NORTHLAND DISTRICT HEALTH BOARD
Te Poari Hauora Ā Rohe O Te Tai Tokerau

Northland DHB

Whangarei Hospital Redevelopment

Programme Business Case (PBC)

Prepared by:	Northland DHB
Prepared for:	Cabinet
Date:	14 April 2020
Version:	1.0
Status:	Final
Template Version:	*October 2019*

Northland DHB Whangarei Hospital Redevelopment Programme Business Case

Document Control

Document Information

Document ID	
Document owner	
Issue date	
Filename	

Document History

Version	Issue date	Changes

Document Review

Role	Name	Review Status
Programme Manager		

Document Sign-off

Role	Name	Sign-off Date
Senior Responsible Owner/Project Executive		

Contents

1. Executive Summary

This Programme Business Case seeks your agreement to a programme of investment in Whangarei Hospital that replaces a large section of the main hospital block and adds capacity. The total cost of the programme is $572m (in 2020 dollars) and it would be completed in one tranche for which we would seek funding approval in 2021/22.

1.1. Strategic Case

Northland DHB has made a strategic commitment to apply an equity lens to all aspects of its operation. A key driver for the proposed programme is to address the growing inequity in access to health services and health outcomes for Maori in the district.

Whangarei Hospital faces three sets of property and infrastructure-related problems:

- Large sections of the main block are past the end of their economic lives. There are serious seismic, fire safety and other condition issues that put patients and staff at risk and are likely to force us to decommission parts of the block within the next 10 years. The surgical wing is importance level 4 but it would not be able to resume operation after a significant earthquake
- Areas within the hospital are too small compared with the Australasian Health Facility Guidelines (AHFG) and they fail to meet other standards. The size and configuration of these spaces creates risks to clinical services and health and safety
- The hospital is close to capacity overall and is likely to become increasingly constrained over the next 10 years. Demand currently exceeds physical capacity in theatres and the emergency department. While our model indicates demand for outpatient services will also exceed capacity in the early 2020s, the amount of hospital accommodation required is likely to be affected by changes to services following COVID-19.

The objectives of the proposed programme are to address these three issues so that the hospital is safe, affordable to maintain, fit for purpose, and has sufficient capacity to meet demand. If the issues are not addressed, Whangarei Hospital will have to substantially reduce its operation within 10 years.

Northland DHB and the Ministry of Health have been considering large-scale options for addressing these issues since 2015. During this period, ministers have made smaller capital allocations to address urgent issues, but we have so far failed to agree on a full redevelopment programme. The main barrier to reaching agreement has been the cost of the programme: in the previous iteration of this business case we sought over $1bn. Northland DHB has therefore agreed to the following measures to make the programme more affordable in the context of the health capital funding envelope:

- Design the programme so that early tranches are independent and separable, i.e. that the main problems at the hospital would be addressed and it could continue to operate if there were no further investments following these tranches
- Review how we deliver clinical services to minimise the amount of additional hospital space required while ensuring that Northlanders have access to the best possible healthcare. This includes moving services to our district hospitals and into the community where possible.

Through these measures, we have limited the cost of the first tranche to less than $600m under the recommended option. This business case therefore seeks a commitment to this

tranche only: the full redevelopment would still cost around $1bn, but the further tranches would be subject to future funding approvals.

An important strategic issue is that continuing to invest in Whangarei Hospital without an agreed long-term redevelopment programme is an inefficient use of public funds. While Northland DHB has sought smaller capital allocations to address urgent property issues and improve services, these projects often involve suboptimal investments such as upgrading and remodelling buildings that are at the end of their economic lives. Without agreement about long-term funding, we have had to prioritise work that addresses urgent issues over work that aligns with the site master plan.

1.2. Economic Case

1.2.1. Potential programme options

In the five years we have been developing the proposed programme, we have considered a range of options for meeting the investment objectives and have explored these through investment logic mapping workshops and in consultation with local, regional and national stakeholders. This section discusses the long-list and shortlist programme options.

The best opportunity for addressing the investment objectives without the need for a property solution is through the changes to our models of care discussed in the clinical service plan, which is included in Attachment 1. These changes aim to deliver services more efficiently and with less hospital space, as well as to reduce demand for health services through population health and disease prevention initiatives. We expect that these changes will reduce the cost of the recommended programme, but even in a best-case scenario where they achieve a substantial reduction in the amount of space needed at the hospital, they would not eliminate the need for a hospital or the need to address the condition and fitness for purpose issues with the buildings.

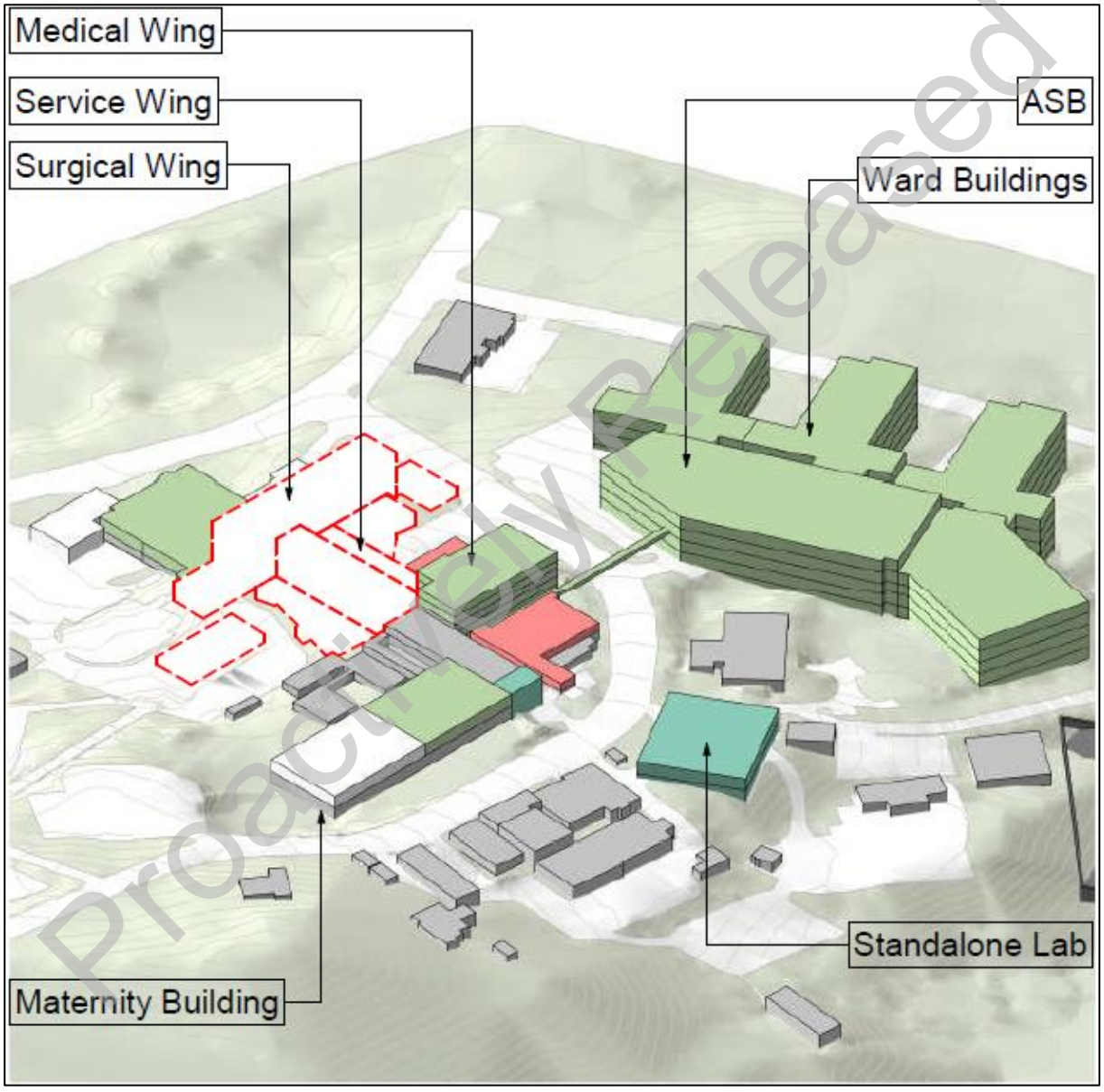
The long-list options are all property solutions that differ in the location of the proposed buildings. Four of the nine long-list options can meet the critical success factors for the project, which include meeting the investment objectives, keeping the hospital operational during the programme (e.g. building enough new space before existing space needs to be decommissioned) and maintaining functional relationships between different parts of the hospital.

The four options differ in terms of where on the site the new and replacement space is built, but they do not differ substantially in terms of the scale, scope and cost of what is built. Rather than shortlisting all four options, we selected the one that performs the best on the critical success factors and shortlisted different scale and scope options within it. The shortlist options progressively add cost and benefits to the programme, so they offer a trade-off between cost and the extent to which the programme addresses the issues with the hospital.

The shortlist is based on long-list option 8, which builds new and replacement space across the road from the existing main block on a mostly empty part of the site where there is room for future expansion. This creates the least disruption to the existing hospital during the programme and it allows us to maintain functional relationships between different areas as required.

The image below shows Whangarei Hospital from the southwest with the final configuration of the new buildings once the master plan for the site is achieved. The new buildings are the acute services building (ASB) and the ward buildings. The existing surgical and service wings would be demolished and the medical wing would be upgraded as an outpatient area, as would the maternity building. The acute services building would accommodate theatres, ICU, emergency, front of house and other areas, while the ward buildings accommodate inpatients. The shortlisted options offer a choice about how much of this end-state would be achieved within the agreed programme.

Image 1: Master plan end-state



The shortlist options and their costs are:

Option	Description	Cost ($m)
1	Status quo – retain the existing buildings and do not add capacity to the hospital. This would still require effort and resource, as Northland DHB would have to manage the risks associated with the condition of the main block, fitness for purpose of different areas and increasing capacity constraints.	$0
2	Do minimum – build the acute services building and one ward wing, demolish none of the existing main block. The acute services building is partially fitted out and the ward wing is only fitted out for an acute assessment unit. The remaining areas in both buildings would be shell space. The ward wing would have insufficient space for the surgical wing wards, so the surgical wing would need to be retained. This would be competed in one tranche.	$517.500
3	Intermediate – build the acute services building and one ward wing, demolish the surgical wing of the existing main block. The acute services building is partially fitted out and the ward wing is fitted out for inpatient wards, providing sufficient capacity to vacate the surgical wing so it can be demolished. This would be completed in one tranche.	$572.000
4	Do more – build the acute services building and two ward wings, demolish the surgical and service wings of the existing main block. The acute services building is almost fully fitted out, as are both ward wings. The second ward wing will provide sufficient capacity to allow us to vacate and demolish the service wing as well as the surgical wing. This would be completed in two tranches.	$803.848
5	Do maximum – build the acute services building and three ward wings, demolish the surgical and service wings of the existing main block. Fit out all of the space within the acute services building and ward wings. This achieves the master plan end-state for the site shown in the image above. This would be completed in three tranches.	$1,002.248

1.2.2. The preferred way forward

We recommend option 3 because it meets the requirement of addressing the main issues with the hospital within the agreed level of cost. If option 3 is delivered and there is no further investment in the hospital, it could continue to operate. It meets the investment objectives by addressing safety risks associated with the condition of the surgical wing, improving the fitness for purpose of all eight substandard areas, and providing sufficient capacity for the hospital until at least 2030.

The options that do less do not build sufficient capacity to allow us to completely vacate and decommission the surgical wing. These options therefore fail to meet the investment objectives of addressing safety risks for patients and staff and the cost of maintenance remains unaffordable for Northland DHB. Option 3 offers better value for money than option 2 because it delivers far greater value in these respects than the difference in cost between the two options.

The options that do more than option 3 add benefits but exceed the agreed level of funding for the redevelopment. The main advantage that options 4 and 5 have over option 3 is that they add more capacity which allows us to demolish the service wing and accommodate projected demand beyond 2030. However, the additional benefits they add are not in proportion to the additional cost, compared with the additional benefit and cost option 3 adds over option 2. For example, the service wing only includes one patient area, whereas the surgical wing demolished in option 3 includes 10 areas that would get new, fit for purpose accommodation. Option 3 therefore offers the best value for money at this stage.

The main weakness of option 3 is that the capacity it delivers would only meet projected demand to 2030. We believe this risk can be mitigated as there will be opportunities over the next five to 10 years to reassess demand and capacity at Whangarei Hospital and bring forward construction of additional capacity if necessary. Similarly, all of the outpatient space provided is in the existing medical wing, which requires relatively low-cost fit out work. If there are reductions in outpatient space requirements following COVID-19, it would be easy to defer this work or decommission parts of the medical wing. Option 3 therefore seems to offer the best opportunity to establish a funded long-term plan for the hospital and to begin to address its property issues in a coordinated way.

The model of care changes discussed in Attachment 1 have substantially reduced the cost of the redevelopment. In the previous iteration of this business case, the recommended option cost over $1.2bn. It was equivalent to the do maximum option in this business case, which now costs just over $1bn, despite capital goods inflation over the last two years and increased escalation of project costs in the future. The changes will have had a proportional impact on the other shortlist options in this business case.

1.2.3. The project mix

We intend to complete the work in one tranche, so we would seek approval for $572m in 2021/22. We have explored ways of reducing the funding sought in any one year by separating the programme into multiple tranches, for example by building a series of smaller buildings or by building the structure of the option 3 building configuration in one tranche and the fit-out in a second tranche. These options face difficulties in terms of maintaining functional relationships between different parts of the hospital, avoiding disruption to existing hospital operations and losing economies of scale by splitting work into parts that have little value on their own. These issues are discussed further in the economic case.

We are therefore seeking agreement to a single-tranche funding approval for this project, understanding there are affordability issues in terms of what is available to the health capital funding envelope in any one year. To mitigate this, we have sought to minimise the amount of funding sought to less than the agreed level: we are seeking $572m for the recommended option, which is at the lower end of the $500-$700m guidance we were given.

Option 3 builds an acute services building which would accommodate theatres, ICU, emergency department and radiology, as well as front of house, back of house and other functions. Around 75 percent of the building would be fitted out and the remainder would be shell space for future expansion. The ward wing includes four medical/surgical wards, an AAU and a CCU. These would accommodate the inpatient spaces from the existing surgical wing. The outpatient areas on level 5 of the existing surgical wing would move to the medical wing, allowing us to demolish the surgical wing.

1.2.4. Indicative costs and benefits

The capital cost of the programme is $572m and this delivers the following benefits on completion of the programme in 2027:

- 10 of the 11 patient spaces currently in unsafe buildings move to new, safe accommodation
- All eight services currently in facilities that are not fit for purpose move into more modern facilities that meet Australasian Health Facility Guidelines
- The hospital has sufficient overall capacity to 2030

We expect that these property improvements will deliver benefits in service performance and health outcomes. A key metric for Northland DHB is the gap in life expectancy between Maori and non-Maori and under the status quo, we expect this to worsen as a reduction in capacity at the region's largest hospital would exacerbate issues with access to services and unmet need. While the hospital redevelopment in itself is unlikely to substantially reduce the gap in life expectancy, other initiatives to reduce the gap are unlikely to have much success without it. The other performance measures we will use are Health Roundtable indicators and the Ministry of Health's elective services patient flow indicators (ESPI). The estimated benefits on these measures are listed below, relative to their projected level in 2027:

- The gap in life expectancy between Maori and non-Maori reduces from 8.5 years to 8.3 years
- Hospital acquired complications – improves from 2 percent to 1.5 percent
- Relative stay index – improves from 110 percent to 100 percent
- Stays in emergency less than six hours – improves from 90 percent to 95 percent
- ESPI 2 – improves from 35 percent to 5 percent
- ESPI 5 – improves from 30 percent to 2 percent

1.3. Commercial Case

We will develop a programme procurement plan in accordance with the Northland DHB Procurement Guide and Government Procurement Rules. Procurement is expected to be through open tender. The programme procurement plan would be supplemented by detailed procurement plans defining the appropriate procurement approach for the projects within each tranche.

Subject to approval of the business case, the DHB would approach the market to obtain the resources needed. The programme would be operating in a competitive market and we intend to use a range of tactics to increase its attractiveness. These include early signalling of requirements, ensuring contract conditions and payment terms are fair and reasonable, being prepared to pay a small premium for specialist services/works, considering incentives for excellent work and offering continuity of work.

We will use a variety of development models and procurement options in the programme and will determine this on a case-by-case basis for each project and tranche. This would include consideration of specific delivery models, forms of contracts, payment mechanisms, contract lengths and contractual clauses. Risk management and allocation would be agreed for each project.

1.4. Financial Case

Northland DHB is seeking Crown funding for the capital costs of the proposed programme and we will fund the consequential operating costs from our population-based funding. We expect the consequential operating costs of the programme to be affordable, but we would undertake further financial projections as part of the detailed business case when the impact of COVID-19 on the health sector and the broader economy is better understood.

The main financial impacts of the programme will be in personnel, maintenance, power and water. We assume that maintenance, power and water costs will increase by around $7m per year and personnel costs will increase by around $1.5m per year as a result of the programme. While the new buildings will be in a better condition and green star rated, the cost of running the buildings increases because there is a net increase in floor area. Likewise, there is evidence that green star buildings increase productivity, for example through reduced absenteeism, so we project savings as well as cost increases for personnel. The financial projections include offsetting revenue for the capital charge, following the government's announcement in 2019 that it would fund the capital charge for DHBs.

1.5. Management Case

The Management Case addresses the achievability of the proposal and planning arrangements required to both ensure successful delivery and to manage programme risks. The programme governance structure is noted below.

Governance: The overarching governance for this programme draws on the standing governance arrangements already in place at Northland DHB. The Northland DHB Chief Executive Officer (CEO) has overall responsibility and accountability for the investment. The Chief Operating Officer is the Senior Responsible Owner (SRO). The SRO is supported by the Programme Lead (the Director of Infrastructure and Commercial Services). Programme governance and oversight will be provided through a Board subcommittee (possibly with independent members or in partnership with the Ministry of Health) and Northland DHB's Capital Works Steering Group.

Programme and Project Management: The Programme and projects will be managed in line with standard programme and project management methodologies, including the key principles from Prince2 and Managing Successful Programmes.

Change and Benefits Management: Effective change management is critical for successful implementation. Proactive change management would ensure that any potential or actual issues are identified and effectively managed, to minimise any negative impacts on service delivery. The SRO would have overall responsibility for the monitoring, reporting and realisation of benefits. The benefits register would be maintained for the duration of the programme.

Risks and Issues Management: Standard methodologies would be used throughout the life of the project. The risks and issues register would be updated to reflect the current status of any risks or issues arising. All key risks and issues would be reported and monitored and would be escalated where required.

Stakeholder Engagement: The key stakeholders have been identified and a high-level Communications and Engagement Plan has been developed. This outlines the key messages and engagement approaches and would be finalised, subject to approval of the business case.

Monitoring and Assurance: The programme was assessed as 'Medium' on the NZ Treasury Risk Profile Assessment and therefore Gateway reviews and monitoring and assurance are not required. Internal quality assurance would be provided by the Programme Board and Enterprise Portfolio Management Office. Independent Quality Assurance (IQA) would be provided by an independent specialist assurance practice and external oversight would be provided by the Central Agencies through regular and specific engagement.

Timeline: The timeframes assume approval of the programme business case in early/mid 2020; if approval is given later this will result in a commensurate change in the timeframes indicated.

1.6. Next Steps

This programme business case seeks approval from Cabinet to start the preferred programme of work and to proceed with developing a detailed business case for the first tranche for submission in 2021/22. Pending approval, detailed planning and design would start in 2022 and construction would start in 2024. The new buildings would be complete and in use by 2027. We would then be able to demolish the existing surgical wing, which would be the last stage of the proposed programme.

2. The Strategic Case – making the Case for Change

This part of the business case confirms the strategic context for the investment proposal and makes a case for change.

2.1. Strategic Context

Northland DHB delivers and funds health services for the Northland population and Whangarei Hospital is a crucial part of this. It is the largest of our four hospitals and treats around 70 percent of all Northland patients. It also delivers a number of services for all of Northland, while the other three hospitals mostly treat patients from within their catchments. When services are not available in Whangarei, patients usually travel to Auckland hospitals for treatment. This distribution of services is a factor in the district's health inequities, as a large proportion of the Far North population is Maori and distance is a barrier to accessing services in Whangarei and Auckland.

Whangarei Hospital has multiple property issues which we have grouped into three categories of problems: the condition and safety of the main block, the fitness for purpose of individual areas within it and the overall capacity of the hospital. These issues affect services and health outcomes in different ways. The most immediate effects are associated with the size and fitness for purpose of areas such as the emergency department and theatres, which restrict capacity and quality of services, as measured by targets such as limiting emergency department stays to six hours or less. The condition of the main block creates risks to the safety of occupants and it is likely to force us to decommission parts of the building within the next 10 years, exacerbating capacity issues and health inequities.

Northland DHB and the Ministry of Health have been investigating large-scale options for addressing these issues since 2015. Work to date has focused on a full redevelopment of the hospital at a cost of over $1bn. During this period, Northland DHB has also sought smaller allocations to address urgent capacity and compliance issues at the hospital: in October 2018 ministers approved $24m and in April 2020 they approved $48.2m.

These allocations enable us to extend the life of the hospital and improve services to Northlanders, but they also create problems associated with investing without a long-term plan for how the hospital will develop. We have a site master plan, but without agreement about future funding, Northland DHB is forced to prioritise investments that address urgent property issues over those that align with the master plan. For example, the approved projects have involved work on buildings that are at the end of their economic lives, so we would get limited benefit from these investments if these buildings are replaced in the redevelopment.

This business case aims to get agreement on a programme of investment in Whangarei Hospital that will address its capacity and condition issues. To date, the main barrier to agreeing on a programme has been its affordability, given the many other demands on the health capital funding envelope around the country. Ministry of Health officials have also noted that the cost of the original programme was out of proportion to Northland's population size and the cost of other large-scale hospital redevelopments. In October 2018 the Capital Investment Committee (CIC) paused work on the programme business case as the level of funding sought was unlikely to be affordable before 2021.

Ministry officials have now indicated that planning for a full redevelopment can resume if steps are taken to address affordability issues. Northland DHB has therefore agreed to:

- design the programme so that early tranches are independent and separable, i.e. that the main problems at the hospital would be addressed and it could continue to operate if there were no further investments following these tranches
- review how we deliver clinical services to minimise the amount of additional hospital space required while ensuring that Northlanders have access to the best possible healthcare. This includes moving services to the other regional hospitals and into the community where possible. These initiatives are discussed in Northland DHB's Clinical Services Plan (CSP), which is included in Attachment 1. In addition, COVID-19 has forced us to more actively explore ways of seeing outpatients remotely, which reduces the amount of hospital space required for outpatient services and we believe these ways of working will endure after physical distancing restrictions end.

These measures reduce the funding required for the early stages of the programme to around half the level sought in the previous iteration of the programme business case that CIC paused in 2018.

2.2. Organisational Overview

There are a number of challenges in Northland DHB's operating environment that are driving the need for investment in Whangarei Hospital. We expect that over the next 10 to 20 years, the demographic factors noted below will continue to grow demand for secondary health services in Northland and create challenges for improving health outcomes:

- Maori inequity – over a third of Northland's population is Maori and they tend to get worse health outcomes than non-Maori: life expectancy for Maori is nine years lower than non-Maori. Northland DHB's priority is to work in partnership with Iwi in Te Tai Tokerau under the principles of the Treaty of Waitangi to reduce this gap in outcomes
- Rapid population growth – Statistics NZ's most recent population estimates found that Northland was the fastest growing region in the country between 2013 and 2018: it grew by 18 percent to just under 180,000 residents and the population estimate for 2020 is 193,000. Statistics NZ's most recent projections indicate that growth will continue but will level off in the early 2020s
- Ageing population – Northland has one of the highest proportions of over 65s nationally and Statistics NZ projects that this will grow from 20 percent now to 29 percent by 2038, an increase of nearly 30,000 people. This age group has the highest demand for secondary health services
- Deprivation – Northland has the second highest level of deprivation of all DHB areas: only Tairawhiti has a greater percentage of people living in high-deprivation areas. Deprivation is associated with many health challenges, including higher rates of non-communicable diseases and greater difficulties in accessing health services
- Dispersed rural population – around two thirds of Northlanders live outside the Whangarei district and those in the Far North have to travel for over two hours to Whangarei if the services they need are not available at the closest district hospital

Northland DHB receives around $700m annually through the Ministry of Health's population-based funding formula and we expect this to grow to $800m by 2023/24. Like most other DHBs, we are currently in deficit and we project that this will continue for at least the next three financial years.

Some of the factors that are driving costs higher, such as overall population and age, are included in the population-based funding formula, but others are not, such as the costs of service enablers like property and clinical equipment. Northland DHB is operating with financial constraints that limit what we can do to extend the life of Whangarei Hospital's assets.

2.3. Contribution to existing strategies

The proposed programme ensures that Northland DHB can continue to deliver and improve its services and accommodate increases in demand. This contributes to a range of national, regional and local strategic goals. For example, Northland DHB has a number of objectives that are mandated by the Public Health and Disability Act 2000, including:

- improving, promoting and protecting the health of people and communities
- seeking the optimum arrangement for the most effective and efficient delivery of health services in order to meet local, regional, and national needs.

Northland DHB is part of the Northern Regional Alliance with the three Auckland DHBs. The main planning document for this group is the Northern Region Long-term Investment Plan (NRLTIP). Within the NRLTIP's 25-year planning horizon, Whangarei Hospital retains its current role of delivering core services to its local population while partnering with metro DHBs to deliver specialist care. The redevelopment of Whangarei Hospital is a key initiative in the early years of the plan and contributes to the goal of adding 1600 beds in the region by 2037. The Ministry of Health has commissioned a review of the NRLTIP, so these plans may change, but the redevelopment of Whangarei Hospital is an agreed priority for the Ministry and regional DHBs independent of any review of the priorities in the NRLTIP.

At a local level, Northland DHB has made a strategic commitment to apply an equity lens to all areas of its current and new services, as well as to all of its plans and property developments. Northland Maori tend to get worse health outcomes than non-Maori and worse outcomes than Maori in Auckland, as measured by the gap in life expectancy between Maori and non-Maori. While the proposed programme is unlikely to have a significant positive impact on life expectancy, a lack of large-scale investment in Whangarei Hospital is likely to exacerbate the issues with access and unmet need that are contributing to health inequities in Northland and causing the life expectancy gap to widen.

Northland DHB has adopted the Institute for Healthcare Improvement's (IHI) quadruple aim for healthcare services. This includes:

- Population health – improve the health of Northlanders and reduce health inequities
- Patient experience – patients and whanau experience clinically and culturally safe, good quality, effective, efficient and timely care
- Value and sustainability – the Northland health system operates within the available funding by improving productivity and prioritising resources to their most cost effective uses
- Wellbeing and joy in work – IHI argues there are strong links between staff engagement and patient engagement and that staff are more likely to be positive and enthusiastic about getting the best outcomes for patients when they feel supported, empowered and respected.

We are currently developing a new health strategy, which will change the emphasis and framing of our strategic direction, but it is still likely to incorporate the quadruple aim in some

way. As the health strategy will not be completed before the middle of 2020 and is likely to be reviewed to reflect the impact of COVID-19, we intend to use the quadruple aim to guide our benefits assessment for the proposed programme.

Northland DHB is also updating its asset management plan (AMP). The proposed programme aligns with the previous version of the AMP in terms of the issues it seeks to address. The previous AMP highlighted condition, fitness for purpose, increasing renewal costs and growth in demand as key asset management challenges and drivers for investment. Approval of the proposed programme will affect the approach to asset management set out in the updated AMP.

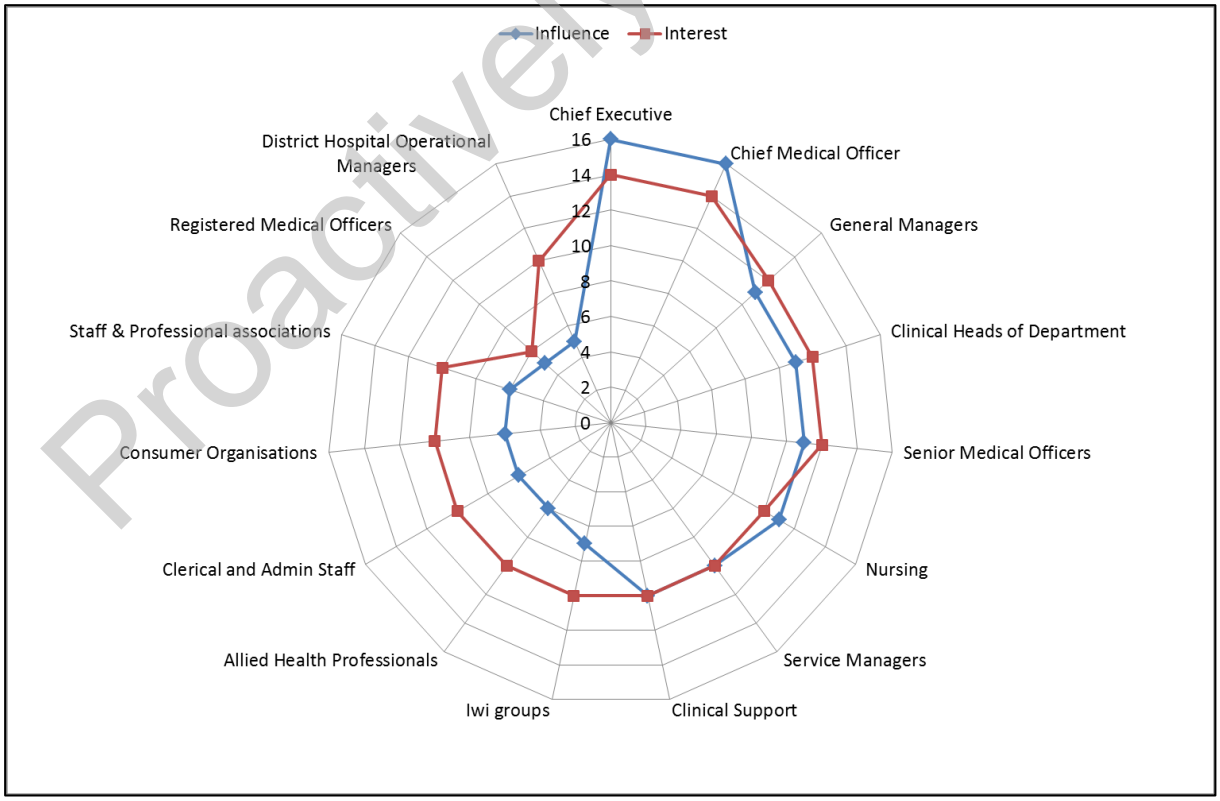
2.4. Stakeholder analysis

Northland DHB has engaged with many internal and external stakeholders as part of the planning for the Whangarei Hospital redevelopment.

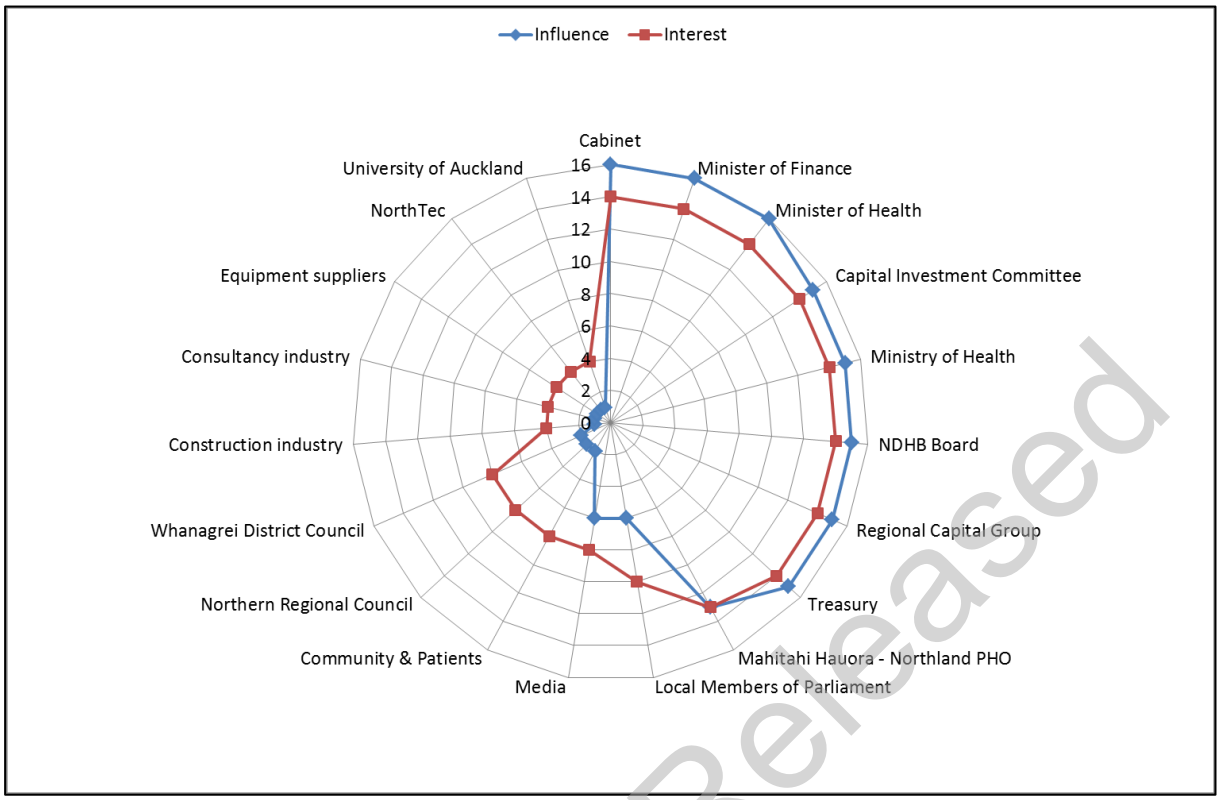
Engagement with internal stakeholders found strong support for a redevelopment programme and highlighted urgent need to address property-related issues at Whangarei Hospital: staff have frequently raised issues with the size and configuration of internal areas that affect their work and there are a number of complaints from patients. Externally, regional DHBs are supportive of the redevelopment, as noted in a joint letter to the minister on 12 December 2018.

Below are stakeholder influence/interest diagrams which illustrate the key stakeholders that have an interest in the expected outcomes or can influence the investment proposal.

Graph 1: Internal stakeholder influence/interest assessment



Graph 2: External stakeholder influence/interest assessment



2.5. Investment Objectives, Existing Arrangements & Business Needs

This section discusses:

- Investment objectives – what Northland DHB is trying to achieve through this programme business case
- Existing arrangements and business needs – the problems that have prompted us to develop a programme business case

2.5.1. Investment Objectives

As with other parts of this business case, we have done a lot of work and consultation on developing investment objectives over the past five years, including holding investment logic mapping (ILM) workshops and undertaking more specific consultation on the facility-related issues in each service area.

Given the scale of the proposed programme and its impact on nearly all aspects of Northland DHB's operation, we have chosen to summarise this work in three higher-level objectives related to capacity and condition. These objectives meet the SMART criteria (specific, measurable, achievable, relevant and time-bound) and will be incorporated into the critical success factors used in the options analysis below.

The proposed programme has the following key investment objectives:

1. Improve the condition of buildings at Whangarei Hospital so that the 11 patient areas in buildings that create safety risks to occupants are in accommodation without safety risks on completion of the programme
2. Improve the fitness for purpose of Whangarei Hospital so that the eight areas where the size and configuration of facilities affect services are accommodated in facilities that meet modern standards and AHFG benchmarks on completion of the programme
3. Provide sufficient capacity at Whangarei Hospital to meet projected demand until 2030

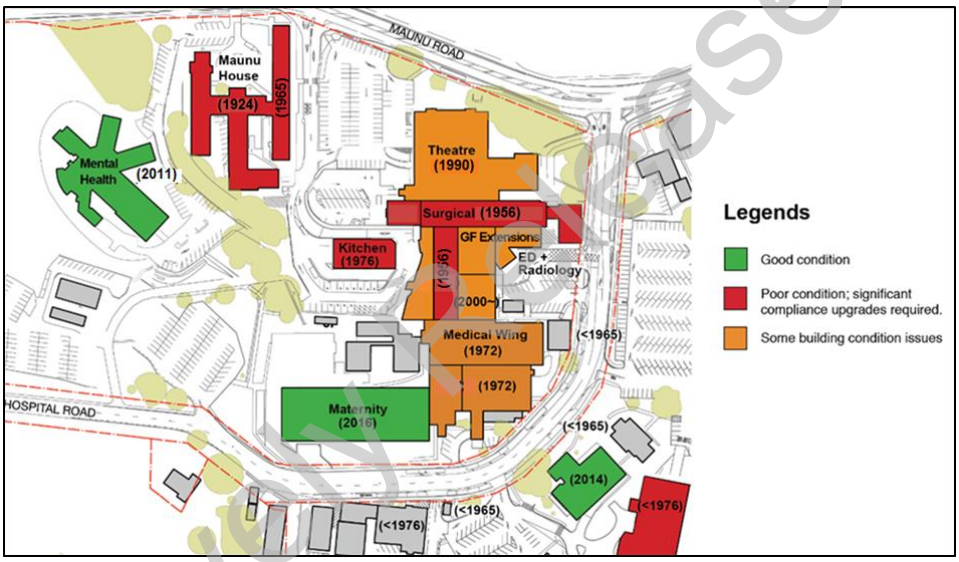
These objectives align with the following generic investment rationales included in the guidance for this business case:

- Improve effectiveness – improving access to and quality of services, for example by expanding capacity or providing facilities that are fit for purpose and support access for Maori communities
- Meet statutory, regulatory or organisational requirements – Whangarei Hospital is non-compliant with building standards and clinical best practice
- Re-produce services and avert service failure – enabling assets for secondary health services in Whangarei are past their useful lives and no longer fit for purpose.

2.5.2. Existing Arrangements and Business Needs

The table below summarises the problems at Whangarei Hospital that this business case seeks to address. More detail about these problems is included in Attachment 2 and Attachment 3 is Ernst & Young's report on the demand model for this business case.

Table 1: Summary of the existing arrangements and business needs

Investment Objective One	**Improve the condition of buildings at Whangarei Hospital so that the 11 patient areas in buildings that create safety risks to occupants are in accommodation without safety risks on completion of the project**
Existing Arrangements	The service and surgical wings of the main block at Whangarei Hospital are at the end of their economic lives, while the medical wing and theatres are in generally poor condition. This block makes up over 80 percent of the hospital in terms of floor area. The image below provides an indication of the condition of different parts of the hospital and the years they were built.  Several assessments have identified serious property issues with the main block and a recent survey concluded the surgical wing is no longer suitable for clinical use. It has inadequate fire separations, a lack of seismic restraints for services (compromising its ability to resume operation after an earthquake) and asbestos. On top of this, a recent assessment found that the cost of regular lifecycle maintenance (i.e. to keep the building at minimum standards) will be $5.2m per year on average for the next 20 years. This is more than Northland DHB currently allocates to its minor works capital programme for all its properties. Based on these assessments, our quantity surveyor concluded that the surgical wing is more economical to replace than to remediate. They estimate the cost of remediation at more than 90 percent of the cost of replacement, so replacement would be less costly from a whole of life perspective. Also if the building were remediated, it would still fail to meet modern standards. For example, the floor to ceiling heights prevent installation of air conditioning in the ceiling cavity. We prioritised an assessment of the surgical wing because it accommodates the most vulnerable patients. However, the service wing was built at the same time as the surgical wing and has similar condition and configuration issues, so it is also likely to be uneconomical to remediate. There are 10 patient areas in the surgical wing and one in the service wing. The medical wing and theatres are also in poor condition, but they do not appear to have urgent condition issues that could force us to decommission them. The projected maintenance costs for these buildings are high, but not at the level where replacement would be more economical than remediation.

Business Needs	Northland DHB needs to be able to accommodate patients in buildings that do not create serious safety risks for occupants. To assess whether this need is met on completion of the programme, we would count the patient areas currently in the surgical and service wings that have been moved to safer facilities.
Investment Objective Two	**Improve the fitness for purpose of Whangarei Hospital so that the eight services where the size and configuration of facilities affect performance are accommodated in facilities that meet modern standards and AHFG benchmarks on completion of the programme**
Existing Arrangements	The size and configuration of areas within the hospital are creating risks to clinical services and to health and safety. Some spaces are too small when benchmarked against the Australasian Health Facility Guidelines (AHFG) and comparable, recently-built spaces in other hospitals. Some of these spaces are also non-compliant with relevant standards or they are compliant but not fit for purpose due to their size. In other cases, the size of the areas restrict capacity and prevent us from seeing patients within required timeframes, as reflected in the Ministry of Health's patient flow indicators and other measures. The 11 highest-priority areas where facilities are not fit for purpose are listed below. There are more areas with issues that are less urgent. • Emergency department • Theatres • Intensive Care Unit (ICU) • Ophthalmology • Ear, nose and throat (ENT) • Dental • Audiology • Radiology • Laboratory • Paediatrics • Special Care Baby Unit (SCBU) For example, AHFG recommends 50m^2 per bed for emergency departments and the Whangarei Hospital ED is around 19m^2 per bed, which is 38 percent of the recommended size. The only negative pressure room is outside of ED in the building's main corridor and the resuscitation rooms are undersized compared with AHFG. An AHFG-compliant ED in the same area would have capacity for 21,000 presentations per year and the actual number of presentations is currently around 42,000 per year. Northland DHB has sought $48m of Crown funding to address issues with the laboratory, paediatrics and SCBU. Once this work is complete, there will then be eight remaining areas with fitness for purpose issues, which we refer to in the investment objective. Once paediatrics moves out of its current accommodation we intend to convert the space to an acute assessment unit, which would help to relieve demand pressure on ED. However, ED itself would still be cramped, so it is not a permanent solution to these issues. We therefore count ED as an area that needs to be addressed.
Business Needs	Northland DHB needs to be able to accommodate all of its services in modern, fit for purpose facilities. To assess whether this need is met, we would count the number of spaces in the hospital that meet AHFG standards, the Ministry of Health's clinical fitness for purpose assessment and other standards at completion of the programme.

Investment Objective Three	**Provide sufficient capacity at Whangarei Hospital to meet projected demand until 2030**

Existing Arrangements

Northland DHB engaged Ernst & Young (EY) to model future demand for inpatient, outpatient, theatre and emergency department services. EY projections show that demand for outpatients, theatres and emergency department attendances either exceeds Whangarei Hospital's current capacity or it will exceed it in the early 2020s. In contrast, overall demand for inpatient beds is lower than previously projected and Whangarei Hospital would have sufficient capacity to meet demand until the mid 2020s.

The reduced inpatient demand projection is positive as it indicates there will be no shortage of ward space in the near future. However there are indications that the lower demand projections are the result of an increase in unmet need. Also we believe Stats NZ's population projections may be underestimated. We have not included adjustments for these factors in the demand projections in order to keep the methodology consistent with other hospital redevelopments. We discuss ways of managing this risk in the economic case.

The table below summarises current capacity and current and future demand at Whangarei Hospital in the four areas.

Area	Measurement unit	Current capacity	Current demand	2030 demand
Outpatients	Square metres of net space*	2,615m^2	2,580m^2	2,940m^2
Theatres	Number of theatres	6**	8	9
ED	Bed bays	25	35	35
Inpatients	Beds	279***	302	347

* Appendix 2 discusses the rationale for this measure and how we calculated it

** Northland DHB is currently building two additional theatres, taking total capacity to eight. Theatre demand reaches 9 by 2031

*** We expect to add 38 beds through minor works projects and the interim capacity and compliance project, taking the total to 317

Based on this assessment, there is a need for additional outpatient space, theatres and emergency department space at Whangarei Hospital. We expect inpatient beds will reach capacity by the mid 2020s. This conclusion is supported by other indicators. For example, the Ministry of Health's ESPI 2 measure of the proportion of outpatients that wait longer than the required timeframe for their first specialist appointment has increased rapidly over the last year, indicating there are constraints in outpatient capacity.

Northland DHB is working to minimise the amount of additional capacity needed by improving its models of care, including moving services into the community or to district hospitals. These initiatives are set out in the clinical services plan included in Attachment 1 and their implications on the demand projections are discussed in EY's report in Attachment 3. For example, outpatient demand projections assume we will achieve a 20 percent reduction in medical and surgical follow up appointments and a 50 percent overall reduction in Allied Health attendances at Whangarei Hospital.

While we have assumed a substantial reduction in demand for outpatient services at Whangarei Hospital, actual demand may be even lower as the response to COVID-19 is also accelerating many of the model of care changes.

Business Needs	In order to meet demand in 2030 Whangarei Hospital needs: • 2,940 square metres of space for outpatient services, 340 square metres more than we have currently • Nine theatres by 2030. We expect to have eight theatres by 2030 under the status quo • 35 ED bed bays and four resuscitation rooms, able to accommodate over 46,000 attendances per year • 347 inpatient beds, 30 more than we would expect to have by then under the status quo

2.6. Potential Business Scope and Key Service Requirements

The table below sets out what addressing the investment objectives might look like. The minimum, intermediate and maximum scopes are reflected in the programme options discussed in the economic case. The minimum scope would not count as a successful programme, especially for the condition and fitness for purpose investment objectives. As long as we keep using the surgical wing, serious safety and fitness for purpose issues would not be addressed.

Table 2: Potential business scope and key service requirements

Service Requirements (in decreasing order of relevance compared to the investment objectives)	**Scope Assessment**			
	Minimum Scope	**Intermediate Scope**	**Maximum Scope**	**Out of Scope**
Condition	Build new space but retain all wings of the existing main block and try to address condition and safety issues through Northland DHB's annual minor works capital programme	Build new space and demolish the surgical wing	Build new space and demolish the surgical and service wings	Build new space and demolish the entire main block, including the medical wing
Fitness for purpose	Four of the eight areas with the most serious fitness for purpose issues are addressed	All eight areas with the most serious fitness for purpose issues would be addressed	All eight areas with the most serious fitness for purpose issues would be addressed and all inpatient areas would get modern, fit for purpose accommodation	Areas within the medical wing would be upgraded but may still face fitness for purpose issues associated with the age of the building
Capacity	Provide overall hospital capacity to 2030	Provide overall hospital capacity to 2035	Provide overall hospital capacity beyond 2035	Provide capacity at district hospitals or in the community

2.7. Main Benefits

Given the size of the proposed programme, it is likely to have impacts across Treasury's Living Standards Framework (LSF) domains, such as jobs and earnings, cultural identity or safety and security. Following the better business case guidance, we are focusing on the 20 percent of benefits that are likely to provide 80 percent of the programme's benefit value. These relate to health outcomes, health services and the property enablers for those

services. The benefits can be grouped under the quadruple aim goals discussed above: population health, patient experience and value and sustainability.

The population health indicators are likely to be affected by factors other than the property improvements a redevelopment programme would deliver, but we expect that services will be able to improve their performance when the fitness for purpose of different areas within the hospital (i.e. investment objective 2) are addressed. For example, physical constraints in the emergency department are very likely to be affecting performance on the shorter stays in emergency departments indicator. We therefore assume that any programme option that improves accommodation for a particular service or set of services (e.g. theatres or outpatients) will enable a small improvement on the related indicators below.

We assume most benefits of the programme will be realised when the new hospital buildings begin to be used from 2027 onwards. The table below therefore notes what we expect performance to be under the status quo in 2027. Attachment 4 provides more detail about the indicators, the rationale for the expected performance and the link between property improvements and the population health indicators. The sections below discuss the rationale for why we chose the KPIs in each of the three strategic goal areas.

Population health

Population health benefits include improved patient outcomes and a reduction in unmet need. For patient outcomes, the main KPI is the life expectancy gap between Maori and non-Maori, reflecting Northland DHB's priority of addressing health inequities for Maori. The other KPIs are Health Roundtable measures of different aspects of hospital performance. These are preferred to the health system-level measures included in our annual plans, which are more focused on primary care and likely to be less affected by the hospital redevelopment.

To measure unmet need, we are using two of the Ministry of Health's elective services patient flow indicators (ESPI): the proportion of patients waiting longer than the required timeframe for their first specialist outpatient appointment (ESPI 2) and the proportion of patients given a commitment to treatment but not treated within this timeframe (ESPI 5). These measures count patients who have contact with health services, so they exclude people who have no contact. We expect that the proposed programme will reduce this kind of unmet need as well, but as it is difficult to measure directly we intend to use ESPI.

Patient and staff experience

In order to measure the patient and staff experience, we use the investment objectives discussed above. The number of patient areas is unsafe buildings is preferred to our regular survey of patient experience because the condition of the hospital does not appear to be affecting survey responses. For Whangarei Hospital, more than 95 percent of respondents said they felt safe at the hospital, indicating that they were either unaware of or not concerned about the fire and seismic safety issues with parts of the main block.

Similarly, we measure capacity to meet demand using the assessment of our current physical capacity and projected demand for services. While this does not directly measure benefits to patients, measures such as waiting times for different services is more complex and sometimes harder to measure than demand and capacity.

Value and sustainability

We measure value and sustainability in terms of the annual maintenance cost of the hospital relative to the level of funding we expect to allocate to our minor works capital programme in the future. We assess the projected maintenance costs using the same methodology as the recent assessment that found lifecycle maintenance costs would be unaffordable for Northland DHB, and they would be proportional to the amount of new space that is built in each option. This benefit measure is distinct from the broader cost assessment of each option that we discuss further below.

Attachment 4 discusses the rationale for the projected performance under the status quo.

Table 3: Programme benefits and KPIs

Strategic goal	**Programme benefit**	**KPI**	**Status quo from 2027**
Population health	Improved patient outcomes	Gap in life expectancy between Maori and non-Maori	8.5 years
		Hospital acquired complications (HAC)	1.5 percent
		Relative stay index	110 percent
		Shorter stays in emergency department	90 percent
	Services reduce unmet need	ESPI 2: the proportion of patients waiting longer than the required timeframe for their first specialist outpatient appointment	35 percent
		ESPI 5: the proportion of patients given a commitment to treatment but not treated within this timeframe	30 percent
Patient experience	Better patient and staff experience	How many of the main patient areas at Whangarei Hospital comply with the building code and other building safety requirements for hospitals	11 patient areas in buildings that have building code and other safety issues
	Capacity and capability to meet demand	Is there sufficient physical capacity to meet demand for inpatients, outpatients, emergency department and theatres	Outpatients, theatres and emergency department demand exceeds capacity, as discussed in Attachment 2

Strategic goal	Programme benefit	KPI	Status quo from 2027
Value and sustainability	Northland DHB's annual capital maintenance costs are affordable*	Annual cost of capital maintenance for Whangarei Hospital as a proportion of projected funding for the minor capital works programme	>100 percent of minor works programme funding

* This benefit did not come from the ILM workshops, but it aligns with the Living Standards Framework benefits for health

Dis-benefits of the proposed programme include:

- Site disruption (noise, dust, traffic, etc.).
- Service disruption (as a result of reduced operational efficiency during works).
- Opportunity cost (the impact of investing in this programme rather than other possible initiatives).

2.8. Main Risks

Risk is an uncertain event or circumstance that, if it occurs, has a negative effect on at least one programme objective. The most significant risks that might prevent, degrade or delay the achievement of the investment objectives are identified and analysed below. All risks will be monitored, managed and updated as the programme progresses.

The main risks to achieving all three investment objectives are associated with the age and condition of the main block. Asset failure may force us to decommission parts of the main block before alternative accommodation is available, which could either disrupt services or force urgent investment in the block that does not align with the master plan. Options that involve remediating parts of the main block also have budget risks, as the work could trigger building code compliance upgrades or additional issues could be discovered after the work begins.

The table below sets out the most significant programme-level risks identified. The detailed business cases for each tranche are likely to identify risks associated with more specific management, procurement or funding issues.

Table 4: Initial risk analysis

	Main Risks	Impact	Likelihood	Consequence	Comments & Risk Management Strategies (Mitigations)
1	Parts of the hospital block may fail, lose accreditation or can no longer be used before we have built alternative accommodation	Services would be disrupted as there is nowhere to decant wards	M	H	This risk will be taken into account in designing the programme tranches, so that areas accommodated in the parts of the hospital block that are at the highest risk of failure receive alternative accommodation in the early tranches of the programme.
2	Additional issues with buildings become apparent after remediation work starts	The cost of the programme may exceed the available budget	M	H	Approval of this programme business case would give us confidence to commission more detailed assessments of the main block at Whangarei Hospital. This would increase the likelihood of identifying building issues that can be included in the budgets for the detailed business cases submitted for each tranche of the programme.
3	Remediation of buildings trigger building code compliance upgrades	The cost of the programme may exceed the available budget	M	H	As with risk 2, approval of the programme business case would give us confidence to undertake more detailed assessments in consultation with Whangarei District Council to determine the building code compliance implications of any remediation work.
4	Model of care changes are not implemented or do not achieve the required reductions in space needed to make the programme affordable	Newly built spaces do not provide sufficient capacity to meet demand or are not fit for purpose	M	M	The programme will include some flexibility in terms of bringing forward or delaying different components. If demand growth happens faster than expected, it may be possible to bring forward programme components to earlier tranches to ensure the hospital has sufficient capacity.

	Main Risks	Impact	Likelihood	Consequence	Comments & Risk Management Strategies (Mitigations)
5	Funding priorities change	The programme is stopped or paused before it achieves its investment objectives	M	H	Northland DHB would work closely with regional DHBs and the Ministry of Health on the programme to ensure that all parties are aware of the value for money it may or may not be delivering and the consequences of any delays or reprioritisation of funding.
6	Economic impact of COVID-19 affects markets for the goods and services required for this project	Likely to affect the timing, cost and quality of the infrastructure we build as part of this programme	H	M	There is a high level of economic uncertainty at the time of writing and there is additional uncertainty for the health sector in terms of the impact of COVID19. We aim to mitigate these risks through early engagement with potential suppliers and other methods discussed in the commercial case. In addition, the proposed programme itself is likely to have benefits for the regional economy due to its size.

2.9. Optimism bias

This is a large and complex project and many issues could arise that would be difficult to foresee at this stage. Our planning for the project is based on our current knowledge of the buildings, our services and the economic, demographic and institutional environment in which we operate. As noted elsewhere in this business case, there is a higher than normal probability of significant structural shifts in the health sector or the broader economy due to COVID-19, which adds uncertainty to the cost and benefit assessments in this business case.

In terms of the cost estimates, COVID-19 could affect the availability and cost of labour and materials, as well as exchange rates and the cost of goods and services sourced overseas. Our quantity surveyors used an elemental analysis in accordance with the New Zealand Institute of Quantity Surveyors to estimate the cost of the programme options. These are adjusted for labour and material cost increases based on New Zealand Institute of Economic Research projections for non-residential buildings. In order to counter optimism bias in the benefits assessment, we have tried to underestimate positive projections and overestimate negative projections.

2.10. Key constraints, dependencies and assumptions

The proposal is subject to the following constraints, dependencies, and assumptions. We have developed management strategies and registers to record management of these and they will be carefully monitored and managed during the programme.

Table 5: Key constraints, dependencies and assumptions

	Constraints	Notes
C1	Capacity must keep up with demand growth	• The project needs to be delivered in time to meet the projected growth in demand for beds, outpatient clinics, emergency department attendances and theatres. This is discussed further in the economic case
C2	Capital funding availability	• Northland DHB has agreed to limit the early tranches of the programme to $500-$700m and make them independent and separable, so that the main problems at the hospital will have been addressed if there is no further large-scale investment following these tranches
C3	Operating funding	• Northland DHB will have to staff and manage any new or upgraded facilities and hospital capacity using its population-based funding. While this funding generally grows with Northland's population, the consequential operating costs of a large scale redevelopment could exceed this. The proposed programme therefore needs to take into account the service capacity Northland DHB can afford to deliver
C4	Operational continuity	• The programme must be delivered while the business as usual operation of the hospital continues and it must not reduce the amount of space available for services so that they cannot meet demand • The programme tranches need to be designed to maintain functional relationships between different parts of the hospital where this is necessary. For example, we would be constrained in moving some services to another part of the hospital site if other services that need to be co-located do not also move. This will affect the design of the master plan and what is included in the programme tranches
C6	Market constraints for suppliers	• It is unlikely that many local construction sector suppliers will have the capacity to deliver projects on this scale, so the procurement approach and cost forecasts will have to take into account the need to seek interest from suppliers in other regions
	Dependencies	**Notes & Management strategies**
D1	Completion of other projects	• Northland DHB currently has a number of capital projects underway and the proposed programme depends on these projects being completed on time and achieving their goals
D2	Implementation of model of care changes	• We are updating our Clinical Services Plan, which includes model of care changes aimed at reducing the amount of additional capacity that needs to be built in the redevelopment. Whether the capacity built as part of this programme is sufficient to meet demand depends on these model of care changes being implemented and achieving the required reductions in hospital capacity

D3	Capital funding availability	• While this programme business case seeks agreement to the overall programme, individual tranches are still dependent on sufficient capital funding being available in the years they are sought
	Assumptions	**Notes & Management strategies**
A1	No significant changes in our operating environment	• Changes in a number of areas could affect the need for or progress of this programme, such as institutional arrangements, demographic or economic trends or changes in technology. Changes on this scale seem unlikely as there has been a need for a hospital in Whangarei for over 100 years

3. The Economic Case – Exploring the Preferred Way Forward

The purpose of the economic case is to identify the programme that optimises value for government and New Zealand. Having established the strategic context for the investment proposal and established a robust case for change, this part of the Programme Business Case:

- identifies critical success factors
- identifies and assesses the programme options (or trade-offs) for delivering the service needs
- identifies a preferred way forward based on the preferred programme

3.1. Critical Success Factors

Critical success factors (CSFs) are used to evaluate long-list options. Some of the long-list options below are excluded from further consideration because they do not meet one or more CSF, while others meet all the CSFs but perform more poorly against them than the shortlisted options. The table below sets out the critical success factors we will use in this business case. These are derived from previous stakeholder workshops, but we have simplified and reduced them to clarify the analysis of the long-list options.

Table 6: Critical Success Factors

Key Critical Success Factors	Broad Description	Proposal-specific Critical Success Factors

Strategic fit and business needs	How well the option:
	• meets the agreed investment objectives, related business needs and requirements, and
	• fits with other strategies, programmes and projects.
		• Meet the three investment objectives:
		  ○ Improve the safety and condition of the hospital's property
		  ○ Address size and configuration issues with specific areas at Whangarei Hospital
		  ○ Provide sufficient hospital capacity to meet projected demand
		• Enable continuous operation of the hospital. For example, a property solution must ensure that new capacity becomes available before existing capacity needs to be decommissioned and construction work should minimise disruption to operations
		• Maintain functional relationships between wards and areas that need to be co-located, such as theatres and ICU
		• Fit with other plans including: the regional long-term plan and Northland DHB's health strategy and clinical services plans

Key Critical Success Factors	Broad Description	Proposal-specific Critical Success Factors
Potential value for money	How well the option: • optimises value for money (ie, the optimal mix of potential benefits, costs and risks).	• Improve performance on the benefit measures listed in table 3 relative to costs
Supplier capacity and capability	How well the option: • matches the ability of potential suppliers to deliver the required services, and • is likely to result in a sustainable arrangement that optimises value for money over the term of the contract.	• Risks to delivery are manageable, taking into account the complexity of building in an operating hospital site • Suppliers are available and capable, taking into account the constraints of operating in a small market and likely need to bring in suppliers from other regions
Potential affordability	How well the option: • can be met from likely available funding, and • matches other funding constraints.	• Address the main issues with the hospital in the early tranches for less than $700m • Limit consequential operating expenditure to a level that is affordable for Northland DHB • Make the regular maintenance costs for Whangarei Hospital affordable for Northland DHB
Potential achievability	How well the option: • is likely to be delivered given the organisation's ability to respond to the changes required, and • matches the level of available skills required for successful delivery.	• Can the option be delivered in the context of Northland DHB's limited staff resources (e.g. we have no PMO)

3.2. Programme Options Identification

The purpose of this section is to identify and assess as wide a range as possible of programme options that reflect key trade-offs for value for money, achieve the investment objectives and service requirements, and lie within the boundaries of the scope parameters and critical success factors identified previously.

We have explored non-property solutions and ways of minimising the amount of Crown funding required to address the issues at the hospital, such as changes to our models of care aimed at better managing supply and demand for secondary health services. As noted in the table below, we intend to pursue these initiatives independently and in parallel with any redevelopment programme. There will be a need for them regardless of whether the programme proceeds, but by themselves they do not meet all the CSFs and would not eliminate the need for a programme.

There are options for meeting the investment objectives across the five dimensions of choice, but the only ones that can meet all the CSFs are those within the scale, scope and location dimension and the implementation dimension. The table on the following page notes the options within each dimension of choice and the reasons for including or excluding them in the long list, with reference to the CSFs.

Table 7: Possible programme options classified by the five dimensions of choice:

Dimension	Description	Options within each Dimension
Scale, scope and location	In relation to the proposal, **what** levels of coverage are possible?	Options within scale and scope dimension are limited by the CSFs of adequately addressing the capacity and condition issues at the hospital on one hand and keeping the cost of the programme to the agreed level on the other hand. The total cost of each of the long-list options is greater than the agreed level of funding, but they can be phased so that the cost of early tranches is within the agreed level. As the Whangarei Hospital site is large, there are also a number of location options for new or replacement buildings. These are limited by the need to meet the CSFs of ensuring the hospital can continue to operate and maintaining functional relationships between different hospital areas throughout the programme. The long-list includes different locations for the new and replacement buildings.
Service solution	**How** can services be provided?	In parallel with this programme business case, Northland DHB is reviewing its models of care with the aim of improving efficiency and reducing the amount of additional space required in any redevelopment. It is unlikely that changes to our models of care would reduce hospital space requirements to the extent that capacity constraints would no longer be an issue. Even if this were possible, it would not address the condition and configuration issues at the hospital. As Northland DHB faces significant challenges in meeting demand for secondary services within its available resources, this work would continue regardless of the option selected in this programme business case.
Service delivery	**Who** can deliver the services?	There are options in terms of who delivers Northland DHB's clinical services and who would deliver a property solution. *Northland DHB services* Northland DHB currently outsources some of its services and we are considering this further as part of the model of care changes noted above. This work is also happening in parallel and independently of this business case. As with the other model of care changes, outsourcing or other changes in responsibility for secondary health services may limit the amount of demand that needs to be accommodated at Whangarei Hospital, but it is unlikely to address the other investment objectives noted above. The potential for outsourcing is also constrained by the capacity of private health providers in Northland. *Property works* In the commercial case below, we consider alternative service delivery options, such as early contractor involvement, design and build and traditional procurement. Cabinet Office Circular (19)6[1] notes that health agencies are excluded from using alternative procurement approaches such as public-private partnerships.

[1] CO (19) 6: *Investment Management and Asset Performance in the State Services*, retrieved from https://dpmc.govt.nz/publications/co-19-6-investment-management-and-asset-performance-state-services-html#reference-12

Implementation	**When** can services be delivered?	While the total cost of each of the scale, scope and location options is greater than $700m, the work can be phased so that they meet the critical success factors of addressing the main issues at the hospital within the early tranches and within the agreed level of funding. The timing options are constrained by the urgency of many of the issues at the hospital and the need to add capacity as demand grows.
Funding	How can it be funded?	Four options for funding the capital required for this project are: 1. Crown funding 2. Northland DHB population-based funding 3. Debt, serviced by Northland DHB population-based funding 4. Third party funding (charitable contributions) Only options involving Crown funding are included in the long-list. Given the scale of the work required, Northland DHB could not afford to fund it either directly or through debt. Charitable funding is likely to be time consuming or difficult to obtain given the scale and because potential donors may see this type of investment as the government's responsibility. Under all options, Northland DHB would meet the consequential operating costs of the project from its population-based funding.

Based on this assessment, we need to build new and replacement space at Whangarei Hospital in order to meet all the CSFs, but we can vary where and when this space is built.

In order to simplify the options analysis, the long-list includes options for the location and configuration of new and existing buildings on the Whangarei Hospital site, while the shortlist includes options for the scope and timing of tranches within the preferred long-list option. This allows us to shortlist options that offer a trade-off in terms of the cost of the early tranches and the extent to which they address the issues on the Whangarei Hospital site or defer them to later tranches. The sections below discuss the long list options and the rationale for the preferred option.

3.2.1. Long-list options analysis

We have developed eight long-list options in consultation with our architects, staff, regional DHBs and the Ministry. Options 1 to 5 do not meet all of the CSFs and are excluded from further consideration. They all involve building new space in the main hospital precinct, as shown in the image below. Most are excluded because they involve demolishing the entire main block, which creates difficulties with meeting the CSFs of ensuring continuous operation of the hospital and delivering value for money. For example, option 3 does not provide any medical ward capacity before the existing medical wing is demolished.

Image 2: Whangarei Hospital site configuration

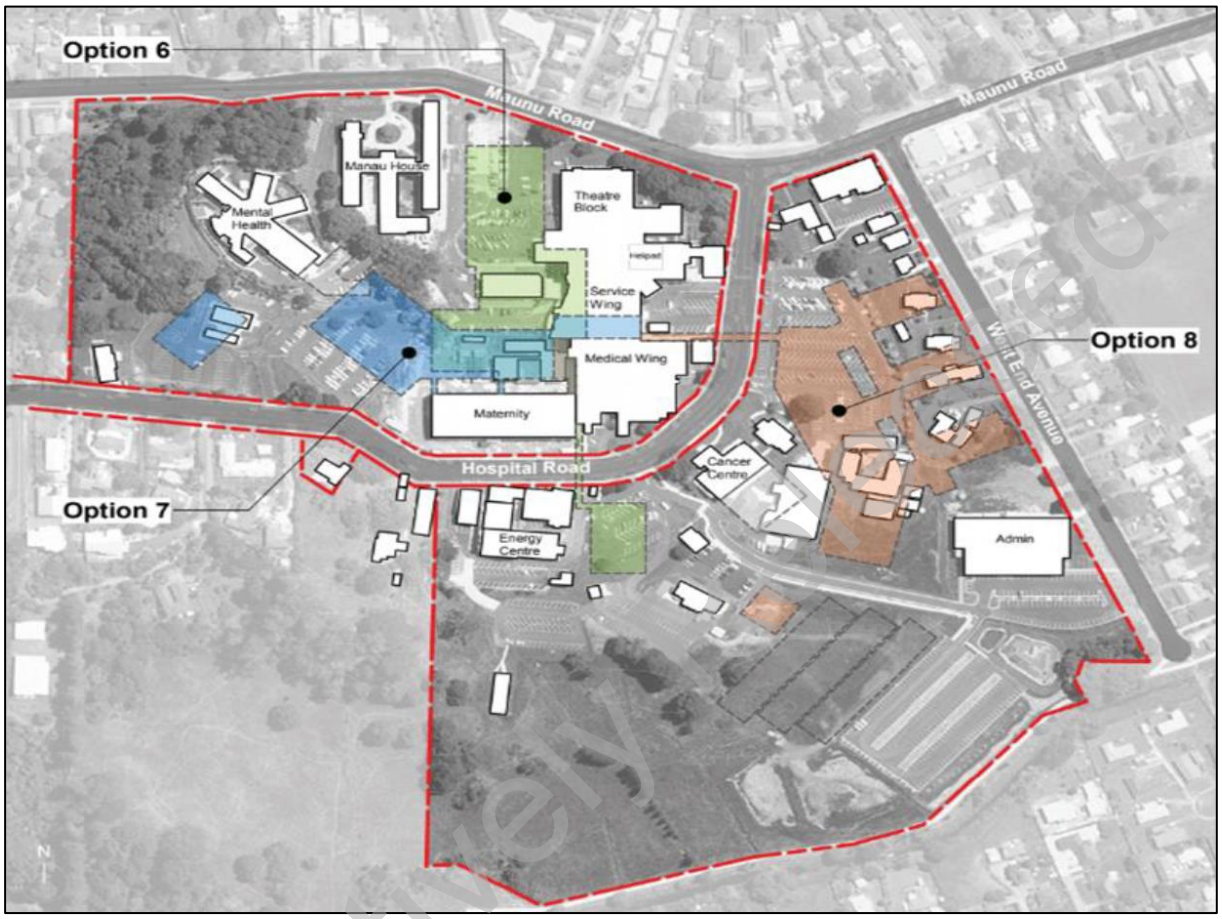
By demolishing the medical wing and theatres, the options also deliver less value for money than options that retain these parts of the main block. As noted in the discussion of the existing arrangements, the medical wing and theatres are likely to be more economical to remediate than to replace, based on the available evidence. Options that replace these parts of the building would therefore have a higher whole of life cost per square metre of hospital space provided than options that retain and remediate them.

Option 2 takes the opposite approach and retains the entire main block as administration space while rebuilding clinical space in the main hospital precinct. Remediating the surgical and service wings to be used as administration space is likely to be less costly than remediating them for clinical use, but we would still need to spend a lot of money on buildings that are at the end of their economic lives. For example, the buildings would still need to be brought up to code in terms of fire separations and seismic resilience. Like the options discussed above, option 2 therefore delivers less value for money than the options that replace the surgical and service wings, so it is excluded from further consideration.

In contrast to options 1 to 5, options 6 to 8 can meet all of the CSFs. They better support the continuous operation of the hospital and deliver better value for money by retaining the main

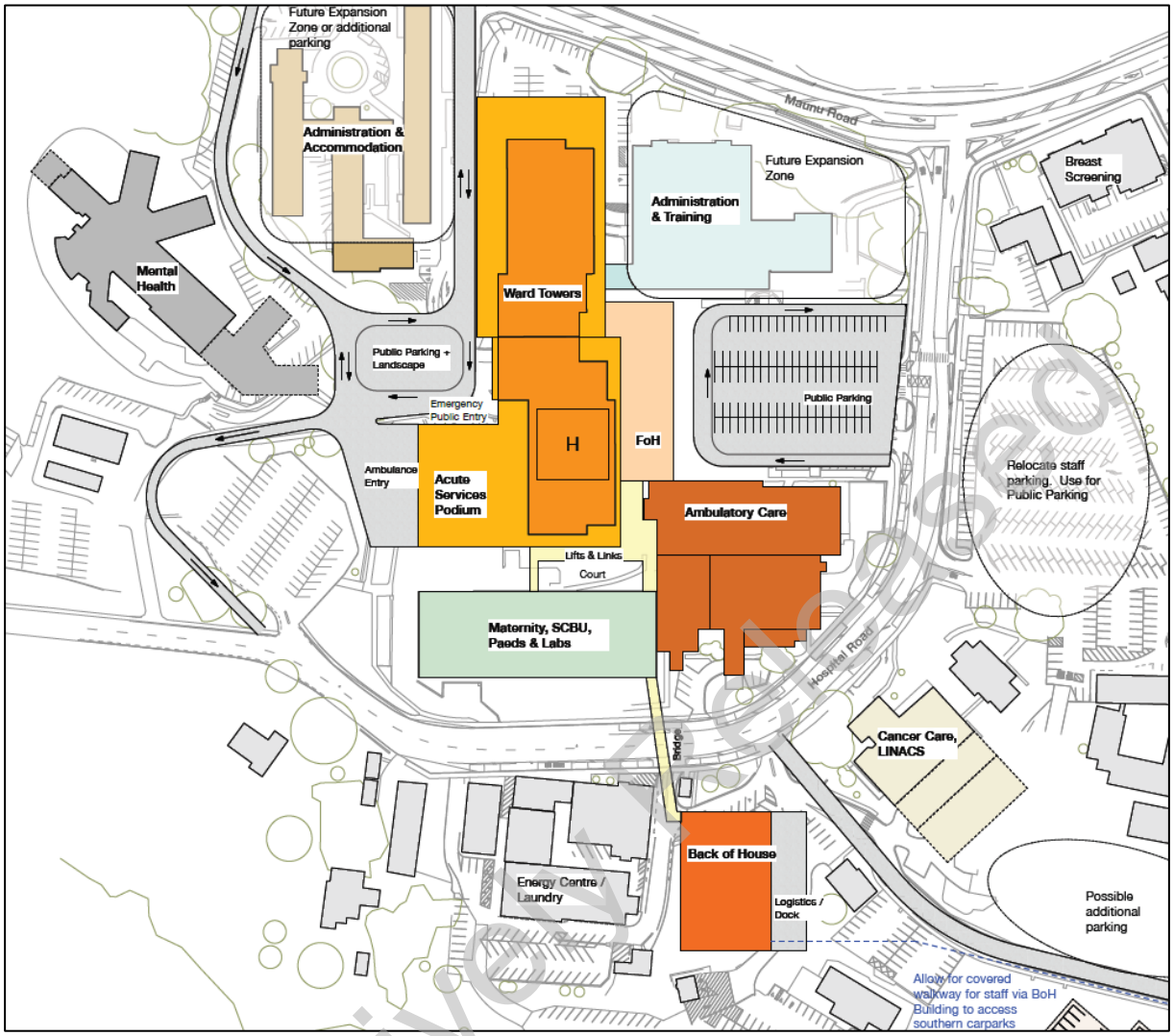
block's medial wing and theatres, while replacing the surgical and service wings. Consultants engaged by the Ministry of Health have reviewed the long-list options and suggested variations to options 6 and 8, which are also discussed below. This image summarises options 6, 7 and 8.

Image 3: Long-list options that meet the CSFs



In order to select one of these options to shortlist, we have assessed how well they perform against each of the CSFs as well as non-critical criteria. An options by criteria matrix is included in Attachment 5 and this is discussed following the option descriptions. The drawings shown below are concepts and the final designs are likely to be different. For example, areas shown as single buildings in the drawings could be built as separate blocks in different stages of the programme.

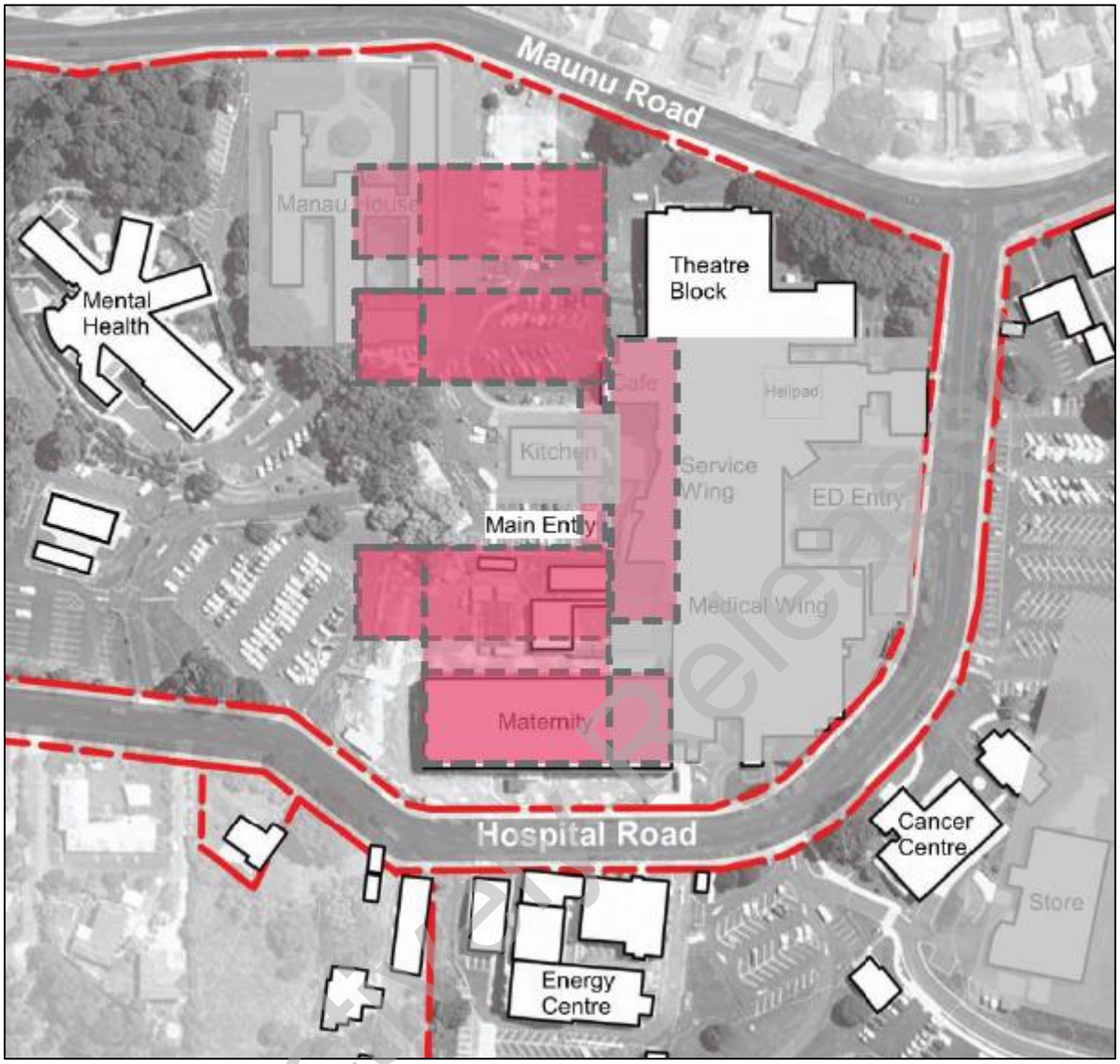
3.2.2. Option 6



Like options 1 to 5, option 6 builds additional space in the main hospital precinct to the west of the existing main block. It then demolishes the surgical and service wings of the existing block, retaining the medical wing for outpatient services and the theatres for administration and training. This better supports continuous delivery of hospital services and delivers better value for money than options 1 to 5.

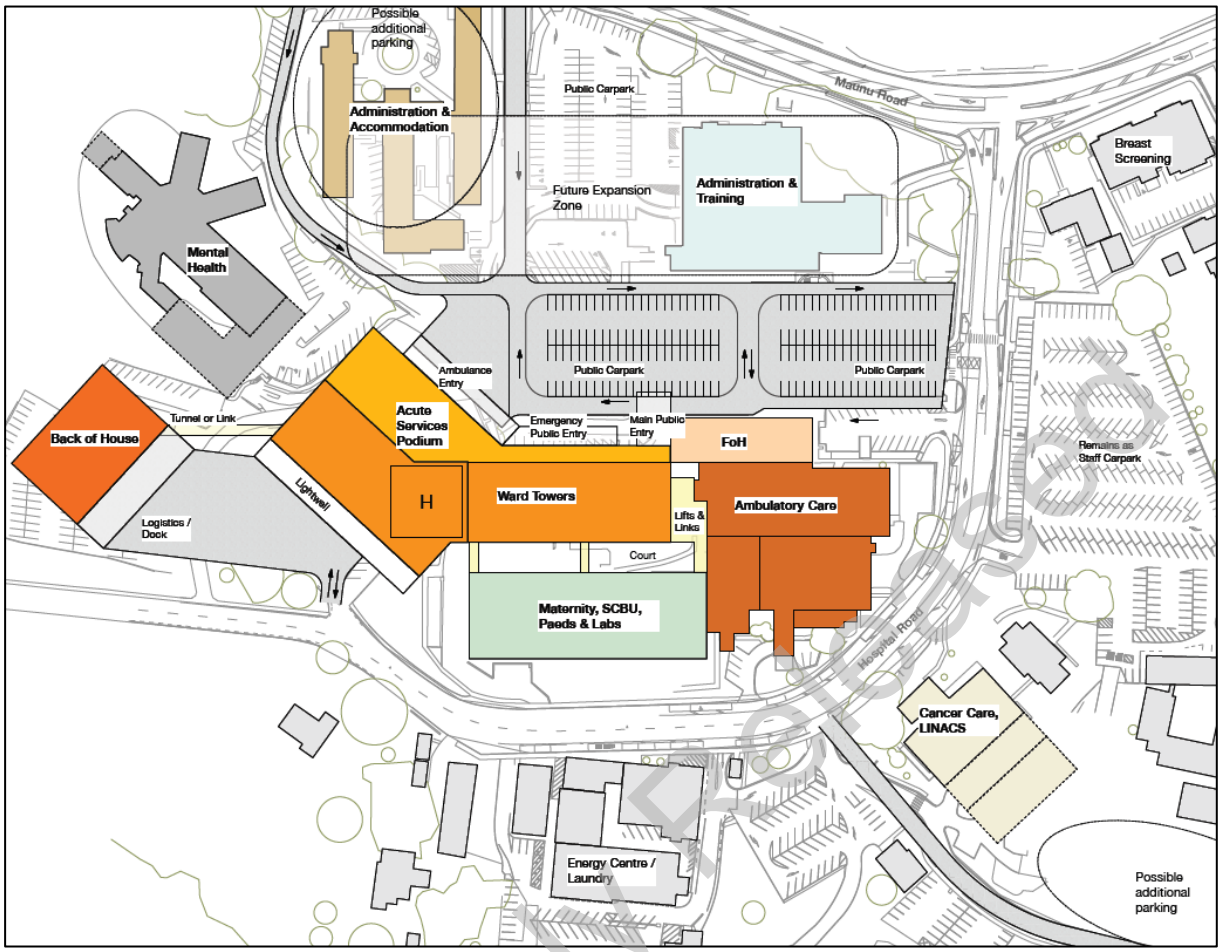
Building close to the existing block makes it possible to maintain functional relationships throughout the project but also creates challenges for construction and more disruption for hospital operations. For example, the front of house area, including the public entrance to the emergency department, is on the west side of the existing service wing and we would need to move this to another part of the main block, which would involve more investment in end-of-life buildings. We would also have to relocate the kitchen and service entrance. Construction of new space happens close to existing inpatient wards and theatres and is likely to disrupt hospital operations. Likewise, when the new buildings are complete, demolition of the existing main block would have to happen close to the new buildings.

3.2.3. Option 6A



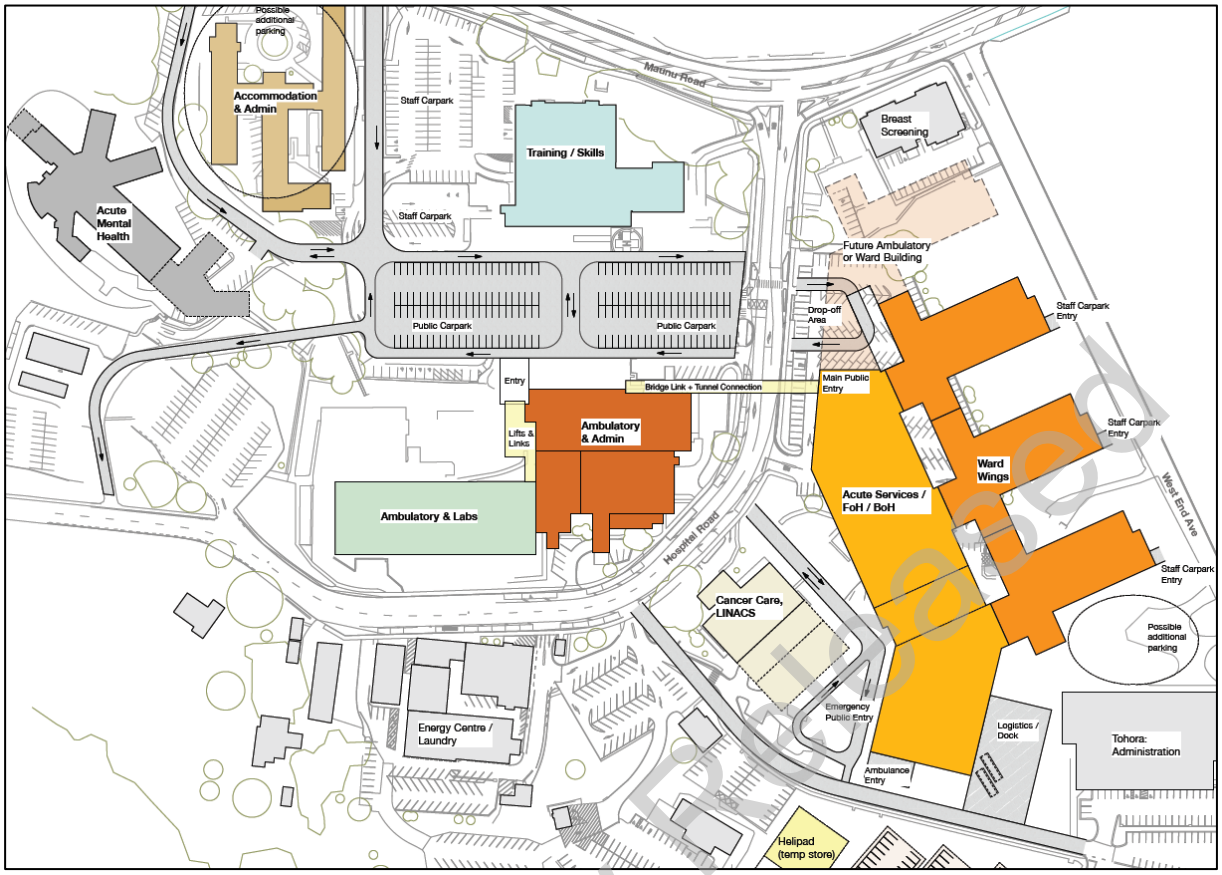
Consultants engaged by the Ministry of Health proposed a variation to option 6 that aims to support a more progressive rebuild of the hospital. This builds in the same area as option 6 but splits the new space into a series of towers, for which we could seek funding approval in several tranches. Because the buildings would be close to the existing main block, it would be easier for services that move to maintain functional relationships with areas in the existing hospital, so this option better lends itself to being split into tranches than options 7 and 8. However, it faces the same disadvantages as option 6 in terms of creating more disruption to the hospital's operations and forcing investment in temporary relocations of areas such as front of house and kitchens.

3.2.4. Option 7



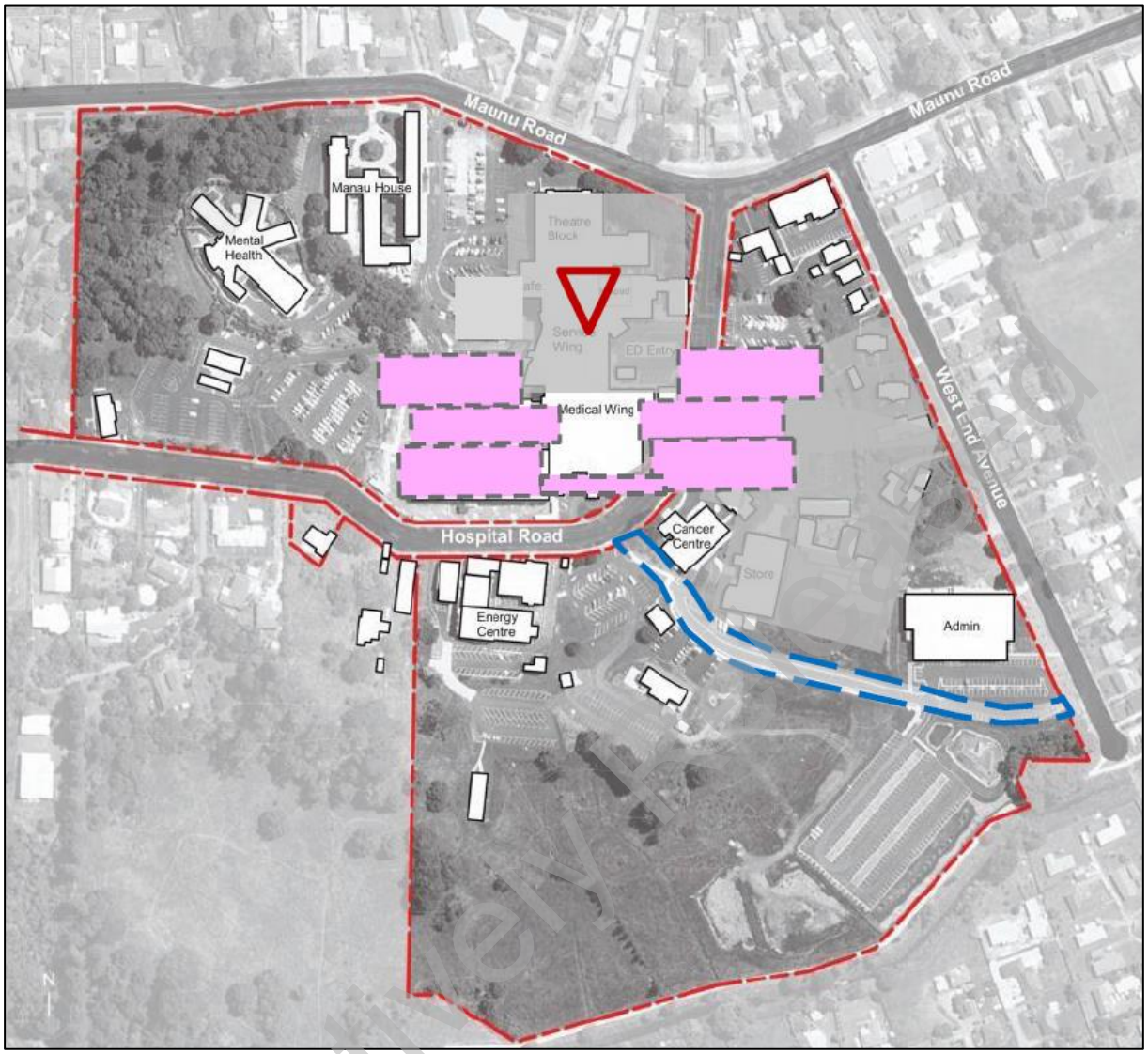
This rebuilds the hospital to the west of the existing block along Hospital Road. It also demolishes the surgical and service wings of the existing main block and retains the medical wing for outpatient services. Staging in this configuration would be better able to maintain functional relationships throughout the programme than option 8. However it would create more disruption to the operation of the existing hospital than option 8 throughout the programme. There are also non-critical disadvantages with this option: this part of the site is more constrained than the east side of hospital road and limits options for future expansion as an extension to the new buildings. Also it is the highest part of the site, so the new buildings would stick out of the surrounding landscape and shade neighbouring areas.

3.2.5. Option 8



This option rebuilds the hospital on the other side of Hospital Road, in a large, mostly vacant area that is currently used for car parking and some hospital accommodation. The hospital buildings retained on the northwest side of the road would become an ambulatory services precinct, while the new buildings on the east side would be the acute services and inpatient precinct. The two parts of the hospital would be connected across Hospital Road by a bridge or tunnel. The new buildings on the east side of the road consist of an acute services block with front of house and back of house functions and three ward wings.

3.2.6. Option 8A



Consultants engaged by the Ministry of Health also proposed a variation to option 8. This aims to enable option 8 to be built in stages, similar to option 6A, by building on Hospital Road, which would be redirected to West End Avenue, as shown in blue in the image above. As Hospital Road is a cul-de-sac, this would not affect a large amount of traffic and the hospital could still be accessed directly from Maunu Road. While this offers advantages in staging, it also carries more dependencies and risk in terms of the process for redirecting the road, so we have not shortlisted it.

3.2.7. Preferred long-list option

Options 6, 6A, 7 and 8 build roughly the same amount of floor space and have similar costs in terms of the whole programme: the cost difference between the lowest and highest-cost options is less than 5 percent ($1,153m for option 6 vs. $1,210m for option 8 in the previous iteration of this business case). They can also meet all of the CSFs, including the three investment objectives of addressing the capacity, configuration and condition issues at the hospital.

The differences between the options are mainly in the degree to which they support the CSFs of enabling the hospital to continue operating and maintaining the functional relationships between areas. They also differ on non-critical issues such as supporting traffic

and pedestrian flows around the hospital, the level of flexibility for future expansion and the height of the blocks that need to be built relative to the surrounding area.

This long-list analysis therefore assesses the options against the CSFs and other technical issues in the options by criteria matrix in Attachment 5. Based on this assessment, we are shortlisting different phasing options within option 8. The main reasons for preferring option 8 are:

- Option 6 and 6A are the most complex and risky building configurations and create a number of challenges for delivery, as construction and demolition have to happen close to buildings that are in use. Several areas would need to be temporarily relocated to other parts of the existing main block, forcing more investment in end-of-life assets and creating disruption
- Option 7 would also create disruption to the existing hospital and there is limited scope for future expansion in this part of the site. It builds a tower block in the highest part of the site, so this building would stick out of the surrounding area and limit natural light for neighbouring buildings
- Option 8 avoids the issues with the other options by building in a relatively empty part of the site and across the road from the main block, so it performs best on the CSF of enabling continuous operation of the hospital. By building further from the existing hospital, there are more challenges with maintaining functional relationships between different areas, but the extent to which this is an issue varies depending on which shortlist option is chosen and this is discussed further in the next section. By contrast, the disruption associated with building close to the existing hospital under options 6, 6A and 7 could not be mitigated by phasing the work in different ways.

Option 8 performs best on the critical success factors and other criteria, so based on this assessment we are shortlisting different phasing and scope options within option 8.

3.3. Programme Options Assessment

In addition to retaining the status quo, we have shortlisted four options that follow the development plan for the site set out in option 8. The options progressively add cost and benefits to the project by building more of the new block within the agreed programme. Anything not within the agreed programme and would be subject to future funding agreements. Options 2 and 3 would be built in one tranche, while option 4 would be built in two tranches and option 5 would be built in three tranches. Attachment 6 is our architects' report, which provides more detail about the programme options, their phasing and the space they deliver for different services.

The shortlist options and their costs are:

Option	Description	Cost ($m)
1	Status quo – retain the existing buildings and do not add capacity to the hospital. This would still require effort and resource, as Northland DHB would have to manage the risks associated with the condition of the main block, fitness for purpose of different areas and increasing capacity constraints.	**$0**
2	Do minimum – build an acute services block and one ward wing, demolish none of the existing main block. The acute services wing is partially fitted out and the ward wing is only fitted out for an acute assessment unit. The remaining areas in both buildings would be shell space. The ward wing would have insufficient space for the surgical wing wards, so the surgical wing would need to be retained. This would be built in one tranche.	**Total: $517.500**
3	Intermediate – build an acute services block and one ward wing, demolish the surgical wing of the existing main block. The acute services wing is partially fitted out and the ward wing is fitted out for inpatient wards, providing sufficient capacity to vacate the surgical wing so it can be demolished. This would be built in one tranche.	**Total: $572.000**
4	Do more – build an acute services block and two ward wings, demolish the surgical and service wings of the existing main block. The acute services wing is almost fully fitted out, as are both ward wings. The second ward wing will provide sufficient capacity to allow us to vacate and demolish the service wing as well as the surgical wing. This would be built in two tranches.	**Total: $803.848** Tranche 1: $572.000m Tranche 2: $231.848m
5	Do maximum – build and acute services block and three ward wings, demolish the surgical and service wings of the existing main block. Fit out all of the space within the acute services building and ward wings. This would be built in three tranches.	**Total: $1,002.248** Tranche 1: $572.000m Tranche 2: $231.848m Tranche 3: $198.400m

The tables below add more detail about these options.

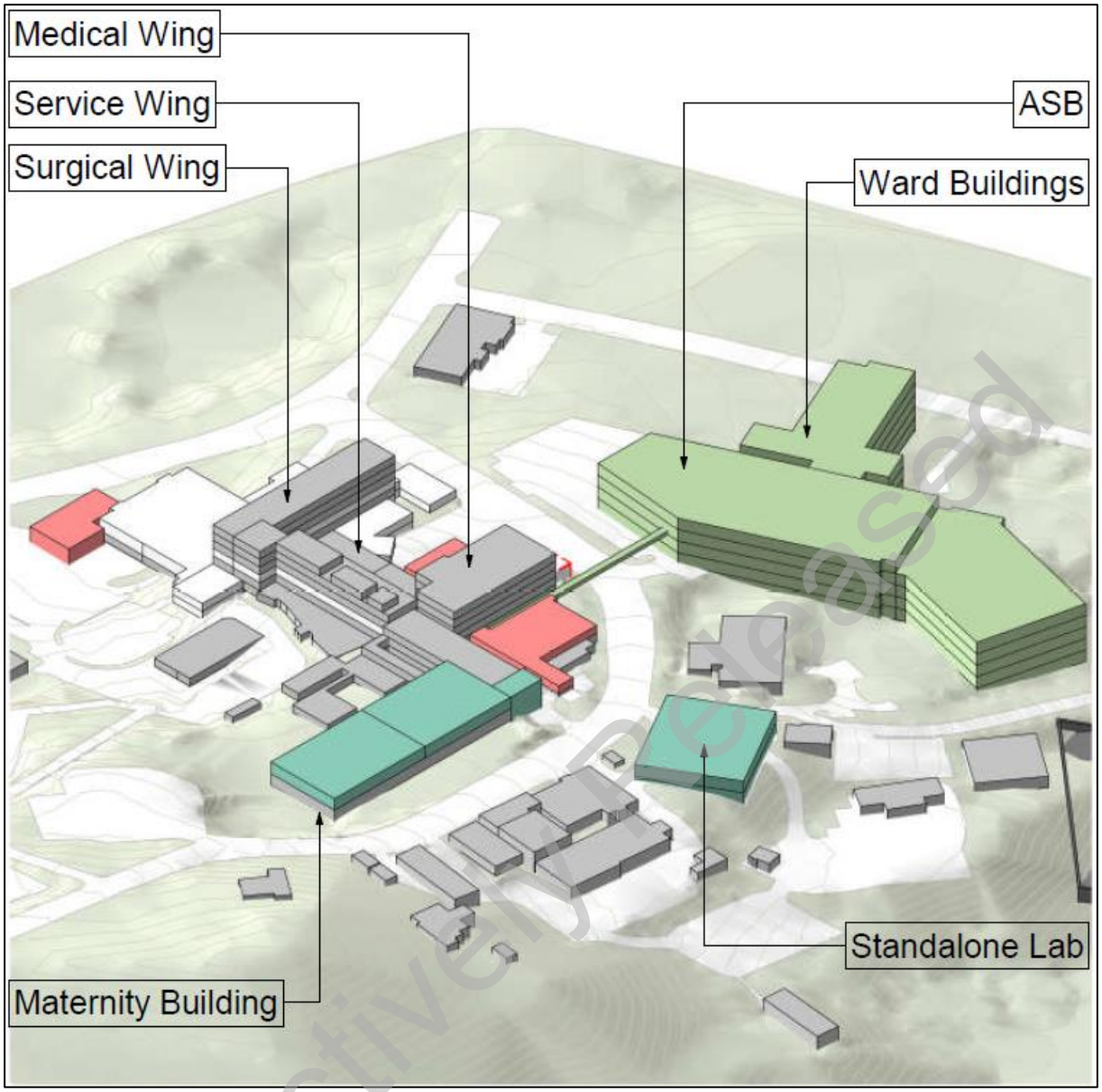
1. Status quo	This option retains the existing buildings and does not add capacity to the hospital. This would still require effort and resource, as Northland DHB would have to manage the risks associated with the condition of the main block, fitness for purpose of different areas and increasing capacity constraints. For example, we would have to address the fire safety issues in the surgical wing, which will be costly due to the presence of asbestos and the likelihood that the work would trigger other building code compliance requirements. Following the better business case guidance, we have therefore called this option 'status quo' rather than 'do nothing'.
Advantages	The main advantages are: • No immediate cost to the Crown
Disadvantages	The main disadvantages are: • It meets none of the investment objectives and the associated risks to clinical services and health and safety would remain, as well as the risks of having insufficient physical capacity to meet demand either due to asset failure or growth in demand • Because of these risks, there is potentially a significant cost to the Crown in the future as urgent investment may be required to ensure that there is a hospital in Northland that can deliver the range of services that Whangarei Hospital currently provides
Costs	$0
Benefits	Under the status quo, the investment objectives would not be met and the benefit KPIs would continue on their current trajectory as discussed in Attachment 4. The investment objectives are: • All 11 patient areas in unsafe buildings remain where they are • All eight services in unfit for purpose spaces remain where they are • Overall demand will exceed capacity by 2028 The KPIs are: • Gap in life expectancy – increases to over 9 years • Hospital acquired complications – stays at 2 percent • Relative stay index – stays at 110 percent • Shorter stays in emergency – stays at 90 percent • ESPI 2 – stays at 35 percent • ESPI 5 – stays at 30 percent • No reduction in capital maintenance costs
Conclusion	This option does not meet the investment objectives and fails to mitigate risks that have high likelihoods and severe consequences. If this option is selected, Northland DHB would continue to make smaller investments in the hospital to delay asset failure and keep it operating as long as possible. Similarly, if a decision about the programme is deferred, Northland DHB would face issues associated with continuing to invest in the hospital without a funded long-term plan for how it should develop, resulting in suboptimal use of public funds.

2. Do minimum	This option builds a new acute services building and one ward wing on the east side of Hospital Road. Around three quarters of the acute services building would be fitted out and the remainder would be shell space. The fitted out areas would include ED, theatres, ICU and radiology as well as front of house and back of house functions. Ward tower B would be fitted out for an AAU and the remainder would be shell space. The surgical wing of the existing hospital would be retained as there would be insufficient fitted-out space in the new ward tower to move all of the services from the surgical wing. The existing theatre building would be retained for future use, but the cost of remodelling it is not included in the funding sought for this programme.
Advantages	The main advantages are: • Compared with the status quo, this option allows us to mitigate risks to key services by moving them out of the surgical wing and improving the fitness for purpose of the spaces they operate in, particularly ED, theatres and ICU • By retaining all of the existing main block, it provides more capacity than the other options, though this space would be in the surgical wing where there are health and safety risks to occupants
Disadvantages	The main disadvantages are: • The surgical wing would be retained and used for some clinical services, so this option would not meet the investment objectives of mitigating risks to occupants and reducing the cost of maintaining the hospital • This option has comparable or higher consequential operating costs than option 3, despite adding less space. Northland DHB would continue to pay significant maintenance, power and water costs for of the surgical wing as well as for the new buildings • Some functional relationships would be affected. For example, most inpatient services would remain in the existing buildings on the other side of the road from theatres and ICU
Costs ($m)	$517.500
Benefits	This option partially achieves the investment objectives and we expect it to achieve some improvement on KPIs associated with expanding theatres and the emergency department. We expect ESPI 5 to improve substantially with adequate theatre capacity that meets AHFG. The other KPIs would be unaffected or minimally affected. The investment objectives are: • Two of 11 patient spaces in unsafe buildings move to new accommodation • Four of eight areas in unfit for purpose spaces move to new accommodation • Overall demand will exceed capacity by 2028 The KPIs are: • Gap in life expectancy – remains at 8.5 years • Hospital acquired complications – improves from 2 percent to 1.5 percent • Relative stay index – stays at 110 percent • Shorter stays in emergency – improves from 90 percent to 95 percent

	• ESPI 2 – stays at 35 percent • ESPI 5 – improves from 30 percent to 2 percent • No reduction in capital maintenance costs
Conclusion	This option is preferable to the status quo but it fails to meet the investment objective of addressing safety and cost issues with the current buildings. It also does not improve accommodation for four of the 11 areas that are in sub-standard facilities in the current hospital. This option shows that anything less than option 3 below would not provide sufficient capacity to allow us to fully decommission the surgical wing, which is crucial to meeting the investment objectives.

In the image below, the buildings in red are those for which ministers approved funding in 2018 and they are either complete or in construction. The buildings in turquoise are those for which ministers recently approved $48m and the buildings in green, the acute services building (ASB) and ward towers, are those we are seeking funding for in this programme business case.

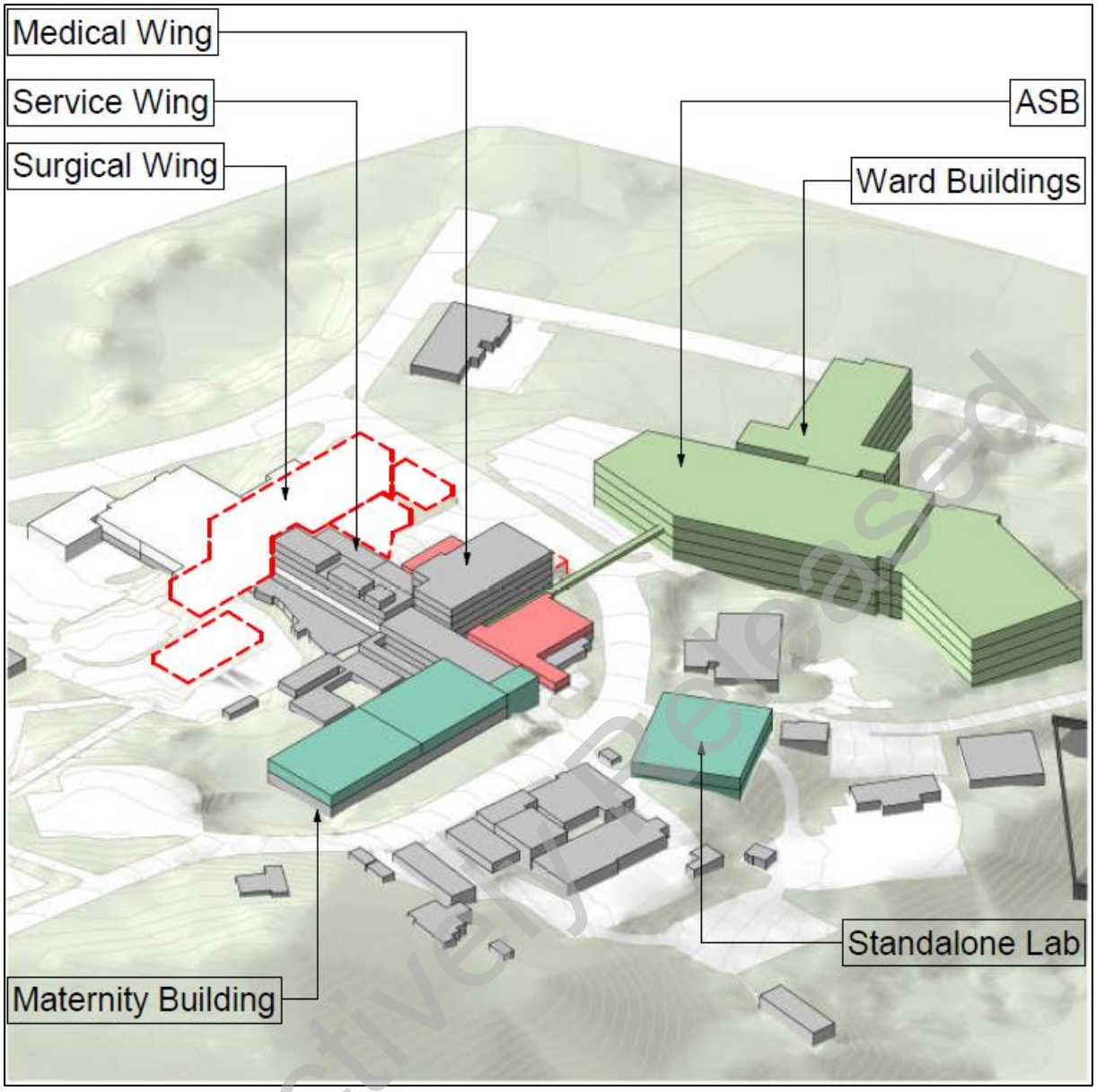
Image 4: Do minimum option



3. Intermediate	This option builds the acute services building and one ward wing on the east side of Hospital Road. The acute services building would be fitted out as in the do minimum option: it would accommodate ED, theatres, ICU, front of house and back of house and around a quarter of the building would remain as shell space for future expansion. In contrast to the do minimum option, ward tower B would be almost fully fitted out, with a small amount of shell space retained for future expansion. It would accommodate an AAU, a CCU and three medical/surgical wards. This would accommodate all of the wards from the surgical wing and some from the medical wing. The outpatient areas on level 5 of the surgical wing (ophthalmology, dental, ENT and audiology) would then move into the medical wing, allowing us to demolish the surgical wing. We would retain the existing theatre building and the service wing. The existing theatres would be decommissioned but retained for future use. The medical wing would be upgraded to accommodate the outpatient services from the surgical wing.

Advantages	The main advantages are: • Compared with the status quo and do minimum options, this meets all three investment objectives: it addresses the safety of hospital property, it improves the accommodation of all eight areas that are currently in substandard spaces and it provides sufficient accommodation until 2030
Disadvantages	The main disadvantages are: • Construction of additional capacity (i.e. the next ward tower) may need to started before the approved work is complete in 2027 in order to provide capacity ahead of demand. The approved work would provide capacity to 2030, only three years after it is complete • Compared with option 4, it does not allow us to decommission the service wing, which also has safety issues and high maintenance costs • Some inpatient areas remain on the northwest side of Hospital Road where they are further from theatres and ICU
Costs ($m)	$572.000
Benefits	Compared with the status quo, this option is likely to improve performance on all the KPIs. Unlike do minimum, the intermediate option should also enable improvements on the relative stay index as it expands inpatient capacity and it should improve ESPI 2 by eliminating physical capacity restrictions in outpatient areas. The investment objectives are: • 10 of 11 patient spaces in unsafe buildings move to new accommodation • All eight areas in unfit for purpose spaces move to new accommodation • Provides sufficient capacity to 2030 The KPIs are: • Gap in life expectancy – reduces from 8.5 to 8.3 years • Hospital acquired complications – improves from 2 percent to 1.5 percent • Relative stay index – improves from 110 percent to 100 percent • Shorter stays in emergency – improves from 90 percent to 95 percent • ESPI 2 – improves from 35 percent to 5 percent • ESPI 5 – improves from 30 percent to 2 percent • Reduces capital maintenance costs to less than 75 percent of minor works programme
Conclusion	This option performs well on nearly all of the investment objectives and programme benefits. Its main weakness is that the capacity it delivers would only meet projected demand to 2030 and does not allow us to vacate and demolish the service wing. We believe these risks can be mitigated as there will be opportunities over the next five to 10 years to reassess demand and capacity at Whangarei Hospital and bring forward construction of additional capacity if necessary. This option can be delivered for less than $700m and seems to offer the best opportunity to establish a funded long-term plan for the hospital and begin to address its property issues in a coordinated way.

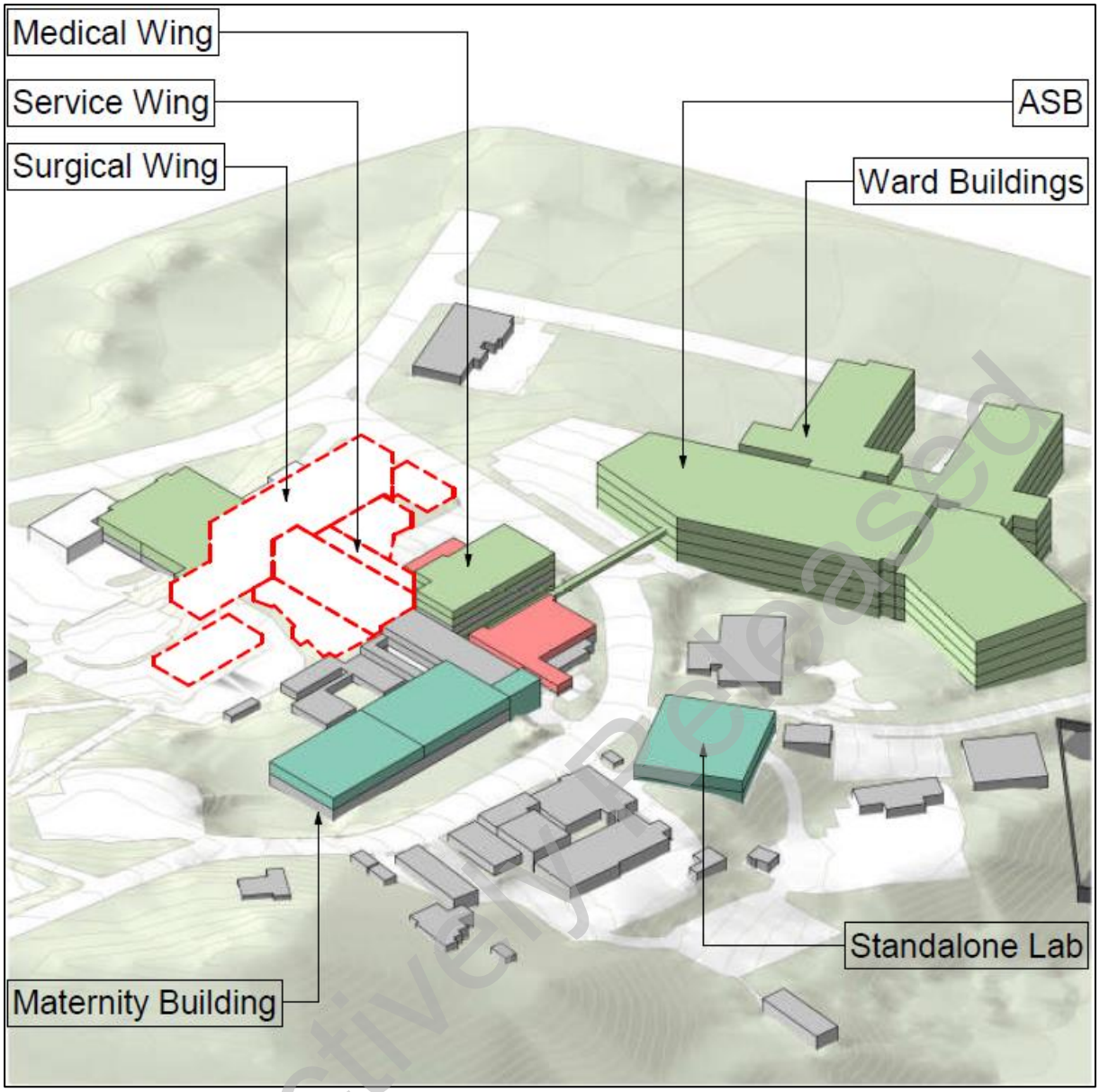
Image 5: Intermediate option



4. Do more	This builds the acute services building and two ward towers on the east side of Hospital Road. Ward tower B would be fitted out as in option 3 but additional space would be fitted out in the acute services building, including areas such as an expansion to radiology, a pharmacy and administration space. Over 90 percent of the building would be fitted out. Ward tower A would be fully fitted out with three medical/surgical wards and an assessment, treatment and rehabilitation ward. The additional capacity would allow us to demolish the service wing as well as the surgical wing. We would retain the existing theatre building, convert the medical wing into outpatient areas and retain the existing maternity building for maternity, paediatrics and SCBU. These would be the only inpatient areas remaining in the existing buildings.

Advantages	The main advantages are: • Compared with the status quo, this meets all of the investment objectives • Compared with option 3, this delivers sufficient capacity until 2023, mitigating the risk of needing to begin work on adding additional capacity before the first tranche is complete • This option also allows us to vacate and demolish the service wing
Disadvantages	The main disadvantages are: • Cost to the Crown exceeds the agreed level • Some inpatient areas remain on the northwest side of Hospital Road where they are further from theatres and ICU; this includes maternity, paediatrics and SCBU
Costs ($m)	$803.848
Benefits	Compared with option 3, this option allows us to demolish the service wing, so it performs better in reducing the number of patient areas in unsafe accommodation and in reducing maintenance costs. It also provides more overall capacity. The investment objectives are: • All 11 spaces in unsafe buildings move to new accommodation • All eight areas in unfit for purpose spaces move to new accommodation • Provides sufficient overall capacity to 2035 The KPIs are: • Gap in life expectancy – reduces from 8.5 to 8.3 years • Hospital acquired complications – improves from 2 percent to 1.5 percent • Relative stay index – improves from 110 percent to 100 percent • Shorter stays in emergency – improves from 90 percent to 95 percent • ESPI 2 – improves from 35 percent to 5 percent • ESPI 5 – improves from 30 percent to 2 percent • Reduces capital maintenance costs to less than 75 percent of minor works programme
Conclusion	This option offers the opportunity to add benefits to the project by increasing the cost around 10 percent over the agreed level. For the additional cost it adds enough capacity to mitigate the risk of capacity becoming constrained shortly after the first tranche of the programme is complete. However it performs the same as option 3 on most investment objectives and KPIs, so it may not deliver sufficient additional value to justify going over the agreed level of funding.

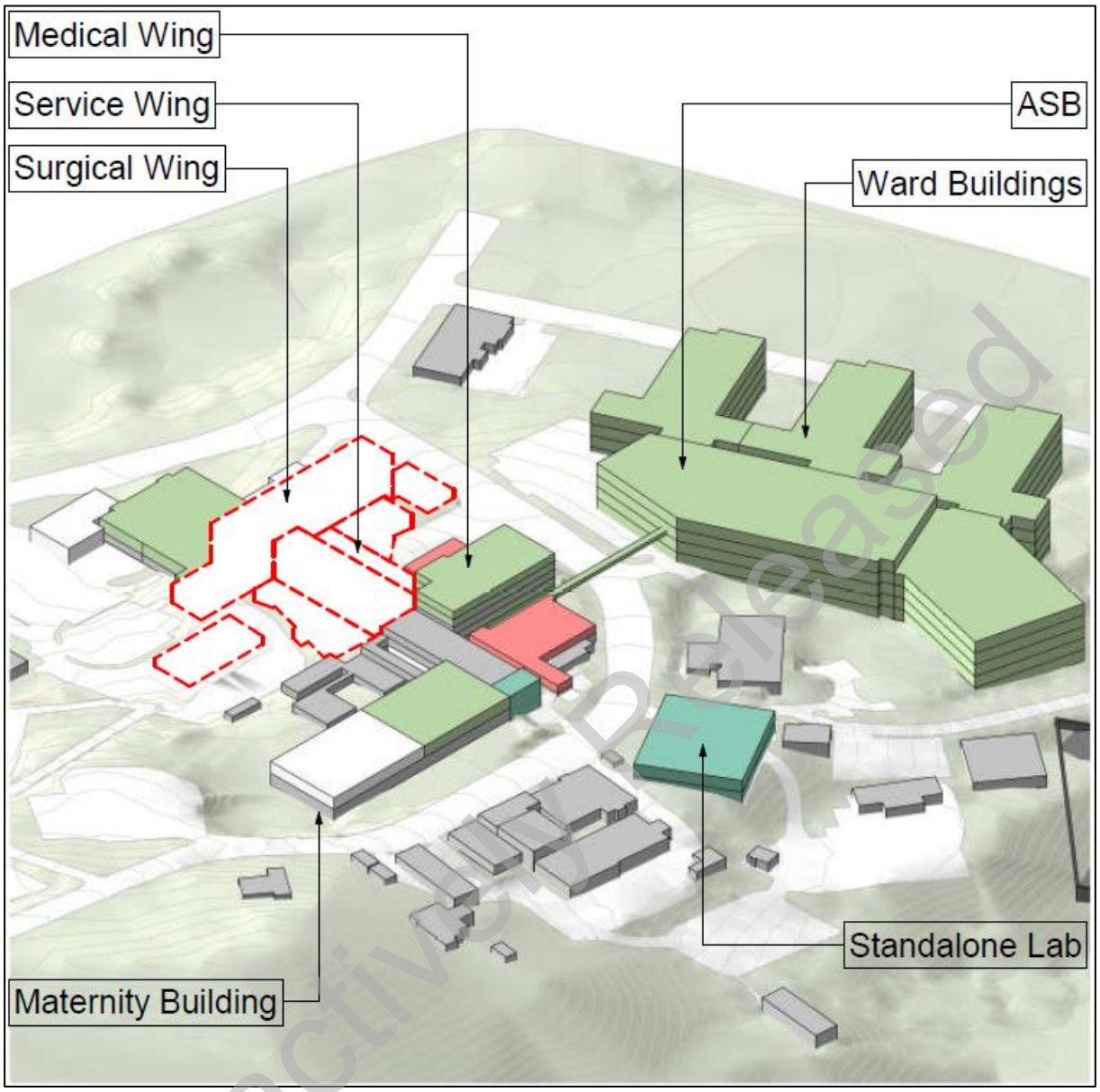
Image 6: Do more option



5. Do maximum	This option builds the acute services building and three ward wings on the east side of Hospital Road. This completes the master plan for the site, moving all inpatient areas into the new buildings on the east side of Hospital Road and converting the remaining current buildings to outpatient areas. Compared with option 4, the last inpatient areas that would move into the new buildings are maternity, which moves into the acute services building, and paediatrics and SCBU, which move into ward tower C. Apart from a small

	amount of shell space for future expansion in each of the new buildings, they would all be fully fitted out. As with option 4, we would demolish the surgical and service wings, while retaining and repurposing theatres and converting the medical wing into outpatient areas. In contrast to option 4, the existing maternity building would be converted to Allied Health and a paediatric outpatient clinic.
Advantages	The main advantages are: • Under this option the programme would deliver the end state for the site, meaning Whangarei Hospital would be unlikely to require any further Crown capital investment in the foreseeable future • This delivers more benefits than the other options by moving all inpatient areas to the new buildings on the east side of Hospital Road and making the northwest side an ambulatory precinct
Disadvantages	The main disadvantages are: • Cost to the Crown exceeds the agreed level • Provides surplus capacity, so may offer poorer value for money unless unmet need is higher than expected
Costs ($m)	$1,002.248
Benefits	This option delivers the maximum benefit on all investment objectives and KPIs. The investment objectives are: • All 11 spaces currently in unsafe buildings move to new accommodation • All eight areas in unfit for purpose spaces move to new accommodation • Provides sufficient overall capacity beyond 2035 The KPIs are: • Gap in life expectancy – reduces from 8.5 to 8.3 years • Hospital acquired complications – improves from 2 percent to 1.5 percent • Relative stay index – improves from 110 percent to 100 percent • Shorter stays in emergency – improves from 90 percent to 95 percent • ESPI 2 – improves from 35 percent to 5 percent • ESPI 5 – improves from 30 percent to 2 percent • Reduces capital maintenance costs to less than 75 percent of minor works programme
Conclusion	This option exceeds the agreed level of funding but is included to show the cost and benefits of delivering the end state of the master plan. It does not seem to deliver better value for money than option 4 as the marginal benefits are not in proportion to the cost, compared with the additional benefit that option 3 adds over option 2 for a smaller cost increase. It therefore highlights the value for money that option 3 delivers.

Image 7: Do maximum option



3.4. The Recommended Preferred Way Forward

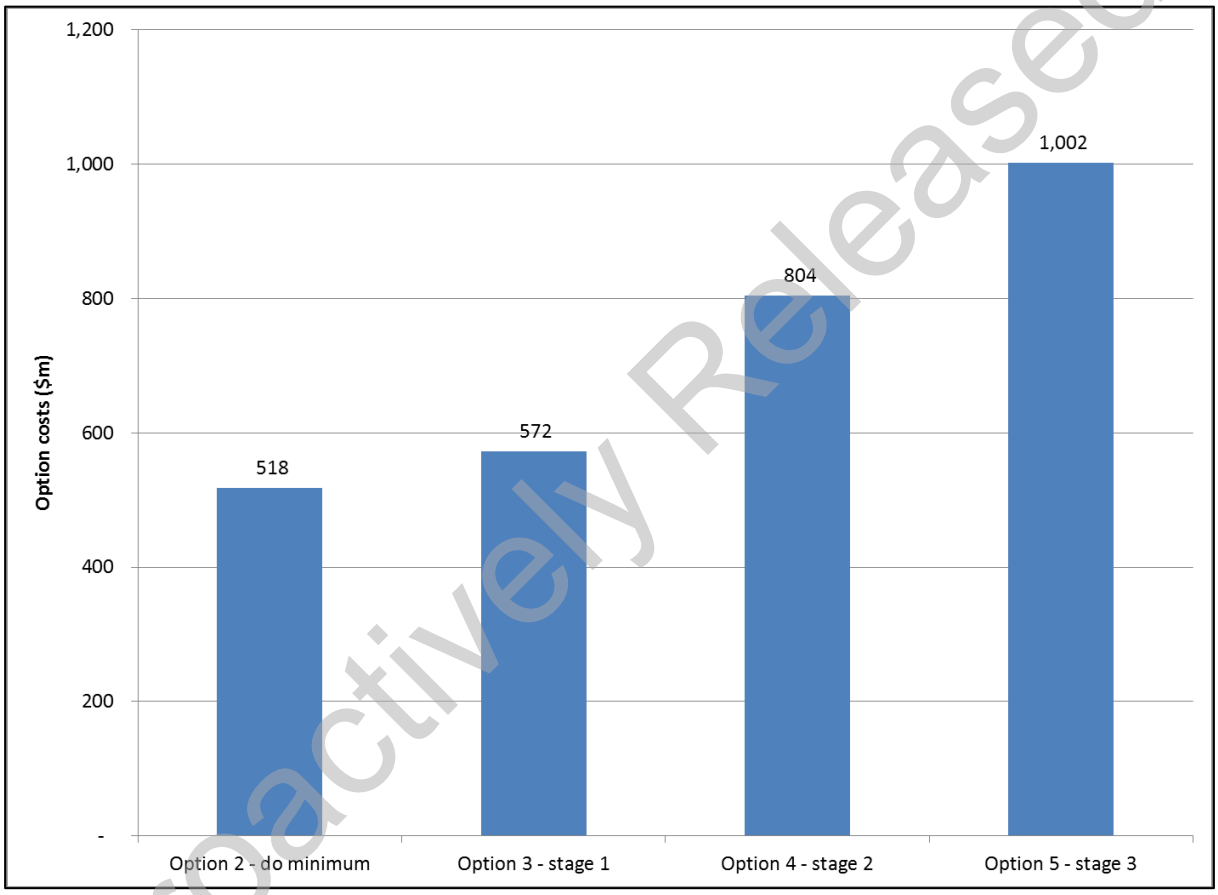
We recommend option 3 because it meets the requirement of addressing the main issues with the hospital within the agreed level of cost. If option 3 is delivered and there is no further investment in the hospital, it could continue to operate. It meets the investment objectives by addressing safety risks associated with the condition of the surgical wing, improving the fitness for purpose of all eight substandard areas, and providing sufficient capacity for the hospital until at least 2030.

The options that do less do not build sufficient capacity to allow us to completely vacate and decommission the surgical wing. These options therefore fail to meet the investment objectives of addressing safety risks for patients and staff and making the cost of maintenance affordable for Northland DHB. Option 3 offers better value for money than option 2 because it delivers far greater value in these respects than the difference in cost between the two options.

The options that do more than option 3 add benefits but exceed the agreed level of funding for the redevelopment. The main advantage that options 4 and 5 have over option 3 is that they add more capacity which allows us to demolish the service wing and accommodate projected demand beyond 2030. However, the additional benefits they add are not in proportion to the additional cost, compared with the additional benefit and cost option 3 adds over option 2. For example, the service wing only includes one patient area, whereas the surgical wing demolished in option 3 includes 10 areas that would get new, fit for purpose accommodation. Option 3 therefore offers the best value for money at this stage.

The graph below illustrates the cost increase from option 2 to option 3, compared with the cost increase from option 3 to options 4 and 5.

Graph 3: Option cost comparison



The main weakness of option 3 is that the capacity it delivers would only meet projected demand to 2030. We believe this risk can be mitigated as there will be opportunities over the next five to 10 years to reassess demand and capacity at Whangarei Hospital and bring forward construction of additional capacity if necessary. Option 3 seems to offer the best opportunity to establish a funded long-term plan for the hospital and to begin to address its property issues in a coordinated way. The table on the next page shows the analysis supporting this preference.

Table 8: High-level cost benefit analysis

Cost Benefit Analysis (summary)	***Option 1: Status quo***	***Option 2: Do Minimum***	***Option 3: Intermediate***	***Option 4: Do more***	***Option 5: Do maximum***
Preferred Option	**No**	**No**	**Yes**	**No**	**No**
Cost	**$0**	**$500m**	**$572m**	**$829m**	**$984m**
Investment objectives					
Areas still in unsafe buildings	11/11	9/11	1/11	0/11	0/11
Areas still not fit for purpose	8/8	4/8	0/8	0/8	0/8
Overall capacity (to year)	2028	2028	2030	2035	>2035
Main Benefits					
Gap in life expectancy	>9 years	8.5 years	8.3 years	8.3 years	8.3 years
Shorter stays in ED	90%	95%	95%	95%	95%
Hospital acquired complications	2%	1.5%	1.5%	1.5%	1.5%
Relative stay index	110%	110%	100%	100%	100%
ESPI 2	35%	35%	5%	5%	5%
ESPI 5	30%	2%	2%	2%	2%
Maintenance cost / funding	>100%	>100%	<75%	<50%	<50%
Total Benefits	**Minimal**	**Minimal**	**Medium**	**High**	**High**

KEY:

Good fit	
Partial fit	
Poor fit	

3.5. The mix of projects

This section discusses the single tranche for the recommended option and summarises what it delivers. More detail about what it delivers is included in Attachment 6.

3.5.1. Tranches

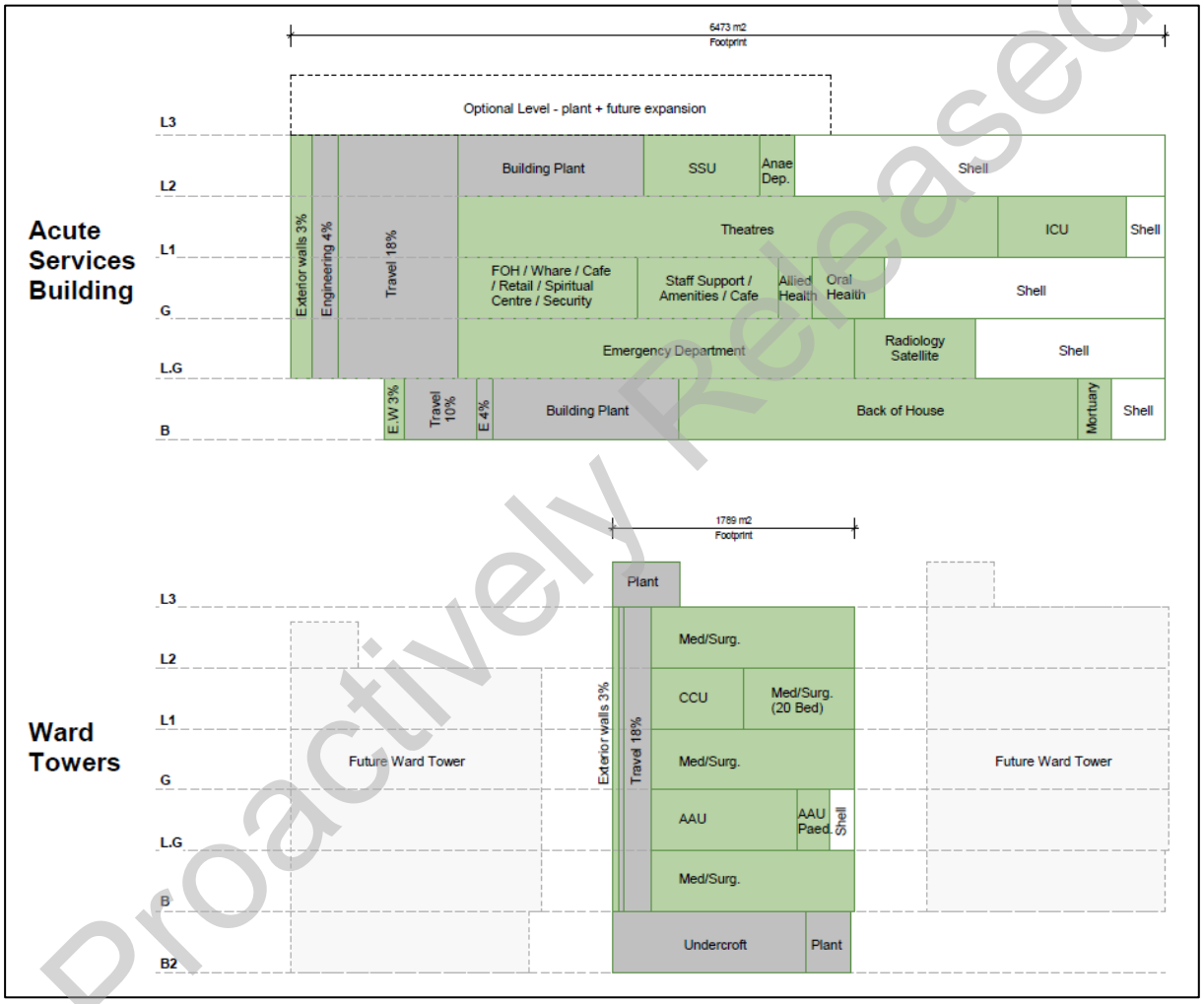
We intend to complete the work in one tranche, so we would seek approval for $572m in 2021/22. We have explored ways of reducing the funding sought in any one year by separating the programme into multiple tranches, for example by building a series of smaller buildings or by building the structure of the option 3 building configuration in one tranche and the fit-out in a second tranche. These options face difficulties in terms of maintaining functional relationships between different parts of the hospital, avoiding disruption to existing hospital operations and losing economies of scale by splitting work into parts that have little value on their own. These issues are discussed further in the economic case.

We are therefore seeking agreement to a single-tranche funding approval for this project, understanding there are affordability issues in terms of what is available to the health capital funding envelope in any one year. To address this, we have sought to minimise the amount of funding sought to less than the agreed level: we are seeking $572m for the recommended option, which is at the lower end of the $500-$700m guidance we were given.

3.5.2. What the recommended option delivers

Option 3 builds an acute services building which would accommodate theatres, ICU, emergency department and radiology, as well as front of house, back of house and other functions. Around 75 percent of the building would be fitted out and the remainder would be shell space for future expansion. The ward wing includes four medical/surgical wards, an AAU and a CCU. These would accommodate the inpatient spaces from the existing surgical wing. The outpatient areas on level 5 of the existing surgical wing would move to the medial wing, allowing us to demolish the surgical wing. The image below is a stacking diagram of the two new buildings.

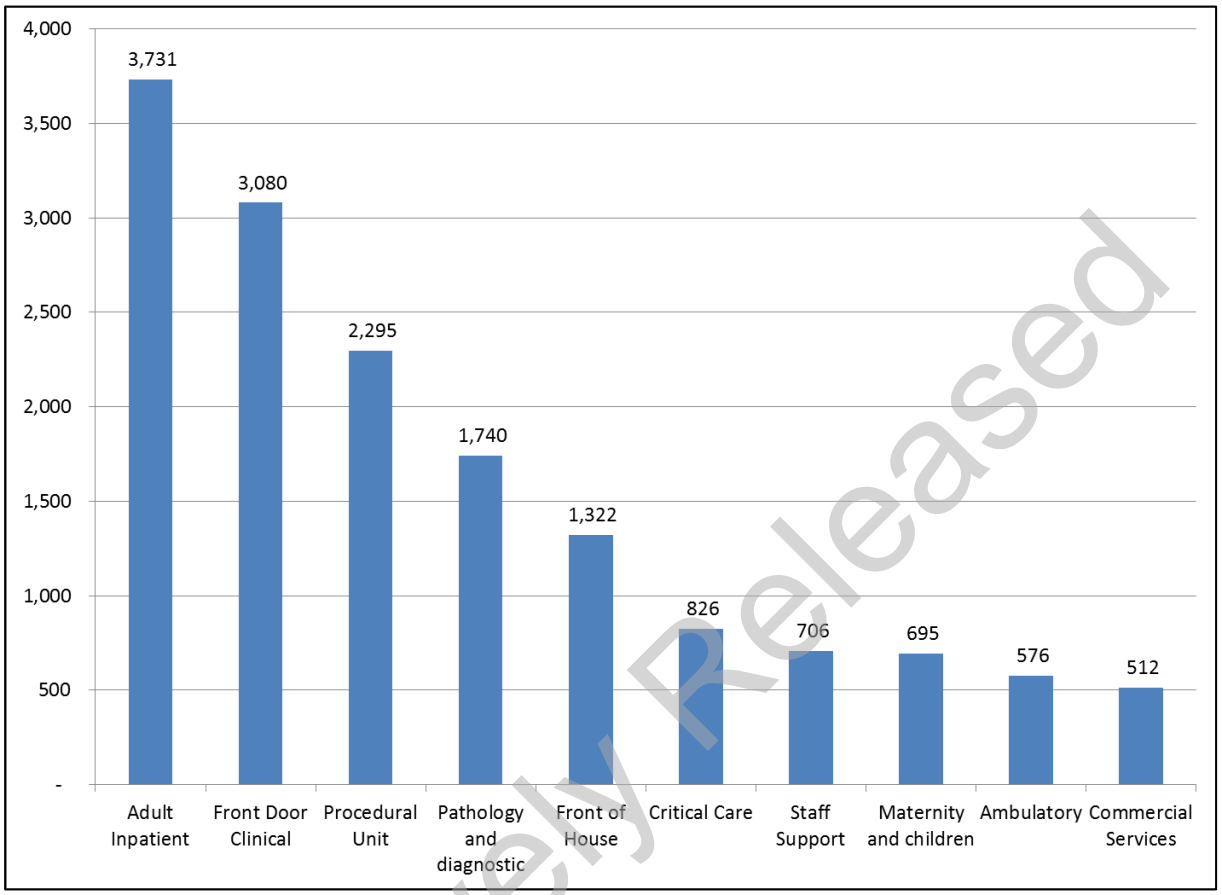
Image 8: Stacking diagram of recommended option



Option 3 increases inpatient bed capacity to 332, which is sufficient to meet projected demand to 2030. The new buildings accommodate 162 beds. The majority of these (116) are in the medical/surgical wards and the remainder are in AAU, ICU and CCU. The ASB accommodates 10 theatres, which meets demand beyond 2035 based on the demand model projections. The emergency department includes 43 treatment spaces, which also provides capacity beyond 2035 based on the demand model.

After demolition of the surgical wing and decommissioning of the theatre building, the net increase in space under option 3 is around 15,000 square metres. This is mostly made up of inpatient wards, front door clinical (emergency and AAU), procedural space (theatres and endoscopy) and pathology and diagnostic space (laboratory and radiology). This includes

expansions that would be delivered by the $48m interim capacity and compliance work as well as the proposed programme. Together these areas make up over 80 percent or 10,800 square metres of the space increases. The graph below shows the expansion in different areas.



4. Commercial Case

4.1. Outlining the Commercial Case

The commercial case outlines the proposed procurement arrangements for the preferred option.

4.2. Procurement Strategy

The procurement process for this programme aims to achieve value for money, fairness and transparency. This commercial case sets out the general approach to procurement over the duration of the programme and we will develop procurement plans for each project within the programme at the detailed business case stage. These will follow the Northland DHB Procurement Guide and the Northern Region Procurement Policy, both of which comply with the Principles of Government Procurement and the Government Procurement Rules.

Procurement would be in three primary categories:

- Professional services
- Construction
- Goods and services, such as furniture, fixtures and equipment (FF&E): these would primarily be procured via a healthAlliance procurement process.

Northland DHB will carry out individual procurement activities following a standard procurement and approval process at appropriate stages in the project lifecycle. The procurement plan for each project will take into account:

- Project complexity
- Operational (including clinical) impact
- Methodology
- Current construction market pressures.

Northland DHB's Infrastructure and Commercial Services team will appoint a procurement lead, leveraging the expertise that this team has developed in procurement of construction projects and fit outs for business as usual projects. We will also appoint evaluation panels including Northland DHB personnel and supplemented by specialist advisors as required.

The procurement approach needs to take into account that any work will be undertaken in an operating hospital environment. A degree of flexibility will be required in the procurement approach, facilitating a low-risk strategy that allows operational business as usual activities to continue. To achieve this, the programme procurement will adopt a targeted approach to procure qualitatively value for money proposals from service and design consultants, material and product suppliers and main contractors. The procurement will be by open tenders.

For each procurement process, we will create an evaluation plan which will set out the purpose of the procurement and guide the panel's evaluation process, criteria and weightings, the panel members' role, and the time requirements. The evaluation aims to ensure that the best supplier is selected and that the price represents value for money from a whole of life perspective.

The procurement approach would take into account the expectations of the Minister for Economic Development and the Minister for Building and Construction, regarding the procurement of construction projects. These expectations establish four priority outcomes for government procurement:

1. Increase New Zealand businesses' access to government procurement
2. Increase the size and skill level of the domestic construction sector workforce and provide employment opportunities to targeted groups
3. Improve conditions for workers and future-proof the ability of New Zealand business to trade
4. Support the transition to a net zero emissions economy and assist the government to meet its goal of significant reduction in waste by 2020.

4.3. Attractiveness to market

Our initial assessment of the attractiveness of the proposed procurement to the supplier market is that there are significant other building works underway or planned locally and regionally. The market will be competitive and as Whangārei is not a large urban centre, it will be harder to obtain the resources needed to deliver the works and projects of this size.

Across the regions, Auckland continues to have the dominant share of total construction activity. Given population growth has been particularly strong in Auckland, it's expected the region will continue to drive overall construction demand. We will continue to work with the other Northern Region DHBs and the Northern Regional Alliance on the framework to coordinate timing of investment across the region.

It will be critical for Northland DHB to engage with the contracting market at an early stage to gauge interest and to secure experienced personnel and resource to deliver to the programme.

In order to increase its attractiveness to the market, the programme would:

- Signal to the market the scale and type of work well in advance of the works being required, to enable interested contractors and sub-contractors to gear up and position themselves to participate. In this way, they can pre-plan their workload and available capacity.
- Highlight that this is a long-term, Government-funded and supported programme with security of payment, as this is expected to be attractive to the market.
- Ensure that the contract conditions are seen to be fair and reasonable, i.e. not allocating too much of the risk to the contractors or sub-contractors. This should reduce the risk of contactors either not tendering (as there is so much other work available) or pricing the risk at such high levels that it cannot be accepted.
- Ensure that programme timeframes are realistic and achievable, and that the works are well-scoped and well-programmed, so that contractors and sub-contractors can rely on the dates and work sequences expressed in the tender documents as being realistic.
- Break down the overall project scope into manageable work packages where appropriate.
- Consider incentives for great performance and achievement of significant milestones.
- Where works cannot be scheduled or easily priced, the DHB will ensure rates are sought up front whilst the project is competitively tendered.

4.4. Contract provisions

The contract procurements and key procurement milestones will be determined for each procurement process required. The overarching programme approach is:

4.4.1. Build Development Models and Procurement Options

A variety of development models and main procurement options may be utilised in the programme. Each procurement method can utilise subtle variations to enhance opportunities and minimise risks. Accordingly, the programme is likely to undertake procurement which includes blended options, or variations on the following models. The procurement models include:

- Build only model (design then build).
- Design and build model.
- Preliminary General and Margin (PG&M) and Guaranteed Maximum Price (GMP).
- Target Price Model.
- Construction Management Model.

Early Contractor Involvement is a variant that can be employed on a number of these procurement models. It is useful for fast-track design and build. ECI lends itself to obtaining main contractor input into the 'buildability' of design, refinement of the programme of works and planning for early purchase of long lead items.

4.4.2. Risk management and allocation

Various types of contracts will be required (construction, consultancy etc.) and are expected to be industry standard documents, such as New Zealand Standard 3910, Conditions of Contract for Building and Civil Engineering Construction. The intent is to use widely accepted forms of contract in the New Zealand building industry. These will be amended to deal with particular circumstances and risk-sharing arrangements relevant to the project.

For each project within the programme, a risk allocation table would be generated which would be assessed as part of the project initiation process. This would identify the risks within the project and allocate each risk to the party best able to manage it, the objective being to achieve the optimal allocation of risk, rather than maximising risk transfer.

4.4.3. Payment mechanisms

Payments for the construction work will be made monthly, based on progress. Northland DHB would engage expert cost consultants to value progress payment claims made by contractors. Essentially, payments would be made for work over a month, with an appropriate retention. This is a robust industry-wide standard approach, governed by statute.

4.4.4. Contract Lengths

It is expected that a series of contracts would be let, commencing in 2020/21. The duration of each contract would vary, depending on the nature of the activity being undertaken. Once completed, contracts will typically have a defects liability and warranty period.

4.4.5. Proposed Key Contractual Clauses

Depending on the nature of the contract, contracts will typically include:

- Scope of work/service
- Security such as a contractor's bond
- Intellectual property
- Health, safety and quality
- Indemnity
- Insurances including contract works, public liability and professional indemnity
- Change management (variations)
- Time for completion including liquidated damages
- Defects liability, warranties and guarantees
- Payment including a retentions regime
- Dispute resolution
- Default
- Termination

4.5. Key Procurement Timeframes

Each project will have its own project plan, procurement timeline and milestones.

5. Financial Case

5.1. Outlining the Financial Case

This section discusses the capital costs of the recommended programme option, as well as the consequential operating costs and their impact on Northland DHB's financial position. The operating cost assessment is high-level and aims to provide an early view of key factors that may affect the financial viability of the proposal. We would undertake more detailed assessments in the detailed business case for the first tranche. The assessment below indicates that the consequential operating costs of the programme will be affordable for Northland DHB.

5.2. Capital costs

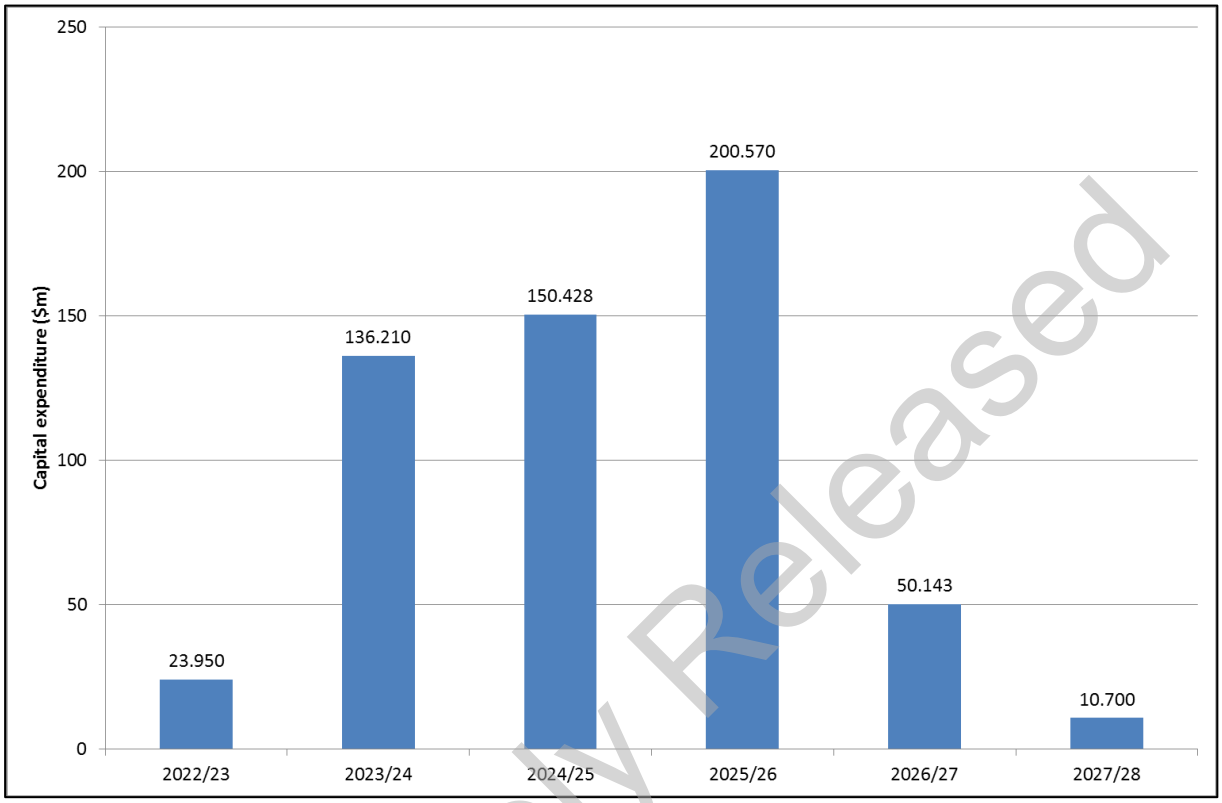
This business case seeks a commitment to Crown funding of the capital costs of the recommended programme. Based on advice from the Ministry of Health and Treasury, we have sought to make these costs affordable by limiting the scope of the programme so that it can be delivered for $500m to $700m.

We understand that the government is seeking to limit annual allocations for large hospital redevelopment projects to around $300m per year. We have sought to split the proposed programme into tranches so that single-year funding approvals would be around this level, but this creates a number of difficulties for the programme and we believe that funding it in a single year offers better value for money.

Any smaller tranches would offer little value on their own, such as if the programme were split into a series of smaller buildings or into structure and fit out of the buildings in the proposed configuration. For example, a first tranche that delivers a building accommodating theatres and ED on the site of the proposed acute services building would be further from other parts of the hospital that theatres and ED need to maintain functional relationships with. Long-list option 6A aimed to avoid this problem by building in stages closer to the existing hospital block, but they then encountered other, more serious problems in terms of maintaining current hospital operations while the programme is underway. This is discussed further in the economic case long-list section.

Attachment 8 is a detailed cost breakdown of the recommended option. The graph below shows the expected phasing of capital expenditure, with demolition of the surgical wing in 2027/28.

Graph 3: Capital expenditure phasing for the recommended option



5.3. Consequential operating costs

Northland DHB engaged Ernst & Young to develop the financial model for the previous and current iterations of the proposed programme. Based on the scheduled funding approval for the programme tranche and the projected phasing of construction, the new buildings would be in use by 2027, so we would start to incur consequential operating costs from then on. The status quo comparison is based on revenue increasing in line with Stats NZ population projections and expenditure increasing based on inflation and the labour cost index.

To counter optimism bias, we have taken a conservative approach to estimating consequential operating costs by increasing unfavourable projections and reducing favourable projections where appropriate. However, our financial projections are generally based on current trends continuing and there is a higher than normal probability of significant structural changes in the health sector and the broader economy within the planning horizon due to COVID-19. The financial forecasts in the detailed business cases for this programme are likely to incorporate better assessments of the impacts of any such changes on Northland DHB and the proposed programme.

The sections below discuss the assumptions we have made about the programme's impact on costs for personnel, maintenance, power and water services and depreciation. We do not expect any consequential impact on inter district flows or payments to other providers as the proposed programme expands the hospital but does not add or remove any services. The

financial projections include a capital charge and an offsetting revenue line for this, following the government's announcement in 2019.

5.3.1. Personnel

The programme will expand the hospital's capacity but in general we expect that any additional space will not be fully staffed from the day it becomes available. Instead we assume that staff numbers will grow as demand and our population-based funding grow, so the additional hospital capacity will fill up over time and the associated staff costs would not be a consequence of the programme.

The exceptions to this are the areas where demand currently exceeds physical capacity, including theatres, the emergency department and some outpatient services. In these cases we would expect an increase in staff and activity as soon as additional space becomes available in 2027. In order to estimate this, we have assumed current staff numbers will grow at the same rate as our population-based funding, which in turn is based on Stats NZ's population projections for Northland. We then increased the projected number of staff in different areas in proportion to the deficit in physical capacity in 2030. For example, projected attendances will exceed current attendances by around 10 percent in ED by 2030, so we increased ED staffing by 10 percent.

In addition to staff increases, we expect that the new buildings will have a positive impact on staff productivity based on evidence of the benefits of green star buildings. Staff in these buildings take on average four fewer sick days per year, which is a nearly 2 percent increase in productivity.[2] The increase in personnel costs shown below is therefore net of savings from improved productivity. There is also evidence that people in green star buildings are more productive because they work more effectively, as measured by performance on cognitive tests.[3] We have not included this improvement in the financial model in order to avoid optimism bias.

5.3.2. Maintenance

The proposed programme affects Northland DHB's maintenance costs by demolishing ageing facilities that have high maintenance costs and building larger, newer facilities that have lower maintenance costs and will be green star rated.

We estimate the maintenance costs for the new buildings will be 1.5 percent of their replacement cost, based on advice from our building surveyors. For existing buildings, we assume Northland DHB will maintain its current level of funding for building maintenance and the annual minor works capital programme, in proportion to our population-based funding.

However If we maintained the current rate of expenditure for existing buildings, there would be a growing infrastructure deficit due to their age and condition. As discussed elsewhere in this business case, the surgical wing needs approximately $80m of investment to address issues such as fire safety and seismic resilience that are putting patients and staff at risk. On

[2] Laski, J., World Green Building Council, 2018, Doing right by planet and people – The business case for health and wellbeing in green building.

[3] Harvard School of public health. The impact of working in a green certified building on cognitive function and health, Piers MacNaughton, Usha Satish, Jose Guillermo Cedeno Laurent, Skye Flanigan, Jose Vallarino, Brent Coull, John D. Spengler , Joseph

top of this, we estimate the regular maintenance costs for the existing main block are around $5.2m per year.

From a purely financial perspective, the net impact of the programme is an increase in maintenance costs once the new buildings are in use, as the recommended option adds more space than it demolishes in the existing hospital. A broader asset management comparison of the status quo and recommended option presents a different picture, as discussed in the economic case.

5.3.3. Power and water

As with maintenance, we have calculated the cost of power and water using square metre rates and taking into account the amount of new space built and existing space demolished under the proposed programme. Because the new buildings would be green star rated, the power and water rates are lower than for the existing buildings. Based on reviews of the effects of green star ratings on power and water consumption[4] we estimate green star certification will reduce per square metre energy use by 30 percent and water use by 50 percent compared with non-green star buildings. However, the proposed programme will result in a net increase in power and water costs as it builds more space than it demolishes.

5.3.4. Depreciation

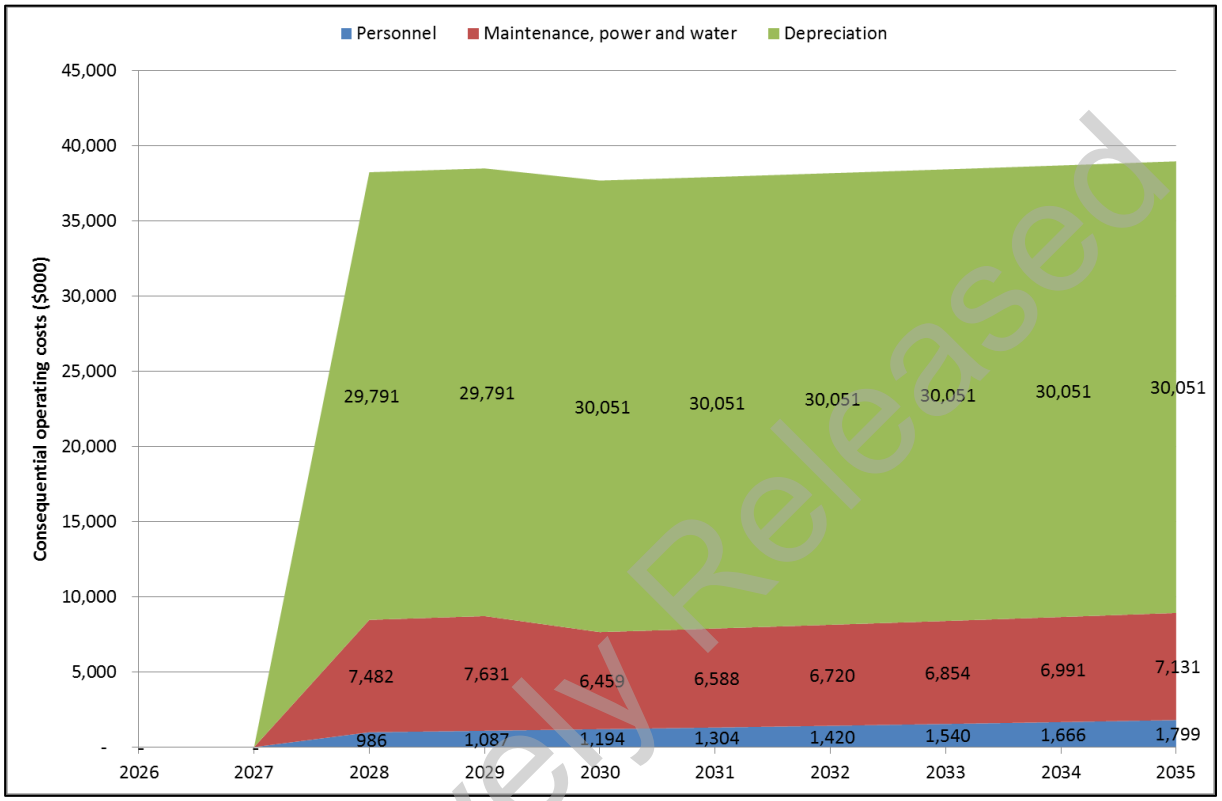
The depreciation calculations assume a 50-year useful life for the new buildings created as part of this project and we apply higher rates (i.e. faster depreciation) to other elements such as fit out and furniture and equipment. Given the size of the proposed programme, this is the largest expense. The financial model also includes a capital charge and an offsetting revenue line, following the government's announcement in 2019 that it would fully fund the capital charge for new DHB assets. Interest payments and other revenue are unlikely to be affected by the proposed programme.

[4] The Value of Green Star: A Decade of Environmental Benefits (428 Green Star-certified buildings Australia)
Laski, J., World Green Building Council, 2018, Doing right by planet and people – The business case for health and wellbeing in green building.

5.4. Anticipated cash flows

The graph below shows the consequential operating costs of the proposed programme, which all start from when the new buildings are complete and in use. Excluding depreciation, the operating costs for the new buildings do not exceed $10m per year before 2035.

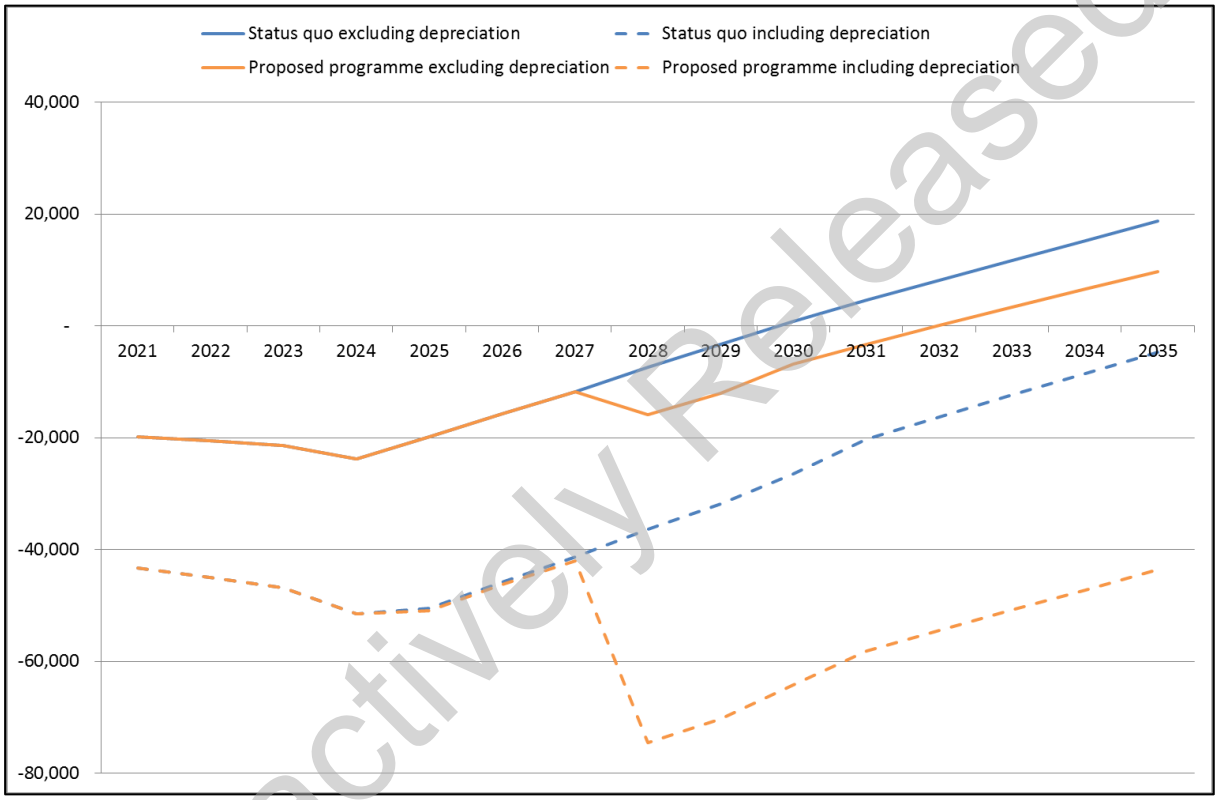
Graph 4: Consequential operating costs



The graph below shows the projected impact of these costs on Northland DHB's financial position. The model projects status quo expenditure using inflation and labour cost index adjustments to current expenditure. It projects population-based revenue using Stats NZ's population projections. Based on these assumptions, revenue grows faster than expenditure and our overall financial position begins to improve from 2024.

Excluding all depreciation, the proposed programme is affordable: it causes an approximately two-year setback in the return to surplus from 2027 as we start to use the new buildings and incur the associated operating costs. Including depreciation, deficits are substantially larger for both the status quo and the proposed programme.

Graph 5: Consequential operating cost comparison



As noted above, the financial projections do not provide a complete picture of the impact of the redevelopment because the liabilities associated with the existing buildings are not fully reflected in the projections for the status quo option. The surgical wing, which is demolished in the recommended programme, would cost around $100m to keep in use over the next 10 years if we were to address all the code compliance issues (fire safety and seismic resilience) as well as undertaking regular maintenance. If we used our minor works capital programme to address these issues, the status quo option would have larger deficits than the recommended option.

Based on current estimates, the anticipated cash flows for the investment proposal over its intended life span are set out in the table below. The operating costs include depreciation. The table shows the capital costs of the proposed programme being fully Crown-funded. Likewise, the existing revenue matches the consequential operating costs of the project, reflecting that we believe these costs are affordable within Northland DHB's population-based funding.

Table 9: Anticipated cash flows

$millions	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	Total
Preferred Way Forward:									
Capital	23.950	136.210	150.428	200.570	50.143	10.700	-	-	572.000
Operating	-	-	-	-	-	38.259	38.510	37.704	144.473
Total	23.950	136.210	150.428	200.570	50.143	48.959	38.510	37.704	686,473
Funded by:									
Existing Revenue	-	-	-	-	-	38.259	38.510	37.704	144.473
Existing Capital	-	-	-	-	-	-	-	-	-
Extra Revenue	-	-	-	-	-	-	-	-	-
Extra Capital	23.950	136.210	150.428	200.570	50.143	10.700	-	-	606.000
Total	23.950	136.210	150.428	200.570	50.143	48.959	38.510	37.704	686,473

6. Management Case

6.1. Outlining the Management Case

The purpose of the management case is to describe the arrangements that will be put in place for the successful delivery of the programme and its constituent projects, both to ensure successful delivery and to manage programme risks.

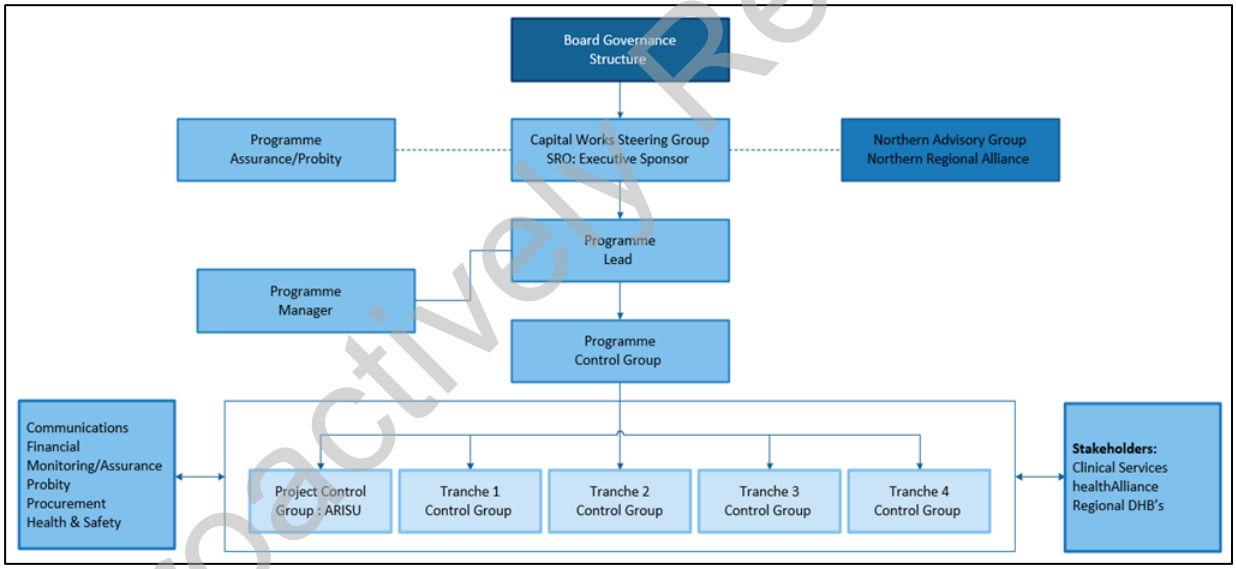
6.2. Governance arrangements

The overarching governance draws on the standing governance arrangements already in place at Northland DHB.

The Northland DHB Chief Executive Officer (CEO) has overall responsibility and accountability for the investment. The Chief Operating Officer is the Senior Responsible Owner (SRO). The SRO is supported by the Programme Lead (Director of Infrastructure & Commercial Services).

The proposed governance structure is shown in the image below.

Image 7: Programme governance structure



The key groups for ensuring effective governance are the Programme Board and the Capital Works Steering Group.

- The **Programme Board** has governance responsibility for ensuring that the programme remains on course to deliver the desired outcomes. Specifically, for this proposed investment, the **Capital Works Steering Group** is responsible for ensuring that the project is developed and managed effectively to deliver the expected outcomes, on time and to budget. The Capital Works Steering Group reports through to the Board Governance via the DHB Chief Executive and SRO. This ensures that there is clear visibility on progress and issues and enables direction to be received from the Board and Capital Works Steering Group as required.
- The **Programme Control Group** will meet every four weeks as the implementation proceeds. This forum allows the Programme Lead to oversee progress and provide leadership and direction to the tranches and individual projects/workstreams.

Central agencies, including Treasury, Ministry of Health and New Zealand Government Procurement and Property, will be engaged via the Programme Board and Capital Works Steering Group and reporting at agreed points.

6.3. Programme and Project Management Approach

The Programme would be managed in line with standard programme and project management methodologies. The key principles from Managing Successful Programme (MSP) and PRiNCE2 (for projects) would be used, as well as meeting the Northland DHB Project Management Framework standards. These methodologies are consistent with New Zealand Government recommendations for programme and project management. The methodologies ensure effective management of scope, budget, time, Human Resources, procurement, quality, communications, risk and integration.

The Programme would consist of tranches, with some overlap expected between tranches and the projects within each tranche. There would be a structured approach to developing and managing both the Programme and the tranches. Throughout the life of the programme, there would be a requirement for the individual tranches to seek approval to proceed.

This process would ensure that appropriate governance is maintained throughout the programme. The use of key decision points for investment would ensure that the SRO and external reviewers have appropriate oversight of progress and input into the direction of the Programme as it develops.

No feasibility studies are planned for this investment. Designing and commissioning capacity and the associated service change is standard practice for the DHB. The DHB is confident that the design and building specialists to be appointed to support and deliver these works are experts in their fields and that they will provide the appropriate input to ensure the best design and deliver the best outcome.

6.4. Programme and Project Structure

The Programme Lead is supported by a Programme Manager to coordinate the programme activities, supported in turn by project managers for each tranche. Roles will be a mixture of Northland DHB staff, contractors, partners and suppliers, with some individuals performing the same role across multiple tranches/projects.

The **SRO** has overall accountability for the programme. Monitoring and assurance and probity leads report directly to the SRO to ensure independence from the programme. The **Programme Lead** is responsible for developing the programme and ensuring its effective management on behalf of the SRO. The **Programme Manager** is responsible for the delivery of the programme and ensuring each tranche and its constituent projects are delivered on time and to budget. **Stakeholder** engagement will be encouraged at all levels when appropriate, to deliver maximum benefit in planning and delivery without overwhelming key stakeholders with excessive demands.

There will be a number of **support functions** for the programme, including change management, communications, finance, health and safety, human resources and procurement. The needs of each tranche will vary over time, and therefore dedicated resources will not be allocated to individual projects or tranches. By providing an overarching service, with more focused engagement at specific points where needed, these functions will maintain a programme-level oversight which will add value on a case by case basis.

The **Programme Workstreams** report to the Programme Manager. They will be established to develop requirements to support the high-level planning for the programme and would continue for the duration of the programme as key contributors in the detailed planning for each tranche. Whilst the workstream leads report to the Programme Manager, day-to-day oversight and direction is the responsibility of the Tranche Manager.

6.5. Organisational change management

Effective change management is critical for the successful implementation of the programme. This includes both change management in terms of ensuring training and adequate preparation prior to implementation of change and change control.

- **Change control:** Management of scope change will be undertaken through change control. This is a systematic approach to managing change, to ensure that no unnecessary changes are made, that all changes are documented, that services are not unnecessarily disrupted and that resources are used efficiently.

  Each approved project will develop a project plan. This will define the scope, resources allocated and budget. Any subsequent change is likely to result in re-work and impact the end of date of the project. Ideally each project would be frozen after each process and redesign stage. However, a total freeze is not always possible and therefore a strong change control process will be implemented. This will allow potential change to be assessed and impact evaluated, and the appropriate role within the governance structure to approve or reject the change request.

- **People change management:** Adequate advance planning will be crucial to minimise service disruption and reduce the risk of adverse events. Where services are relocated or models of care are changed, preparation will be a key to ensure that all staff are adequately prepared to provide services in the new model or location. The change management approach will be in line with the Northland DHB prepare, manage and reinforce philosophy of change. On a project by project basis, detailed impact assessments and change management plans will be developed to ensure staff are well-prepared. Activities will be tailored and may include, for example, staff training, communication events, detailed logistical planning, education activities etc. Change management will be tailored to the projects as required. No specific resource has been allocated to this function, as any training/preparation will be managed within the project. Project Managers will be responsible for project delivery and will be supported by change managers for the management of the associated changes.

6.6. Benefits realisation management

The benefits expected to be realised are described in the economic case. These benefits would be realised following scheduled completion of the programme in 2027. Reporting on the programme's progress and benefits realisation would inform future tranche business cases, to provide assurance of Programme achievement.

Northland DHB is working to align the programme benefits management approach with the emerging DHB-wide benefits management processes. The benefits will be collated, monitored and reported on. The benefits will be captured and managed in one place and will support a consistent style for corporate reporting. It is expected that over the life of the Programme there may be changes in how the benefits data is collated and reported; however, the overarching concept of centralising benefits capture and reporting is not expected to change.

Identification, measurement and tracking of benefits would be undertaken by the Programme to ensure that the expected outcomes are realised. The SRO would have overall responsibility for the realisation of benefits.

6.7. Risk management

Practicing good risk management means fewer surprises, better use of time, increased probability of success, appropriate and cost-effective allocation of resources and improved safety for patients, employees, visitors and assets.

The DHB has an enterprise risk management approach. To deliver on this approach, the DHB has in place:

- a **Risk Management Policy** which provides guidance regarding the management of risk to support the achievement of objectives, protect employees and business assets, and ensure financial sustainability.
- A **Risk Management Framework** which supports the implementation of the Risk Management Policy, by detailing the elements outlined in the strategic process, such as risk culture and commitments, accountabilities, governance and operational reporting structures and continuous improvement processes.

The process follows the Australian/New Zealand Standard ISO31000:2009.

This would assure stakeholders, sponsors and monitoring agencies that the programme and project teams are proactively identifying and mitigating risks as the programme progresses.

The Risks and Issues Register would be a living document and would be updated continually to reflect the current status of any risks or issues arising. All key risks and issues would be reported and monitored by the SRO and Programme Control Groups, with escalation as appropriate.

Key issues, or those which have changed materially since the last reporting period, will be actively managed at project meetings with written reports (monthly or more frequently as directed). Where key issues cannot be resolved at a project level, an escalation process will be actioned.

The specific strategies and approaches for effective management of risks for the Programme include:

- Establishment of a Programme Control Group to oversee the Programme, tranche and project design and implementation.
- Development of a comprehensive risk register with allocated risk owners and agreed mitigation strategies/contingency plans.
- Early warning and regular reporting.
- Risk review workshops to assess existing and new risks, for tranches and projects within each tranche.
- Dedicated time at Control Group meetings to review the highest risks and issues.
- Defined escalation plan for risks and issues, plus a contingency plan to deal with issues.

6.8. Communication Objectives

The approach for all communication would be proactive, timely and consistent. The communication objectives are to:

- Provide an integrated approach to communication and engagement during the roll out of the programme and each tranche/project.

- Develop and deliver clear, accurate and consistent messages that meet the needs of different audiences and stakeholders.
- Ensure key stakeholders receive the information they need, and relationships are well maintained.
- Highlight the value and benefits of the programme and each project.

6.9. Programme and business assurance arrangements

This investment proposal has been assessed as high risk using the Treasury's Risk Profile Assessment[5] tool and moderation process, see Attachment 7.

6.10. Reporting

The Programme will be required to provide both internal and external reporting.

- **Internal reporting:** Internal Programme reporting will occur at a number of levels, to maintain good control of both the constituent projects and the Programme as a whole. Project Managers will be required to provide update and exception reports to the Programme Manager. The Programme Manager will provide updates to the Programme Lead and to the Programme Control Group as required. The Programme Lead will report to the SRO and Capital Works Steering Group. At intervals agreed with the CEO and Board, or in the event of a significant Programme risk or issue, the Executive Sponsor or CEO would provide an update report to the Programme Board.
- **External reporting:** Reporting on Programme progress would be provided to the Ministry/Minister of Health by the CEO. Specific reporting conditions will be confirmed in the Ministry of Health letter of approval for this business case.

To ensure effective and action-orientated reporting, a standardised reporting structure will be implemented across all projects. These will outline clear expectations on reporting to streamline the consolidating process of the many Monthly Project Reports.

Project Reports: Project Managers will be responsible for the delivery of a Monthly Project Report to their respective Tranche lead. The Monthly Project will include progress status compared to programme requirements (milestones, critical activities), key issues registers – assigned owners and identification where escalation is required, quality issues (non-conformances), Health and Safety, and cost performance (spend vs. allocation).

Programme Report: The Programme Manager will be responsible for consolidating all Monthly Project Reports into a Monthly Programme Report. The intent of this report is to bring to the attention of the Programme Control Group and Programme Board any key issues relating to health and safety, cost, programme and business as usual operations of the hospital. At a minimum, the report will include commentary on the following: scope changes; design; construction; cost; programme / milestones; benefits; and risk.

5 https://treasury.govt.nz/information-and-services/state-sector-leadership/investment-management/think-investment-possibilities/risk-profile-assessment

6.11. Assurance

Northland DHB would implement a comprehensive internal and external assurance framework to inform and support the overall Programme governance. This would include:

- **Review of the Programme business case** would be undertaken by an independent external agency, with further review and guidance provided by New Zealand Treasury and the Ministry of Health. The case will be subject to internal review by the Capital Works Steering Group and Northland DHB Board.
- **Internal Quality Assurance** would be provided by the Capital Works Steering Group. As formal Gateway reviews are not required, the Programme would also be subject to an internal equivalent process, based on the Gateway process. This would be undertaken by the EPMO at the relevant points.
- **Independent Quality Assurance** would be provided by an independent, external specialist assurance practice. This would focus on periodically reviewing progress and the processes, standards, guidance and practice used to manage and govern an initiative. IQA would work with the DHB to identify and mitigate risks that could jeopardise the programme delivering to its intended outcomes.
- **Independent Probity Assurance** would be provided by an independent, external specialist assurance practice and would focus on ensuring that procurement processes are consistent with the DHB's procurement policies and procedures, Government Procurement Rules, Audit Office procurement guidelines and public sector best practice and incorporates the necessary probity principles. Probity assurance would work with the DHB to identify and mitigate potential probity risks to minimise the risk of probity failure.
- **Independent Quantity Surveyor Reviews** would be provided by an independent, specialist assurance practice. This would focus on ensuring that the Programme's financial position of construction projects is accurately reported and controlled effectively throughout. QS would work with the DHB to monitor project finances and contractual relationships, including auditing spend.

6.12. Monitoring and Evaluation

- **Project Evaluation:** These reviews would take place within six months of conclusion of each significant project (based on size and complexity). The evaluation would confirm the extent to which deliverables have been completed and would reconcile the project budget and timelines to plan. This review would also consider lessons learned and would identify the extent to which the expected benefits have been realised at that point. Any key learning areas arising from the implementation process would be incorporated into later implementation plans. Benefit realisation would be assessed and planning for further performance improvement would be undertaken if required.