**SG1 / REP Engineers’ Report on the Feasibility**

 **Of Developing Whitewater Play Features in the Weir Replacement Project:**

**Summary and Key Points**

Both *SG1* and *REP* have been designing river improvement projects for over 35 years, including public recreational and safety projects, fish passage projects, and riverside parks and greenways. Their report is based on:

* Review of *Stantec*’s draft *Preliminary Design Report* and the *Final Design Presentation*
* Site reconnaissance, 2021 06 22
* Attendance and discussion, virtual meeting, 2021 08 18 – Attendees: *CVRD* [Project Manager Leroy Van Wieren], *Stantec* [engineer Matt Woods], *VIWPS* [Rick Bryan, Edmond Duggan], *SG1* [Darren Shepherd], and *REP* [Gary Lacy].)

IS THE PLAY-FEATURES PROPOSAL PHYSICALLY FEASIBLE??

The minimum net flow specified for the new Weir (as per rule curve) is **7 m3/s**

The minimum flow, needed to enable fish passage in the engineered south abutment fishway, (as specified in an email from *Stantec*’s Matt Woods,) is **0.2 m3/s to 0.7 m3/s.**

The minimum flow anticipated to create a play wave, or waves, is **4 m3/s to 5 m3/s**, directed into a dedicated channel containing rock features designed to form waves.

It appears that **the Play-Features proposal IS FEASIBLE**, from the perspective of flows, by a narrow margin – approx. **1** **m3/s**.)

WHERE WOULD THE PLAY CHANNEL BE LOCATED? HOW WOULD THE FLOW BE RELEASED?

(Two options were discussed at the 2021 08 18 virtual meeting:

1. Locate the play channel immediately below one of the existing release gates. This option is favoured by Project Director Van Wieren and *Stantec*.

Implications:

* The specific release gate would need to be re-engineered, and redesigned. (Cost implications to be determined.
* The south abutment fishway would remain intact, as per *Stantec*’s design.
* This option provides adequate flows for separate fishway and play feature releases, but provides very little margin for fluctuation. (See above numbers.)

1. Redesign the south abutment fishway to INTEGRATE the play channel. This option is recommended by *SG1* and *REP.*

Implications:

* There would be slightly greater margin for fluctuation of flows – (ONE flow to meet two needs, instead of TWO separate flows).
* The south abutment fishway, (*Stantec* design) poses a serious threat to public safety for people who inadvertently enter the water upstream of the partition wall.
* The *Stantec* design “*is not a ‘natural-like’ fishway…. The open-channel option,… would provide for a more effective and reliable design for fish passage*.”
* “*From an aesthetic perspective*,” (the *Stantec* design) “*will appear to be an unsightly concrete wall to the public, not a nature-mimicking facility*.”

ADDITIONAL DISCUSSION-POINTS QUOTED FROM THE REPORT:

“*The CVRD stated at the outset of the meeting (2021 08 18) that (i) the final design of the weir modification is now complete per terms of the funding and (ii) they have no desire to revise the proposed final design. Funds for this project are strictly for fish improvements, not recreation.*

*It was also made clear that the only way to include recreational amenities, as part of the project, would be to utilize the reach of the River immediately downstream of one of the four control gates; under no circumstances would the design of the proposed south abutment fishway be modified to accommodate boat passage or river users*.”