NANAIMO REGIONAL HOSPITAL DISTRICT BOARD MEETING
AGENDA

Tuesday, December 4, 2018

7:00 P.M.

Board Chambers

This meeting will be recorded

Pages

1. CALL TO ORDER

2. APPROVAL OF THE AGENDA

3. ADOPTION OF MINUTES

   3.1 Nanaimo Regional Hospital District Board Meeting - May 8, 2018 4

   (All Directors - One Vote)

   That the minutes of the Nanaimo Regional Hospital District Board meeting held May 8, 2018, be adopted.

4. DELEGATIONS

5. CORRESPONDENCE

6. REPORTS

6.1 **Nanaimo Regional Hospital District Post 2018 Election Approval of Signing Authorities for General Banking and Investments** 6

(All Directors - One Vote)

1. That the signing authorities for general banking services and financial instruments reflect the following positions:

Chair - Ian Thorpe

Vice Chair - Robert Rogers

Chief Administrative Officer - Phyllis Carlyle

Director of Finance - Jeannie Bradburne

Manager, Accounting Services - Tiffany Moore

Manager, Capital & Financial Reporting - Manvir Manhas

2. That the foregoing authorizations extend to accounts in the name of the Nanaimo Regional Hospital District.

6.2 **Nanaimo Regional Hospital District 2019 Provisional Budget** 8
Invited Presentation: Kevin Daniel, Manager, Capital Planning from Island Health

(All Directors - Weighted Vote)

1. That the 2019 Regional Hospital District provisional budget be approved as presented.

(All Directors - One Vote)

2. That the 2019 to 2023 five year projections be received for information.

(All Directors - Weighted Vote)

3. That “Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Thermal Energy Plant) Borrowing Bylaw No. 165, 2018” be introduced and read three times.

(All Directors - 2/3 Weighted Vote)

4. That “Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Thermal Energy Plant) Borrowing Bylaw No. 165, 2018” be adopted.

(All Directors - Weighted Vote)

5. That “Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Magnetic Resonance Imaging) Borrowing Bylaw No. 166, 2018” be introduced and read three times.

(All Directors - 2/3 Weighted Vote)

6. That “Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Magnetic Resonance Imaging) Borrowing Bylaw No. 166, 2018” be adopted.

(All Directors - Weighted Vote)

7. That “Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Intensive Care Unit) Borrowing Bylaw No. 167, 2018” be introduced and read three times.

(All Directors - 2/3 Weighted Vote)

8. That “Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Intensive Care Unit) Borrowing Bylaw No. 167, 2018” be adopted.

7. BUSINESS ARISING FROM DELEGATIONS

8. NEW BUSINESS

9. ADJOURNMENT

MINUTES OF THE NANAIMO REGIONAL HOSPITAL DISTRICT BOARD MEETING

Tuesday, May 8, 2018
3:00 P.M.
RDN Board Chambers

In Attendance:	Director W. Veenhof	Chair
	Director I. Thorpe	Vice Chair
	Director A. McPherson	Electoral Area A
	Director H. Houle	Electoral Area B
	Director M. Young	Electoral Area C
	Director B. Rogers	Electoral Area E
	Director J. Fell	Electoral Area F
	Director J. Stanhope	Electoral Area G
	Director B. McKay	City of Nanaimo
	Alternate	
	Director S. Armstrong	City of Nanaimo
	Director B. Bestwick	City of Nanaimo
	Director D. Brennan	City of Nanaimo
	Director G. Fuller	City of Nanaimo
	Director J. Hong	City of Nanaimo
	Director B. Yoachim	City of Nanaimo
	Director M. Lefebvre	City of Parksville
	Director K. Oates	City of Parksville
	Director T. Westbroek	Town of Qualicum Beach
Regrets:	Director J. Kipp	City of Nanaimo
	Director B. Colclough	District of Lantzville
Also in Attendance:	P. Carlyle	Chief Administrative Officer
	R. Alexander	Gen. Mgr. Regional & Community Utilities
	G. Garbutt	Gen. Mgr. Strategic & Community Development
	T. Osborne	Gen. Mgr. Recreation & Parks
	D. Wells	Gen. Mgr. Corporate Services
	D. Pearce	Director of Transportation & Emergency Services
	J. Hill	Mgr. Administrative Services
	T. Mayea	Legislative Coordinator
	S. Commentucci	Recording Secretary
	C. Golding	Recording Secretary

CALL TO ORDER

The Chair called the meeting to order and respectfully acknowledged the Coast Salish Nations on whose traditional territory the meeting took place.

The Chair welcomed Alternate Director Armstrong, Legislative Coordinator, T. Mayea, and Recording Secretary, S. Commentucci to the meeting.

APPROVAL OF THE AGENDA

It was moved and seconded that the agenda be approved as presented.

CARRIED UNANIMOUSLY

ADOPTION OF MINUTES

Nanaimo Regional Hospital District Inaugural Board Meeting - March 27, 2018

It was moved and seconded that the minutes of the Nanaimo Regional Hospital District Inaugural Board meeting held March 27, 2018, be adopted.

CARRIED UNANIMOUSLY

CORRESPONDENCE

It was moved and seconded that the following correspondence be received for information:

Nanaimo & District Hospital Foundation, re Building of a new Intensive Care Unit

CARRIED UNANIMOUSLY

REPORTS

Nanaimo Regional Hospital District 2017 Consolidated Financial Statements and Audit Findings Report

It was moved and seconded that the Nanaimo Regional Hospital District 2017 Consolidated Financial Statements and Audit Findings Report be approved as presented.

CARRIED UNANIMOUSLY

NEW BUSINESS

Island Health Meeting

The Chair provided an update regarding a meeting held on April 30, 2018 with Island Health and other Hospital District Chairs and Vice Chairs.

ADJOURNMENT

It was moved and seconded that this meeting be adjourned.

CARRIED UNANIMOUSLY

TIME: 3:09 PM

_____ _____

CHAIR CORPORATE OFFICER

REGIONAL DISTRICT OF NANAIMO

STAFF REPORT

TO: Nanaimo Regional Hospital District Board **MEETING:** December 4, 2018

FROM: Tiffany Moore, Manager, Accounting Services **FILE:** 1690

SUBJECT: Nanaimo Regional Hospital District Post 2018 Election Approval of Signing Authorities for General Banking and Investments

RECOMMENDATIONS

1. That the signing authorities for general banking services and financial instruments reflect the following positions:

Chair	Ian Thorpe
Vice Chair	Robert Rogers
Chief Administrative Officer	Phyllis Carlyle
Director of Finance	Jeannie Bradburne
Manager, Accounting Services	Tiffany Moore
Manager, Capital & Financial Reporting	Manvir Manhas

2. That the foregoing authorizations extend to accounts in the name of the Nanaimo Regional Hospital District.

SUMMARY

The Nanaimo Regional Hospital District needs to update the designated signing authorities for financial instruments for the Nanaimo Regional Hospital District to reflect the newly elected Chair and Vice Chair. Ian Thorpe was elected Chair and Robert Rogers was elected Vice Chair effective November 13, 2018.

BACKGROUND

As a result of the 2018 Election, the Nananimo Regional Hospital District needs to update the designated signing authorities for financial instruments for the Nanaimo Regional Hospital District.

The signing authority changes will affect accounts currently held with:

TD Canada Trust
Municipal Finance Authority
Canaccord Genuity Corp
Coastal Community Credit Union
ScotiaBank

The designated signing authorities as outlined in this report would also apply should the Regional District open new financial instrument accounts.

The updated signing authorities are listed in the recommendation.

The practical application of the signing authorities involves issuing cheques for goods and services and investing sums with the Municipal Finance Authority and other banking institutions as allowed under the *Local Government Act*. Two signatures are required as follows:

- Cheques less than $1,000 have two signatures automatically printed through the finance software;

- Cheques over $1,000, but under $250,000 have one signature printed and are reviewed and signed manually for the second signature by the Manager, Accounting Services;

- Cheques with a value of more than $250,000 have no preprinted signatures and must be signed individually by two signing officers, typically the Director of Finance and the Manager, Accounting Services.

ALTERNATIVES

1. Approve the signing authorities as presented to be applicable to the Regional District of Nanaimo.

2. Recommend an alternative list of signing authorities.

FINANCIAL IMPLICATIONS

There are no financial implications to these measures. The number of designated authorities is sufficient to ensure that two signatures can be obtained in an efficient manner.

STRATEGIC PLAN IMPLICATIONS

Tiffany Moore
tmoore@rdn.bc.ca
November 19, 2018

Reviewed by:
- J. Bradburne, Director of Finance
- D. Wells, General Manager, Corporate Services
- P. Carlyle, Chief Administrative Officer

REGIONAL DISTRICT OF NANAIMO

STAFF REPORT

TO: Nanaimo Regional Hospital District Board **MEETING:** December 4, 2018

FROM: Jeannie Beauchamp, Director of Finance **FILE:** 1700-05

SUBJECT: Nanaimo Regional Hospital District 2019 Provisional Budget

RECOMMENDATIONS

1. That the 2019 Regional Hospital District provisional budget be approved as presented.
2. That the 2019 to 2023 five year projections be received for information.
3. That "Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Thermal Energy Plant) Borrowing Bylaw No. 165, 2018" be introduced and read three times.
4. That "Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Thermal Energy Plant) Borrowing Bylaw No. 165, 2018" be adopted.
5. That "Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Magnetic Resonance Imaging) Borrowing Bylaw No. 166, 2018" be introduced and read three times.
6. That "Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Magnetic Resonance Imaging) Borrowing Bylaw No. 166, 2018" be adopted.
7. That "Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Intensive Care Unit) Borrowing Bylaw No. 167, 2018" be introduced and read three times.
8. That "Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Intensive Care Unit) Borrowing Bylaw No. 167, 2018" be adopted.

SUMMARY

Regional Hospital Districts provide annual capital funding to health authorities in support of local health care facilities under the *Hospital District Act*. For the Nanaimo Regional Hospital District (NRHD), the funding is a combination of both annual minor capital grants for equipment and projects funded through a tax requisition as well as major capital project support, which is funded through borrowing. Hospital Districts are required to approve a provisional budget on or before December 31 each year.

The NRHD 2019 Provisional Budget (Attachment 1) raises $7,631,812 in property tax revenues for 2019 (3.0% increase over 2018) as forecast in the 2018 to 2022 Financial Plan. The budget includes $3.44 million for capital equipment and minor capital projects at facilities in the Nanaimo Regional Hospital District area; $2.9 million for debt payments in 2019 and a $1.3 million transfer to reserve for future infrastructure projects such as a patient tower at the Nanaimo Regional General Hospital (NRGH).

The 2018 to 2022 Financial Plan included approvals for the funding of and the projected borrowing for the NRGH Thermal Energy Plant project and an additional Magnetic Resonance Imaging (MRI) facility at NRGH. Since that time, final costs have been received from Island Health (Attachment 5) and formal bylaws (Attachment 2 and 3) are being presented for the NRHD borrowing requirements related to those two projects.

Additionally, funding requests (Attachment 6) have been received from Island Health for an Intensive Care Unit (ICU) Replacement Project at NRGH and for a longer term Colonoscopy Unit addition. The 2018 to 2023 NRHD Financial Plan included projected funding for the ICU and a borrowing bylaw is included as Attachment 4 for this project. However, the request for the Colonoscopy Unit is new and has now been incorporated into the 2019 to 2023 projections pending NRHD Board discussion and approval.

BACKGROUND

The *Hospital District Act* requires Regional Hospital Districts (RHDs) to pass preliminary budgets by December 31. The NRHD provides 40% funding for capital equipment and capital projects for local health facilities, and the Province, through Island Health, provides the remaining 60% of the capital funding.

The major components of the NRHD provisional budget shown in Attachment 1 are long term debt costs for past and current projects ($2,880,615), an annual allowance to support smaller operational capital equipment and projects ($3,444,055) and a transfer to reserves for future major capital projects ($1,300,000). This is a provisional budget based on the 2018 to 2022 Plan and includes known major project funding requests from Island Health. Island Health will provide their formal annual minor capital equipment/project grant information on February 26, 2019 and a revised budget will be presented.

The current outstanding debt balance for the NRHD is $27.6 million with retirement dates ranging from 2020 to 2038. Previous projects funded by this debt include the Oceanside Health Centre in Parksville and the Emergency Room, Cancer Clinic/Pharmacy renovations, Electrical Energy Plant and a prior MRI replacement at Nanaimo Regional General Hospital. Presently, major capital projects planned by Island Health per their letters and business cases (Attachments 5 and 6) included in the budget that will require borrowing are as follows:

Project	Total Project cost	NRHD Share	Timing
Electrical Energy Plant Upgrade	$11.7 million	$4.68 million ($0.78 million remaining to be borrowed on this project)	Currently underway
Thermal Energy Centre (Boiler Plant) Replacement for gas boiler per funding request	$18.4 million	$7.36 million	2018-2020
New Magnetic Resonance Imaging (MRI) per funding request	$5.55 million	$2.22 million	2018-2019

Intensive Care Unit (ICU) Redevelopment per funding request	$28.85 million	$11.54 million	2020-2021
Colonoscopy Unit Addition preliminary estimate only	$3.7 million	$1.48 million	2021-2022

Other than the Colonoscopy Unit which is shown at the initial cost estimate only and was not included in the 2018 to 2022 Financial Plan, Island Health has provided formal funding requests for the other projects with confirmed costs. The NRHD is now able to move ahead with borrowing bylaws (Attachments 2 to 4) to obtain borrowing through the Municipal Finance Authority (MFA) to fund the NRHD's 40% cost share of the projects. At this time there are no other major projects proposed by Island Health; however, their long-term plan does include a new patient tower at the Nanaimo Regional General Hospital when provincial funding becomes available. The 2019 provisional budget includes a $1.3 million transfer to a reserve fund established for significant projects such as the new patient tower.

ALTERNATIVES

1. Approve a 2019 Regional Hospital District provisional budget with a 3.0% tax requisition increase.

2. Provide alternate direction for the 2019 Nanaimo Regional Hospital District tax requisition.

FINANCIAL IMPLICATIONS

Alternative 1

2019 Provisional Budget

The 2019 to 2023 Preliminary Financial Plan included as Attachment 1 has a 3.0% increase to the 2019 requisition as forecasted in the 2018 to 2022 Financial Plan. The estimated tax cost for 2019 is $17.98 per $100,000 based on 2018 assessments plus a 1.47% allowance for growth (non-market change). The 2018 requisition was $17.71 per $100,000. The tax cost per $100,000 will be updated when 2019 assessment values are released in January.

Current projections for 2018 indicate a surplus of approximately $31,000 greater than planned largely due to better than expected interest income, the timing of the Electrical Plant Upgrade project billings from Island Health, and ongoing lower interim financing rates.

The 2019 preliminary budget includes a $1.3 million transfer to reserves for future major projects. The budget also includes a $106,000 administration allocation, which reflects the cost of staff resources to manage the financial reporting and to provide support to the NRHD Board and Committee.

The annual capital grant allowance is $3,444,055, which has been held static for several years as Island Health has been unable to obtain matching provincial funding for minor projects/equipment and a portion of the funds has been used by the NRHD for major capital projects instead. Island Health will provide details of planned projects and equipment purchases related to this annual grant in February, 2019. Staff are working with Island Health to identify

any unallocated funds from the annual capital grant allowance that may be available to apply to the major capital projects included in the budget.

2019 to 2023 Budget Forecast

The outlook for future years in Attachment 1 has been revised since the 2018 to 2022 Financial Plan was approved, based on updated information. The proposed increases to the tax requisition for 2019 to 2023 are estimated at 3% to 4% annually in order to ensure funding for Island Health capital plans will be available and to maintain reserve fund transfers. Debt servicing costs are estimated to increase from $2.9 million in 2019 to $4.8 million in 2023. These amounts include an allowance for interest rate increases and will continue to be revised as actual borrowing costs are known and information is received from Island Health on capital project plans.

Alternative 2

A Provisional budget must be approved by December 31 per *B.C. Reg 406-82 Hospital District Act Regulation*, and as such, any alternative direction would have to observe this deadline.

Jeannie Beauchamp
jbeauchamp@rdn.bc.ca
November 19, 2018

Reviewed by:
- D. Wells, General Manager, Corporate Services
- P. Carlyle, Chief Administrative Officer

Attachments
1. 2019 Nanaimo Regional Hospital District 2019 Provisional Budget
2. Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Thermal Energy Plant) Borrowing Bylaw No. 165
3. Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Magnetic Resonance Imaging) Borrowing Bylaw No. 166
4. Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Intensive Care Unit) Borrowing Bylaw No. 167
5. Island Health Letter, Thermal Energy Plant Project Business Case
6. Island Health Letter, Magnetic Resonance Imaging Project Business Case
7. Island Health Letter, Intensive Care Unit Project Business Case

ATTACHMENT 1

NANAIMO REGIONAL HOSPITAL DISTRICT
PROVISIONAL BUDGET
2019 to 2023

	2018 Approved Budget 3.0%	2018 Projected Actuals	2019 Proposed Nov 2018 3.0%	2020 Proposed Nov 2018 3.0%	2021 Proposed Nov 2018 4.0%	2022 Proposed Nov 2018 4.0%	2023 Proposed Nov 2018 4.0%
Revenues							
Property taxes	7,409,526	7,409,526	7,631,812	7,860,767	8,175,197	8,502,205	8,842,293
Grants in lieu	30,000	32,539	30,000	30,000	30,000	30,000	30,000
Interest income	100,000	125,000	125,000	125,000	125,000	125,000	125,000
Prior year surplus applied	1,025,514	1,025,514	1,009,191	895,541	760,291	559,078	349,990
	8,565,040	8,592,579	8,796,004	8,911,307	9,090,488	9,216,283	9,347,284
Expenditures							
Administration	104,200	104,200	106,300	108,426	110,595	112,806	115,063
Debt payments	2,816,463	2,816,463	2,880,615	3,249,983	3,801,027	4,387,031	4,827,442
Debt issue expense/temp financing	21,854	18,670	169,493	279,672	236,594	111,597	0
Annual capital grants	3,162,049	3,162,049	3,444,055	3,512,936	3,583,195	3,654,859	3,727,956
Annual capital grant applied to major project							
Reserve for Future Projects	1,482,006	1,482,006	1,300,000	1,000,000	800,000	600,000	350,000
	7,586,572	7,583,388	7,900,463	8,151,017	8,531,410	8,866,293	9,020,461
Surplus for future years' expenditures	978,468	1,009,191	895,541	760,291	559,078	349,990	326,823
	Revised roll Apr 2018	Revised roll Apr 2018	2018 Assessments +1.47% for non market change	1.015	1.015	1.015	1.015
Total assessments	41,836,873,156	41,836,873,156	42,451,875,191	43,088,653,319	43,734,983,119	44,391,007,866	45,056,872,984
Rate per thousand	0.177105168	0.177105168	0.179775621	0.182432404	0.186925813	0.191529897	0.196247382
Projected Tax Cost per $100,000	**$ 17.71**	**$ 17.71**	**$ 17.98**	**$ 18.24**	**$ 18.69**	**$ 19.15**	**$ 19.62**
Reserve Fund Status							
Opening Balance	5,955,815	5,955,815	7,437,821	8,737,821	9,737,821	10,537,821	11,137,821
Applied to budget							
New contribution	1,482,006	1,482,006	1,300,000	1,000,000	800,000	600,000	350,000
Balance available	7,437,821	7,437,821	8,737,821	9,737,821	10,537,821	11,137,821	11,487,821

NANAIMO REGIONAL HOSPITAL DISTRICT

BYLAW NO. 165

CAPITAL EXPENDITURE & BORROWING BYLAW

WHEREAS the Board of the Nanaimo Regional Hospital District proposes to expend money for capital expenditures described in Schedule 'A' attached hereto and forming part of this bylaw;

AND WHEREAS those capital expenditures have received the approval required under Section 23 of the *Hospital District Act*;

NOW THEREFORE the Board of the Nanaimo Regional Hospital District enacts the following as required by Section 32 and Section 34 of the *Hospital District Act*:

1. The Board hereby authorizes and approves the borrowing and expenditure of money for the Thermal Energy Plant construction at the Nanaimo Regional General Hospital.

2. The Board authorizes and approves the borrowing of a net sum not exceeding $7,355,496 (Seven Million, Three Hundred Fifty-Five Thousand, Four Hundred and Ninety-Six Dollars) upon the credit of the District by the issuance and sale of securities in a form and manner agreed to by the Municipal Finance Authority of British Columbia. The term of the securities and the repayment of the principal and interest shall be for a term not to exceed twenty (20) years.

3. To meet the payments of principal and interest during the term of the securities, there shall be included in the estimates of the Regional Hospital District each year, the respective amounts of principal and interest falling due each year.

4. The Board hereby delegates to the Director of Finance the necessary authority to settle the terms and conditions of the borrowings.

5. This bylaw may be cited for all purposes as "Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Thermal Energy Plant) Borrowing Bylaw No. 165, 2018".

Introduced and read three times this th day of , 2018.

Adopted this th day of , 2018.

CHAIRPERSON

CORPORATE OFFICER

Schedule `A' to accompany "Nanaimo Regional Hospital District (Nanaimo Regional Hospital Thermal Energy Plant) Borrowing Bylaw No. 165, 2018"

_____
Chairperson

_____
Corporate Officer

SCHEDULE 'A'

Nanaimo Regional General Hospital Thermal Energy Plant

Total project budget	$	18,388,741
Nanaimo Regional Hospital District funding	x	40%
Nanaimo Regional Hospital District share	$	7,355,496

NANAIMO REGIONAL HOSPITAL DISTRICT

BYLAW NO. 166

CAPITAL EXPENDITURE & BORROWING BYLAW

WHEREAS the Board of the Nanaimo Regional Hospital District proposes to expend money for capital expenditures described in Schedule 'A' attached hereto and forming part of this bylaw;

AND WHEREAS those capital expenditures have received the approval required under Section 23 of the *Hospital District Act*;

NOW THEREFORE the Board of the Nanaimo Regional Hospital District enacts the following as required by Section 32 and Section 34 of the *Hospital District Act*:

1. The Board hereby authorizes and approves the borrowing and expenditure of money for the Magnetic Resonance Imaging (MRI) project at the Nanaimo Regional General Hospital.

2. The Board authorizes and approves the borrowing of a net sum not exceeding $2,219,972 (Two Million, Two Hundred and Nineteen Thousand, Nine Hundred and Seventy-Two Dollars) upon the credit of the District by the issuance and sale of securities in a form and manner agreed to by the Municipal Finance Authority of British Columbia. The term of the securities and the repayment of the principal and interest shall be for a term not to exceed twenty (20) years.

3. To meet the payments of principal and interest during the term of the securities, there shall be included in the estimates of the Regional Hospital District each year, the respective amounts of principal and interest falling due each year.

4. The Board hereby delegates to the Director of Finance the necessary authority to settle the terms and conditions of the borrowings.

5. This bylaw may be cited for all purposes as "Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Magnetic Resonance Imaging) Borrowing Bylaw No. 166, 2018".

Introduced and read three times this th day of , 2018.

Adopted this th day of , 2018.

CHAIRPERSON

CORPORATE OFFICER

Schedule `A' to accompany "Nanaimo Regional Hospital District (Nanaimo Regional Hospital Magnetic Resonance Imaging) Borrowing Bylaw No. 166, 2018"

_____
Chairperson

_____
Corporate Officer

SCHEDULE 'A'

Nanaimo Regional General Hospital Magnetic Resonance Imaging Project

Total project budget	$	5,549,930
Nanaimo Regional Hospital District funding	x	40%
Nanaimo Regional Hospital District share	$	2,219,972

NANAIMO REGIONAL HOSPITAL DISTRICT

BYLAW NO. 167

CAPITAL EXPENDITURE & BORROWING BYLAW

WHEREAS the Board of the Nanaimo Regional Hospital District proposes to expend money for capital expenditures described in Schedule 'A' attached hereto and forming part of this bylaw;

AND WHEREAS those capital expenditures have received the approval required under Section 23 of the *Hospital District Act*;

NOW THEREFORE the Board of the Nanaimo Regional Hospital District enacts the following as required by Section 32 and Section 34 of the *Hospital District Act*:

1. The Board hereby authorizes and approves the borrowing and expenditure of money for the Intensive Care Unit (ICU) Replacement project at the Nanaimo Regional General Hospital.

2. The Board authorizes and approves the borrowing of a net sum not exceeding $11,539,094 (Eleven Million, Five Hundred Thirty-Nine Thousand and Ninety-Four Dollars) upon the credit of the District by the issuance and sale of securities in a form and manner agreed to by the Municipal Finance Authority of British Columbia. The term of the securities and the repayment of the principal and interest shall be for a term not to exceed twenty (20) years.

3. To meet the payments of principal and interest during the term of the securities, there shall be included in the estimates of the Regional Hospital District each year, the respective amounts of principal and interest falling due each year.

4. The Board hereby delegates to the Director of Finance the necessary authority to settle the terms and conditions of the borrowings.

5. This bylaw may be cited for all purposes as "Nanaimo Regional Hospital District (Nanaimo Regional General Hospital Intensive Care Unit) Borrowing Bylaw No. 167, 2018".

Introduced and read three times this th day of , 2018.

Adopted this th day of , 2018.

CHAIRPERSON

CORPORATE OFFICER

Schedule `A' to accompany "Nanaimo Regional Hospital District (Nanaimo Regional Hospital Intensive Care Unit) Borrowing Bylaw No. 167, 2018"

_____
Chairperson

_____
Corporate Officer

SCHEDULE 'A'

Nanaimo Regional General Hospital Intensive Care Unit Project

Total project budget	$	28,847,734
Nanaimo Regional Hospital District funding	x	40%
Nanaimo Regional Hospital District share	$	11,539,094

Nanaimo Regional General Hospital Thermal Energy Plant Project Business Case

Architectural rendering

Submitted to Ministry of Health
January 30, 2018

island health

Part A: Planning Future Service Delivery

Introduction and Background

The energy plant as well as a portion of the distribution system at Nanaimo Regional General Hospital (NRGH) have been operating since the early 1960s.

Although the system has been well maintained, and adequately meets the redundancy requirements, and has undergone many upgrades over the years, the plant is at the end of its useful life.

In October 2013, VIHA retained a consultant to complete a Energy Plant Risk Assessment Report which reported that "Continuing to operate the plant over the next few years without replacement exposes NRGH to an unacceptable level of risk, meaning unplanned hospital closure is likely to occur, and/or patient and staff lives will likely be placed at risk, and corrective action is necessary."

The Report also stated that "Repairs or replacement of plant components will not practically eliminate the unacceptable risks. A new plant is the only practical course of action."

Service Need

NRGH requires thermal energy to:

- heat the hospital buildings
- heat the domestic hot water
- provide humidification in the air
- provide steam in the kitchen
- provide steam sterilization in the Medical Device Reprocessing Department (MDRD)

As the hospital campus grows, the need for thermal energy will also grow.

Strategic Alignment

One of Island Health's key strategic mandates is to ensure patient and staff safety, and to mitigate any/all risks to healthcare.

This project will significantly reduce the risk at NRGH of boiler failure, hospital closure and patient and staff injury.

NRGH's current facility condition index (FCI) is .52.

This project will address some of the items noted in NRGH's FCI requirements list, however because the majority of the work is isolated to just the boilers (and does not include

replacement of the hot water piping distribution system as well), the reduction to the FCI is marginal (reducing from approximately 0.524 to 0.517).

Part B: Service Delivery Options Analysis

Project Objectives and Scope

Objectives

- reduce the risk of boiler failure to an acceptable level
- eliminate many other identified risks and condition issues of the existing plant
- significantly increase the overall system reliability
- moderately reduce maintenance costs
- eliminate much of the remaining asbestos in the impacted mechanical rooms
- present the opportunity to increase energy efficiency
- achieve CSA boiler redundancy requirements
- reduce the risk of steam leaks
- relocate the boiler plant from the current third floor location to a safer, ground level, location
- eliminate the risk of flooding and possible shutdown of the clinical floors below the boiler plant due to a breach of water/steam lines or tanks
- allow for the option to convert some of the system in the future from steam to more energy-efficient hot water

Scope

- new 630m^2 standalone single storey post disaster building
- multiple duel fuel (gas/oil) steam boilers
- support spaces for chief engineer's office, control room, washroom, and workshop
- connection to existing hospital steam piping/distribution system
- decomissioning of the old energy plant
- boiler redundancy
- plant configuration allows for moderate expansion of additional boilers in the future

Risks

The usual risks apply to this project:

- risk of project "scope creep"
- risk of exceeding the project budget, including risk of inflation/escalation
- risk of the project taking longer to complete than scheduled

To mitigate these risks, the established VIHA project management/approval processes and controls will be implemented:

- project scope/budget/schedule review conducted at various key project milestones (schematic design, design development, pre-tender)

- user groups consulted throughout design development
- construction contract documents based on industry-accepted templates
- regular project status reports issued to the VIHA executive and Board
- an inflation/escalation allowance has been included in the project budget

Service Delivery Options Considered, Analysis and Recommendation

Option 1: New Thermal Energy Plant/Building (with biomass capability)

- **Description:**
  - combination of a biomass steam boiler, and duel fuel gas/oil steam boilers
  - a biomass boiler is fueled by organic matter (e.g. woodchips) which is less expensive and greener (emits less carbon) than gas/oil
  - new standalone single storey post disaster building
  - support spaces for chief engineer's office, control room, washroom, and workshop
  - connection to existing hospital steam piping/distribution system
  - decomissioning of the old energy plant
  - designed to include redundancy
  - designed to allow for moderate expansion of additional boilers in the future

- **Assumptions:** Uninterrupted supply of wood chips. Gas/oil prices increase long term to justify savings from converting to wood chips.
- **Context and Rationale:** This option would signficantly reduce Island Health's carbon footprint and would contribute significantly towards Island Health's ability to meet their carbon reduction targets. There are also significant fuel cost savings in converting from steam to biomass.
- **Cost Estimate:** $23.55 million
- **Specific Issues:** The Nanaimo Regional Hospital District (NRHD) will not cost-share in the biomass cost component of the project.
- **Option Implications:** None identified

Recommended Option:

Option 2: New Thermal Energy Plant/Building (without biomass capability)

- **Description:**
  - no biomass steam boiler
  - duel fuel gas/oil steam boilers only
  - new standalone single storey post disaster building
  - support spaces for chief engineer's office, control room, washroom, and workshop
  - connection to existing hospital steam piping/distribution system
  - decomissioning of the old energy plant

- designed to include redundancy
- designed to allow for moderate expansion of additional boilers in the future

- **Assumptions:** Eventual conversion of some of the boilers from steam to hot water in order to generate more energy cost savings.
- **Context and Rationale:** More conventional option. Gas and oil is a more reliable fuel source. Less risk and fewer unknowns overall.
- **Cost Estimate:** $18.39 million
- **Specific Issues:** This option does not take advantage of the opportunity to signficantly reduce Island Health's carbon footprint and meet Island Health's carbon reduction targets.
- **Option Implications:** None identified

Part C: Procurement Options Analysis

Procurement Objectives, Options, Analysis, Recommendation and Implementation Plan

After reviewing the pros/cons of the three project delivery models, VIHA has chosen design-bid-build:

Design-Bid-Build

Pros:
- provides a complete set of construction drawings/specifications and a complete understanding of the project scope and cost prior to committing to the tender and construction phases of the project
- involves a direct contractual relationship with both the design consultants and the contractor which allows for more VIHA involvement through-out the design and construction
- creates a fair and competitive process, which results in the best value to Island Health, and is well received by the construction industry and the public
- a fast project schedule is not the priority for this project, so the slower design-bid-build process is not an issue

Cons:
- the design-bid-build model creates the potential for a more adversarial relationship between the owner and the contractor
- contractor inclined to construct as cheaply as possible in order to maximize their profit on the fixed price contract

Design-Build

Pros:

- the design and construction are done by the contractor in parallel which allows construction to begin earlier and often produces a shorter project schedule overall
- parallel design and construction allows the design consultants and the builder to work together on the design, and on the construction methods which can help mitigate the number of change orders and additional costs during construction
- the project may benefit from the contractor's expertise in methods of construction, and pricing experience

Cons:

- because of the boiler complexities of this project, VIHA involvement is important through-out the design process which the design-build option does not accommodate
- the design consultants work for the contractor, not the owner
- because there is no direct contractual relationship between the owner and the consultants, there is no obligation for the consultants to represent the owner's best interests

Construction Management

Pros:

- the construction manager (CM) works with the owner, and provides their advice/expertise on the project scope, schedule and budget through-out all phases of the project from design, to tender, to construction, to commissioning and occupancy
- the construction management model creates a less adversarial relationship between the owner and the contractor
- sub-trade work and change orders are not marked up by the CM
- any savings from the original cost estimate (i.e. guaranteed maximum price) revert back to the owner

Cons:

- the CM model excludes general contractors from the tendering process which may be perceived by the construction industry and the public as a less open and fair process, and not the best value to VIHA
- since project knowledge and expertise is already available in-house by VIHA, the cost of the advice and expertise of the CM is not required

Because this project has specific and complex mechanical requirements, there will likely be a pre-qualification phase first, following by a tendering phase with the qualified contractors which will be based solely on price.

Since the boilers are a significant portion of the total project cost, and to ensure the most appropriate boiler is chosen at the lowest price, the boilers will likely be tendered separately.

Part D: Funding Analysis and Implementation Plan

Funding Analysis

Capital Expenditure

The total capital project cost (for recommended option 2) is $18.39 million.

Capital Funding Sources **($millions)**	**17/18**	**18/19**	**19/20**	**20/21**	**Total**	
Province	0.24	2.52	5.15	3.12	11.03	60%
NRHD	0.16	1.68	3.44	2.08	7.36	40%
Total Capital Costs	**$0.40**	**$4.20**	**$8.59**	**$5.20**	**$18.39**	100%

Island Health is working with the NRHD on finalizing their 40% cost-share approval.

Operating Expenditure

The estimated net annual increase in operating expenditures (for recommended option 2) is $9,330.

Any operating expenditure increases will be absorbed within Island Health's existing operating budget.

Operating Expenditure	**Annually**
Cost increase – O&M costs on 630 s.m. building addition	$55,730
Cost increase – electrical load increase	$1,300
Cost decrease – gas savings	$47,700
Total Operating Expenditure	**$9,330**

Preliminary Implementation Schedule

Event	Approximate Date
Design Consultants Retained	July 1, 2017
Schematic Design Report Complete	September 29, 2017
Approval to Proceed (MoH and RHD)	March 31, 2018 (estimate)
Working Drawings Complete	August 31, 2018
Tender Award	October 31, 2018
Construction Start	November 30, 2018
Construction Complete	May 31, 2020
Commissioning Complete	June 30, 2020
New Thermal Energy Plant Operational	July 31, 2020
Decommission the old thermal energy plant	January 31, 2021

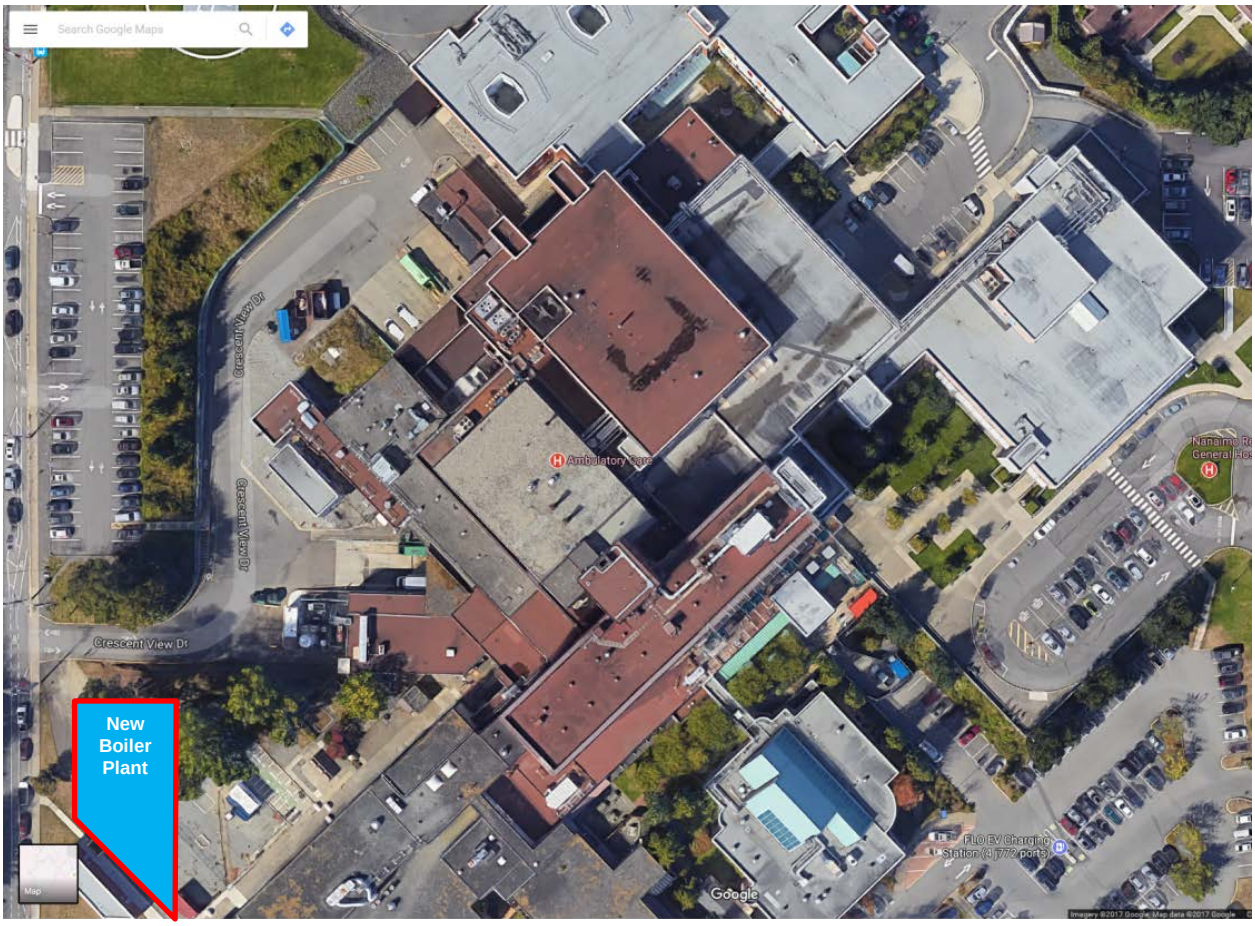
Implementation of this schedule is dependent on final approvals from the Ministry of Health and the NRHD.

Part E: Communications and Public Consultation

VIHA Communications has been, and will continue to be in contact with the City of Nanaimo throughout the project process.

The City of Nanaimo, in turn, has been arranging public consultation meetings which include the involvement of the local Hospital Area Neighbourhood Association.

Appendix A: Site Plan



Appendix B: Picture of Boilers

The NRGH boilers will be similar to these recently installed RJH boilers.

Nanaimo Regional General Hospital
MRI
Business Case

Submitted to Ministry of Health
September 26, 2017
Updated October 25, 2017
and November 3, 2017

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Part A: Planning Future Service Delivery

Introduction and Background

Currently, Island Health serves the greater Nanaimo population MRI needs through a unit located at the Nanaimo Regional General Hospital.

On February 9, 2017 the Ministry of Health announced priority investment funding for four new MRIs across the province including one in Nanaimo. By adding an incremental MRI, Island Health can increase the number of scans and make access more timely.

The demand for MRIs has increased dramatically over the past several years, and as a result the wait times for these procedures (when not urgent) have grown.

Service Need

Wait Lists

Upon implemenation of the MoH MRI strategy in 2015/16, the NRGH community was able to ramp up incremental volumes faster than any other community. This resulted in routine wait times dropping from over 600 days in April 2016 (highest in Island Health) to less than 120 by Q3. Since then, wait times have been growing and are now back up over 200 days. *See Appendix A for wait times*.

Capacity Vs. Demand

The Ministry of Health (MoH) has approved funding for an additional 65,286 MRI exams across BC with 12,803 incremental exams at Island Health, to bring the Island Health total to 41,731.

Island Health is accommodating the incremental exams by expanding capacity through extended shifts (6AM to Midnight, 7 days a week) for an estimated theoretical annual capacity of 42,109. This only provides a 378 exam or 0.9% buffer to meet a 41,731 exam target.

Demand for MRI at NRGH in 2015/16 was 9,600 scans. Existing capacity on the MRI is approximately 9,500 scans per year (assuming 6AM to Midnight operations), resulting in the Nanaimo wait lists growing by at least 100 patients per year. This indicates that there is need for additional MRI capacity in Nanaimo in the medium term.

However, it is evident from the data that demand is not static. Utilization has been steadily growing in Canada by between 2.5 to 3 MRI exams per 1,000 population for the last 10 years (and is growing much faster in other OECD nations – see Appendix B). This is compounded by a growing population on Vancouver Island. This can be absorbed for a short time period by increasing wait lists or expanding operating hours, but will eventually require a second scanner in Nanaimo.

Other Benefits

Two MRI's in Nanaimo would allow current demand to be met with day shift staffing. This would improve ability to recruit and retain staff, save on shift differential cost, and extend the life of the magnets thereby lowering total cost of ownership.

Additional MRI capacity improves patient safety by reducing exposure to ionizing radiation from CT scans. Ionizing radiation results in excess cancer risk to those exposed, and while the ionizing radiation received from a single CT scan is relatively low (roughly equivalent to one year's worth of background environmental radiation), an MRI reduces that exposure to zero.

Alternative Models for Providing Services and Preferred Approach

Island Health could increase operating hours on the existing Nanaimo MRI to 24x7, thereby increasing capacity to meet curent and medium term future demand. However, because no other Island Health sites operate 24x7, and this is a less desirable shift to work, it would be difficult to retain technologists to operate the MRI overnight.

Island Health could also outsource to a private provider, but this would increase the cost of service by an estimated 300%.

Strategic Alignment

Island Health is addressing the Ministry of Health Cross Sector Priorities through a multitude of organizational initiatives including improved access to medical imaging, patient flow action plans to improve access and reduce occupancy, workforce planning, participation in ongoing opportunities to improve academics and training, and advanced research capacity. The proposed option will facilitate improved access and patient flow through the provision of more scans, it will improve ability to train, recruit, and retain MRI technologists by offering the latest technology, and it will facilitate capacity for research that must currently be done on private MRI. Additionally, this approach supports the MoH strategic priority of timely access to quality diagnostics, and provides Island Health patients with public access to higher quality MRI.

Part B: Service Delivery Options Analysis

Project Objectives and Scope

Objectives

The objective of this project is to increase the number of scans and make access more timely in Nanaimo. The demand for MRIs has increased dramatically over the past several years, and as a result the wait times for these procedures (when not urgent) have grown.

Scope

The project scope includes a 1.5T MRI machine being installed in a 106 square meter courtyard building addition. Further the project includes renovations to provide new safety zones III and IV to ensure compliance with the requirements of Diagnostic Accredication Program (DAP) safety guideliness.

Risks

Risks related to the management, and balance, of approved scope, budget and timeline are present in all major infrastructure initiatives. When these risks are not managed, one of many consequences can emerge, including an inability to complete the approved scope within the timeline and/or budget.

Island Health will mitigate these risks by leveraging its established project management processes, which includes strong processes for ensuring appropriate governance, approval structures for advancing projects through project gates (which are related to the staged release of funding), and formal issues management and change approval processes.

Other risk mitigation will include:

- Development of detailed design and an independent quantity surveyor to confirm the construction projects cost estimates are within budget at the pre-tender stage;
- Ongoing consultation with user groups throughout the design phase; and
- Contractual documentation is based on industry-accepted templates.

Service Delivery Options Considered, Analysis and Recommendation

Option 1: Expansion Through Renovation of Existing MRI Facility

- **Description:** Expand the existing facility to accommodate an incremental MRI and Zone III ancillary areas through rennovation of the existing Xray and EDS/Echo area located south of the existing MRI facility.
- **Assumptions:** Priority funding is available from the Province with the anticipation of traditional cost sharing from the Nanaimo Regional Hospital District.
- **Context and Rationale:** Attempt to meet needs within existing footprint.
- **Cost Estimate:** N/A
- **Specific Issues:** Deemed unfeasible given structural constraints (the shear wall separating the existing MRI facility from the area to the south does not permit the necessary penetrations) as well as functional and decanting issues.
- **Option Implications:** Abandoned given structural issues.

Option 2: Expansion Through Building Addition (1.5T MRI unit)

- **Description:** Expand the existing facility by providing a building addition in courtyard 4 to accommodate an incremental MRI and Zone III ancillary areas. Further information on the project scope is included in the Project Scope Report dated July 20, 2017.
- **Assumptions:** Priority funding is available from the Province with the anticipation of traditional cost sharing from the Nanaimo Regional Hospital District.

- **Context and Rationale:** In light of structural challenges, meets basic functional requirements in most cost effective manner.
- **Cost Estimate:** $5.55 million (including $1.97 million for equipment)
- **Specific Issues:** None identified.
- **Option Implications:** None identified.

Part C: Procurement Options Analysis

Procurement Objectives, Options, Analysis, Recommendation and Implementation Plan

Procurement of the equipment will be through a Directed RFP. The building addition will be procured through a Stipulated Sum Request for Proposal tender process.

Part D: Funding Analysis and Implementation Plan

Funding Analysis

Capital Expenditure

The total capital cost of Option 2 for the building addition, purchase and installation of the 1.5T MRI is $5.55 million (including $1.97 million for equipment).

A cost share of 60% priority funding from the Ministry of Health and an anticipated 40% Nanaimo Regional Hospital District (NRHD) cost sharing is expected to cover the full cost of the Nanaimo Regional General Hospital MRI. The NRHD 2017 Budget includes a placeholder for $1.8 million for their share of the MRI based on a preliminary estimate of $4.5 million. Island Health will make a formal request for $2.22 million cost sharing to the NRHD based on the updated cost estimate of $5.55 million.

Capital Funding Sources	17/18 ($m)	18/19 ($m)	19/20 ($m)	Total ($m)
Provincial	0.60	2.09	0.64	3.33
Regional Hospital District	0.40	1.40	0.42	2.22
Total Capital Costs	**$1.00**	**$3.49**	**$1.06**	**$5.55**

Operating Expenditure

The net increase in operating expense associated with this strategy is about $150,000 per year for the maintenance service contract and about $10,500 per year for utilities. It is expected that Island Health will fund incremental operating costs associated with the MRI through future planned budget increases from the Ministry of Health.

Preliminary Implementation Schedule

Event	Approximate Date
Design Consultants Retained	February 1, 2017
Schematic Design Report Complete	July 20, 2017
Approval to Proceed (MoH and RHD)	October 31, 2017 (estimate)
Working Drawings Complete	February 28, 2018
Tender Award	April 30, 2018
Construction Start	May 31, 2018
Construction Complete	May 31, 2019
Commissioning Complete	June 30, 2019
Available for Patients	July 31, 2019

Note: This implementation schedule is indicative and influenced by when final approvals are received from the Ministry of Health and the Regional Hospital District.

Part E: Communications and Public Consultation

A communication plan or public consultation will not be required for this project.

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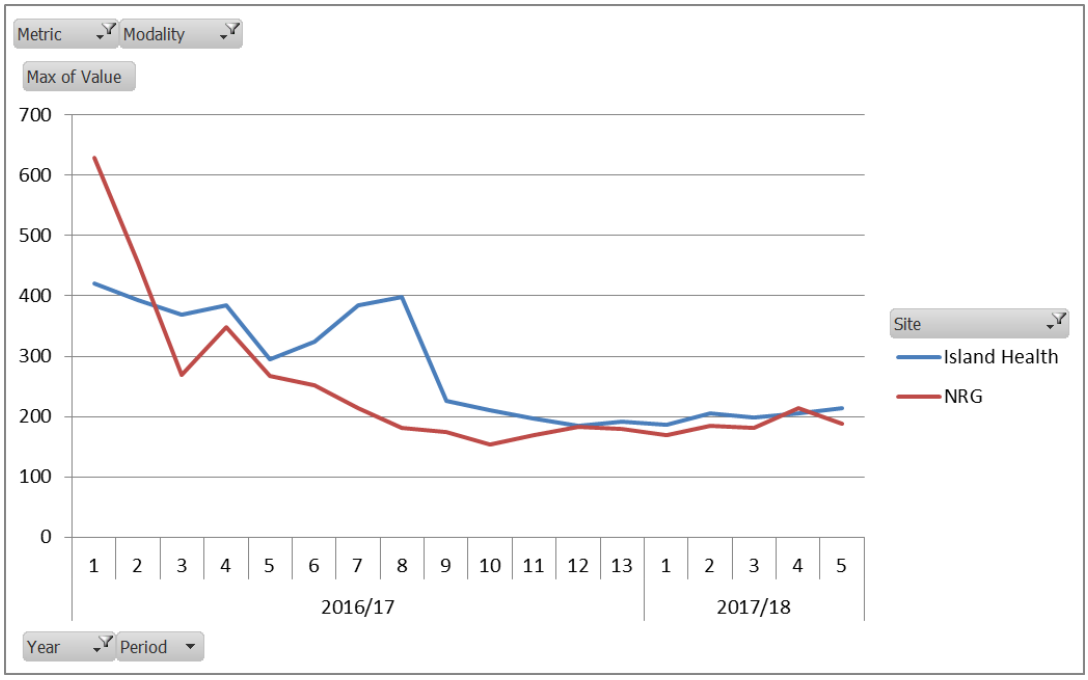
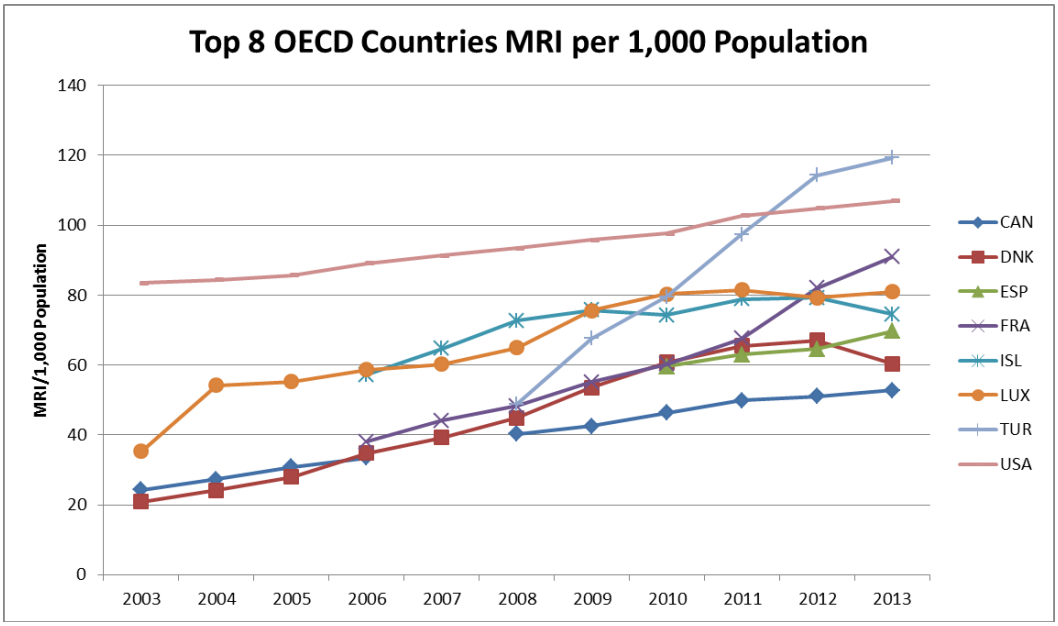
Appendix

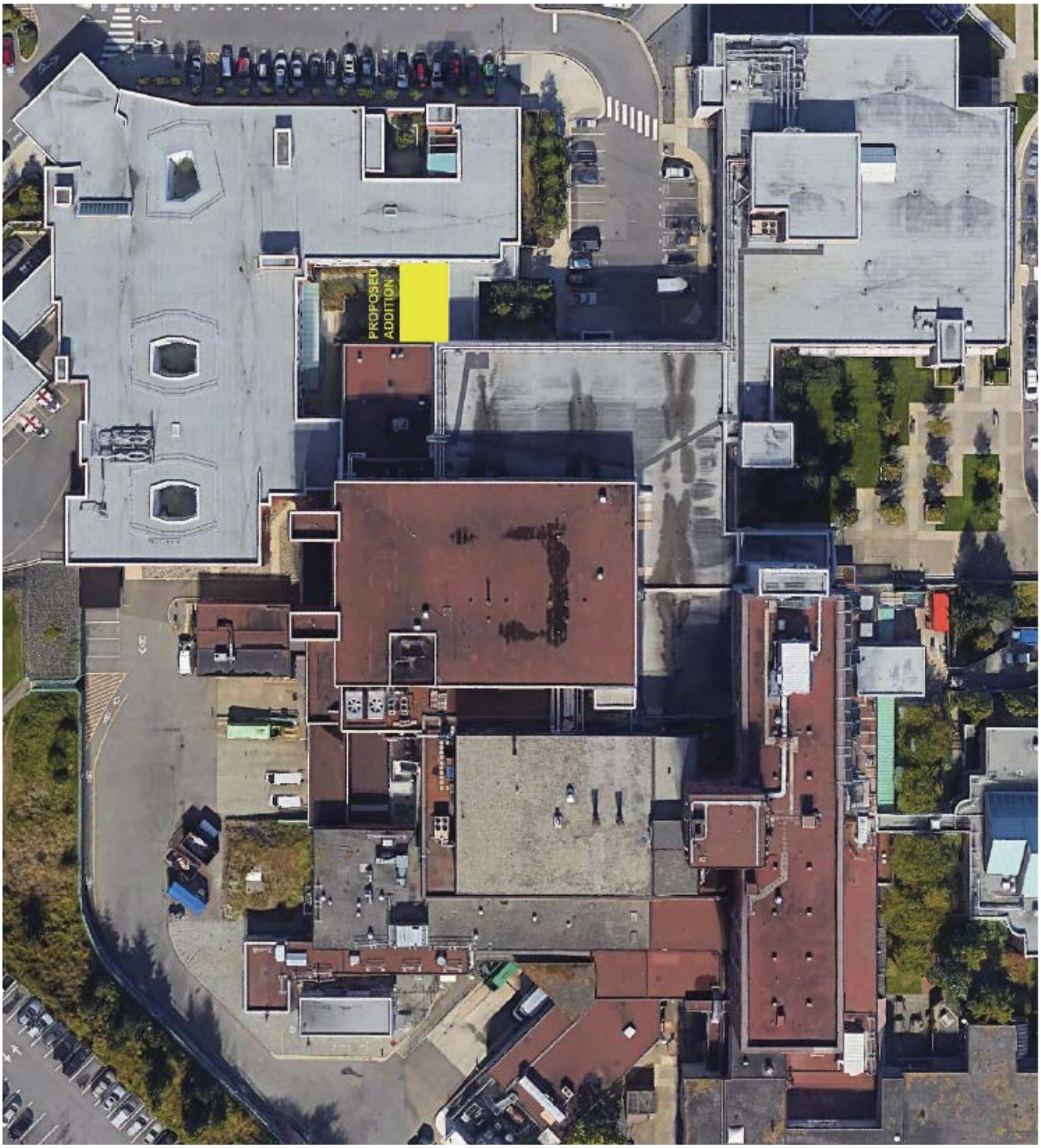
Appendix A: 90th Percentile Routine MRI Wait Times (Days)



Appendix B: MRI Demand Growth



Appendix C: Site Plan



Nanaimo Regional General Hospital
Intensive Care Unit
Replacement Project
Business Case

Submitted to the Nanaimo Regional Hospital District
November 9, 2018

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Part A: Planning Future Service Delivery

Executive Summary

This business case substantiates the need for a replacement Intensive Care Unit (ICU) at Nanaimo Regional General Hospital (NRGH) in order to address the hospital's significant critical care service deficiencies.

The business case is based around a May 2013 Critical Care Service Review prepared for Island Health which highlights the current ICU deficiences, as well as the impact those deficiencies are having on patients and staff.

Through a comparison study with other BC hospitals, the Review also substantiates NRGH's need for additional ICU beds.

Three options are assessed in this business case, including the recommended replacement option.

The following additional information has also been included on the replacement option: an estimate of the capital project costs, as well as the incremental operating costs; a site location plan and floor plan; a project schedule; and, a project scope of work.

Introduction and Background

NRGH currently has a 10-bed ICU which was built in 1970.

In May 2013, an external review of the three Island Health tertiary ICUs at NRGH, Victoria General Hospital (VGH) and Royal Jubilee Hospital (RJH) was completed to assist in quality improvement initiatives. The reviewers identified the physical plant of the NRGH ICU as being in extreme need of updating and they described it as "by far the worst ICU we have seen in Canada".

Resulting patient and staff impacts include:

- High risk of infections due to inadequate space, and the lack of separation of beds, sinks, and dirty/clean utility spaces;
- Inadequate patient family consult and quiet space;
- Safety issues due to the current limited room sizes/layouts, lack of storage space and clutter, and difficulties moving patients into and out of the ICU as well as within the unit;
- High risk and staff stress of having high acuity patients on general wards which should be in the ICU which is unable to accommodate due to capacity issues;
- Lack of ICU/High Acuity Unit (HAU) adjacency makes staff workload management difficult, and can often translate into a risky misalignment of nursing care/skill and patient need (this issue would be resolved with a future HAU build-out after the ICU project);

- Lack of natural lighting negatively impacts patient recovery as well as staff morale/ effectiveness;
- Inadequate storage and management of medications; and
- Significant distance to get to and from the Operating Rooms, Emergency Department, and Radiology.

The primary difference between an ICU bed and a HAU bed is the nursing ratio for a HAU would be lower. In the event of an overflow situation, ICU staff/equipment would be added, such as nurses and ventilators, to meet the need without impacting other clinical areas such as the Emergency Department, Post-Anasthetic Recovery Room, etc. Patients in the ICU would be the sickest, often on ventilators, while HAU patients are too high need to be in a general ward with one nurse looking after 4 to 5 patients, but not in need of the higher level of care offered in the ICU. ICU patients that are getting better but not ward ready could be transferred to the HAU.

The new ICU will be built in an existing parking lot between the Perinatal/Renal and Emergency Department buildings. The ICU building addition will be a concrete framed 2-storey building plus a basement level, shelled in space on the main floor for a future 12-bed HAU, and a 12-bed ICU on the second floor. Each floor will be approximately 1,131 gross square meters.

	Existing ICU	New ICU
# of ICU beds	10	12
ICU staffing (RNs)	8	13
Gross square meters	400*	1,131

*Estimate based on 332 component gross square meters with a 20% gross up.

The current ICU does not meet current industry standards and best practices.

The schematic design of the new ICU, prepared by Stantec Architecture, does meet current industry standards and practices.

Service Need

It is expected that the NRGH ICU demand will increase in the next 10-15 years due to an increase in population and the elderly (60% of ICU patients are greater than 60 years of age). The Regional District of Nanaimo forecasts population growth to increase at a slower rate over the next two decades, as compared to the 3 to 5% annual growth in previous decades. However, the average age of the population will continue to grow older (i.e. the median age increased from 46.6 to 49.3 between 2006 and 2011. The additional 2 ICU beds, combined with the future HAU beds will be needed to manage this future increased demand.

The following table provides a projection of ICU patients admitted to NRGH. The actual admission rate is subject to the intensivists adjusting their admission threshold based on the number of patients already admitted. That is, a patient may be admitted from a community hospital when the ICU census is low. If the ICU census is high, new ICU patients may have to

be accommodated in the less than ideal Post-Anesthetic Care Unit (PACU). To avoid this overcapacity issue, the intensivists may direct ICU patients from a community hospital to RJH or VGH. The growth in ICU patients is also based on a conservative population growth of 1% per year.

Year	Number of Admitted NRGH ICU Patients		
	In ICU	**In PACU**	**Total**
2016	2,287	162	2,449
2017	2,316	99	2,415
2018 Projection			2,494
2019 Projection			2,544
2020 Projection			2,594
2021 Projection			2,644
2023 Projection			2,744
2028 Projection			2,994
2033 Projection			3,244

Comparison With Other Hospitals in BC

The table below shows the critical care beds in other BC hospitals and the current and proposed beds in Nanaimo. The proposal calls for 8.5 critical care beds per 100 acute hospital beds for Nanaimo (including ICU and HAU beds). Based on a 2014 analysis by Island Health, this ratio is slightly higher than the beds operational in other BC hospitals and with the new North Island Hospital in Comox Valley and Campbell River.

Hospital	ICU Beds Only	Total Critical Care Beds (ICU + HAU)	Acute Hospital Beds	Critical Care Beds/100 Acute Hospital Beds
NRGH (Proposed)	12	24	284	8.5
NRGH (Current)	10	13*	284	4.5
Surrey Memorial	26	52	650	8.0
Royal Columbian	18	30	412	7.3
Abbotsford Regional	8	16	300	5.3
Kelowna General	11	19	300	6.3
Campbell River (new)	6	6	95	6.3
Comox (new)	8	8	153	5.2

*Includes 3 close observation cardiac telemetry beds located in a medical ward. These beds do not meet an ICU standard.

Comparison With ICU Beds in Canada

Canada on average has approximately 15 critical care beds per 100,000 population (*Can J Anesth/J Can Anesth (2009) 56:291–29 and Crit Care Med 2008; 36:2787–2793*). Island Health has 8 critical care beds per 100,000 population so Island Health hospitals such as Nanaimo are currently significantly under resourced for ICU beds.

An External Review of ICU capacity conducted by an experienced ICU physician and manager from Ontario concluded that Island Health *"is woefully under resourced for critical care beds".* The Reviewers made a number of recommendations including that "*the number of critical care beds should be increased at the three tertiary hospitals in VIHA*" and that "*the Health Authority, in conjunction with each of the three hospitals should establish HAUs*".

Strategic Alignment

One of Island Health's key strategic mandates is the continual quality improvement of critical care services.

As noted in the introduction, in May 2013 Island Health executive requested an external review of the three Island Health tertiary ICUs at NRGH, Victoria General Hospital and Royal Jubilee Hospital to assist in Island Health's quality improvement initiatives.

The top recommendation from the Review was a new ICU at NRGH.

Part B: Service Delivery Options Analysis

Project Objectives and Scope

Objectives

- Staff & patient safety
- Patient privacy/family confidentiality
- Care team communication
- Care process efficiency
- Learning/mentoring
- Healing space

Scope

- Concrete framed 2-storey building plus a basement level, shelled in space on the main floor for a future 12-bed HAU, and a 12-bed ICU on the second floor.
- Each floor approximately 1,031 m2.
- Key components of the ICUfunctional program:
    - 12 ICU beds which includes 1 bariatric bed and 4 isolation beds
    - Hybrid of two 4-bed patient room pods plus 4 beds along the central corridor
    - Patient toilet and bed pan washer for each bed
    - Articulating ceiling mounted service booms and gantry type overhead patient lifts
    - Medication room
    - Clean and soiled utility rooms
    - Family zone which includes waiting/lobby, two consult rooms, kitchenette and washrooms
    - Staff breakroom and washrooms
    - Patient observation alcoves
    - Care centre workspaces
    - Equipment storage
    - Intensivist/physician sleep room
    - Meeting room
    - Offices for clinical nurse leader and clinical nurse educator
- See Appendix B for floor plan of new ICU.

Risks

Risk	Likelihood	Consequence	Risk Mitigating Strategies
Policy Risk of change of government policy on capital projects	Low	High	Expedite approvals and procurement process
Design and Construction Risk of excessive pricing by bidders due to unforeseen conditions in a renovation	High	Med	Consider risk pricing in procurement analysis
Site/Property Potential for unforeseen site servicing costs	Med	Low	Communication with Municipal authority and contracted engineers
Cost, Economic Market Potential for cost escalation due to tight market for key sub trade	Med	Med	Thorough procurement analysis and consideration of construction management as a means to fix pricing for key sub trades earlier in the project
Ownership and Operations Risk of escalating operating cost	Low	Low	Operational mitigation strategies to increase efficiencies

Service Delivery Options Considered, Analysis and Recommendation

Option 1 (recommended option): New building addition

- **Description:**
  - Concrete framed 2-storey building plus a basement level, shelled in space on the main floor for a future 12-bed HAU, and a 12-bed ICU on the second floor.
  - Each floor approximately 1,031 m2.
- **Assumptions:** That funding will be requested in the future to complete the HAU shelled in space.
- **Context and Rationale:** This option would allow for the future addition of a 12-bed HAU which allows for better management of ICU/HAU staff and patients. This option also relocates the ICU closer to the ORs, ED and Radiology.
- **Cost Estimate:** $33.85 million
- **Specific Issues:** None identified.
- **Option Implications:** None identified.

Option 2: Relocate the whole ICU into all of the adjacent Telemetry/General Medicine Ward (100% of the Ward)

- **Description:**
  - 100 % of the adjacent Telemetry/General Medicine Ward renovated into an 11 bed ICU.
  - 31 Telemetry/General Medicine beds would be displaced and would need to be relocated elsewhere.
- **Assumptions:** None identified.
- **Context and Rationale:** Less expensive than a new building addition.
- **Cost Estimate:** $11.00 million
- **Specific Issues:** Space not ideally suited due to floor plate configuration and multiple columns and plumbing chases which restrict adequate bedroom size and site lines from staff to patients.
- **Option Implications:** The Telemetry/General Medicine Ward would need alternative space elsewhere.

Option 3: Expand the ICU as required into some of the adjacent Telemetry/General Medicine Ward (50% of the Ward)

- **Description:**
  - 50% of the adjacent Telemetry/General Medicine Ward renovated into an 12 bed ICU.
  - 17 Telemetry/General Medicine beds would be displaced and would need to be relocated elsewhere.
- **Assumptions:** None identified.
- **Context and Rationale:** Less expensive than a new building addition.
- **Cost Estimate:** $9.00 million
- **Specific Issues:** Space not ideally suited due to floor plate configuration and multiple columns and plumbing chases which restrict adequate bedroom size and site lines from staff to patients.
- **Option Implications:** The Telemetry/General Medicine Ward would need alternative space elsewhere.

Part C: Funding Analysis and Implementation Plan

Funding Analysis

Capital Expenditure

The total capital project cost is $33.85 million.

Capital Funding Sources ($millions)	18/19	19/20	20/21	21/22	Total
Nanaimo and District Hospital Foundation	0.00	0.00	0.00	5.00	5.00
Province	0.15	1.95	13.21	1.99	17.31
Nanaimo Regional Hospital District (NRHD)	0.10	1.30	8.81	1.33	11.54
Total Capital Costs	0.26	3.25	22.02	8.32	33.85

Operating Expenditures

The estimated net annual increase in operating expenditures is $1,191,617.

Operating Expenditures	Annually
Direct ICU Staffing Increase	$588,242
Operations and Support Services	$352,394
Pharmacy	$111,855
Lab	$108,516
Medical Imaging	$16,973
Other	$13,637
Total	**$1,191,617**

Preliminary Implementation Schedule

Event	Approximate Date
Design Consultants Retained	February 17, 2016
Schematic Design Report Complete	June 15, 2017
Approval to Proceed (MoH and RHD)	To be determined
Design Development	Four months
Construction Documents Complete	Six months
Tender Award	Two and a half months

Construction Start	Two weeks
Construction Complete	Eighteen months
Commissioning & Post-Construction Complete	Three months
New ICU Operational	

Implementation of this schedule is dependent on final approvals from the Ministry of Health and the NRHD.

Part E: Communications and Public Consultation

Communications and public consultation will be managed throughout the project, and will include input from all of the key stakeholders involved in this project: Island Health, the Ministry of Health, the NRHD, and the Nanaimo and District Hospital Foundation.

Appendix A: Site Location Plan

Appendix B: Floor Plan of New ICU