS Lothian, NHS Borders, NHS Dumfries and Galloway and NHS Fife)
- Current chair spacing circa 2.0m²/chair (recommended 10m² chair Health Building Note 02-01 Cancer Treatment Facilities).
- Chief Executive's Letter 30 (2012) states that 'SACT is administered in an area which is assessed as safe and appropriate for the treatment delivered'. Due to the increasing demand and activity the space in Ward 1 is no longer considered safe or appropriate and will not sustain service delivery until the new Cancer Centre is commissioned.

2.3 **Business Needs**

As previously outlined in the IA and OBC the annual increase in demand for the Haematology service is 3.5% reflecting a number of key drivers:

- An aging demographic
- Increasing population within Lothian (10% between 2008-2017)
- Increased cancer incidence
- Improved diagnostics
- Increased screening
- Increased number of effective treatment options licensed and SMC approved.
- Increased use of multiple lines of SACT



2.3.1 Potential Scope and Service Requirements

Potential Scope

The project will result in a significantly re-designed model of care including;

- Improved efficiency of chemotherapy delivery
- The provision of out-patient autologous transplants - one of the Scottish Government's 'Six Essential Actions'.
- A move of almost all chemotherapy currently delivered as an in-patient to the out-patient setting - one of the Scottish Government's 'Six Essential Actions'.

- A fully integrated, safer and improved patient journey.

The favoured option for the Haematology Service Development would create a unified Haematology Unit co-located over two floors with:

- Upgrade of the MRC West Wing Laboratory to create a new 18 chair (including 3 isolation rooms) day patient Unit relocating from Ward 1 Building;
- Upgrade of the Break Through laboratory to provide a new extended day-case facility using 8 treatment chairs and 4 single day case isolation rooms (for patients who are infected or susceptible to infection)
- Upgrade of Ward 8 to create a target number of 9 inpatients accommodated within single rooms
- Refurbishment of Ward 8 Unit.

In summary, the co-location of in-patient, day unit and extended day unit services, along with the directly adjacent Teenage and Young Adults Cancer Unit will result in a re-designed service model incorporating a major shift from in-patient to out-patient delivery.

Limitations of this Project

- Chair spacing increased to 8m², below current recommendation of 10m².
- A loss of 5 beds, however this will be mitigated by the creation of an extended day bed facility comprising of 12 day beds.
- The room sizes and facilities within the redesigned/refurbished ward areas will still not meet all current building specifications.
- Not all in-patient work can be transferred to the out-patient due to patient factors such as frailty, distance from hospital and the ability to self-manage symptoms.

These limitations cannot be overcome within the available timescale, footprint or budget and will be addressed by the provision of a purpose built new Edinburgh Cancer Centre.

2.4 Benefits

A full benefits register and realisation plan has been completed for the project and is included in Appendix 2. They key benefits are summarised below.

Safe

- Alleviate overcrowding within Ward 1, reducing the associated risks such as medication errors, transmission of infection etc.
- Increased treatment chair spacing and number of chairs
- Better en-suite and isolation facilities
- Improved HAI and HBN guidance compliant accommodation.
- Space released in Ward 1 has been earmarked to allow expansion of the Pharmacy Department housed within the area to ensure safe and efficient preparation of SACT.

Person-Centred

- Reduction in delayed or deferred treatments
- Reduction in unnecessary inpatient admissions

- Meet user requirements for service.

Effective Quality of Care

- Enables the implementation of new models of care which can be built upon in the future when planning for a new Cancer Centre.
- Co-location of the Haematology day case service with the Haematology in patient wards (wards 8 and 8 unit), facilitating efficiencies in working practices

Health of Population

- Enables delivery within waiting time targets
- Reduction in delayed or deferred treatments
- Delivery of sustainable facilities able to support future increase in demand

Efficient: Value and Sustainability

- Delivery of waiting times / treatment targets now and in the future
- Reduction in delayed or deferred treatments; reduction in unnecessary inpatient admissions.
- Reduction in overtime costs due to improved space to place patients when there are unforeseen delays out of core hours.
- Reduction of in-patient bed days

2.5 Strategic Risks

The key risks for the project are as follows:

- Increase in patient numbers beyond forecast predicted levels over the next 10 years
- Increase in number and complexity of new SMC approved SACT regimes above predicted levels may increase inpatient demand with fewer overnight Haematology beds available to accommodate. This may increase the number of Haematology boarders elsewhere.
- Higher number of patients than predicted requiring admission whilst on the ambulatory pathway with fewer overnight Haematology beds to accommodate.
- Peripheral Boards unable to repatriate patients due to lack of capacity increasing bed occupancy with fewer overnight Haematology beds to accommodate.
- Shortage of specialist trained SACT nursing staff
- Decant facilities not available
- Additional revenue costs (above those agreed for this FBC) not funded
- Derogations required on chair spacing and other issues
- If project carried out in phases, existing service or those adjacent adversely affected
- Risk that donation is not committed in full

A full risk register has been developed for the project (Appendix 3) and will be reviewed on a regular basis.

2.6 Constraints and Dependencies

Quality:

- Will proposed chair space be adequate to allow safe, high quality care?
- The Haematology in and outpatient SACT Service needs to continue to be safely delivered until the project is complete.
- Compliance with JACIE (Joint Accreditation Committee-ISCT & EBMT) accreditation which provides a set of standards to promote high quality patient care and laboratory performance in haematopoietic stem cell collection, processing and transplantation centres.

Funding

- Prompt approval and release of funds required to keep on programme

Timescales

- Dependent on release of vacated Medicine of the Elderly ward and availability of temporary theatre to allow wards to be decanted for works to be completed.

Scope

- Increase in patient numbers beyond forecast predicted levels over the next 10 years
- Increase in number and complexity of new SMC approved SACT regimes above predicted levels
- Higher number of patients than predicted requiring admission whilst on the ambulatory pathway and having insufficient beds to accommodate.

Impact on other services

Decant arrangements for Ward 8 and Ward 8 Unit will have a significant temporary impact on other services on the Western General Site. The option appraisal for the potential decants was outlined in the IA.

Possible decant consequences include the requirement to reduce length of stay within Medicine of the Elderly in order to vacate required decant space

2.7 Preferred Strategic Option

The preferred strategic option for the re-provision of Haematology services within the Western General Hospital remains as outlined in the IA and OBC, following an extensive options appraisal namely:

- The upgrade of the West Wing to house the new Haematology Day Case Unit with 18 day chairs (including 3 separate treatment rooms) and a 'cool chair' area for patients waiting for treatment.
- A new extended 14 hour/7 day unit with 8 treatment chairs and 4 single day case isolation rooms. This option addresses the reduction in bed numbers in Ward 8 by redesign of inpatient treatment transferring to the new extended day unit. The day case element can be safely delivered from new facilities, assisting with some of the overcrowding issues in Ward 1 at the same time.

- The redesign and upgrade of ward 8- this will involve reducing the ward by 5 beds to create 9 single rooms.
- Ward 8 Unit - modernisation to enhance the environment will meet modern standards and as such will be easier to maintain, provide storage and waste disposal facilities. Additionally, we will be able to provide an overnight stay room for relatives which incorporates toilet and showering facilities.

2.8 Preferred Decant Option

An options appraisal in June 2018 identified refurbishment and utilisation of Department of Clinical Neurosciences (DCN) wards and theatres as the preferred decant solution. Rising cost uncertainty and concerns regarding Infection Control following incidents of pseudomonas within DCN necessitated a review of the available decant options. An options appraisal was undertaken in March 2019 led by the Cancer Project Team to consider alternative models that would deliver the required accommodation for decant and support the essential cancer service upgrades.

Given the cohort of patients within Haematology in particular, the options were limited and the team identified a preferred option of decanting into one of the Royal Victoria Building (RVB) wards, currently used for care of Medicine of Elderly (MoE) patients.

It was acknowledged that these wards had been specifically designed for optimum care for frail elderly patients and the preferred option could involve significant disruption for Medicine of Elderly patients and staff team.

The Medicine of the Elderly team considered a number of options to enable release a ward within RVB to provide a temporary decant ward for Haematology. The team agreed on their preferred option of closing a ward within RVB and reducing their bed profile by 26 beds.

As part of this decant option Wards 2, 4 and 6 would not move, however Breast Theatre 14 (due to its location immediately below the current West Wing of Haematology) would have to relocate for the duration of Haematology construction works (anticipated 10 months).

It is proposed that a temporary theatre is hired and a suitable location has been identified for this. The anticipated revenue cost of the temporary theatre, based on recent projects elsewhere, would be approximately £500k.

As there remains significant pressure on MoE and reduction in capacity of 26 beds, NHS Lothian has a requirement to secure suitable winter surge capacity to mitigate risks associated with the reduction in bed capacity associated with unscheduled care activity. Therefore it has been proposed that Ward 15 be upgraded as a decant facility for the Western General Hospital site. This provides a risk mitigation measure for the Haematology project, should the required decrease in length of stay not be achieved and subsequently a decant facility for the Oncology Enabling works.

This would require approximately £2m of upgrade works to make the area fit for purpose for the Oncology patient group or any other general medical ward.

Revenue and Capital costs for the preferred decant option are included within the economic and financial cases.

3 THE ECONOMIC CASE

3.1 Introduction

A detailed analysis of the costs, benefits, and risks of potential options to identify the proposal that optimises value for money was undertaken as part of the Initial Agreement and Outline Business Case stages.

The preferred location for the co-located inpatient service and the day-case facility was chosen as part of the Oncology Bridging option appraisal and discussed in the Systematic Anti-Cancer therapy (SACT) element of the Initial Agreement. This option (option 4 in the original long list of options) has been further developed as part of this Haematology Service project following the confirmation of a charitable donation offered to NHS Lothian for the development of the Haematology Service at the Western General Hospital.

The NPV/ NPC (Net Present Value/ Net Present Cost) calculations were completed as part of the Outline Business Case process for two options: the “Do Minimum” and the “Preferred” option as described in the strategic case. Following assessment against the critical success factors, the options that were not been included in the calculation were the “do nothing” option (this option would hinder the development of the Oncology Enabling SACT element) and the initial Option 3 – which assumed the same location (the current Breakthrough Lab and West Wing) for the daycase facility, but an unchanged model of care from the current Ward 1 – this was deemed insufficient as part of the service redesign study as it would negatively affect the inpatient service. The options are further described in the Haematology Initial Agreement.

The calculations are presented in the below table:

	Option 1 “Do minimum” £m	Option 2 “Preferred Option” £m
Expected Life (Years)	10	10
Capital Costs (incl. VAT)	0.12	13.9
Whole life revenue costs	37	33
Estimated NPC of All Costs	34	41
Weighted Benefit Score	640	1,495
Cost per benefit	0.05	0.03
Rank	2	1

These options and the calculations, including the decant strategy as well as the analysis of the benefits and risks undertaken as part of the Initial Agreement and the Outline Business Case remain valid.

4 THE COMMERCIAL CASE

4.1 Introduction

The indicative capital costs for the project are £12.85m including VAT (representing the capital build and decant capital costs). The target cost negotiations are nearing completion and it is anticipated that these will be closed out prior to the F&R meeting. No increase in costs is anticipated but a detailed verbal update will be provided on any changes from the information included in this FBC.

In addition to the capital costs there are one off revenue costs of £940k in relation to decant for hire of a temporary theatre and staffing costs.

A private charitable donation has been made available and is proposed to fully fund the capital element of the project and those revenue elements in connection with the decant delivery of the project that can be capitalised.

NHS Scotland has established national procurement routes for major asset investment which have been fully developed within the EU public sector procurement regulation framework. The Haematology project is a health project with an investment cost in excess of £1m, financed from a charitable source. It is a requirement for all NHS projects above this threshold to be procured under the NHS Scotland Frameworks Scotland 2 (FS2) arrangements; this route has therefore been selected for the procurement of project. This means the contract will be run in a design and build approach, this being the only available option under Frameworks Scotland 2.

4.2 Procurement Strategy

The procurement of the project is to be led by members of the Cancer Services CMT and the Estates Department with support from Capital Finance on behalf of NHS Lothian and with assistance from Health Facilities Scotland in terms of Principal Supply Chain Partner (PSCP) and Professional Services Consultants (PSC).

The procurement of the PSCP for the project has been subject to competitive tender made under the umbrella of a wider WGH Programme of Works incorporating, apart from the Haematology project:

- Oncology Enabling Projects
- Renal Services Re provision
- WGH Infrastructure*
- WGH Demolitions*
- IA Support to new Cancer Centre
- Backlog Maintenance*

The appointment for *marked projects was made subject to availability of capital funding and other potential factors.

Although the appointments under Frameworks Scotland 2 for the entire WGH programme of works have been combined, each project within the programme is treated separately and is procured as a separate scheme contract.

The selection process for the PSCP started in December 2017 and concluded in March 2018 with the appointment of RMF as the Principal Supply Chain Partner for the WGH programme of works. The selection was based on the quality against cost ratio and involved assessment of written submissions, evaluation of priced activity schedules and interviews. [REDACTED] PSCP companies on FS2 have participated in the process giving NHS Lothian a wide choice and ensuring a healthy level of competition. The NHS Lothian Selection panel consisted of representatives from the Estates, Capital Planning and Finance departments, senior members of the Hospital Management Team, Haematology service representatives and HFS.

Thomson Gray Partnership has been appointed as the Project Managers and Cost Advisors under the auspices of the Lead Advisor appointment for the WGH Masterplanning. The appointments of CDM advisor and Supervisor from within Frameworks Scotland 2 are currently underway.

4.3 Commercial Arrangements

As part of Frameworks Scotland 2 the contract is let on a Design and Build basis under NEC3 form of contract, with the PSCP responsible for providing all aspects of design and construction, including decants, and procurement of group 1 equipment throughout the course of the project.

All projects submitted to the SGHSC for approval are now subject to an assessment of design quality and functionality, including technical and sustainability standards. As part of the NHSScotland Design Assessment Process (NDAP) the project team has created a project brief providing context in respect to the requirements and a design statement giving examples of what success might look like for the patients, staff and visitors. Following from that *The Achieving Excellence Design Evaluation Toolkit* (AEDET) has been carried out and a workshop with HFS has been held in order to review the design in terms of NDAP. The interior design workshops have also been set up, which include service users (patients and staff). They are helping to shape the facilities in line with design statement and AEDET benchmarks.

The NDAP process results have now been passed on to HFS for their review & opinion.

The construction works will involve the full refurbishment and extension of Wards 8 and 8 Unit to create state of the art Haematology inpatient care facility with 19 inpatient beds and supporting accommodation. It will also see the creation of the outpatient facilities in West Wing to house the outpatient service currently delivered from Ward 1, and the creation of an extended stay 14/7 outpatient facility in the Breakthrough Lab, all taking cognisance of the current legislation and regulations and delivering facilities of the highest specification and standard.

The construction works will be carried out in a live hospital environment with patient care being delivered on all 6 sides, the project team will therefore be tasked with ensuring safe operation and business continuity at all times.

NHS Lothian will remain as the owner of the buildings throughout the term and will be responsible for the procurement of group 2-4 equipment, IT & Telecoms equipment, as well as provide Estates support to the project in terms of services isolations and shut-downs.

The project is also subject to BIM level 2. As the facility is located within existing buildings with Breast Clinics and the Breast Unit occupying their lower floors, this project will present a good

opportunity to assess BIM in terms of its usefulness, advantages and constraints when used on an existing live building. The results of this exercise are going to be recorded throughout the life of the capital project and are planned to be included within the Post Project Evaluation.

4.4 Contractual Arrangements

Under NHS Scotland Frameworks Scotland 2 PSCPs are appointed under the Frameworks Scotland 2 NEC3 Engineering and Construction Contract (ECC) form of contract. The contract option chosen for the Haematology project is Option C: Target Price with Activity Schedule.

The contract will be extended in stages as the project develops and NHS Lothian approval and funds are received at each stage. The Principal Supply Chain Partner is appointed in stages, currently in stage 3: Full Business Case. The design phase has started following the approval of the Initial Agreement by NHS Lothian and the formal appointment for the construction stage will only be made after the Full Business Case is approved by the Scottish Government Capital Investment Group.

NEC 3 Contract Option C involves monthly payments to the PSCP up to the target cap with variations added by means of compensation events based on the certification by the project Manager. Payments will be made in line with the NHSL Standing Financial Instructions (SFIs).

5 THE FINANCIAL CASE

5.1 Introduction

The Financial Case considers the affordability of the scheme. This section sets out all associated capital and revenue costs, assesses the affordability of the preferred option and considers the impact on NHS Lothian’s finances. In order to make this assessment an overall financial model has been developed covering all aspects of projected costs, including estimates for:

- Capital costs for options considered (including construction and equipment).
- Incremental non-recurring revenue costs associated with the project.
- Incremental recurring revenue costs (pay and non-pay) associated with the project.
- Changes to revenue costs associated with service redesign as a direct result of the development.

5.2 Capital Costs

5.2.1 Capital Cost Components

The estimated total capital costs for the preferred option comprise the construction costs plus all other project costs directly related to the development. A summary of the capital costs is shown in the table below:

Project Costs	Haematology Service Expansion £'000
Total Capital Costs	10,866

The above costs are based on the results of a market testing exercise and the target cost negotiations which are nearing completion. It is anticipated that these will be closed out prior to the F&R meeting. No increase in costs is anticipated but a detailed verbal update will be provided on any changes from the information included in this FBC to the Committee.

The Capital costs for Haematology upgrade will be funded by a charitable donation.

5.2.2 Assumptions:

A number of assumptions have been made in relation to the capital costs. These are set out below:

- Construction costs assume the project would involve a significant level of refurbishment & modernisation throughout.
- Construction costs include an inflation allowance of 0.7% due to the short timeframe to construction.
- VAT at 20% has been applied to relevant costs and VAT recovery has been assumed where appropriate. A final assessment of VAT recovery will be given by VAT advisors on completion of the project.
- Costs include a contingency of ■■■ of construction costs.
- The construction costs above do not include the costs of decant required to enable the project. These are outlined in section 5.4.2 below.

The capital costs included have decreased by £206k from those included in the OBC (total capital cost per OBC £11,072k) due to further confirmation of the design. This has been offset by an increase in the decant costs of £315k, a net impact of an increase in total capital and decant costs of £109k for which funding has been assumed from NHS Lothian’s formula allocation.

5.3 Revenue Costs

The additional recurring revenue costs of the project were calculated by comparing the baseline costs of the current service to the estimated costs of the new staffing model to assess the financial implications.

The estimated cost increase from the revised staffing model is £434k per annum. A high level breakdown is shown in the table below and further detail can be found in Appendix 5.

The additional revenue expenditure will be funded from recurring savings of £270k already set aside by the service from Rituximab biosimilar switching, £150k recurring in relation to planned increases in stem cell treatment billing and a further £14k which will be made available by closing ward 1 on Saturday mornings and redirecting patients to Haematology.

Recurring Revenue Costs	Staff Increase (WTE)	Cost (£k)
Nursing	5.97	172
Pharmacy	1.60	64
Facilities	7.45	194
Non Pay		4
Grand Total	15.02	434
Revenue Funding in place		
Savings from Rituximab Switching		270
Savings from Stem Cell Transplant billing improvement		150
Saving from Change of Ward 1 hours		14
Total Funding Identified		434
Residual Funding Required		0

Please note: the costs are based on the 2018/19 Pay Scale.

The revenue funding and affordability has been confirmed and agreed by the Finance Business Partner ([REDACTED]).

Depreciation on donated assets is funded through AME with funding provided by the Scottish Government annually. The increase in the depreciation charge is estimated to be £514k per annum.

5.4 Other Non-Recurring Costs

5.4.1 Project Team Costs:

A project team has been set up to ensure delivery of the project through the required governance processes. The cost of the team is in the region of £73k in total and will be capitalised as part of the project. This has been funded through NHS Lothian's allocation.

5.4.2 Decant

In order to complete the project without disruption, services will require to be temporarily re-housed. The costs of this decant requirement are described below are represent:

- Revenue costs for the hire of a temporary theatre
- Revenue costs for additional staffing during decant period
- Capital costs for the refurbishment of Ward 15, WGH and small scale works to the MoE ward in the RVB to ensure suitability for decants.

	Apr - Mar 19/20 £,000	Apr-Jul 20/21 £,000	TOTAL £,000
Total Decant Construction Costs	1,987	0	1,987
Total Decant Revenue Costs	477	463	940
Total Decant Costs	2,464	463	2,972

Decant Funding in place			
Charitable Donation	1,300		1,300
Revenue savings	394	121	515
NHSL Funding	410	92	502
SG Funding	360	250	610
Total funding	2,464	463	2,972

Residual Funding Required	0
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The above costs have changed from the OBC proposal due to the change in decant option from DCN to the option described in Section 2.8. Costs have also been updated so that staffing costs that now directly related to the Oncology enabling business case (£187k) are excluded from the Haematology business case (funding has also been transferred appropriately).

A breakdown of the revenue costs associated with decant can be found in Appendix 6.

	OBC Stage	FBC Stage	Difference Increase/ (Decrease)
	TOTAL £,000	TOTAL £,000	£,000
Total Decant Construction Costs	1,799	1,987	188
Total Decant Revenue Costs	813	940	127
Total Decant Costs	2,612	2,972	315

The increase in decant costs (£315k) has been offset by a reduction in the capital costs of construction (£206k) and the additional cost from OBC (£109k) is proposed to be funded by NHS Lothian's formula allocation.

5.5 Statement of affordability

NHS Lothian operates with delegated authority over capital schemes of less than £5m. The costs for this project are above that delegated limit, and despite the main source of funding for this project being identified as a charitable donation, the project will need to be submitted to the Scottish Government Capital Investment Group (CIG). This will allow CIG to approve the capital funding requested, as well as maintain oversight of a number of different interlinked schemes that are happening on the site.

The funding streams for each of the elements have been identified as summarised in the table below and have been confirmed and agreed with the responsible parties.

	Project Costs £,000	Incremental Recurring Revenue Costs £,000
Total Capital Costs	10,866	
Total Decant Costs	2,927	
Annual Revenue Increase		434
Total Project Costs	13,793	434

Funding in place		
Charitable Donation	12,282	
NHSL Funding	811	434
SG Funding	700	
Total Funding	13,793	434

Residual Funding Required	0	0
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6 THE MANAGEMENT CASE

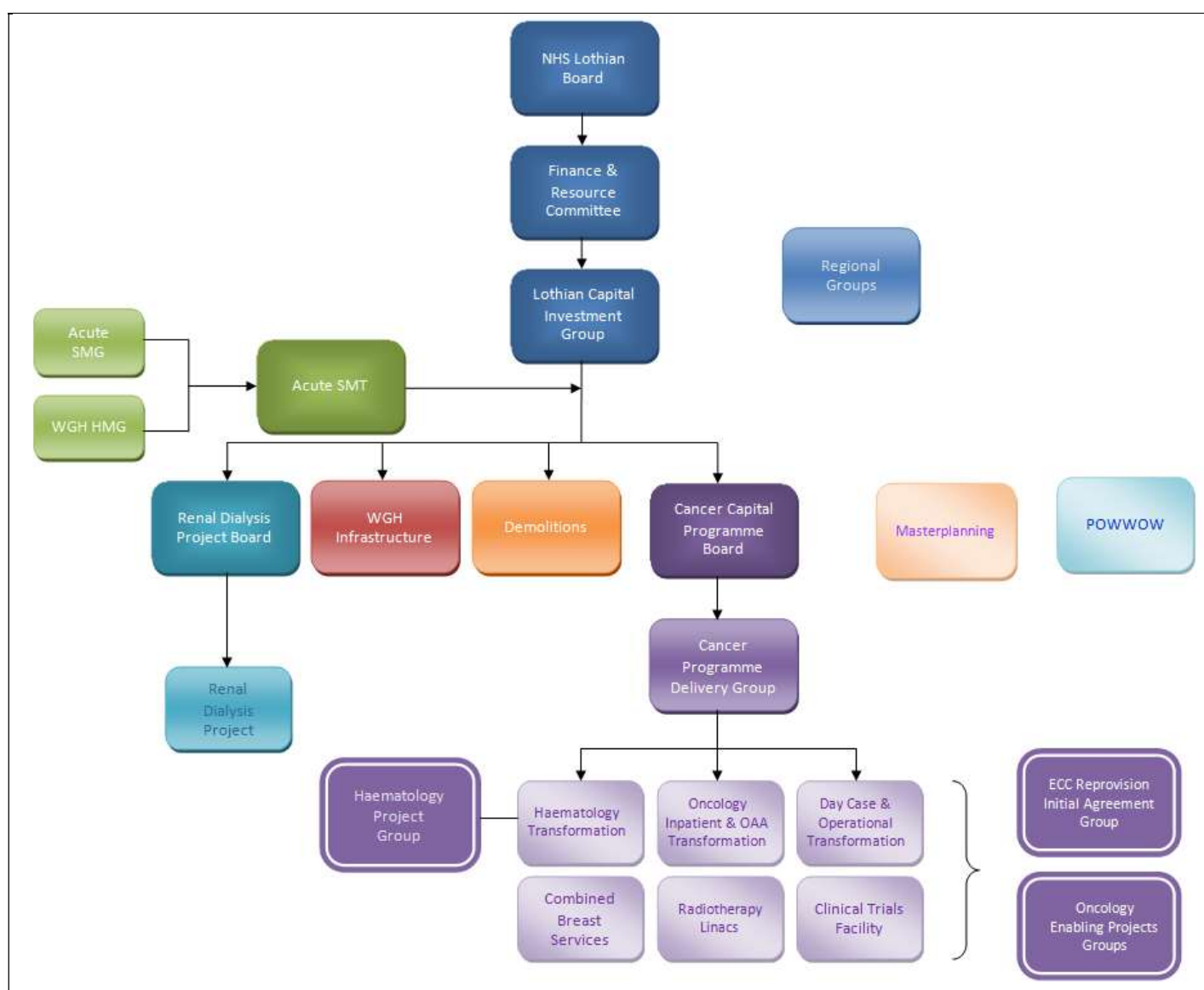
6.1 Outline Management Case

This section of the business case addresses the achievability of the scheme in terms of NHS Lothian's readiness and ability to proceed to contract award and project implementation. It builds on the arrangements described in the OBC by setting out in more detail the actions that will be required to ensure the successful delivery of the scheme in accordance with best practice.

6.2 Project Management Arrangements

6.2.1 Reporting Structure, Key Roles and Responsibilities

The project organisation and reporting structure is shown below as part of the wider Cancer Transformation Programme:



Robust project management plans were developed to undertake Stage 2 of the development of the preferred option under the Full Business Case. These arrangements will continue through to Financial Close and on to monitoring of construction and preparation for commissioning and occupation of the building. Project roles have been scoped and appropriately experienced personnel have been identified.

The following key appointments will have the detailed responsibility for the management of the project (NHS Lothian unless stated otherwise):

Role	Manager	Job Title
Executive Lead	Jim Crombie	Deputy Chief Executive
Project Sponsor	[REDACTED]	WGH Site Director
Project Owner	[REDACTED]	General Manager for Cancer
Project Director	[REDACTED]	Head of Projects - Estates
Project Co-ordinator	[REDACTED]	Senior Clinical Research Fellow
NHSL Project Manager	[REDACTED]	Capital Project Manager
Client Leads	[REDACTED] [REDACTED] [REDACTED]	Consultant Haematologist Clinical Nurse Manager Senior Nurse Practitioner
Project Medical Advisors	[REDACTED] [REDACTED]	Clinical Director, Haematology Director of Cancer Services
Capital Finance Support	[REDACTED]	Capital Finance Manager
Revenue Finance Support	[REDACTED]	Business Partner
Infection Control Support	[REDACTED]	Senior ICPN
Estates Liaison Officer	[REDACTED]	Estates Sector Manager
Project Manager	[REDACTED]	Thomson Gray
Cost Advisor	[REDACTED]	Thomson Gray
Principal Designer	[REDACTED]	Thomson Gray (RMF partner)
Principal Supply Chain Partner	[REDACTED]	RMF

The roles and responsibilities of each of the project team members, together with other project stakeholders, are detailed in the Project Execution Plan document which will be developed further in collaboration with the PSCP team and set out the Project Management arrangements required for the Construction Stage.

A detailed Construction Phase Plan will be developed by the PSCP as part of the Construction Phase Health & Safety Plans prior to Construction start. The plan will focus on the construction processes including health & safety, infection control, traffic management and access arrangements, communication links, risk management and quality inspections.

6.2.2 Project Plan and Key Milestones

The project draft programme is attached in the Appendix 4. The project main milestones are outlined below:

Milestone	Date
FBC Approval by F&R	July 2019
FBC Approval by SG CIG	August 2019
Haematology Project Main Works Start	November 2019
Project Completion Date	October 2020

The programme is indicative and will be informed by further development of the decant timeline. The construction works will be done in one phase following Wards' 8 and 8 unit move to the vacated MOE ward within the Royal Victoria Building.

6.3 Change Management Arrangements

In order to avoid scope creep and overspend and to ensure project success, change control mechanisms have been developed. The Project Owner and Director will be responsible for maintaining strict control of the project and managing changes as they arise.

In the delivery and commissioning stages of the project, the established design parameters will not be changed without the prior consent of NHS Lothian via the Project Director, Project Manager and the Project Group. The NEC3 Form of Contract has a prescribed method of managing variations through the system of Early Warnings and Compensation Events.

Fortnightly Project Group meetings have been established for the day to day project operations and continuous communication with the Cancer Programme Delivery Group members is also maintained in order to respond to key escalated issues and proposed changes in a timely manner. In addition, monthly WGH Programme of Works meetings including the Project Director, Project Manager and the Hospital Management Team have been established in order to support the project delivery in a site - wide context.

Any changes to the project not impacting on the service delivery, programme, time or cost will be decided on by the Project Director and the Project Group. Otherwise, all project change requests will be referred via the Cancer Programme Delivery Group to the Cancer Capital Programme Board.

6.4 Benefits Realisation Plan

The benefits criteria and beneficiaries of the scheme are intrinsically linked to the investment objectives originally set out in the IA and OBC. The baseline measurement and targets are identified in a Benefits Register that is attached as Appendix 2. The Benefits Realisation Plan (also attached at Appendix 2) sets out timelines and parties responsible for the delivery of specific benefits and how they will be delivered.

6.5 Project Risk Register

Risks are managed consistently across the project via a risk management strategy that is in line with the HFS Framework requirements, industry best practice and learning from recent and ongoing projects.

NHS Lothian and the project team recognises that all projects involve risk that needs to be identified and pro-actively managed to ensure that the project successfully meets its objectives, and that these risks are heightened when undertaking refurbishment works within a live acute hospital environment.

Project risk is managed within the project team and led by the Project Director. A risk work stream has been established to identify, evaluate, manage, and monitor risks throughout the life of the project. A project risk register is used to record and manage all risks associated with the project and it is a key part of the project's control processes. It is maintained as a live document which is referred to by all members of the project team and continually updated by the Project Manager. Risks are managed by a named risk owner and risk review workshops will take place regularly to ensure the risk register remains relevant and remove those as these expire. The Risk Register is consistent with the HFS guidance and adopts a "traffic light scoring system". Risk updates are planned to be reported regularly in the Project Director's monthly report and this will continue for the duration of the project.

The latest version of the project Risk Register is included in Appendix 3. The risks have been quantified in cost terms where possible based on their likelihood and impact, appropriated between NHSL and the PSCP and included within the overall Target Cost.

6.6 Commissioning Process Arrangements

A full Commissioning Programme will be prepared by agreement of the project parties during construction into a Final Commissioning Programme. This will ensure that each party is able to access the site to verify that all items function correctly together prior to the completion date.

6.7 Project Monitoring and Evaluation

The Project Director will be supported by the Users and the Project Team in managing and monitoring the project's progress against the agreed programme, quality of the works against the agreed specification and plans and delivery of the project to the approved Business case target cost and overall budget.

The Project Director will submit monthly reports to Project Owner and quarterly reports to the Cancer Capital Programme Board to prove governance and project delivery.

The report will provide the sections:

- Executive summary headlines for the following key issues
- Health and safety issues
- List of key activities past/next month
- Programme and performance
- Financial issues
- Risk and issues requiring escalation

Monthly progress meetings in addition to more frequent project meetings have already been established, enabling the project director and the project team to review the project in a wider WGH Programme of Works context and to identify any constraints or dependencies affecting the project. Quarterly Project Steering group meetings have also been organised with the senior stakeholders from NHS Lothian and the PSCP in order to maintain communication and give opportunity to voice any concerns on a senior level.

The project progress will be evaluated in stages:

- Design Process Evaluation

An evaluation of the design process and outputs has been continuously undertaken during the FBC stage to assess the effectiveness of the procurement process in meeting the project objectives. This has given opportunity to assess the project against the budget and programme and take appropriate measures as required. It will further inform and influence other projects within the current programme of Works on WGH site and

- Monitoring Construction

During the construction period progress will be monitored to ensure delivery of the project to time, cost, and quality to identify issues and actions arising. On completion of the construction phase the actual project outputs achieved will be reviewed and assessed against requirements, to ensure these match the project's intended outputs and deliver its objectives.

- Post Project Evaluation of the Construction Project and Service Outcomes

This will be undertaken 12 months after the facility has been commissioned. The objective is to determine the success of the commissioning phase and the transfer of services into the new facilities and what lessons may be learned from the process.

NHS Lothian is committed to ensuring that a thorough and robust Post-Project Evaluation is undertaken to ensure that lessons can be learnt from the project and taken forward into the future. The Post Project Evaluation Report will review the success of the project against its original objectives, its performance in terms of time, cost and quality outcomes and whether it has delivered value for money. It will also provide information on key performance indicators. This review will be undertaken by senior member of the Project Board.