

**DATE:** July 7, 2022**FILE:** 8500-20 / CV**TO:** Chair and Directors  
Regional District Board**FROM:** Russell Dyson  
Chief Administrative OfficerSupported by Russell Dyson  
Chief Administrative Officer*R. Dyson***RE: Comox Valley Transit Facility**

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**Purpose**

The purpose of this report is to present information on the proposed development of a BC Transit operations facility for board consideration.

**Recommendation from the Chief Administrative Officer:**

THAT the Comox Valley Regional District (CVRD) Board approve in principle the concept of a new publicly owned transit operation facility in the Comox Valley, to enable BC Transit to undertake further study and analysis and report back to the CVRD Board.

**Executive Summary**

BC Transit is proposing the development of a new publicly owned transit operation facility to support the Comox Valley Regional Transit system. The current facility is privately owned and leased by the contracted transit operating company, PWTransit. Although this arrangement has worked reasonably well to date, the privately owned site does present some challenges in our ability to achieve some of the key service objectives, namely:

- Electrification of the transit fleet (installation of charging infrastructure)
- Expansion of the transit system (accommodate additional buses)
- Business continuity (facility not subject to private ownership)
- Improved operations (reducing dead heading at start and end of routes)
- Incorporating green building principles

BC Transit has prepared a preliminary report (Appendix A) and are seeking Comox Valley Regional District's (CVRD) support to proceed to the next phase of this initiative, which generally involves procuring a suitable property. Should the board support proceeding with this project, BC Transit will initiate a property search and acquisition process, and come back to CVRD once a suitable property has been identified and before the purchase is completed. This work is without cost or risk to the CVRD. This initiative has been presented to the Transit Management Advisory Committee (comprising staff from each member municipality, the CVRD, BC Transit, and the transit operator). Municipal staff will continue to be engaged as this project progresses in order to consider any synergies with municipal projects or property acquisition goals. Similarly, CVRD's planning and development services staff will work with other CVRD departments to identify any synergies and opportunities that may exist.

At this time there are no financial commitments for CVRD. Ultimately, the CVRD share of costs will be paid via the annual operating agreement as a lease fee of \$250-500,000 per year. Cost savings

are expected from electrification of the fleet (i.e. from fuel and maintenance) and reduced deadheading costs (i.e. location closer to bus routes). Providing approval in principle at this time allows BC Transit to advance the project to firm up key pieces of information, such as property location and facility design, which are necessary for accurate costing and business case analysis.

Prepared by:

***M. Zbarsky***

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Michael Zbarsky, B.Sc., ASCT  
Manager of Transit and Facilities

Concurrence:

***A. Mullaly***

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Alana Mullaly, RPP, MCIP  
General Manager of Planning and  
Development Services

### **Government and Community Interests Distribution (Upon Agenda Publication)**

Transit Management Advisory Committee	✓
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### **Background/Current Situation**

BC Transit is proposing the development of a new publicly owned (BC Transit, CVRD or municipal) transit operation facility to support the Comox Valley Regional Transit system. The current facility is privately owned and leased by the contracted transit operating company, PWTransit.

A new facility could enable the following service objectives:

- Facilitate electrification of the transit fleet (charging infrastructure)
- Enable expansion of the transit system (accommodate additional buses)
- Ensure business continuity (not subject to the financial uncertainties of private ownership)
- Reduce deadheading costs (location closer to bus routes)

BC Transit retained consultants Morrison Hershfield to review the existing facility, undertake functional planning and design of a new facility, evaluate possible locations for a new facility, and develop Class D cost estimates. CVRD staff worked closely with BC Transit and Morrison Hershfield to complete this work and BC Transit have prepared a preliminary report (Appendix A) which provides an overview of the project. BC Transit is requesting CVRD's support to proceed to the next phase of this initiative, which generally involves procuring a suitable property. Should the board support proceeding with this project, BC Transit will come back to CVRD once a suitable property has been identified and before it has been purchased. At that time, CVRD will be asked to confirm its support, to participate in pre-purchase activities and associated costs (e.g. geotechnical, environmental and archeological investigations) and to enter into formal project agreements with BC Transit. After the purchase is completed and before moving to the facility construction phase, BC Transit and CVRD will work in partnership to undertake necessary public engagement, more advanced facility designs and development of a detailed business case for consideration by the BC Transit and CVRD Boards and to be used to secure federal and provincial funding.

This transit operations facility project, as well as the recently completed transit infrastructure study, are key aspects of the transit service and are necessary to support ongoing transit expansions and improvements. These infrastructure priorities have been incorporated into the Comox Valley Transit Future Action Plan which is being presented to the board under a separate report.

**Options**

The CVRD Board has the following options:

1. Support this initiative and enable BC Transit to move to the property acquisition stage.
2. Do not support this initiative.

The proposed BC Transit owned facility is necessary to enable future expansion of the Comox Valley Regional Transit system and electrification of the local transit fleet. These are expected to result in improved sustainable transportation options in the community, reduced greenhouse gas emissions and reduced operating costs. As such, option 1 is recommended.

**Financial Factors**

At this time there are no financial commitments for CVRD.

The estimated cost for the property acquisition and facility construction is in the range of \$27-43 million with CVRD’s share at \$6-11 million based on cost sharing with senior governments. Currently there is attractive grant funding available from the federal government that reduces CVRD’s share of capital to 20 per cent. Property acquisition would be cost shared at the traditional proportions with CVRD’s share at 53 per cent. The CVRD share could be paid via the annual operating agreement as a lease fee in the range of \$250-500,000 per year beginning on completion of the facility and for the life of the asset (30 years). BC Transit and CVRD contribute funds for the current private leased facility through the contract fee with PWTransit.

The new facility would enable BC Transit to electrify the local transit fleet which in turn is expected to result in cost savings (i.e. BC Transit is not committing to fleet electrification where they do not own or have long-term care and control of land and facilities). Currently the annual budget for diesel fuel for the Comox Valley Regional Transit system is over \$650,000. Electric charging costs are expected to be considerably less. Maintenance costs for the electric buses is expected to be less than the current fleet as well.

Other cost savings, up to approximately \$100,000 per year, could come from reduced deadheading costs should the new facility location be closer to bus routes and exchange as compared to the existing facility (located near the airport).

The property purchase costs and risks will initially be borne financially by BC Transit alone and would only impact CVRD once the final facility has been constructed and is in use. This will be detailed further once a property has been identified for purchase and will be presented to the CVRD board for consideration prior to purchase completion.

A detailed business case will be prepared once a property has been acquired and the facility design is advanced in order to secure provincial and federal funding and for the board’s consideration. At that time more accurate cost estimates will be available as will cost savings opportunities such as those discussed above. Value engineering will be incorporated into the final design in order to identify cost savings opportunities as well.

**Strategic Considerations: Strategic Drivers and Regional Growth Strategy**

CVRD Board Strategic Drivers:						
Fiscal Responsibility	✓	Climate Crisis and Environmental Stewardship and Protection	✓	Community Partnerships		Indigenous Relations

The proposed transit facility will enable cost savings associated with electrification of the fleet as well as reduced deadheading. The climate crisis and environmental stewardship will also be addressed through the electrification of the fleet (estimated at approximately 1,000 tCO2e per year) and the construction of a LEED (Leadership in Energy and Environmental Design) Gold facility per provincial green building policies.

CVRD Regional Growth Strategy Goals:							
Housing		Ecosystems, Natural Areas and Parks	✓	Local economic development		Transportation	✓
Infrastructure	✓	Food Systems		Public Health & Safety		Climate Change	✓

The proposed facility will address environmental and climate change aspects of the Regional Growth Strategy as detailed above, and represents an investment in infrastructure that supports a shift towards sustainable transportation.

**Intergovernmental Factors**

The development of a new transit facility would support the regional transit system servicing all jurisdictions in the Comox Valley. Municipal staff have been engaged in this project through the Transit Management Advisory Committee as well as part of a meeting of the Chief Administrative Officers. Should the board support proceeding with this initiative, BC Transit and CVRD will reach out to municipal staff again to keep them apprised and to consider any synergies with municipal projects or property acquisition goals. Once a suitable property is identified for purchase, BC Transit and CVRD will work with the municipality which it is located in to ensure development occurs in line with municipal interests and regulations.

**Citizen/Public Relations**

Once a suitable property has been selected, appropriate public engagement will be identified and led by BC Transit.

Development of the proposed transit facility supports expansion and improvement of the public transit system. Residents of the Comox Valley have identified a strong interest in taking action on the climate crisis and providing more sustainable modes of transportation.

Attachments: Appendix A – BC Transit Facility Report



# Comox Valley Transit Facility Strategy

## Preliminary Report

*June 29, 2022*



## 1.0 Objective

The purpose of this report is to provide the Comox Valley Regional District (CVRD) Board of Directors with updated information about planning activities to support transit operations & maintenance functions and to obtain Board support on the development of a long-term Operations & Maintenance Facility Strategy that can be used to support capital planning for both BC Transit and the CVRD.

## 2.0 Background

Transit infrastructure is a critical component of the transit system as infrastructure supports transit service levels and can enhance the customer experience. When investments are made in expanded or improved transit services, corresponding investments in new transit infrastructure is often required, such as customer facilities, expanded operation and maintenance facilities, and transit priority measures.

Transit is identified as a priority transportation mode in the CVRD's Regional Growth Strategy as well as OCPs and transportation plans for CVRD and member municipalities. The Regional Growth Strategy aims to more than double the transit mode share between 2006 and 2030 and multiple of the land use objectives are intertwined with transit service.

The Transit Future Action Plan provides a long-term vision for the Comox Valley Transit System and a strategy that includes significant transit service level increases that will require an expanded transit operations and maintenance facility. In addition to growing transit service levels, BC Transit has announced the BC Transit Low Carbon Fleet Program that will seek to introduce battery electric buses (BEBs) into the Comox Valley fleet to support the Province's Clean BC Plan. A new expanded transit facility is required to support investments in transit service levels and the transition to battery electric buses.

The provincial and federal governments have increased funding toward transit infrastructure projects, which lowers the share of local government's capital costs in transit investments to 20%. This new funding has created an opportunity for BC Transit and the CVRD to invest in significant transit infrastructure projects, including new transit operations and maintenance facilities.

BC Transit and the CVRD have completed preliminary planning work for a new transit facility including the following:

- Establishment of functional requirements
- Prepared a Class D cost estimate
- Evaluation of potential locations
- Analysis of benefits

## 3.0 Fleet

The current fleet is comprised of 26 buses that includes a mix of heavy-duty (6), medium-duty (10), and light-duty (10) vehicles. The fleet serves the Comox Valley conventional and handyDART transit services.

The Transit Future Action Plan envisions significant transit service investments over the next 10 years of up to 30,000 service hours & 10 buses. The population of the Comox Valley grew by 8.9% between 2016 and 2021. This is the highest growth rate of all regional districts on the island. The fleet is forecasted to grow to 60 buses by 2045 in order to align with the transit service aspirations in the Comox Valley Transit Future Plan completed in 2014.

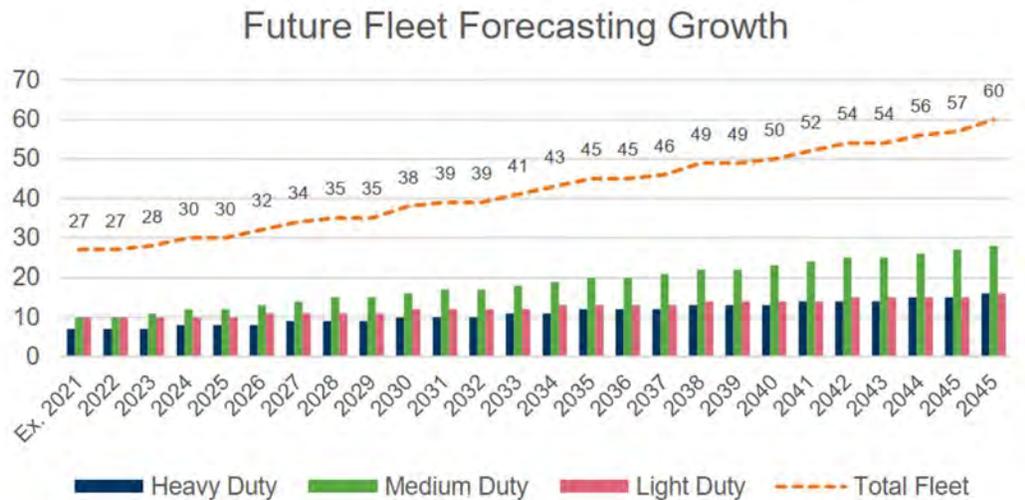


Figure 1: Comox Valley Fleet Forecast

#### 4.0 Existing Transit Facility

The existing fleet is managed at 1635 Knight Road in the Town of Comox. The parking, maintenance and operations area is currently leased by PWT in order to provide their services for operating the Comox Valley conventional and handyDART transit systems. The existing leased area can accommodate approximately eight additional transit vehicles. The leased area could potentially be expanded in the future if there was a need to accommodate more substantial growth. Any changes to the leased area would have to be negotiated with the private property owner, and would increase operating costs.



Figure 2: Existing Operations & Maintenance Facility

## 5.0 Functional Planning

To advance planning for a future transit operations & maintenance facility, a functional plan was developed by Morrison Hershfield to accommodate a 60-bus fleet of various models using the *BC Transit – Final Provincial Transit Facility Functional Design Criteria (Jan 2020)*. In addition, implementing BC Transit's *Low Carbon Fleet Program* will introduce BEBs and electric charging infrastructure at the facility, ultimately supporting a full fleet of BEB's.

An ideal future transit operations & maintenance facility includes:

- Site Area = 4.7 acres
- Heavy-Duty Bus Parking = 16 stalls
- Medium-Duty Bus Parking = 28 stalls
- Light-Duty Bus Parking = 16 stalls
- Administration/Operations = 4 maintenance bays
- BEB charging infrastructure
- Employee/Visitor Parking
- Service island & Bus wash

A future transit operations & maintenance facility would be built out over two or more phases to align facility size with bus fleet size. It is currently assumed that the first phase would provide space for 42 buses, 16 buses greater than the existing fleet of 26.

The space currently planned for is based on best practices for accommodating the fleet forecast. The space program will be refined when the project moves into the design phase. Table 1 provides a more detailed summary of the preliminary space program.

The table shows that the site area required for a 42-bus facility (suitable for the next 15 years) is 1.5 hectares (4 acres), however 2 hectares (5 acres) is needed for the forecasted 25-year growth in transit service.

The employee parking is currently assumed to be separate from bus parking, however, a portion of employee parking could use the same space that is used for bus parking to save space and construction costs.

Allowances for the eventual build-out of a 100% electric fleet have been included in the above space planning calculations. These allowances include a 15% increase in the bus parking width required for charging stations. To minimize additional building footprint, future electrical equipment required for electric bus charging will be located in the exterior yard allowing for phased introduction of future battery electric buses and charging infrastructure.

An above-ground diesel fuel tank has been included in the facility space planning to support diesel fueling ahead of the transition to BEBs. The above ground fuel tank is typically located adjacent to the fuel and service building and could be designed for future removal with minimal impact to the site, however, the standby generator requirements for future BEBs will require substantial on-site fuel and therefore the existing diesel storage tank may still be required. The fuel and service building would remain for the electric fleet and continue to provide areas for cleaning, vacuuming, fare vault drop and service.

A total of 4 maintenance bays have been included based on a ratio of 1 bay to 16 buses. The bays are assumed to be drive-in & back-out bays to optimize space requirements for a new property.

Table 1: Preliminary Space Program

Summary - Building Space	Build Out	Future Expansion
	42 Buses	60 Buses
	(sqm)	(sqm)
Administration	70	70
Operations	281	281
Drivers Area	277	284
O&M Support	141	141
O&M Shop	797	909
O&M Stores	377	377
O&M Service	756	756
<b>Sub-Total Building Space</b>	<b>2,699</b>	<b>2,818</b>
Summary Exterior Space	(sqm)	(sqm)
Site Area	911	911
Agency Vehicle Parking	3,516	4,967
Employee/Visitor Parking	2,466	3,344
<b>Sub-Total Exterior Space</b>	<b>6,893</b>	<b>9,222</b>
Sub-Total Building & Exterior Space	9,592	12,040
Site Circulation (Add 75% of Ext)	5,170	6,917
Landscape/Setbacks (Add 2% of Ext)	137.86	184.44
<b>Total Site Area Required [sqm]</b>	<b>14,900</b>	<b>19,141</b>
<b>Total Site Area Required [Ha]</b>	<b>1.49</b>	<b>1.91</b>

## 6.0 Benefits

### 6.1 Enables an Electric Fleet and Supports the Transit Future Action Plan

BC Transit intends to primarily charge future BEBs overnight at operating centres with the option of some transit systems having supplementary charging at exchanges during the day. At this time,

BC Transit is only considering constructing charging infrastructure at operating centres owned by BC Transit / the Local Government Partner and that are modern enough that they will have sufficient remaining lifespan. Constructing charging infrastructure at operating centres with a short-term lease and/or aging infrastructure (such as the existing facility on Knight Road) is not being considered at this time.

Establishing a publicly owned operating centre will facilitate the CVRD Transit System to have an electric fleet. This provides multiple benefits including:

1. **Transit Service Expansion** – A new larger transit facility supports the community’s long-term plans for expanded transit services with room to grow
2. **Greenhouse Gas Reduction** – Electrifying the CVRD fleet results in an annual greenhouse gas reduction of approximately 1.4 million kilograms (CO<sub>2(eq)</sub>) based on existing transit service levels. A new facility will also be constructed to achieve sustainability objectives including LEED certification and Step 3 of the BC Building Code.
3. **Operating Costs** – The CVRD currently pays approximately \$600,000 a year for fuel. It is anticipated that the cost of electricity to power the buses will be significantly less than this amount. At this time, BC Transit is still determining the impacts of a BEB fleet on operating and maintenance costs to Local Government Partners.
4. **User Experience** – BEBs are quieter and have less vibrations than diesel buses resulting in a more comfortable ride for passengers. The gentler atmosphere also benefits all people in the surrounding area.

## 6.2 Business Continuity – Own and Control

When making long-term investments with communities BC Transit has a preference to own or have long-term care and control of lands and facilities for business continuity purposes. Land ownership for BC Transit ensures long-term financial predictability and confidence in making strategic investments, such as the implementation of battery electric bus and avoids capitalization and write off risks.

BC Transit has worked with local governments to purchase property and build new facilities in Abbotsford, Campbell River and the Cowichan Valley. BC Transit is also in the process of planning and constructing new facilities in Victoria, Nanaimo, Kelowna, Chilliwack and Squamish.

## 7.3 Reduced Deadhead Costs

The CVRD Transit System currently experiences a reasonably significant amount of deadheading (non-service hours driving buses between the operating centre and the start/endpoints of revenue service). Depending on the new operating centre’s location, deadhead costs could be reduced by \$10,000 to \$100,000 per year. This range is based on the existing transit network and hourly operating cost. This reduction in costs is anticipated to magnify over time due to:

1. Population and transit service are growing faster on the west side of the Courtenay River. More transit service is anticipated to start/end on the west side of the river, however, the

existing operating centre is on the east side of the river (in Comox). Travel time to cross the existing bridges is also anticipated to increase as the region's population grows.

2. Hourly operating costs will increase over time due to inflationary pressures.

## 8.0 Funding and Costs

### 8.1 Federal Funding

The provincial and federal governments provide funding toward transit infrastructure projects which has created an opportunity for BC Transit and its local government partners to invest in significant transit infrastructure projects, including new transit operations and maintenance facilities. BC Transit is working with senior levels of government to identify multiple funding programs to support investments in battery electric bus and transit infrastructure.

BC Transit is working with local governments across BC to develop plans to take advantage of current federal funding programs to keep local government's share of transit infrastructure projects affordable while it is available. Key details include:

- Projects are approved on an application basis with BC Transit developing a business case and making an application to the federal government on behalf of the local government
- Cost eligible for federal funding are shared at 20% CVRD, 40% Province of BC and 40% Government of Canada under the current Investing in Canada Infrastructure Program.
- Property costs and pre-project planning activities are not cost eligible for federal funding. Ineligible costs are shared between the CVRD and BC Transit based on the Parties' current share of Conventional Transit Services (53.31% CVRD / 46.69% BC Transit).
- Applications under the current program are required at or before March 31, 2023.

It is anticipated that Canada will continue to provide capital funding for projects but details, including funding contribution levels and eligibility of project for future programs, are not yet available.

### 8.2 Preliminary Project Costs

The cost to build a 42 battery electric bus operating centre is currently estimated at \$25M to \$35M in 2022 dollars based on a Class D cost estimate prepared by Hanscomb quantity surveyors. This budget includes site preparation, interior building space, exterior facility infrastructure and BEB charging infrastructure. Note that a Class D cost estimate is a concept-level estimate for the purposes of assessing whether investigation of the scheme should move forward. Further development would be required to produce an estimate suitable for establishing a project budget. Construction costs are significantly increasing due to inflationary pressures causing the actual construction cost to be difficult to estimate.

When the project proceeds to the design phase, a value-engineering process will be completed to ensure costs are managed and the operating centre is tailored to the needs of the CVRD. Costs for properties that are at least 5 acres (large enough to accommodate the 25-year fleet forecast of 60 buses) and are feasible to obtain range considerably from \$2M to \$8M.

Table 4 illustrates how costs are shared between the CVRD, BC Transit and the Government of Canada, assuming that ICIP funding is received. Table 5 illustrates the preliminary CVRD annual lease fee estimate should CVRD prefer an annual payment for 30 years instead of paying for the CVRD share of the project upfront. Costs are shown if federal funding is received and if it were not available to illustrate the impact of the program on the CVRD's costs. With the lease fee option, payments begin once the facility is in-service.

**Table 4: Preliminary Project Costs**

	<b>Design &amp; Construction</b>	<b>Property</b>	<b>Total</b>
<i>Cost Estimate</i>	\$25M to \$35M	\$2M to \$8M	\$27M to \$43M
<i>CVRD</i>	\$5M to \$7M (20%)	\$1M to \$4M (53.31%)	\$6M to \$11M
<i>BC Transit</i>	\$10M to \$14M (40%)	\$1M to \$4M (46.69%)	\$11M to \$18M
<i>*Canada*</i>	\$10M to \$14M (40%)	N/A	\$10M to \$14M

*Notes: All dollar values are based on current prices; inflation will increase costs. Property costs are not eligible for federal funding. Assumes 40% federal funding contribution for design and construction, land assumed to be ineligible*

**Table 5: Annual CVRD Lease Fee Estimate (2022 Dollars)**

	<b>Design &amp; Construction</b>	<b>Property</b>	<b>Total</b>
<i>Federal Funding*</i>	\$200,000 to \$300,000	\$50,000 to \$200,000	\$250,000 to \$500,000*
<i>No Federal Funding</i>	\$600,000 to \$800,000	\$50,000 to \$200,000	\$650,000 to \$1,000,000

*Note: Assumes a 30-year amortization period. \*Assumes 40% federal funding contribution for design and construction, land assumed to be ineligible*

## 9.0 Next Steps

BC Transit has worked with several Local Government Partners across BC to advance transit operation and maintenance facility projects. These projects typically take 4-6 years to plan and implement. As the project advances, a more accurate schedule will be developed. Below are the steps that are typically followed to advance projects:

- Coordinated project planning with the CVRD to advance design concepts and cost estimates
- Project approvals by the CVRD and the BC Transit Board
- Prepare business case and funding application(s)
- Detailed design
- Construction

At this time, BC Transit has completed preliminary project planning to determine the scope of a new transit facility and support decision making by the CVRD and BC Transit. If the CVRD and BC

Transit wish to proceed with advancing plans for a new transit facility, they should take the following steps to develop a business case to secure Provincial and Federal funding:

1. The following activities are needed to develop more accurate scope, costs and schedule:
  - a. Develop and execute a project terms sheet/MOU
  - b. Identify, evaluate and acquire suitable land and develop a preferred transit facility option
    - Property activities including but not limited to geotechnical, environmental and archaeology investigations
    - Develop a public and indigenous engagement plan
    - The Parties will complete additional Project design work on the property acquired, provide more detailed costs, confirm the project characteristics and the eligible or ineligible project scope and costs and preliminary Project delivery schedule. BC Transit will engage Infrastructure BC on behalf of the Parties to support delivery of the Project if required.
2. These preceding steps require pre-implementation funding of approximately \$400,000 to initiate steps toward a federal funding application.
  - a. Significant funds identified will only be spent once land is secured such as design development and engagement activities.
  - b. CVRD costs would be shared at a traditional funded rate and could be rolled into the project costs and payable as a lease fee when the project is in service.
  - c. If there was not a viable project lease fees would be recovered through the Annual Operating Agreement.