



Project Report:
**North Island
Hospitals Project**
January 2015

Purpose of this Report

The purpose of this report is to provide key information to the public about the North Island Hospitals Project (the Project). This report describes the need for the Project and how it will be delivered. The report explains how different procurement delivery methods were analyzed, and how project benefits and innovations are expected to be achieved. A summary of the key aspects of the Project Agreement is also provided

In all of its procurement processes, the Government of British Columbia (B.C.) is committed to a high standard of disclosure as part of its accountability for the delivery of public projects. Ministries, Crown Corporations and other government agencies are publicly accountable for projects through regular budgeting, auditing and reporting processes.

The Project Board, which includes representatives from the Ministry of Health; the Ministry of Transportation and Infrastructure; the Vancouver Island Health Authority (Island Health or the Authority); Comox Strathcona Regional Hospital District; and Partnerships British Columbia Inc. (Partnerships BC); is accountable for the contents of this project report.

Defined Terms and Abbreviations

Capitalized terms are defined in the glossary at the end of this report.

Abbreviations are defined in the table below:

ASP	Annual Service Payment
CPJC	Construction Period Joint Committee
DBB	Design Bid Build
DBFM	Design Build Finance Maintain
NPC	Net Present Cost
OPJC	Operating Period Joint Committee
RFP	Request for Proposals
RFQ	Request for Qualifications
VFM	Value for Money

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First Nations Labour, Delivery, Recovery and Post-Partum room at Campbell River Hospital

1. Executive Summary

The North Island Health Service Delivery Area covers 40,000 square kilometres, extending from the northern tip of Vancouver Island, to south beneath the mid-Island cities of Campbell River, Courtenay and Comox, as well as a substantial stretch of the mainland opposite Northern Vancouver Island, including communities north of Powell River and south of Rivers Inlet.

The Vancouver Island Health Authority (Island Health or the Authority) is responsible for delivering hospital-based specialty services at two hospitals for this region: St. Joseph's General Hospital, which is funded by Island Health and owned and operated by the Diocese of Victoria, and the Campbell River and District General Hospital, which is funded, owned and operated by Island Health. Both facilities are nearly 50 years old, and their physical infrastructure is deteriorating and inflexible while demand for health-care services continues to grow.

The North Island Hospitals Project (the Project) addresses both the region's growing demand for health-care services and the limitations caused by the facilities' aging infrastructure, while meeting Island Health's goal of providing modern, effective, and appropriate in-patient and out-patient services to the communities of the North Island.

The Project includes a new 95-bed hospital to be built on the existing Campbell River and District General Hospital site, including demolition of the existing facility upon completion, and the development of a new 153-bed hospital in the Comox Valley to replace St. Joseph's General Hospital. The new facilities will enhance acute care capacity to meet growing and changing needs, enhance quality of care for patients - especially elderly and Aboriginal populations, improve access to services for all North Island communities, and maximize staff and physician recruitment and retention potential.

The total Nominal Cost of the North Island Hospitals Project is estimated at \$606.2 million. This includes elements within and outside of the design, build, partially finance and maintain (DBFM) arrangement, such as capital design and construction costs plus equipment, procurement, implementation, reserves and contingency costs. The total cost of new Comox Valley Hospital is \$331.7 million, and the total cost of the new Campbell River Hospital is \$274.5 million. The cost of the Project is being shared between the Province of British Columbia (the Province), Island Health and the Comox Strathcona Regional Hospital District.

The decision to use the DBFM partnership delivery method was based on a thorough analysis of procurement options. The analysis undertaken indicated Project objectives could best be met and Value for Money (VFM) could be achieved by using the partnership method.

In June 2014, following a competitive selection process based on the principles of openness, transparency and fairness, the Authority entered into a performance-based, fixed price Project Agreement with Tandem Health Partners (Tandem Health or the private partner) to deliver the Project. Tandem Health will design, build, partially finance and maintain the Project for a term of 33 years, which includes the approximate three-year construction period.

Tandem Health submitted a strong proposal and its design for the Project has many features that will contribute positively to patients, families and care providers. For instance, Tandem Health's solution provides facilities designed to reflect the Aboriginal culture of the North Island. Standardization both within and between facilities creates efficiencies and improves the work environment for care providers. Tandem Health's solution reduces travel distances within the facilities, which improves the delivery of patient care by maximizing provider to patient contact time. The separation of various travel paths such as patient, supplies and materials reduces the risk of infections throughout the facilities and enhances the experience of the patient and family.

Tandem Health’s solution optimizes natural and borrowed light, which contributes to the healing environment, and uses B.C. wood for structural and decorative components.

Once construction of the facilities is complete, Tandem Health will provide a range of life cycle and facilities management services over the 30-year operating term of the agreement including plant services, waste management, help desk and utility management. Tandem Health will receive a monthly service payment for these services. Those payments will be based on performance, facility availability and service quality. Service payments may be reduced if Tandem Health does not meet the high-quality standards contained in the Project Agreement.

The final partnership agreement between the Authority and Tandem Health is estimated to achieve a Net Present Cost (NPC) VFM of \$131.5 million compared to a Design Bid Build (DBB) method. Additional benefits from the DBFM delivery model include:

- Competition and innovation;
- Schedule certainty;
- Cost certainty;
- Integration;
- Life cycle maintenance; and
- Efficiencies from building two hospitals using a single procurement.

Island Health will retain responsibility for all health-care program delivery at the Comox Valley hospital and Campbell River hospital and all health-care services will continue to be publicly funded in accordance with the Canada Health Act. Island Health will own both hospitals over the life of the Project.



Campbell River Hospital Emergency Department Registration and Triage Desk

2. Project Benefits and Key Features

The Project includes a new, 32,316-square-metre, 95-bed hospital to be built on the existing Campbell River and District General Hospital site and a new, 39,826-square-metre, 153-bed hospital in the Comox Valley. The new facilities will enhance acute care capacity to meet growing and changing needs, enhance quality of care for patients, especially elderly and Aboriginal populations, improve access to services for all North Island communities, and maximize staff and physician recruitment and retention potential. Key features of the Project include modern clinical design using evidence-based principles, Aboriginal engagement, flexible design using standardized room layouts, natural light and green space, travel distance efficiency, use of wood, and environmental, economic and labour benefits.

2.1 Modern Clinical Design

The design and programming for both hospitals is founded on best practices and international research into design features, processes and strategies that support caregivers in providing optimum healthcare. The hospitals are designed to minimize spread of infections, reduce length of stay and allow for current medical technologies with the capacity to adapt in the future. Examples include a majority of private patient rooms, redundant power and cabling infrastructure and room sizes that meet current Canadian standards.

2.2 Aboriginal Engagement

Both facilities will be located in the traditional territories of the K'ómoks, We Wai Kai and Wei Wai Kum First Nations. An Aboriginal Working Group was created to advise the project team during the design and construction phases, providing input to support facilities that reflect Vancouver Island First Nations and Métis cultures, community history and values, and incorporate the work of local artists. The facilities will include Traditional Medicine Gardens featuring traditional, edible, and medicinal plants and herbs. The hospitals will include culturally appropriate design features and an All Nations' Healing Room.

2.3 Flexibility and Standardization

To maximize efficiencies, and to reflect the Authority's staffing and operating model, the new hospitals will be standardized as much as possible. It is a performance requirement that rooms with a similar function be standardized both within a facility, and between the two facilities. For example, all exam rooms within the Comox Valley hospital will be standardized, and that standardization will apply to Campbell River hospital, too. This standardization allows the flexing of spaces between different functions as need dictates and discourages a "territorial" space approach.

2.4 Natural Light and Green Space

Natural light and green space have been proven to enhance healing and reduce a patient's length of stay in hospital. Natural and borrowed light will be optimized and incorporated throughout the new hospitals. For example, all patient rooms will have windows allowing for natural light and will be oriented to take advantage of calming views of the ocean and nature.

2.5 Travel Distance Efficiency

Each department has been designed to maximize efficiencies. Departments that see the same patients are located close to one another to minimize the movement of patients and streamline traffic flows of supplies. Decreased travel distances for frequent travel paths result in faster response time, enhanced staff efficiency and the overall improvement of health and wellness of staff and patients. Separation of flows support best infection control practices as well as improvement to the patient experience. The design also features line of sight capabilities that will enable staff to easily monitor and ensure safety in patient areas.

2.6 Use of Wood

In keeping with B.C.'s Wood First Act, Tandem Health's design embraces the use of wood throughout the interior and exterior of the facilities. The design reinforces ties between the facilities and their surrounding communities through the repetitive use of a full complement of wood throughout public areas of the facilities. Reinforcing the culture of wood in B.C., Tandem Health will feature a diverse number of locally-sourced wood products in the following areas: entrance canopies, wood ceilings, casework, exterior wood features and Aboriginal program spaces.

2.7 Environmental Benefits

The Campbell River hospital and the Comox Valley hospital will be green and energy efficient. They will be constructed to attain Leadership in Energy and Environment Design (LEED®) Gold certification, ensuring a high level of sustainability is achieved for the facilities. The project features competitively bid energy targets combined with ongoing pain-share and gain-share features enforced by significant penalties for non-performance. Expected benefits

from the design include abundant natural light and low energy consumption and water use. As a result, a reduction in operating costs is expected to be achieved over the life of the facilities.

This project was the first public infrastructure project in Canada to be financed using a green bond, demonstrating B.C.'s leadership in a new and emerging green bond market. The project's technical criteria provided the foundation to classify the project as green. Criteria included LEED® Gold certification, energy and greenhouse gas targets, along with the B.C. Climate Action Plan.

2.8 Economic and Labour Benefits

The Project will be a benefit to the local economy. The Comox Valley work will create approximately 1,000 direct jobs and over 750 indirect jobs in industries supplying goods and services used in construction. The Campbell River work will create approximately 900 direct jobs and over 650 indirect jobs in industries supplying goods and services used in construction. The Project is expected to create approximately 60 direct full-time jobs during the operations phase.¹

¹ Jobs estimates provided by BC Stats

3. Project Background, Guiding Principles, and Scope

3.1 Background

In 2006, Island Health identified a need for enhanced specialty services for North Island residents during an extensive public consultation process with residents, staff, physicians, community partners, Aboriginal leaders and other stakeholders as part of its strategic planning.

The Campbell River and District General Hospital and St. Joseph's General Hospital were aging and their physical infrastructure required significant capital investments. The Island Health Board voted to support the creation of a new North Island regional hospital located within the Comox Valley.

Following that decision, Island Health heard feedback from the community, and following further consultation with physicians, staff, municipal leaders and residents, the Board endorsed a proposal to build two new hospitals: one in Campbell River and one in the Comox Valley.

A Business Plan began in 2010 and was completed in December 2011. In spring 2012, the Business Plan was approved for the construction of two new, state-of-the-art hospitals.

The total Nominal Cost of the Project is estimated at \$606.2 million. This includes elements within and outside of the DBFM arrangement, such as capital design and construction costs plus equipment, procurement, implementation, reserves and contingency costs. The total cost of the new Comox Valley Hospital is \$331.7 million, and the total cost of the new Campbell River Hospital is \$274.5 million. The cost of the Project is being cost-shared by Government and the Comox Strathcona Regional Hospital District.

3.2 Design Principles

The hospitals will be designed using the following design principles:

- Healing environment;
- Evidence-based design;
- LEAN approach to service delivery flows;
- Elder and patient friendly;
- Consistency of design;
- Use of wood;
- Sustainability;
- Efficient use of resources;
- Alternative sources of energy; and
- Carbon neutrality.

3.3 Scope of the Project

The Project includes a new hospital to be built on the existing Campbell River and District General Hospital site, including demolition of the existing facility upon completion, and the development of a new hospital in the Comox Valley to replace St. Joseph's General Hospital.

Both hospitals will be carefully designed to meet the needs of North Island residents, ensuring the greatest benefits for the best value.

The 95-bed Campbell River hospital will be 32,316 square metres (347,849 square feet) and will include the following:

- Single patient rooms with bathrooms and carefully positioned hand wash stations to help reduce hospital infections.
- 95 acute care beds:
 - 72 in-patient beds
 - 6 intensive care beds
 - 7 telemetry beds
 - 7 Labour, Delivery, Recovery and Post-Partum (LDRP) and Aboriginal Maternal Health rooms
 - 3 pediatric beds

- Additional rooms/bays/procedural spaces include:
 - 4 operating rooms
 - 12 surgical daycare spaces
 - 10 Post-Anesthetic Recovery Rooms (PARR)
 - 5 procedure rooms
 - 7 chemotherapy chairs
 - 7 medical daycare spaces
 - 29 emergency cubicles
 - University of British Columbia (UBC) academic teaching space
 - Centre of Excellence in Aboriginal Maternal Health
 - New or enhanced spaces for:
 - Emergency Department (3 times larger than existing ED)
 - Ambulatory procedure care
 - Cardio-pulmonary diagnostic services
 - Orthopedic clinic
 - Out-patient clinics
 - Medical Resonance Imaging (MRI)
 - Laboratory
 - Pharmacy
 - Rehabilitation
 - Standardized office space, meeting rooms and lounges
- The 153-bed Comox Valley Hospital will be 39,826 square metres (428,687 square feet) and include the following:
- Single patient rooms with bathrooms and carefully positioned hand wash stations help to reduce hospital infections
 - 153 acute care beds:
 - 105 in-patient beds
 - 8 intensive care beds
 - 10 telemetry beds
 - 9 Labour, Delivery, Recovery and Post-Partum (LDRP) and Aboriginal Maternal Health rooms
 - 6 pediatric beds
 - 11 psychiatry beds
 - 4 Psychiatric Intensive Care Unit (PICU) beds
 - Additional rooms/bays/procedural spaces include:
 - 6 operating rooms
 - 18 surgical daycare spaces
 - 13 Post-Anesthetic Recovery Rooms (PARR)
 - 5 procedure rooms
 - 7 chemotherapy chairs
 - 7 medical daycare spaces
 - 31 emergency cubicles
 - University of British Columbia (UBC) academic teaching space
 - New or enhanced spaces for:
 - Emergency Department (3 times larger than existing ED)
 - Out-patient clinics
 - Ambulatory procedure care
 - Cardio-pulmonary diagnostic services
 - Medical Resonance Imaging (MRI)
 - Laboratory
 - Pharmacy
 - Rehabilitation
 - Standardized office space, meeting rooms and lounges

4. Project Delivery Options

In accordance with the Province's Capital Asset Management Framework (CAMF), the project team undertook a procurement options analysis to determine an optimal procurement method for the North Island Hospitals Project.

4.1 Methodology

The evaluation of procurement options is mainly concerned with identifying the method of delivering the project that will result in the greatest VFM on both a financial (quantitative) and qualitative basis. In financial terms, VFM is established by calculating the estimated cost of a project, based on a particular partnership procurement method, and comparing it to the estimated cost if the project were procured using another method.

The evaluation of procurement options involves two main steps. The first step identifies key procurement objectives, and provides a qualitative assessment of two procurement options.

The second step in the assessment involves a more detailed, quantitative analysis that compares the two methods. A comprehensive risk analysis is conducted and financial models representing the two procurement methods are developed and compared. Both procurement methods consider detailed numerical inputs that reflect key project components during the construction and operating

periods, as well as associated public sector costs under each option.

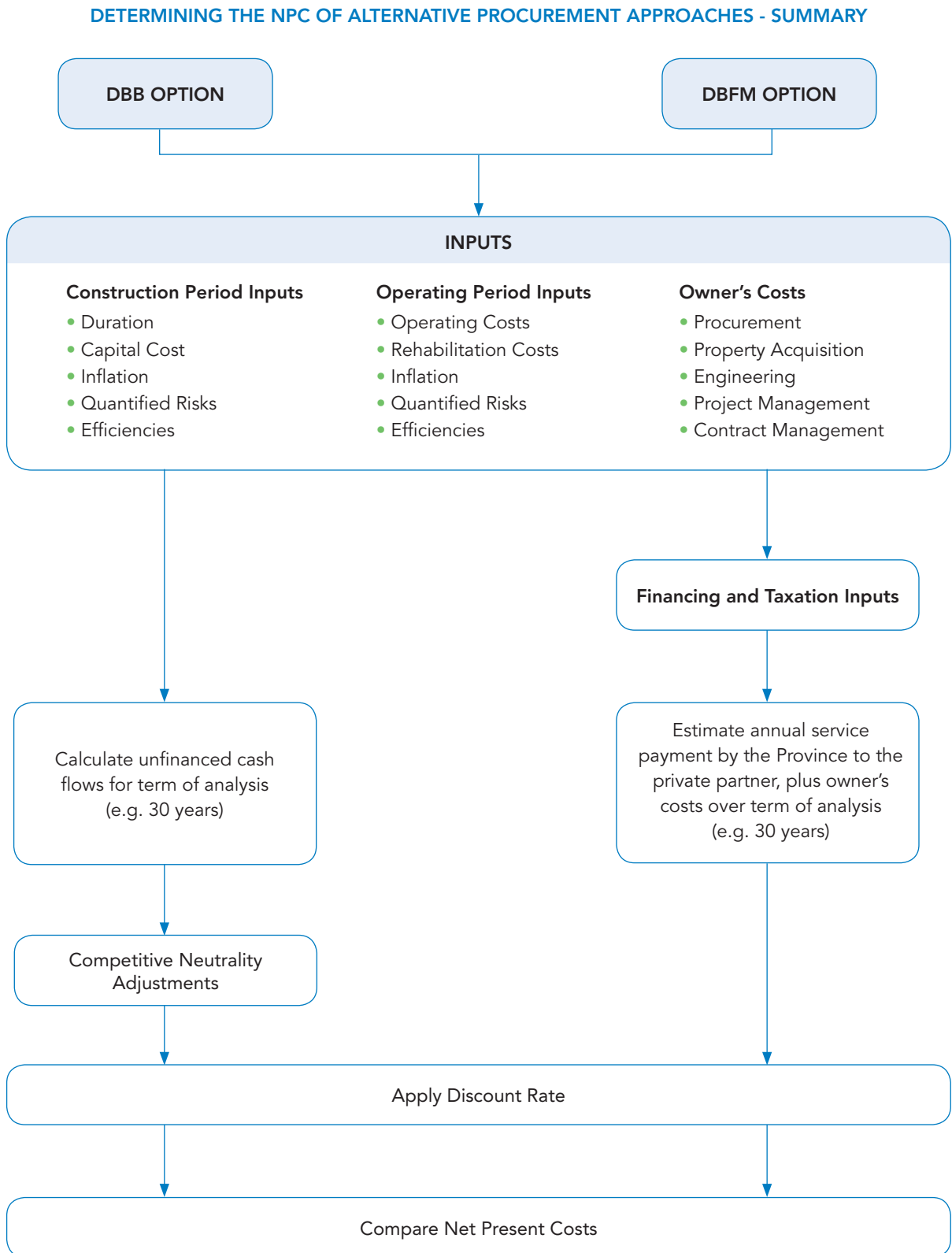
To ensure that a complete comparison is being made, the analysis also considers inputs that address financing and taxation issues along with adjustments to ensure Competitive Neutrality that include items such as how each model accounts for insurance costs. Without these adjustments, some costs may be understated in some areas and consequently would not reflect the true cost to government. When the procurement models being compared result in significantly different cash flows, a Discount Rate is applied to the projected future cash flows to facilitate an accurate comparison of the two approaches in present day dollars. Discounting allows procurement methods with different cash flow impacts—such as all payments made in the first year of a 15-year period versus payments spread over the 15 years—to be compared on a like-for-like basis. Comparing competing options in this way provides an objective means of determining the approach that provides the best value in terms of cost.

The results of this quantitative comparison between the two procurement methods, together with the qualitative criteria, are used to determine the method that is expected to provide the best potential VFM.



Typical medical surgical room at Comox Valley Hospital

The following graphic illustrates the financial modeling approach used to compare procurement models.



4.2 Project Procurement Objectives

Procurement options were carefully considered through the development of procurement objectives based on the project objectives. The following procurement objectives were developed by the project team to provide guidance in the selection and analysis of procurement options:

- Schedule certainty
- Cost certainty
- Asset performance throughout life cycle
- Adaptability of final design to meet user requirements
- Overall VFM

4.3 Procurement Options Analyzed

The project team analyzed two procurement delivery options for the project: Design Bid Build (DBB) and Design Build Partially Finance and Maintain (DBFM). The two options are described below:

Design Bid Build (DBB): The Authority would engage an architect to develop a detailed design (working drawings) for the facilities. The architect would complete the working drawings and then the Authority would issue a tender call for a construction contract. The lowest qualified price would be selected and an industry standard construction contract would be used. The construction contractor would take responsibility for construction to the specifications detailed in the working drawings developed for the Authority by its architect. The Authority would remain effectively responsible for errors and omissions in the design and would make monthly progress payments to the contractor. Once construction of the facilities is completed, the Authority would take possession and maintain and operate the facilities for their entire lifespan.

The Authority would retain key design and construction risks, such as schedule, construction cost and life cycle maintenance costs. Separate parties would design, build and maintain the various components of the facilities.

The Authority would be responsible to coordinate the involvement of design and maintenance groups. In the past, the Authority has successfully delivered projects on time and on budget using the DBB model.

Design Build Partially Finance Maintain (DBFM):

This partnership delivery model involves a two-stage competitive selection process. The first stage is a Request for Qualifications (RFQ), whereby respondent teams would submit qualifications to be received and evaluated, resulting in a shortlist of proponent teams. The second stage invites the proponent teams to submit proposals as part of the Request for Proposals (RFP) process. At the RFP stage, the Authority would provide Performance Specifications and seek proposals from the proponents to design, build, partially finance and maintain the facilities.

The project team would evaluate these proposals to determine a proponent with which it would enter into a final Project Agreement. Under the Project Agreement, the successful proponent would be required to design, build, partially finance and maintain the project over the specified term of the agreement.

Performance payments would be made monthly to the private partner over the life of the agreement, at a fixed rate determined at Financial Close. Payments only commence once the facilities are completed. To ensure that the private partner receives full payment, they must meet defined and measurable performance and availability standards on a continuous basis. The DBFM approach provides a financial structure that aligns the incentives of the private partner and the Authority. Under the DBFM option, the private partner would be responsible for:

- Arranging partial project financing, including equity, for facility construction and maintenance over a specified term (33 years, which includes an approximate three-year construction period);
- Designing and building the facilities; and
- Maintaining the facilities over the life of the Project Agreement and handing them back at the end of the contract term in the prescribed condition.

4.4 Results of the Procurement Options Analysis

Based on the procurement options analyzed, the DBFM method was determined to be the preferred procurement option, expected to best meet the Authority's procurement objectives and overall project objectives.

4.5 Achieving Value for Money

VFM is a term that captures both the quantitative and qualitative benefits that are expected to be achieved by delivering the project using the partnership method. Quantitative VFM is achieved through the lower project cost resulting from a particular procurement method. Qualitative value is achieved when a particular procurement method is best able to support the broader objectives of a project.

PARTNERSHIP PROJECTS TYPICALLY PROVIDE THE FOLLOWING QUALITATIVE BENEFITS

- **Competition and innovation:** The competitive nature of the bidding process encourages the private partner teams to develop innovative solutions in all aspects of the project from design and construction through to operations.
- **Schedule certainty:** The private partner receives a significant portion of their payment through monthly availability payments once the facilities are available for use, thereby providing a financial incentive to complete the project on time.
- **Cost certainty:** The Project Agreement is a fixed price contract.
- **Integration:** The private partner is responsible for the design and construction, maintenance and rehabilitation of the facility. This creates opportunities and incentives to integrate these functions to optimize performance of the facilities over the duration of the Project Agreement.
- **Life cycle maintenance:** The private partner is responsible and accountable for ensuring the facilities are maintained and rehabilitated over the duration of the Project Agreement otherwise the Annual Service Payment may be reduced.

5. Competitive Selection Process

A two-stage, competitive selection process was undertaken for the North Island Hospitals Project.² During the RFQ stage, respondents were asked to present their qualifications for the Project. Eight teams responded to the RFQ. A shortlist of three proponent teams was selected and invited to participate in the RFP stage process. The teams that were shortlisted are described below.

PROPONENT	PROJECT CO LEAD	EQUITY PROVIDER	DESIGN-BUILDER	DESIGN FIRM	SERVICE PROVIDER
Arbutus Healthcare Partners	Carillion Canada Inc.	Carillion Private Finance	Carillion Construction	Kasian Infrastructure Ltd.	Carillion Services
		Concert Infrastructure	Bird Design-Build Construction Inc.	NBBJ Architecture	
		Bird Capital			
Plenary Health	Plenary Group	Plenary Group	PCL Constructors Westcoast Inc.	CEI Architecture Parkin Architects Limited	Johnson Controls Canada Limited Partnership
Tandem Health Partners	Balfour Beatty Canada – Capital Inc.	Gracorp Capital Advisors Ltd.	Graham Design Builders LP	Stantec Inc.	Honeywell International Inc.
	Gracorp Capital Advisors Ltd.	Balfour Beatty Holdings Canada Inc.	Farmer Construction Ltd.		

The RFP required each proponent to submit a proposal to design, build, partially finance and maintain the Project under the Affordability Ceiling. The Affordability Ceiling was set by the Authority to ensure the Project was affordable once proposals were received from proponents.

During the RFP stage, collaborative and topic meetings were offered so that each team had the opportunity to discuss issues or concerns related to commercial, legal, design and construction and facilities management matters. Prior to the closing date for submissions, a final draft Project Agreement was issued and it served as the common basis for all proposals.

² The RFQ and RFP procurement documents are publicly available at www.partnershipsbc.ca

The timeline of the competitive selection process is outlined in the table below.

PROCUREMENT STAGE	TIMING	OUTCOME
RFQ	June 2012 to September 2012	The project was marketed locally, provincially, nationally and internationally. Submissions from eight respondents were evaluated and the following shortlist of three teams was announced: <ul style="list-style-type: none"> • Arbutus Healthcare Partners • Plenary Health • Tandem Health Partners
Specifications development and approvals	September 2012 to April 2013	Project specifications were developed and approvals required to enter the RFP stage were acquired.
RFP	April 2013 to March 2014	The three shortlisted teams submitted proposals.
Identification of successful proponent	April 2014	After evaluation of the proposals, Tandem Health Partners was identified as the successful proponent.
Project Agreement Finalization	June 2014	The Project Agreement was signed by the Authority and Tandem Health Partners.

5.1 Evaluation of Proposals

The overall objective of the evaluation was to select the proposal that best met the requirements of the RFP and achieved VFM. The Project Board appointed an evaluation committee to evaluate the proposals based on the criteria set out in the RFP and to recommend a proponent. The evaluation work was completed in two stages: evaluation of technical submissions and evaluation of financial submissions.

First, the evaluation committee determined whether proponents' technical submissions contained any material non-compliances and whether they satisfied the mandatory requirements of the RFP and the final Project Agreement. The Authority identified compliance issues in all proponents' technical submissions, and invited them to submit a technical supplement to address those issues. The technical supplements were submitted alongside proponents' financial submissions. The Authority evaluated only the financial submissions of proponents that submitted technical supplements that met the mandatory requirements of the RFP. Following rigorous evaluation of all teams' technical supplements, the evaluation committee evaluated those financial submissions to determine whether they met the Affordability Ceiling and substantially satisfied the financial requirements.

The financial requirements included the provision of sufficient financing and a robust and deliverable financial plan, and the ability to raise sufficient capital and be a financially viable entity. The NPC of each proponent's submission was adjusted for evaluation purposes as per the RFP, including the scored elements identified in Section 5.3 of this report, and the result was that Tandem Health had the lowest adjusted NPC. The evaluation committee recommended that the Project Board name Tandem Health as the successful proponent, and the Project Board accepted that recommendation.

5.2 Affordability Ceiling

In a DBFM, the private sector partner is paid an Annual Service Payment (ASP) consisting of the initial capital costs (e.g. design and construction), operational costs (e.g. facility management), major repairs and replacement of building elements (e.g. the roof) throughout the term of the Project Agreement. All of these costs are captured in the NPC of the project. The Affordability Ceiling is the NPC of the maximum government will pay in ASPs over the life of the project. In addition, this project had a Capital Cost Ceiling representing the maximum capital cost the Authority was willing to pay.

The Affordability Ceiling was set at \$391.7 million NPC. The Capital Cost Ceiling was set at \$415.9 million (nominal).

The winning proposal received from Tandem Health met the NPC Affordability Ceiling but exceeded the Capital Cost Ceiling. A value engineering process was undertaken to reduce the capital cost in advance of Financial Close.

5.3 Scored Elements

The Project is the third health-care project in B.C. to use scored elements methodology. Scored elements enable the Authority, during evaluation of submissions, to allocate extra points to submissions with clinical design elements that optimize the design over and above the compliance requirements in the RFP.

Proponents could score additional points for submitting a clinical design that optimized travel distance and corridor efficiency, separation of flows, line of sight, natural light and standardization. These categories were developed using evidence-based patient outcomes and based on overall staff satisfaction, health and wellness. Categories included, but were not limited to reductions in: in-patient length of stay, adverse events, health-care associated infections, patient falls, patient transfers, nursing overtime, turnover and recruitment costs, and WorkSafeBC claims.

The use of scored elements methodology achieved an optimized clinical design as intended. The following highlights outline some of the clinical design achievements in the Tandem Health solution:

- 1) Decreased travel distances for frequent travel paths which facilitates rapid response time, staff efficiency, and overall health and wellness of staff as they serve patients;
- 2) Separation of flows which supports best infection control practices as well as the patient experience;
- 3) Line of sight capabilities ensuring that staff can easily monitor the status and ensure safety in patient areas;
- 4) Standardization both within the facility and between the two facilities, which results in faster response time and less human error;
- 5) Intuitive way-finding;
- 6) Expansion plans for the two hospital sites; and
- 7) Separation of traffic, pedestrian and emergency vehicle flows.

5.4 Fairness Advisor

A fairness advisor, John R. Singleton Q.C., of Singleton Urquhart LLP was engaged to monitor the competitive selection process and offer an assessment about the procedures and whether the selection process was carried out in a fair and reasonable manner. The fairness advisor was provided access to all documents, meetings and information related to the evaluation processes throughout both the RFQ and RFP stages.

The fairness advisor issued reports for both the RFQ and the RFP stage of the competitive selection process. In his report on the RFP process, the fairness advisor concluded that “the final evaluation of proposals has been both robust and comprehensive and the evaluation criteria applied, in my view, in a fair and proper manner in accordance with the terms and conditions of the amended RFP.”

The fairness advisor’s reports are publicly available at www.partnershipsbc.ca

5.5 Due Diligence Committee

A two-person due diligence committee monitored the entire competitive selection process to ensure it was conducted with appropriate due diligence. The committee:

- Reviewed evaluation material;
- Reviewed the evaluation framework of the RFQ and RFP;
- Examined whether the evaluation of submissions was consistent with the process outlined in the procurement documents; and
- Confirmed that the evaluation committee reached a consensus in its decisions.

The due diligence committee found that the competitive selection process was conducted appropriately.

5.6 Owner’s Project Management Costs

The owner’s project management costs, including the competitive selection process, is factored into the VFM analysis. The total owner’s project management costs in nominal dollars from approval of the Business Plan to completion of construction, including demolition at the Campbell River site is \$20.9 million. This includes the cost of developing Performance Specifications, preparing procurement documentation, and monitoring the design and construction of the two facilities using Island Health’s Project Management Team and external advisors. It also supports clinical commissioning, transition planning, and move-in at the new facilities.

In addition, Partial Compensation of \$850,000 inclusive of any GST payable was paid to each of the unsuccessful proponents. Partial Compensation can encourage competition, ensure the quality of proposals submitted, secure access to intellectual property and mitigate costs incurred by proponents in developing their proposals.



Campbell River Hospital All Nations Healing Room

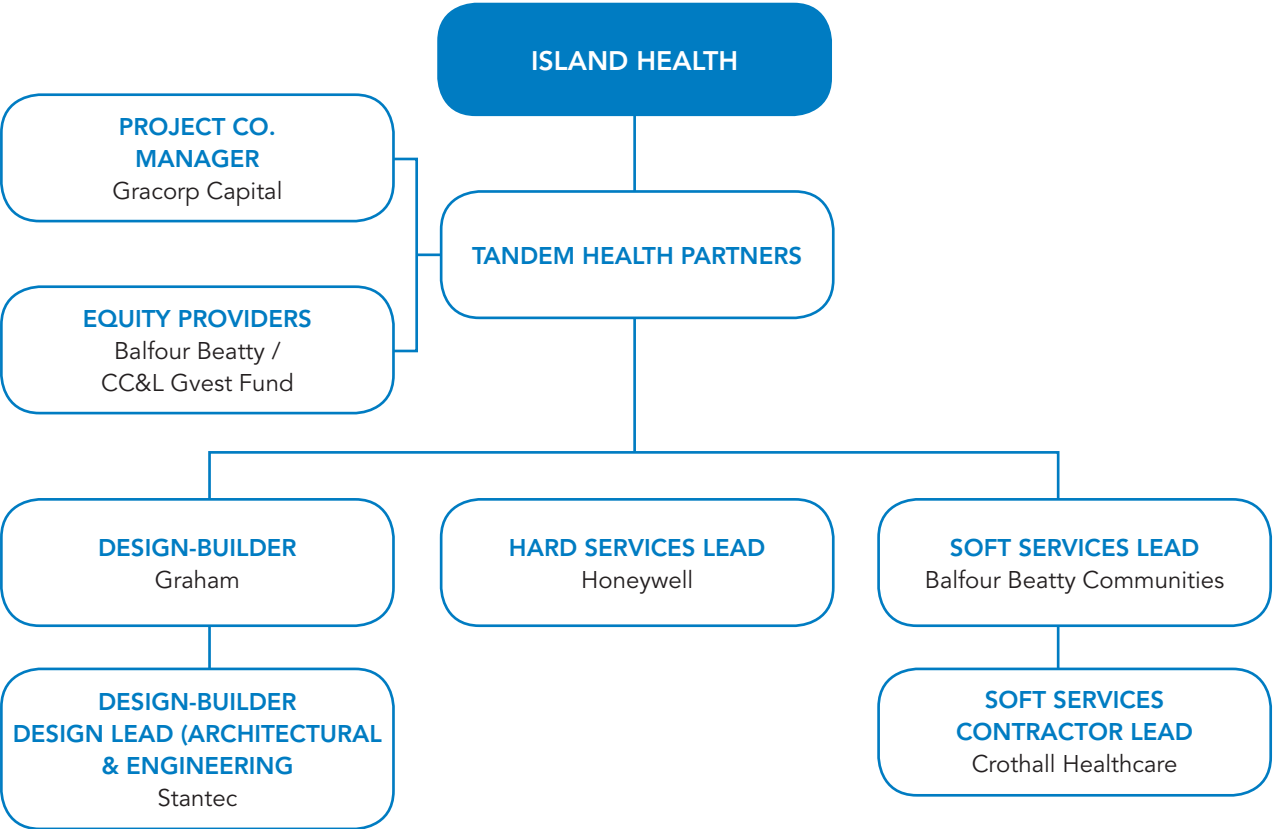
6. The Final Project Agreement

QUICK FACTS ABOUT THE FINAL PROJECT AGREEMENT	
Private partner	Tandem Health Partners
Project Owner	Island Health
Government contributions to capital cost (nominal)	\$245.4 million
Construction Complete	2017
Term of the Project Agreement	33 years, including construction
NPC of ASPs	\$382.3 million

6.1 Profile of the Private Sector Partner

Tandem Health Partners is the private partner for the North Island Hospitals Project. Tandem Health is a consortium of companies qualified through the RFQ process and consisting of the following key members identified in Figure 1 below.

FIGURE 1: RELATIONSHIP BETWEEN ISLAND HEALTH AUTHORITY AND TANDEM HEALTH PARTNERS



6.2 Key Terms of the Project Agreement

Under the terms of the Project Agreement, Tandem Health is responsible for the following:

- Arranging financing for a portion of the construction and agreed facilities operations for a specified term (construction plus a 30-year operating period);
- Designing and building the facilities;
- Providing facility management services for both sites including:
 - Hard facilities management;
 - Utilities and energy;
 - Roads and grounds;
 - Environmental and sustainability services;
 - Housekeeping and waste management;
 - Pest management;
 - Plant services;
 - General management; and
 - Helpdesk services.
- Maintaining the facilities over the 30-year operating phase and returning them in a fully maintained condition at the end of the Project Agreement term

6.3 Performance-Based Payment Principles

During construction, the Authority will make construction payments based on a percentage of the eligible construction costs incurred by Tandem Health in a specific month as certified by an Independent Certifier.

Tandem Health is incented to perform through a payment mechanism based on the principles of performance, facility availability and service quality. Once construction is complete and Service Commencement has been achieved, Tandem Health will begin receiving an ASP from the Authority. These payments will be made monthly and are based on the facility availability and the quality of facility maintenance services provided by Tandem Health. The performance of Tandem Health will be continuously monitored based on key performance indicators. If the performance standards in the Project Agreement are not met, the Authority may apply deductions to the ASP.

Payment deductions are based on the severity of the failure to meet the performance indicator, the importance of the room or department area affected, and the level of unavailability. An unavailability deduction applies when a functional unit (room or department) fails to comply with the condition specified in the Project Agreement. For example, if the temperature or humidity of a room is outside a predetermined range, that room would be considered unavailable, and payment deductions could be applied.

6.4 Adjustments to Annual Service Payments

The ASP may be adjusted to reflect specific circumstances as defined in the Project Agreement, including:

- **Indexation:** The capital component of the ASP will not be indexed. The facility maintenance services component and life cycle costs and ASPs are indexed by the Consumer Price Index (CPI).
- **Changes:** If the Authority requires the private partner to make a physical change or amend the services, the Authority can pay the cost up front or have the cost financed. If the Authority chooses to have the change financed, the cost will be reflected in an amended Service Payment.
- **Change in Law:** If there is a change in law targeted at hospitals, the ASP may be amended to leave the private partner in no better or worse position than if that change in law had not occurred.
- **Compensation Events:** Any compensation payable for a compensation event is provided by a lump sum payment or as an adjustment to the ASPs.
- **Life Cycle:** The life cycle costs are not uniform throughout the term of the contract and the lifecycle component of cost will fluctuate. This does not affect the ASP which has a non-indexed portion and an indexed portion which grows only by inflation. The underlying base amount does not change.
- **Market Testing:** The housekeeping and elevator services will be market-tested every six years.

6.5 Risk Allocation Summary

The Project Agreement includes detailed risk allocation provisions over the construction period and 30-year operating term. This approach transfers key risks to Tandem Health – such as construction, cost and schedule – and adds value through design and private sector innovation.

The table below summarizes key risk allocation retained by the Authority, transferred Tandem Health and shared between the two parties.

AUTHORITY RISKS	SHARED RISKS	TANDEM PARTNERSHIPS RISKS
Cost of equipment	Change in law	Commissioning
Existing site conditions	Force Majeure	Construction
Ownership of the facilities	Labour costs during operations	Design
Program delivery	Equipment availability	Financing after contract execution
Authority initiated scope changes		Geotechnical
Utility unit costs		LEED Gold certification
		Life Cycle
		Maintenance
		Schedule
		Facility energy efficiency

The risk allocation is supported by the following provisions in the Project Agreement:

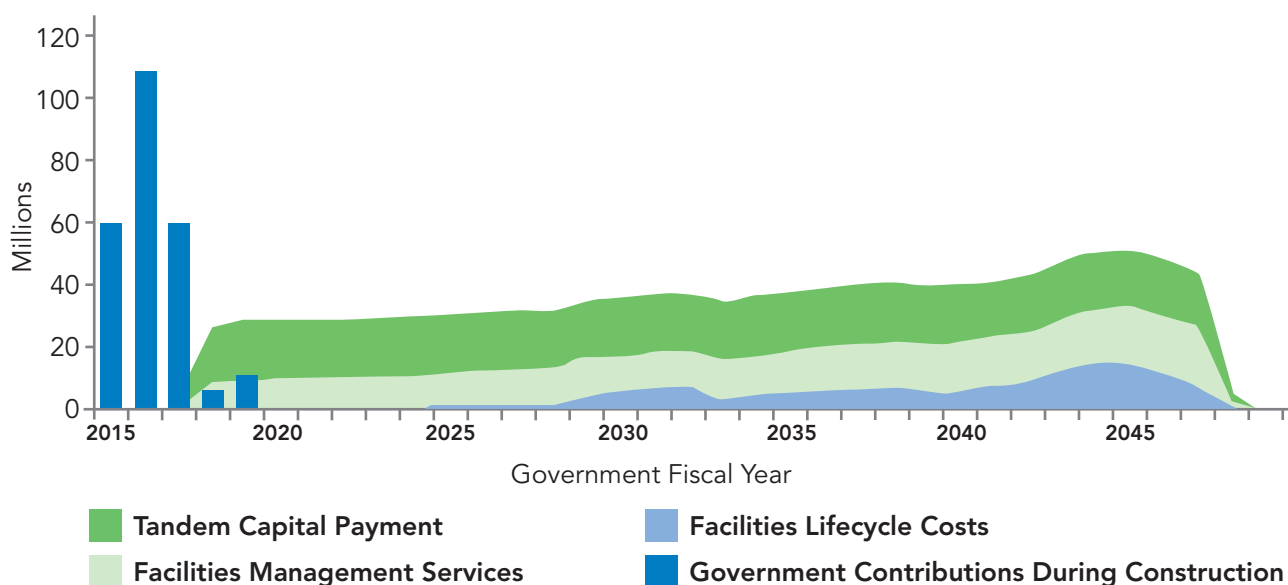
- Tandem Health will only start receiving ASPs from the Authority when an Independent Certifier confirms the conditions for Service Commencement have been achieved, thus providing an incentive to complete construction on time and on budget;
- The expiry date of the Project Agreement is fixed, so any delays in completing construction will reduce payments to Tandem Health, providing them with a strong incentive for timely construction completion; and
- Provisions are in place to reduce the ASPs if Tandem Health does not meet the performance standards in the Project Agreement for facility availability and maintenance.



Comox Valley Hospital Main Entrance Waiting Area

6.6 Financial Summary

The graph below demonstrates the cash flows to Tandem Health that meet the Affordability Ceiling as defined in the RFP. The graph is expressed in nominal dollars and assumes 2.5 per cent inflation for facilities management and life cycle costs. Payment projections assume no penalties or deductions.



6.7 Quantitative Benefits

The estimated NPC of the Project delivered using a DBB approach is \$767.3 million. The estimated NPC of the Project delivered using the DBFM approach and Tandem Health’s proposal is \$635.8 million. A comparison of these numbers is provided below. In financial terms, the final Project Agreement is estimated to achieve a NPC value for taxpayers’ dollars of \$131.5 million when compared to the alternative procurement option.

TABLE 1: VALUE FOR MONEY TABLE

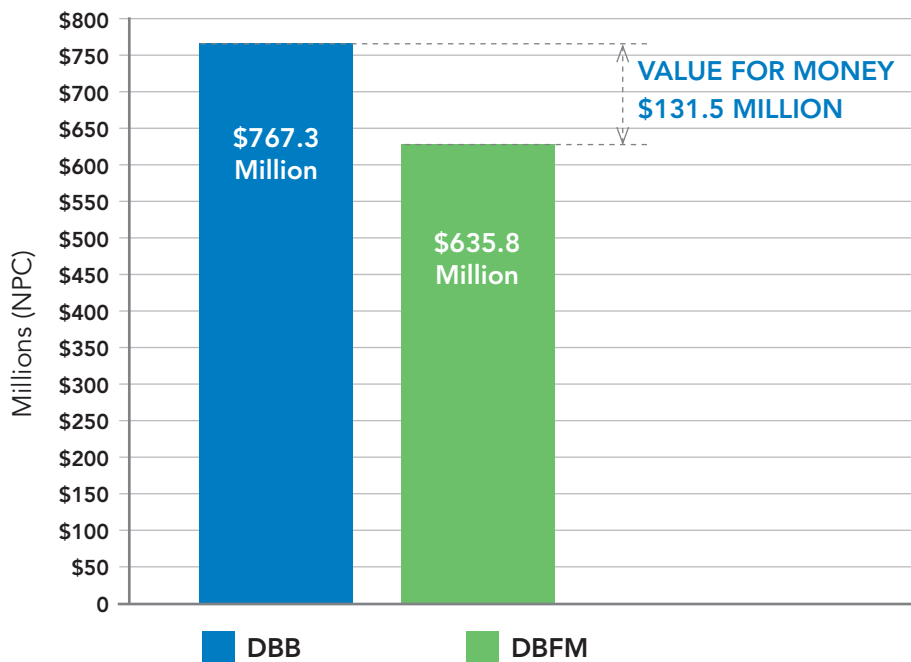
NET PRESENT COST (millions)	FINAL PROJECT AGREEMENT	DBB OPTION
ASPs to Tandem Health Partners	382.3	
Capital costs		456.7
Provincial construction payments	222.0	
Life cycle and operating costs		187.0
Risk adjustment	4.5	99.7
Owner and project management costs, including GST, insurance, and the Partial Compensation	27.0	23.8
Total	635.8	767.3
Cost differential		131.5
Percentage savings		17.13%

Significant factors contributing to VFM include:

- Efficiencies from competitive construction pricing;
- Innovative and efficient construction methods to meet project timelines;
- Scheduling and integrating the design, build, operate and finance teams;
- Expected operational savings over the 30-year term of the Project Agreement; and
- Efficient allocation of risk.

The VFM analysis was made following established methodology.³ The NPC of the figures described above were developed using a Discount Rate⁴ of 6.24 per cent at March 31, 2014, which represents the costs of capital over time, taking into account factors such as inflation and interest rates.

FIGURE 2: VALUE FOR MONEY - COST COMPARISONS



6.8 Accounting Treatment

B.C.'s Office of the Comptroller General, responsible for the overall quality and integrity of the Province's financial management and control systems, has established accounting guidelines for partnership projects.

Based on accounting guidelines, and for accounting purposes, the total capital cost of the North Island Hospitals Project is \$606.2 million. This figure includes the capital cost for the design and construction, the associated interest during construction, and Tandem Health's bid development and financing costs. It also includes costs for Authority-purchased equipment, insurance, GST, the competitive selection process, implementation or contingencies. These costs are accrued to the Authority through the construction period as the costs are incurred.

³ Partnerships BC's Discussion Paper: Methodology for Quantitative Procurement Options Analysis is publicly available at www.partnershipsbc.ca

⁴ The Discount Rate used for the calculation of VFM is 6.24 per cent. To test the impact of a change in the Discount Rate on the quantitative VFM proposition of the DBFM model versus the DBB model, the modeling results were re-calculated assuming a Discount Rate 50 basis points higher and 50 basis points lower than the base Discount Rate. It should be noted that no change in the estimated value of risks was undertaken in conjunction with the change in Discount Rates used in the sensitivity analysis. A change in the Discount Rate, either higher or lower, would require a reassessment of the risks of the project. The results of the sensitivity analysis of the Discount Rate showed that the NPC of the final Project Agreement would have been approximately \$120.8 million less than the DBB if the Discount Rate was 50 basis points lower, and about \$141.0 million less if the Discount Rate was 50 basis points higher.

7. Ongoing Project Agreement Monitoring

The Project Agreement with Tandem Health includes specific provisions to ensure project delivery, performance and quality standards are met. Monitoring spans every phase of the project, from Financial Close through design and construction, facility operations and maintenance. There are a number of major phases in the project monitoring schedule, with roles and responsibilities assigned to project participants at each stage.

7.1 Design and Construction Phase

The Project Agreement stipulates that both the Authority and Tandem Health must appoint design and construction representatives. The Authority representative will review, approve, accept or confirm Tandem Health's activities in accordance with the Project Agreement. The Authority representative is supported by a compliance team of professionals. The Authority representative and the compliance team will have full access to the construction site, drawings and specifications, and will report observations to the Authority regularly.

In addition, a Construction Period Joint Committee (CPJC) will be formed at the commencement of construction. The CPJC formalizes communications between the Authority and Tandem Health with the purpose of providing a formal forum for the parties to consult and cooperate on all matters relating to the Project during construction. The CPJC is a requirement of the Project Agreement and will remain in place until construction is complete and Service Commencement has been reached.

In support of the aforementioned monitoring activities, the Authority and Tandem Health have also jointly appointed an Independent Certifier who will monitor and report on construction progress, and provide certification that the conditions for Service Commencement have been achieved.

7.2 Operations and Maintenance Phase

The Project Agreement stipulates that both the Authority and Tandem Health must appoint a representative to serve as a member of the Operating Period Joint Committee (OPJC) over the 30-year operating term of the agreement. The OPJC is a formal forum for the parties to consult and cooperate on all matters related to the facilities during the operational term.

During the operations phase, Tandem Health will provide the Authority with the following plans for review and approval:

- Life cycle report and start-up plan;
- Annual service plan and five year maintenance plan;
- Life cycle asset and rehabilitation plan;
- Environmental management plan; and
- Energy management plan.

7.3 Quality Management

The Project Agreement is designed to motivate Tandem Health to ensure delivery, performance and high standards of quality given the monetary consequences of not achieving these requirements.

Tandem Health is required to have a performance monitoring program in place during the operating period that will monitor the delivery of services. All reports and supporting data generated from this program are readily available to the Authority at any time for audit purposes. Monthly reports delivered to the Authority will contain a variety of information, including:

- A summary of calls made to the facilities management help desk and their resolution;
- A summary of unavailability events and service;
- A calculation of the monthly service payment owed to Tandem Health; and
- A summary of all life safety actions and statutory testing (e.g. fire extinguisher inspections).

These reports allow for a thorough review and analysis on a monthly basis by the Authority to ensure the facilities are performing as intended. It will also ensure building operations and conditions are consistent and achieving established Project objectives. The reports provide key information that determines if the facilities are being properly maintained in accordance with the performance standards set out in the Project Agreement.

There are strict penalties if Tandem Health misrepresents the monthly report.

7.4 Hand-Back Requirements

At the end of the 30-year operating term, the facilities must be in a condition that is consistent with the services and maintenance specifications in the Project Agreement. For example, it would not be acceptable for the building fabric to be failing, the flooring to be unreasonably worn or the general environment to be unkempt. Tandem Health and the Authority will jointly appoint and pay for an independent party to inspect and survey the condition of the buildings in advance of the end of the project term. Tandem Health is responsible for meeting the hand-back requirements at the end of the project term.

Keeping facility conditions up during the operations period through ongoing maintenance will ultimately lead to hand-back conditions being satisfactory.

7.5 Project Board

The Project Board was established in 2010 to provide guidance and oversight for the implementation of the Project, including the capital components outside of the DBFM arrangement. Members of the Project Board include representatives from the Ministry of Health, the Ministry of Transportation and Infrastructure; the Island Health Authority; Comox Strathcona Regional Hospital District; and Partnerships BC.

The Authority has assembled an integrated project management team that will be responsible for implementing the Project through design, construction and operating period. The project team reports through the chief project officer to the Project Board.

8. Glossary of Terms

Affordability Ceiling: A number identified in the RFP representing the NPC of the maximum government expects to pay in ASPs based on an assumed inflation rate of 2.5% over the life of the project.

Annual Service Payment (ASP): The mechanism by which a private partner in a DBFM arrangement is compensated. According to performance standards specified in a Project Agreement, an ASP is paid to the private partner for capital and operating costs, as well as their required rate of return, over the term of the agreement.

Authority: Vancouver Island Health Authority, or, Island Health.

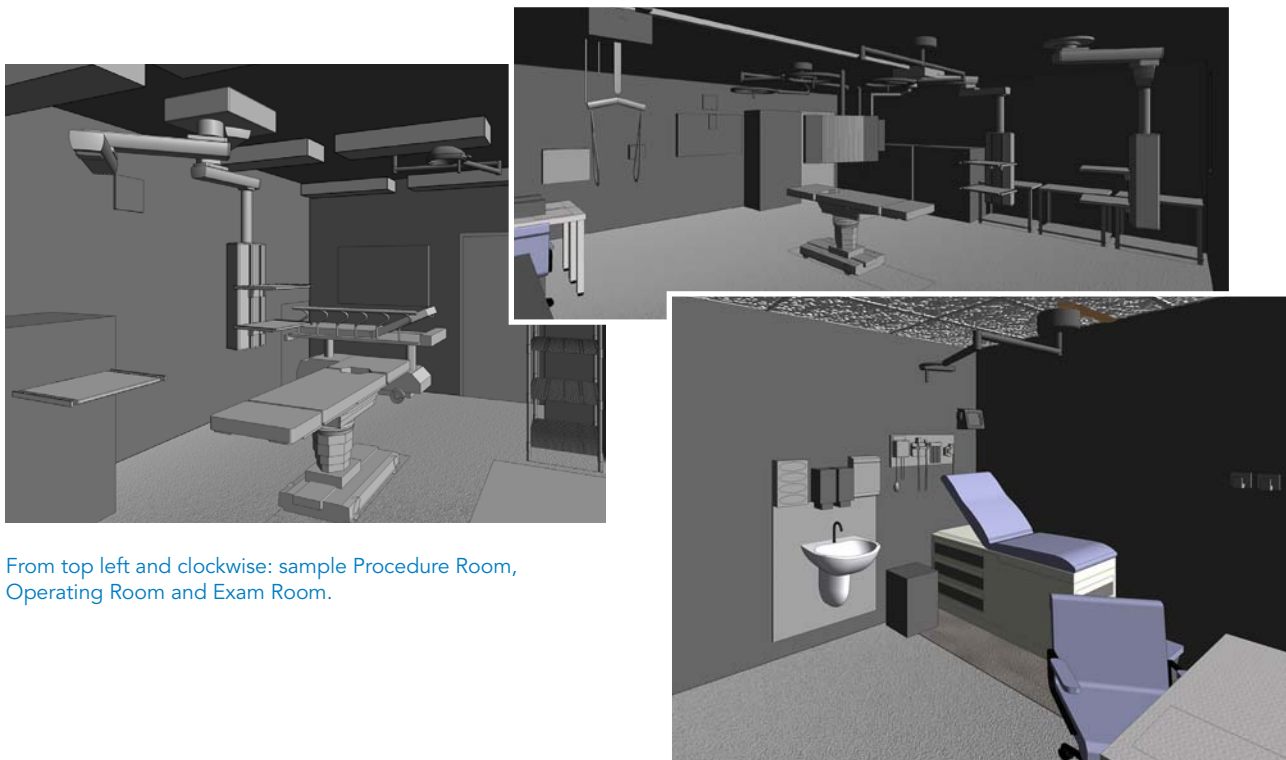
Business Plan: Document prepared in British Columbia by the Authority demonstrating the need and cost/benefit of a project, in addition to supporting a procurement method and providing an overview of the accounting impacts that a project may have.

Competitive Neutrality: A circumstance where competitive advantages that typically accrue to government as a result of public sector ownership are neutralized through a series of adjustments that permit a fairer comparison of non-public sector alternatives.

Discount Rate: A rate used to relate present and future dollars. Discount rates are expressed as a percentage and are used to reduce the value of future dollars in relation to present dollars. This equalizes varying streams of costs and benefits so that different alternatives can be compared on a like-for-like basis.

Financial Close: The point in the procurement process where negotiations with a preferred proponent are finalized and a Project Agreement is executed, allowing construction to begin.

Independent Certifier: An independent, third-party certifier engaged jointly by the Authority and the private partner to verify and certify whether certain conditions of the Project Agreement are being satisfied.



From top left and clockwise: sample Procedure Room, Operating Room and Exam Room.

Net Present Cost (NPC): The value of periodic future cost outlays when they are expressed in current, or present day, dollars by discounting them using the Discount Rate.

Nominal Cost: Costs calculated in nominal terms at current prices recognizing adjustments for inflation.

Partial Compensation: A payment made to unsuccessful shortlisted bidders in a RFP process as partial compensation for expenses incurred in submitting a proposal.

Performance Specification: Specifications developed by the Authority that define the output and performance levels required in relation to construction and life cycle performance of an asset, to ensure the completed project satisfies the objectives of a project with respect to meeting the Authority's service delivery needs.

Project Agreement: The Project Agreement sets out the requirements for the delivery of an asset under a DBFM in terms of cost, schedule and life cycle performance that typically govern the performance-based payment of the ASP to a private partner.

Request for Proposals (RFP): Document issued by the Authority for qualified proponents to submit formal proposals to deliver a project.

Request for Qualifications (RFQ): Document issued by the Authority inviting parties interested in participating in an RFP, to submit their qualifications for delivering a project.

Service Commencement: The date upon which the following activities have been achieved: the architect certifies substantial performance of the buildings; an occupancy permit has been issued and all construction commissioning activities are complete.

Value for Money (VFM): Also commonly referred to as value for taxpayer dollars, VFM describes the benefits to the public expected to be realized through a particular procurement method, which can be quantitative and/or qualitative in nature. Quantitative VFM is achieved through the lower cost of a project resulting from the procurement method, whereas qualitative value is achieved when a particular procurement method better supports the goals and objectives of a project without necessarily costing less.



Ambulatory Care at Comox Valley Hospital

9. July 2017 Supplement to Project Report

The following table provides nominal cash flows that represent the underlying numbers used to create the net present costs in the Value for Money table in Section 6.7 of the Project Report. The cash flows in the following table have been annualized and include all categories of costs included in the Value for Money table in the Project Report. To clarify, the number in the Final Project Agreement column includes both payments to the Project Co as well as all Authority costs (e.g. project management). They have not been updated for any changes to the Project Agreement or performance issues after contract execution. It is important to note that the cash flows used to derive the net present cost numbers for the DBB and Final Project Agreement columns in the Value for Money table are based on a combination of monthly, quarterly and semi-annual cash flows. Discounting the annual cash flows will produce net present cost numbers, similar, but not exactly the same as in the Project Report. The calculation of net present cost numbers is dependent on the timing of the cash flows, so a difference in the net present cost numbers is to be expected.

FISCAL YEAR END (March 31)	FINAL PROJECT AGREEMENT	DBB OPTION
	Cash flows for deal that make up Value for Money (\$000s)	Cash flows for deal that make up Value for Money (\$000s)
2013	1,626	5,959
2014	4,091	13,458
2015	73,835	144,805
2016	118,313	276,502
2017	63,255	162,436
2018	32,154	18,756
2019	39,706	17,075
2020	28,987	12,226
2021	28,941	12,563
2022	29,371	14,011
2023	29,503	13,632
2024	29,676	16,453
2025	30,879	14,596
2026	31,015	14,650
2027	31,613	26,673
2028	32,096	17,669
2029	35,498	16,084
2030	36,116	16,084
2031	37,222	20,651
2032	37,449	24,317
2033	35,056	19,926
2034	36,260	17,816
2035	38,113	18,878
2036	39,217	18,825
2037	39,920	30,160
2038	40,755	26,885
2039	39,463	20,962
2040	40,071	22,077
2041	42,414	22,519
2042	43,837	32,115
2043	48,517	25,561
2044	50,881	47,893
2045	51,497	28,812
2046	47,779	24,579
2047	45,314	27,295
2048	3,811	-



partnerships
British Columbia