



Unit 108 - 2280 Leckie Road
Kelowna, British Columbia V1X 6G6
Phone: (250) 763-0401

MEMORANDUM

DATE: August 30, 2016

TO: Devon van der Meulen

FROM: Ben Casement

SUBJECT: Electrical distribution system impact of proposed *Okanagan Vistas* development

Mr. Van der Meulen,

I have reviewed the Lark Groups submission package for their proposed Okanagan Vistas development. Specifically, my comments are based on the proposed electrical distribution one line diagram created by Colwin Electrical Group and numbered SKE-01.

This document suggests the addition of buildings A through E would place a total development code load of 3290.5 kW on the DOS' Distribution network.

Observations:

The DOS owned circuit nearest the proposed development is fed from Prairie Valley substation and is denoted PV-149. The overhead conductors on circuit PV-149 would need to be replaced from highway 97 to the development location to accommodate the increased ampacity required by the development.

Neither the Prairie Valley (PV) substation, nor the Trout Creek substation (TC) can accommodate an addition of 3,300 kW (~3,500 kVA @ 0.95 P.F.) as it will increase the power demand on those substations above the contracted Wholesale Demand Limits outlined within the DOS contract with FortisBC, denoted LWD05003, appendix A.

In addition to exceeding the contract demand limit, there is also insufficient electrical capacity at the Prairie Valley substation to accommodate the load addition.

There is sufficient electrical capacity on the Trout Creek Substation to accommodate the proposed load, although significant capital expenditure may be necessary to facilitate the load transfer.



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Recommendations:

Consider servicing the facility with an underground service to reduce obstruction of Okanagan Lake views to the East.

The DOS currently stocks and maintains distribution transformers up to 750 kVA, so the development should be serviced at distribution operating voltage 8.3kV phase-phase (aka Primary Service) to reduce or eliminate the number of DOS owned transformations servicing the site.

Contact FortisBC to discuss the cost implications of an increase in the contract demand limit for either/both of the Prairie Valley and the Trout Creek substations.

Feel free to contact me if you have any additional questions or concerns.

Best Regards,

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