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May 23, 2024

British Columbia Public Interest Advocacy Centre
Suite 803 470 Granville Street
Vancouver, B.C.
V6C 1V5

Attention: Leigha Worth, Executive Director

Dear Leigha Worth:

Re: FortisBC Inc. (FBC)

Application for a Certificate of Public Convenience and Necessity for Approval of the Fruitvale Substation Project (Application)

Response to the British Columbia Public Interest Advocacy Centre representing the British Columbia Old Age Pensioners' Organization, Active Support Against Poverty, Disability Alliance BC, Council of Senior Citizens' Organizations of BC, and the Tenant Resource and Advisory Centre, et al. (BCOAPO) Information Request (IR) No. 1

On February 29, FBC filed the Application referenced above. In accordance with the amended regulatory timetable established in British Columbia Utilities Commission Order G-100-24 for the review of the Application, FBC respectfully submits the attached response to BCOAPO IR No. 1.

For convenience and efficiency, if FBC has provided an internet address for referenced reports instead of attaching the documents to its IR responses, FBC intends for the referenced documents to form part of its IR responses and the evidentiary record in this proceeding.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC INC.

Original signed:

Sarah Walsh

Attachments

cc (email only): Commission Secretary
Registered Interveners

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1 **1.0 Reference: Exhibit B-1 pages 3 and 23**

2 **Preamble:** The Application states:

3 “The single transformer configuration of the existing FRU substation also impacts
4 reliability, which needs to be addressed as part of this Project.” (page 3)

5 And

6 “Reliability in the Fruitvale area is also impacted by the single transformer
7 configuration of the existing FRU substation and this issue needs to be addressed
8 as part of this Project.” (page 23)

9 1.1 Was the single transformer configuration acceptable from a reliability perspective
10 at the time (1960s) the FRU substation was constructed?

11 1.2 If not, why was the FRU substation initially constructed with this configuration?

12 1.3 If yes, when and why did the reliability standards for loads such as those served
13 by the FRU substation change such that a single transformer is now unacceptable?

14
15 **Response:**

16 The FRU substation was originally constructed by the West Kootenay Power and Light Company,
17 Limited (WKP) in the 1960s. FBC assumes, but has no specific knowledge, that WKP considered
18 reliability standards at the time of construction. FBC acquired WKP and its assets, including the
19 FRU substation, in 2004, and has been operating the station following good utility practices,
20 Centre for Energy Advancement through Technological Innovation (CEATI) practices, and
21 Institute of Electrical and Electronics Engineers (IEEE) standards and guidelines.

22 As explained in the response to BCUC IR1 7.4, the existing FRU site cannot accommodate a
23 replacement of the FRU substation because the site is too small to meet FBC’s current design
24 standards, which follow current utility practices, CEATI practices, and IEEE standards and
25 guidelines.

26 The need for a second transformer at the New FRU Substation is not specifically related to
27 reliability standards, but instead is required to reduce FBC’s reliance on a mobile transformer in
28 the event of a transformer outage, as described in Section 3.3.2 of the Application and in the
29 response to BCUC IR1 2.2. While FBC assumes that the one-transformer configuration was
30 acceptable for reliability when the FRU substation was built in the 1960s, customer energy needs
31 and types of loads have changed since that time such that outages are much more impactful to
32 customers, businesses and the economy.

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1 **2.0 Reference: Exhibit B-1, pages 3-4 and 23-24**

2 **Exhibit A-6, BCUC 2.1**

3 **Preamble:** The Application states:

4 “The existing FRU substation has only a single transformer (FRU T1), which
5 supplies the two distribution lines FRU1 and FRU2. In the event of an unplanned
6 FRU T1 outage (including due to a failure of the aging switchgear) during peak
7 load conditions, a portion of customers can be transferred to the neighboring
8 Beaver Park (BEP) substation, but 439 customers (39 percent of customers and
9 59 percent of load served by the FRU substation) would be without electricity,
10 including an industrial customer.” (page 3)

11 And

12 “The customers without power, identified in the figure above, would have to wait
13 until a mobile transformer is transported to Fruitvale before service could be
14 restored.” (page 4)

15 2.1 With respect to the response to BCUC 2.1 (i) and (ii), please also indicate for how
16 many of the planned and unplanned outages in each of the past 10 years was FBC
17 unable to transfer all of load to the BEP substation such that some customers were
18 without electricity.

19
20 **Response:**

21 As described in the response to BCUC IR1 2.1, excluding unplanned station outages resulting
22 from a loss of transmission supply, between 2014 and 2023 the FRU substation did not
23 experience an unplanned outage and there was one unplanned outage at the HER substation.
24 For the outage at the HER substation, the load served by the HER substation was transferred to
25 the FRU substation within 25 minutes.

26 FBC notes that BCUC IR1 2.1 (i) and (ii) did not request metrics for planned outages. However,
27 planned FRU T1 and HER T1 outages typically only proceed when all customers can remain
28 supplied, resulting in no customer outages. There have been no planned FRU T1 or HER T1
29 outages resulting in customers without electricity between 2014 and 2023.

30 As described in the response to BCUC IR1 7.1, only a portion of the FRU customers can be
31 offloaded to the BEP substation to ensure voltage and thermal limits are adhered to. Therefore,
32 over the past 10 years, FRU T1 has only ever been offloaded to the mobile transformer for
33 planned maintenance work.

34

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1 **3.0 Reference: Exhibit B-1, pages 2 & 4**

2 **Exhibit A-6, BCUC 3.1**

3 **Preamble:** The Application states:

4 “The HER substation has three single phase 66/13 kV transformers, which are
5 nominally each rated 0.500/0.625 MVA and together are referred to as the Hearn
6 T1 transformer (HER T1). The station has one distribution line, Hearn Feeder 1
7 (HER1), which supplies customers in the Park Siding area.” (page 2)

8 And

9 “In the event of a HER T1 unplanned transformer outage, HER load can currently
10 be offloaded to FRU2 as HER loading is low due to limited station capacity (1.875
11 MVA). However, to offload HER T1, field personnel must manually reconfigure the
12 system, so customers must wait until the reconfiguration is complete before
13 restoration can occur.” (page 4)

14 3.1 Can HER load continue to be served if there is an outage at one (of the three) of
15 the HER transformers? If so, please explain how that load would be served.

16
17 **Response:**

18 No, HER load cannot continue to be served if there is an outage to one (of the three) HER single-
19 phase transformers. The three single-phase transformers are combined to make a single, three-
20 phase transformer.

21

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1 **4.0 Reference: Exhibit B-1, pages 6 and 64**

2 **Preamble:** The Application states

3 "FBC conducted a desktop review and on-site assessment of the Grieve Location,
4 which concluded the risk of environmental impacts associated with the Project are
5 Low. The desktop review confirmed that there are no Protected Area or Critical
6 Habitat designations within the property boundaries. As well, the review confirmed
7 no known occurrences of Species at Risk within the property boundaries." (page
8 6)

9 And

10 "Qualified Environmental Professionals (QEPs) from both FBC and Seepanee
11 Ecological Consulting completed an on-site habitat assessment of the Grieve
12 Location during July and August 2023. The assessment included identification of
13 vegetation cover, wildlife present and possible wildlife features, bird species
14 present and other environmental features (i.e., wetlands) pertinent to the
15 substation location planning. The assessment completed by Seepanee Ecological
16 Consulting is included as Appendix E." (page 64)

17 And

18 "To ensure appropriate controls are in place to manage the environmental risks of
19 the Project, a comprehensive Environmental Management Plan (EMP) will be
20 prepared with site specific environmental mitigations." (page 64)

21 4.1 With respect to the second reference from page 64, please indicate whether any
22 allowance has been included in the current project cost to address the site specific
23 environment mitigations that may be required.
24

25 **Response:**

26 FBC confirms that an allowance has been included in the forecast Project cost to address site
27 specific environmental mitigations that may be required.

28
29
30
31 4.2 Apart from those cited in the Preamble, are there any more environmental impact
32 assessments required or planned to be undertaken with respect to the Project and,
33 if yes, has any allowance has been included in the current project cost to address
34 mitigation measures that may be required as result of the assessment?
35



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1 **Response:**

2 Apart from those cited in the preamble, there are no more environmental assessments planned
3 or required. The QEP environmental monitor will be on-site during construction and will be working
4 with the Project team to manage environmental risks throughout. These costs are included in the
5 forecast Project costs.

6

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1 **5.0 Reference: Exhibit B-1 pages 8 and 66**

2 **Preamble:** The Application states:

3 "FBC has contracted Professional Archaeologists from Nupqu Resource Limited
4 Partnership (Nupqu) to assist with archaeological support for the Project. While the
5 Grieve Location is within an area modelled as having high archaeological potential,
6 FBC performed a review of the existing heritage conditions within the property
7 utilizing the BC Archaeology Branch Remote Access to Archaeological Data
8 (RAAD) application and confirmed that there are no registered heritage sites on
9 the property. FBC and Nupqu will complete an archaeological impact assessment
10 (AIA) of the selected substation site." (page 8)

11 And

12 "FBC and Nupqu will complete an archaeological impact assessment (AIA) of the
13 selected substation site. The AIA will be conducted under a Heritage Conservation
14 Act Section 12.2 Inspection Permit and be designed to identify and evaluate any
15 archaeological resources within the selected substation site and provide
16 recommendations on the management of archaeological resources during Project
17 activities." (page 66)

18 5.1 Please indicate whether the cost of the archaeological impact assessment and an
19 allowance to address any mitigation measures that may be required as a result of
20 the assessment are included in the current Project cost estimate.

21
22 **Response:**

23 Yes, the cost of the archaeological impact assessment (AIA) and an allowance to address any
24 mitigation measures that may be required are included in the Project cost estimate (please refer
25 to pages 7 and 8, respectively, of Confidential Appendix C-1).

26

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1 **6.0 Reference: Exhibit B-1, page 7**

2 **Preamble:** The Application states:

3 “Accordingly, as part of the 2023 Annual Review which was filed on August 5,
4 2022, FBC filed its updated capital forecasts for 2023 and 2024, including an
5 updated capital forecast and description of the Fruitvale Substation Project. FBC
6 explained that the Project included rebuilding and relocating the Fruitvale
7 substation and decommissioning the Hearn's substation, because the existing
8 Fruitvale substation footprint is too small to accommodate the rebuild. There was
9 no opposition to the Project from registered interveners in the 2023 Annual Review,
10 and the BCUC subsequently approved the 2023 and 2024 forecast capital
11 expenditures on December 22, 2022, pursuant to Decision and Order G-382-22.”

12 6.1 At the time of the 2023 Annual Review, where was the planned Fruitvale substation
13 relocation site?

14
15 **Response:**

16 At the time of the Annual Review for 2023 Rates, FBC was still in the process of searching for a
17 new location, as the Mazzocchi Location was no longer an option.

18



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1 **7.0 Reference: Exhibit B-1, pages 6 & 7**

2 **Preamble:** The Application states:

3 “Following the issuance of the Annual Review for 2023 Rates Decision, FBC
4 proceeded with executing the Project, including purchasing the transformers and
5 a parcel of land.” (page 7)

6 7.1 What proportion (% or \$) of the total project cost (\$18.867 million per page 6) has
7 already been spent or committed?

8
9 **Response:**

10 Approximately 22 percent of the estimated total Project cost has been spent or committed.

11

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1 **8.0 Reference: Exhibit B-1, page 21**

2 **Preamble:** The Application states:

3 “HER T1 was manufactured in 1950 and is now 73 years old. HER T1 is comprised
4 of three single phase units, collectively forming HER T1. Based on a condition
5 assessment completed in 2023, FBC determined that HER T1 has reached the
6 end of its useful life based on the insulation condition. Statistically, given the age
7 of HER T1, the failure probability of this unit is estimated to be extremely high.”

8 8.1 Please provide a copy of the condition assessment referenced in the Preamble
9 and any additional documentation/analysis supporting the statement that
10 “Statistically, given the age of HER T1, the failure probability of this unit is
11 estimated to be extremely high.”

12
13 **Response:**

14 Please refer to Attachment 1.1b provided as part of the response to BCUC IR1 1.1.

15

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1 **9.0 Reference: Exhibit B-1, pages 20-21**

2 **Preamble:** The Application discusses the current condition of the FRU substation's
3 switchgear, breakers, 63 kV transmission switches and wood structures
4 along with its use of high voltage fuses.

5 9.1 What is the condition of the transformer at the FRU substation? As part of the
6 response, please provide the most recent asset condition assessment undertaken
7 with respect to the transformer.
8

9 **Response:**

10 Please refer to Attachment 1.1a provided as part of the response to BCUC IR1 1.1.

11

12

13

14 9.2 Setting aside the reliability issue, is it feasible to replace/refurbish those assets in
15 poor condition at the FRU station and continue to operate within the existing site?
16 If not, why not?
17

18 **Response:**

19 No, the approach suggested in this IR is not feasible. Please refer to the response to BCUC IR1
20 7.4.

21

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1 **10.0 Reference: Exhibit B-1, pages 22, 26 and 29**

2 **Preamble:** The Application states:

3 “Reliability in the Fruitvale area is also impacted by the single transformer
4 configuration of the existing FRU substation and this issue needs to be addressed
5 as part of this Project. The existing FRU substation has only a single transformer
6 (FRU T1), which supplies the two distribution lines FRU1 and FRU2. In the event
7 of an unplanned FRU T1 outage (including due to a failure of the aging switchgear)
8 during peak load conditions, a portion of customers can be transferred to the
9 neighboring Beaver Park (BEP) substation, but 439 customers (39 percent of
10 customers and 59 percent of load served by the FRU substation) would be without
11 electricity, including an industrial customer.” (page 22)

12 And

13 “As described in Section 3.3.2, an outage to the single transformer at the FRU
14 substation would greatly impact reliability to the Fruitvale area. A two-transformer
15 configuration at the existing FRU site would allow all station load to be carried by
16 the remaining transformer in the event of an outage to one of the transformers.”
17 (page 29)

18 10.1 Would it be correct to say that the current transmission reliability provided to the
19 Fruitvale area is (N-0) (i.e., that is a single outage on the transmission system can
20 lead to customers not being supplied) and that one of the objectives of the Project
21 (per page 26, Table 4-1) is to improve the transmission reliability provided to the
22 Fruitvale area to (N-1) (i.e., that is customers will continue to be supplied even after
23 a single outage on the transmission system)?

24
25 **Response:**

26 The N-1/N-0 reliability standard only applies to the transmission system and does not apply to
27 distribution substations. The Project does not seek to address reliability of the transmission
28 system.

29 However, as described in Section 3.3.2 of the Application, one of the objectives of the Project is
30 to address reliability at the distribution level, specifically related to the single-transformer outage
31 configuration of the existing FRU substation.

32
33
34
35 10.2 On what parts of its system does FBC target/require (N-1) as opposed to (N-0)
36 reliability and do all of those system parts operate at that (N-1) target/requirement?

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- 1
- 2 **Response:**
- 3 As noted in the response to BCOAPO IR1 10.1, the N-1/N-0 reliability standard is specific only to
- 4 the transmission system and does not apply to distribution substations.
- 5

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1 **11.0 Reference: Exhibit B-1, page 27**

2 **Preamble:** With respect to Alternative 2, the Application states:

3 “Further, even if replacing the FRU substation with only one transformer were an
4 acceptable option, undertaking the required upgrades and replacements to
5 address the equipment condition issues is not possible at the existing FRU
6 substation site. The existing site is too small to accommodate a one-transformer
7 substation that meets FBC’s current design standards.”

8 11.1 Given that the FRU substation did “fit the site” when originally constructed, what
9 has changed with respect to FBC’s design standards that the existing site is now
10 too small to accommodate a one-transformer substation that meets FBC’s current
11 design standards?

12
13 **Response:**

14 Please refer to the response to BCUC IR1 7.4.

15

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1 **12.0 Reference: Exhibit B-1, page 29**

2 **Preamble:** The Application states:

3 “Regarding the siting of the new two-transformer substation, FBC first considered
4 utilizing the existing FRU substation land at 80 Mill Road in Fruitvale, as this site
5 is close to the load centre. However, as explained in Alternative 2, the current
6 footprint is too small to accommodate a station design meeting current FBC
7 standards; therefore, an expansion of the existing site would be required. However,
8 even if the adjacent neighbouring parcel was acquired, the property would still not
9 meet the minimum station footprint requirement.”

10 12.1 Why wasn't an alternative considered where more than just the “adjacent
11 neighbouring parcel” would be acquired to ensure that the site would be large
12 enough to meet the minimum station footprint requirement?

13
14 **Response:**

15 As described above, expanding into the adjacent property would not provide sufficient space for
16 the new substation. Further, even if FBC were to acquire more than just the adjacent neighbouring
17 parcel so that the station footprint was adequate, the constructability challenge of needing to
18 demolish the old substation to construct the new substation and continuing electricity supply to
19 customers served by the existing FRU substation remains. While a mobile transformer could be
20 used to supply these customers during construction, given the land constraints, FBC would still
21 be unable to site the mobile transformer at the property during construction, and a temporary
22 location would need to be found that might also require distribution and transmission line
23 upgrades.

24

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1 **13.0 Reference: Exhibit B-1, pages 42, 43, 71 & 77-81 and Appendix B**

2 **D Exhibits – Letters of Comment**

3 **Preamble:** The Application states:

4 “As noted above, the Grieve Location is 9.61 acres. The size of the property has
5 enabled FBC to consider various sites for the substation and, as described in more
6 detail in Section 8, FBC has undertaken extensive consultation with the adjacent
7 landowners to obtain feedback on the impacts of building the New FRU Substation
8 on various sites on the property.” (page 42)

9 And

10 “Given the size of the property, the substation can be sited to mitigate
11 constructability challenges and impact to the surrounding residents.” (page 42)

12 And

13 “Subsequent to the BCUC’s Order to file a CPCN application, and in consideration
14 of stakeholder feedback and constructability impacts, FBC proceeded with
15 completing Class 4 estimates for two siting options. Please refer to Confidential
16 Appendix C for the engineering assessments. For ease of reference, FBC refers
17 to these options as the “Highway 3B” option and the “Old Salmo Road” option
18 based on their relative proximity and access to those roads”. (page 43)

19 13.1 Please indicate which of the interests identified in Table 8.2 (page 71) and Table
20 8.3 (page 77-81) where considered in the assessment set out in Appendix B.

21 **Response:**

22 Please refer to the following revised Table 8-2 which indicates how each stakeholder interest was
23 considered in the Land Evaluation Matrix (if applicable) provided as Appendix B to the Application.
24

25 **Revised Table 8-2: Stakeholder Feedback Gathered Through Consultation – Period 1**

Interest	Description of Interest in Appendix B
EMF	Environmental, Archaeological, and Hazards
Parking	Community & Stakeholder Relations
Proximity to Community Infrastructure	Community & Stakeholder Relations
Visual/Station Aesthetics	Community & Stakeholder Relations
Property Values	Not considered in Land Evaluation Matrix
Noise	Community & Stakeholder Relations
Location	18 locations were evaluated in total
Zoning	Landownership & Use

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Interest	Description of Interest in Appendix B
Safety	Safety is considered under all criteria as it relates to each specific criterion

Please refer to the following revised Table 8-3 which indicates how each stakeholder interest was considered in the Land Evaluation Matrix (if applicable) provided as Appendix B to the Application.

Revised Table 8-3: Interests Learned Through Public Consultation on Grieve Location and FBC's Response

Interest	Description of Interest in Appendix B
Location	18 locations were evaluated
Zoning	Landownership & Use
Site Selection	Appendix B in its entirety was used for site selection
Visual	Community & Stakeholder Relations
Wildlife	Environmental, Archaeological, and Hazards
Agricultural land	Landownership & Use
Trees	Environmental, Archaeological, and Hazards
Noise	Community & Stakeholder Relations
EMF	Environmental, Archaeological, and Hazards
Lighting	Community & Stakeholder Relations
Property values	Not considered in Land Evaluation Matrix
Project need	Not considered in Land Evaluation Matrix
Backyard access	Not considered in Land Evaluation Matrix
Sun exposure	Not considered in Land Evaluation Matrix
Existing house	Landownership & Use
Surface water	Environmental, Archaeological, and Hazards
Groundwater contamination	Not considered in Land Evaluation Matrix
Weed mitigation	Not considered in Land Evaluation Matrix
Unfair purchase process	Not considered in Land Evaluation Matrix
Use of remaining land	Not considered in Land Evaluation Matrix
Transparency	FBC shared the Land Evaluation Matrix at the June 2023 public meeting and described each of the criterion
Collaboration and consultation	Several locations (11 of 18) were brought forth by the public and considered using the Land Evaluation Matrix in Appendix B

13.2 With respect to the various interests identified in Table 8.2 (page 71) and Table 8.3 (page 77-81) please identify those where the outcome/impact differs

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1 depending upon whether the Highway 3B option or the Old Salmo Road option for
2 the site is selected.

3 13.2.1 For each of the interests so identified, please provide an assessment as
4 to which of the two siting options best addresses the concerns outlined
5 in the Tables 8.2 and 8.3, specifying how FBC arrived at that assessment.
6

7 **Response:**

8 Please refer to the following revised Tables 8-2 and 8-3 with the requested information.

9 **Revised Table 8-2: Stakeholder Feedback Gathered Through Consultation – Period 1**

Interest	Description of Interest	Differs by Option	Explanation of Assessment
EMF	<ul style="list-style-type: none"> There was concern over EMF levels due to the Project. There was concern regarding EMF exposure to children using the park. 	No	
Parking	<ul style="list-style-type: none"> The Project should avoid impacting any community parking locations. 	No	
Proximity to Community Infrastructure	<ul style="list-style-type: none"> The Project should avoid being built next to community infrastructure. 	No	
Visual/Station Aesthetics	<ul style="list-style-type: none"> Stakeholders find the Project visually unappealing and it is within their sightline. Trees should be planted to help conceal the substation. Additional overhead powerlines will be visible to area residents (the 60 kV line). 	Yes	The Highway 3B Option best addresses these concerns. Please refer to the responses to BCUC IR1 14.1 and 14.3.
Property Values	<ul style="list-style-type: none"> There was concern that the Project could decrease property values. 	No	
Noise	<ul style="list-style-type: none"> There was concern over increased noise from the transformers once the Project becomes operational. 	Yes	The Highway 3B Option best addresses this concern. Keeping more of the forested area intact mitigates some noise issues raised by the adjacent property owners.
Location	<ul style="list-style-type: none"> There was concern that FBC is looking for the cheapest location as opposed to one that balances interests. 	No	
Zoning	<ul style="list-style-type: none"> There were questions on how the Project aligns with zoning bylaws and the Official Community Plan. 	No	
Safety	<ul style="list-style-type: none"> There was concern over how pedestrian safety and sidewalks will be impacted during construction of the Project. 	No	

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1
2 **Revised Table 8-3: Interests Learned Through Public Consultation on Grieve Location and FBC's**
3 **Response**

Interest	Description of Interest	Differs by Option	Explanation of Assessment
Location	<ul style="list-style-type: none"> Concern there are other viable locations for this infrastructure. Concern that the Project should be further out of town in a less residential area. Concern that 2064 Grieve Road is historically significant to some residents. 	No	
Zoning	<ul style="list-style-type: none"> Concern whether this property is zoned for utilities. Concern over whether the OCP supports utility use at this location. 	No	
Site Selection	<ul style="list-style-type: none"> Concern over impacts to residents based on their proximity to the specific site location. 	Yes	The Highway 3B Option best addresses this concern. Please refer to the responses to BCUC IR1 14.1 and 14.3.
Visual	<ul style="list-style-type: none"> Concern that the Project will be visually unappealing and that vegetation should be used to screen the Project. 	Yes	The Highway 3B Option best addresses this concern. Please refer to the responses to BCUC IR1 14.1 and 14.3.
Wildlife	<ul style="list-style-type: none"> Concern over the removal of wildlife habitat/safe zone and corridors. 	Yes	The Highway 3B Option best addresses this concern. More of the treed area will remain intact.
Agricultural land	<ul style="list-style-type: none"> Concern over the change in land use and whether the land should be in the agricultural land reserve (ALR). 	No	
Trees	<ul style="list-style-type: none"> Concern that the trees should be protected for habitat. 	Yes	The Highway 3B Option best addresses this concern. Please refer to the responses to BCUC IR1 14.1 and 14.3.
Noise	<ul style="list-style-type: none"> Concern over noise during construction and in operation. 	Yes	The Highway 3B Option best addresses this concern. Keeping more of the forested area intact mitigates some noise issues brought up by the adjacent property owners.
EMF	<ul style="list-style-type: none"> Concern over EMF due to the Project. 	No	
Lighting	<ul style="list-style-type: none"> Concern over substation lighting impacts. 	No	
Property values	<ul style="list-style-type: none"> Concern about whether the Project will decrease property values. 	No	

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Interest	Description of Interest	Differs by Option	Explanation of Assessment
Project need	<ul style="list-style-type: none"> Concern whether a two-transformer substation is needed and whether existing infrastructure is still usable. 	No	
Backyard access	<ul style="list-style-type: none"> Can the Project improve backyard access. 	No	
Sun exposure	<ul style="list-style-type: none"> Can the Project improve my yard's sun exposure which is important to me. 	No	
Existing house	<ul style="list-style-type: none"> Concerns that the Project will result in the existing buildings being demolished. 	Yes	The Old Salmo Road Option best addresses this concern. The existing house would not be impacted by construction.
Surface water	<ul style="list-style-type: none"> Concerns that surface water flow patterns will change and should be managed. 	Yes	The Highway 3B Option best addresses this concern. Fewer trees cut down means less change to flow patterns.
Groundwater contamination	<ul style="list-style-type: none"> Concern over FBC's transformer spill containment processes. 	No	
Weed mitigation	<ul style="list-style-type: none"> Concerns over the use of pesticides and herbicides around the infrastructure. 	No	
Unfair purchase process	<ul style="list-style-type: none"> Concern that FBC outbid another potential buyer. 	No	
Use of remaining land	<ul style="list-style-type: none"> Concerns about property being subdivided, which may reduce privacy. Concern that the development and sale of unused land will bring unwanted traffic to the area. 	No	
Transparency	<ul style="list-style-type: none"> Concern over transparency during this process and that the Environmental Assessment report and the Archaeological report to residents should be made public. 	No	
Collaboration and consultation	<ul style="list-style-type: none"> Concern over collaboration with the Beaver Valley community, and whether FBC sufficiently consulted with the community before buying the Grieve Location. 	No	

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- 13.3 Do the interests/concerns identified in Tables 8.2 and 8.3 cover all of the concerns raised in the consultation with adjacent landowners (per page 42) and the various Letters of Comment (as of 2 May 2024 Exhibits D-1 through D-25) and how?
- 13.3.1 If not, for those issues not addressed in Tables 8.2 and 8.3 (and the responses to the preceding questions), please provide a detailed

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1 assessment and discussion as to which of the two siting options would
2 best address the concern raised.

3
4 **Response:**

5 Tables 8-2 and 8-3 address the majority of the issues raised in consultation with adjacent
6 landowners and the Letters of Comment filed to date.

7 FBC identified the following additional issues raised in the Letters of Comment that were not
8 identified in either table. FBC would characterize three of the issues as “new”, while the other
9 issues in the table below have been raised during consultation but were not specifically set out in
10 Tables 8-2 and 8-3 of the Application.

11 With regard to the new issues related to Visual and Transparency described in the table below,
12 FBC confirms that there would be no difference in the extent to which the Highway 3B Option and
13 Old Salmo Road Option would address the concerns.

Interest	Description of Interest	FBC's Response
Visual	<ul style="list-style-type: none"> • (New) The transmission lines for the Project should be underground. 	FBC does not have any underground transmission lines in its system and is not considering undergrounding the transmission lines for the Project. Any additional cost of undergrounding transmission cables would increase the cost of the Project which would be borne by all FBC ratepayers.
Transparency	<ul style="list-style-type: none"> • (New) The station size has not been communicated well. 	In Section 4.3.2.1 of the Application, FBC explains that the standard station footprint size for a typical substation supplied by a 63 kV radial feed with either a single or two-transformer configuration is 4,736 m ² (or 61.5 m by 77 m). FBC also provided a station mock-up of the Highway 3B Option in the February 23, 2024 correspondence to stakeholders.
	<ul style="list-style-type: none"> • (New) FBC did not adequately inform us about the CPCN process, how/when to file, or how/when to file a complaint before the CPCN. 	FBC has been communicating information about how to get involved in a proceeding through individual email and in-person conversations, as well as correspondence to stakeholders sent February 23, 2024 (see Section 8.1.6 of the Application) and July 13, 2023 (see Appendix F-12).
Rate Impacts	<ul style="list-style-type: none"> • Increase in electricity rates due to new substation. 	In Section 6.5 of the Application, FBC provides the rate impact associated with the Project. Further, as described in Section 3 of the Application, the Project is needed to maintain safe and reliable supply of electricity to customers in Fruitvale and the surrounding area.

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Interest	Description of Interest	FBC's Response
Property Values	<ul style="list-style-type: none"> An estimated 15% loss in value to adjacent home owners. 	The estimated 15% loss in value to adjacent home owners is speculative. FBC is not aware of any credible evidence of material impacts on property values due to its substations. The property zoning allows for utility use and the property is in close proximity to Highway 3B, a railway, and a sawmill. In FBC's view, if the substation were to have an impact on property values, it is likely to be minor and short term, and would vary depending on the individual properties, as well as subjective opinions of buyers in the market. Given the need for the Project, FBC considers that the potential for impacts on property values should be afforded little weight in determining whether the Project is in the public interest.
	<ul style="list-style-type: none"> Decline in Area A Tax Base as a result of the loss in value to 40 permanent homes. 	A decrease in the tax base will not result in loss of revenue to the Regional District. The Tax Base (Assessment Value) does not determine how much tax is to be collected by the taxing authority, but is instead used to determine what tax rate will be required to meet the revenue requirement. The Assessment Value is then used to distribute the taxes to individual properties (i.e., the greater the value of the property, the higher the taxes to be paid).
Environmental	<ul style="list-style-type: none"> Impacts of pesticides / herbicides used for weed control leaching into Beaver Creek. 	FortisBC holds the <i>Facilities and Rights-of-Way Pest Management Plan 2020-2025</i> 799-0016-20/25 (PMP) authorized by the Ministry of Environment for a five-year term. ^{1,2} Section 5 of the PMP speaks to environmental controls with respect to treatment near water. All pre- and post-construction activities involving pesticides / herbicides are required to follow the terms of the PMP.
	<ul style="list-style-type: none"> Ground contamination from oil leaking from transformers. 	Oil contamination spill control and containment plans for all pre- and post- construction activities are required from all contractors operating oil-containing equipment. As part of the spill control and containment plan, all stationary oil filled equipment within the construction site requires secondary containment.

¹ <https://www.fortisbc.com/about-us/climate-leadership/environmental-protection>.

² https://www.cdn.fortisbc.com/libraries/docs/default-source/about-us-documents/fortisbc-pmp-20-25-799-0016-20-25.pdf?sfvrsn=903c3875_2.

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Interest	Description of Interest	FBC's Response
	<ul style="list-style-type: none"> Grieve Location is an old growth forest. 	<p>Any tree removal will be conducted in accordance with Ministry of Forest harvest practices. Table 8-3 of the Application describes the preservation of existing trees when developing the substation footprint and setbacks.</p> <p>Timberland Consultants (2001) attended the site to conduct an Old Growth Assessment. A summary of their findings is as follows:</p> <p>The property has a contiguous stand of mature timber approximately 2ha in size, bordered by roads on three sides and a field on the fourth side. The stand consists of Western Redcedar, Douglas Fir, Black Cottonwood, Western Larch, and small amounts of Lodgepole Pine, Engelmann Spruce, Ponderosa Pine, and Western Hemlock. The site has seen previous tree harvesting and ongoing slash cleanup. The stand is very "clean", exhibiting very few dead stems and very little coarse woody debris. Tree ages were found to range from roughly 80-140 years across all species.</p> <p>The site is within the ICHxw Biogeoclimatic Ecosystem Classification Zone which has a threshold age of 250 years to reach an Old Growth designation. Given the age of the trees and the lack of old growth structure, this stand does not meet the criteria for Old Growth and is not deemed to be an Old Growth stand.</p>
	<ul style="list-style-type: none"> Grieve Location is a wildlife corridor. 	<p>The subject property, designated Rural Residential 1 as shown in RDKB Schedule 1, is located in Fruitvale, BC in the West Kootenay Region of the Province. Typical of the West Kootenay Region, the Fruitvale area is abundant with wildlife, including ungulates, birds, and small mammal species. While wildlife is common in the area, there are no special designations related to species or habitat conservation on the subject property.^{3,4}</p>

³ Grieve Location sits within the Rural Residential 1 land use designation (shown in yellow): <https://rdkb.com/Portals/0/Administration/Documents/Bylaws/Bylaw1410-AreaASched1Landuse.pdf?ver=2020-10-16-160334-507>.

⁴ Grieve Location sits outside of the Seasonal Migration Routes for both Spring and Fall as shown on the RDKB OCP Beaver Valley and PDO Terrestrial Resources Schedule 4: <https://rdkb.com/Portals/0/Administration/Documents/Bylaws/Bylaw1410-AreaASched4Terrestrial.pdf?ver=2020-10-16-160429-557>.

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Interest	Description of Interest	FBC's Response
Zoning	<ul style="list-style-type: none"> Zoning Bylaw 1460 and Official Community Plan Bylaw 1410 Discrepancies mean Grieve Location is not zoned for utilities. 	<p>Consistent with the email in Attachment B of Exhibit D-23, FBC has confirmed with RDKB staff that section 302.1.e) of the Electoral Area 'A' Zoning Bylaw permits utility uses in all zones of Electoral Area 'A'. Specifically, section 302.1.e) of the bylaw states that, except as otherwise stated in the bylaw, a number of uses are permitted in all zones, including "utility uses and structures and their accessory buildings, excluding offices, maintenance garages and storage".</p> <p>Further, FEI has confirmed with RDKB staff that section 402 does not exclude utility uses in Rural Residential 1 Zone where it states that "only" the listed principal and secondary uses are permitted. Such an interpretation would not be reasonable as almost all of the listed uses under section 302.1 are not specifically listed in any zone. Therefore, if only specifically listed uses were allowed in each zone, the uses meant to be allowed in all zones per section 302.1 would not be allowed in any zone. This narrow interpretation would be inconsistent with the Electoral Area A OCP, which provides clear direction to allow such uses under all land use designations. Specifically, section 16.0 of Electoral Area A OCP states:</p> <p>POLICIES</p> <p>A policy of the Board with respect to all land use designations are as follows:</p> <p>16.0 Uses permitted in all land use designations shall include: utility uses and transmission facilities (excluding office, maintenance garages and storage areas) which are essential for the provision of water, sewer, electricity, telephone and similar services to the Plan Area; churches; parks; cemeteries; libraries; museums; community halls; fire halls, police and ambulance stations; schools; and similar facilities.</p> <p>The fact that section 415 of the bylaw lists "Utility uses" as a permitted use in the Industrial 2 Zone means that such utility uses in the Industrial 2 Zone would be able to have offices, garages and storage associated with them, unlike other zones that are limited to the permission under section 302.1.(e), which excludes offices, maintenance garages and storage.</p>
Project Need	<ul style="list-style-type: none"> Outage statistics do not support claim that transformer is going to fail. 	<p>Please refer to the responses to BCUC IR1 2.1 and 2.2 which describes that the reliability this Project seeks to address is related to the single transformer configurations at the existing FRU and HER substations, where a transformer outage results in a complete station outage. Even though unplanned transformer outages are rare, the impact to customers can be significant, depending on the available backup supply.</p>
Location	<ul style="list-style-type: none"> Z Ranch is a more appropriate site for the substation. Z Ranch is not completely within a flood plain. 	<p>Highway 3B Property B (#8), also known as Z Ranch, was evaluated in the Application in Section 4.4.2 and Appendix B. Further details regarding why FBC determined that this location is not suitable for the Project is provided in the response to BCUC IR1 5.8.</p>

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1
2 13.4 Section 8.1.6 is titled: “The Highway 3B Option Preserves the Majority of
3 Stakeholder Interests”. In FBC’s overall assessment which of the two site options
4 best addresses the concerns raised by adjacent landowners and why?

5
6 **Response:**

7 In FBC’s overall assessment, the Highway 3B Option best addresses concerns raised by adjacent
8 landowners, such as noise, visual impacts, wildlife impacts, and tree removal.

9 Please refer to the responses to BCUC IR1 6.5 and 14.1, and BCOAPO IR1 13.2 for additional
10 information.

11

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1 **14.0 Reference: Exhibit B-1, pages 7 and 57-58**

2 **Preamble:** The Application:

3 “Following the issuance of the Annual Review for 2023 Rates Decision, FBC
4 proceeded with executing the Project, including purchasing the transformers and
5 a parcel of land.” (page 7)

6 And

7 “A total contingency estimate of \$1.759 million in 2023 dollars (approximately 12
8 percent of the base capital cost estimate of \$14.554 million in 2023 dollars). This
9 includes a contingency of 13 percent applied to the station construction and
10 removal costs (as detailed in Confidential Appendix C-1), a contingency of 20
11 percent applied to the transmission components (as detailed in Confidential
12 Appendix C-2), and a contingency of 40 percent applied to the distribution
13 components (as detailed in Confidential Appendix C-3). A 40 percent contingency
14 was used for the distribution component due to the uncertainty regarding civil
15 trenching costs and completeness of design.” (pages 57-58)

16 14.1 Please provide the basis for: i) the contingency of 13 percent applied to the station
17 construction and removal costs and ii) the contingency of 20 percent applied to the
18 transmission components.

19
20 **Response:**

21 FBC determined the station and transmission contingencies following AACE contingency
22 guidelines based on the level of assessed risk and potential for scope escalation considering the
23 level of design completed as part of the Class 4 estimate and comparing actuals from prior
24 projects that had similar risks and scope.

25 The station contingency is lower than the transmission contingency due to more detailed
26 engineering being complete for the station at the time of FBC filed the Application. Specifically,
27 the transformer pricing was known (and actual costs were used in the cost estimate) as the
28 transformers were purchased prior to the Application being filed and before the Class 4 estimate
29 was complete, reducing the risk of increased procurement/supply chain costs.

30 The transmission scope of work has an allocation of 20 percent contingency due to the level of
31 design and cost uncertainty at the time of filing the Application. The contingency also reflects a
32 higher assessed risk and potential for scope and cost escalation.

33

34

35

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1 14.2 Does the total contingency of 12% take into account the fact FBC has already
2 purchased the transformers and the land?
3

4 **Response:**

5 FBC confirms that the station contingency was lowered from 15 percent to 12 percent to reflect
6 the actual transformer costs as well as updated major material costs received. However, FBC
7 notes that the land costs are not part of the Class 4 estimate and not subject to contingency.

8

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1 **15.0 Reference: Exhibit B-1, pages 60-61**

2 Preamble: The Application states:

3 “The incremental Project O&M in 2027 (i.e., when all assets enter rate base) is
4 estimated to be a savings of \$13.444 thousand in as-spent dollars, relating to
5 substation equipment, plus annual inflation as discussed below. Over a 12-year
6 O&M window (based on switch and transformer maintenance that occurs every 12
7 years), the average incremental O&M savings is approximately \$5.842 thousand
8 per year.”

9 15.1 Do the PV analysis and the Rate Impact analysis results set out in Table 6.3 take
10 into account the BCUC's Generic Cost of Capital Decision (G-236-23) and if not,
11 please provide an updated Table 6.3.

12
13 **Response:**

14 FBC confirms that the financial analysis presented in Table 6-3 of the Application, specifically the
15 PV of incremental revenue requirement resulting from the Project over the 53-year analysis period
16 and the rate impacts, include the changes to FBC's deemed equity component (now 41 percent)
17 and allowed return on equity (now 9.65 percent) resulting from Decision and Order G-236-23.

18

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1 **16.0 Reference: Exhibit B-1, page 77**

2 **Preamble:** The Application states:

3 “FBC continues to seek input from residents on individual greening and screening
4 suggestions for their property and sightlines.

5 FBC will implement reasonable measures to mitigate visual impacts through the
6 use of fencing, shrubs, or trees, provided that FBC’s safety standards and
7 operational needs are met.”

8 16.1 What specific measures has FBC identified to-date that will be undertaken to
9 mitigate visual impacts?

10

11 **Response:**

12 Please refer to the responses to BCUC IR1 14.2 and 14.4.

13

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1 **17.0 Reference: Exhibit B-1, page 82**

2 **Preamble:** The Application states:

3 “Following the purchase of the Grieve Location, on September 5, 2023, FBC
4 initiated engagement with each of the Indigenous communities identified in Table
5 8-4 above specific to the Grieve Location.”

6 17.1 Was any consultation undertaken with the Indigenous communities identified in
7 Table 8-4 prior to the purchase of the Grieve Location regarding the potential of
8 the site to be used for the location of the new substation and if so, please provide
9 a detailed description and documentation of that process.

10

11 **Response:**

12 No engagement with Indigenous communities specific to the Grieve Location was undertaken
13 prior to the purchase. Rather, FBC’s engagement with Indigenous communities on the Grieve
14 Location followed the purchase as FBC could then collect specific concerns or feedback.

15