

**MEMORANDUM FOR THE RECORD**

**SUBJECT: 21BON014 FV 3-7 and FG 3-4,5,6 OOC**

**Overview:**

**Fish Valve (FV) 3-7:** Fish valve 3-7 is located at the Bradford Island (BI) fishway exit. This valve controls water to the Bradford Island fishway's auxiliary water system (AWS), a channel of water running underground parallel to the fishway.

**Diffuser Fish Gates (FG):** Fish gates are the structural gate between the fishway and the AWS which open and close to allow supplemental water to enter the fishway, providing optimum water levels and velocities for fish passage. These gates are located under the fishway and open into large underwater pits which allow water to enter the fishway through diffuser grating located along the floor of the fishway.

Please see **Figure BON 2** from the Fish Passage Plan (FPP) at the end of this document for location descriptions.

**Discussion:**

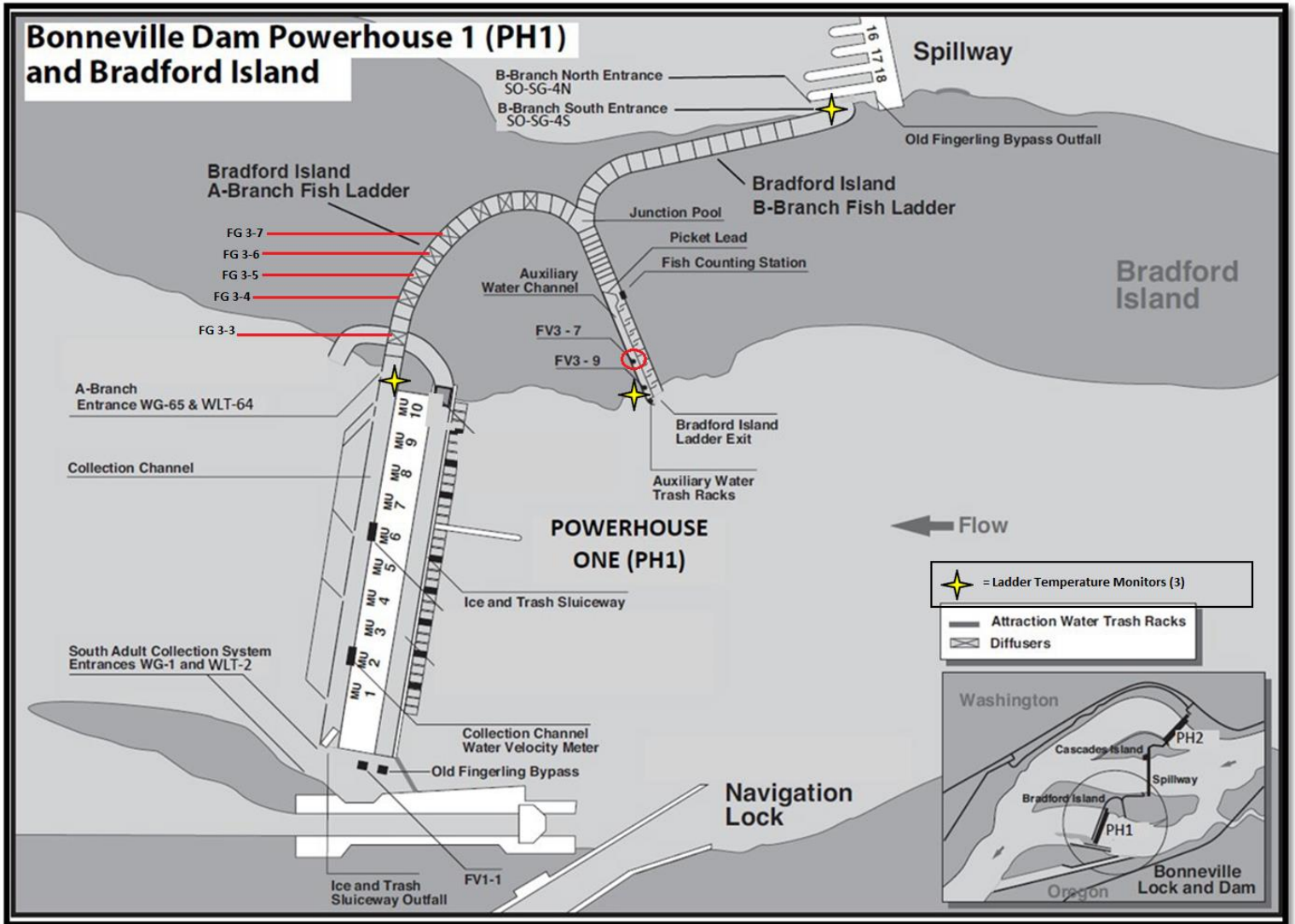
On 30 December 2020, A-Branch diffuser FG 3-4 was found mechanically bound and unable to fully close or open. A work order has been submitted by BON Operations and FG 3-4 will remain in the "almost closed" position until the 2021-2022 winter maintenance period.

On 07 June 2021, Project Fisheries observed FG 3-5 was not operating correctly and was banging heavily underwater due to an assumed broken fish gate. Powerhouse 1 (PH1) maintenance crews assessed the situation and recommended closing the gate completely to prevent further damage to the fishway and equipment. BON Operations issued a clearance for FG 3-5 to be closed and taken out of service until 2021-2022 winter maintenance operations.

To make up for the lack of auxiliary water, Project Fisheries asked for FG 3-6 and FG 3-7 be opened. FG 3-6 was found mechanically bound in the closed position. FG 3-7 provided unfavorable velocities and water levels in the fishway and was placed back into the closed position.

On 07 June while FV 3-7 was in auto, the stem position was open at 5 feet. BON Operations and Project Fisheries requested that FV 3-7 be placed into manual and pinched down to 2 feet to restrict the amount of water flowing through the AWS. This request was to prevent blown diffuser grating and damage to FG 3-3. These settings for the A-Branch AWS and diffusers will likely remain until the problems can be addressed during the 2021-2022 winter maintenance period.

While these settings do not follow FPP guidance, they are providing the correct amount of differential at the fishway entrances at PH1 and will continue to be closely monitored by Project Fisheries and BON Operations.



**Figure BON 2 (FPP). Bonneville Dam Powerhouse 1 (PH1 and Bradford Island Adult Fish Ladder A-Branch and B-Branch.**

Sincerely,

Bonneville Project Fisheries