# CENWP-OD-B

MEMORANDUM FOR THE RECORD

SUBJECT: BONNEVILLE DAM WINTER NON-ROUTINE FISHWAY MAINTENANCE 2022/2023.

This is a working document; reviewers can expect changes as we approach the winter maintenance season.

KEY TO COLORS:

Red - Painters

Blue – Mechanics/Riggers

Green – Garage

Orange – Electricians

Aqua- Fisheries

Yellow- Contractors or Researchers

Purple - Engineers

***Pre-Work:***

* **PH2 Unwatering Pump** – waiting on pump repairs
* **B-Branch/Spillway Tailrace Erosion –**
	+ PDT is in the planning process
1. **OREGON SIDE – *Not dewatering 2022/23***
	1. **Bradford Island Ladder –** No planned dewatering pending erosion PDT needs
		1. PH1CC – Not dewatering
			1. FG 2-19 broken, stuck in closed position (fix in 2023/2024 Wint. Maint. Season)
		2. B-Branch – erosion in spillway tailrace/B-Branch Fishway
		3. Pressure wash BI LPS and exit chute (Normal PM)
	2. **PH1 Trash Rack Replacement:**
		1. Start Work: **28 Nov**
		2. U10 Trash Rack: **05-10 Dec**
			1. Auto Chain Gate 10B closed during this time
			2. U10 +U9 OOS
		3. UO Trash Rack: **12-17 Dec**
			1. Auto Chain Gates 3B and 6C closed during this time
			2. UO and U1 OOS
		4. \* If the trash rack for U10 is bumped to another year, will do U5 trash rack in its place (U4-6 OOS) starting 06 December
	3. **PH1 ITS End Gate:**
		1. Dewater start: **Monday 23 Jan**
		2. Gate shows up: end of January
		3. Install start: **Monday 6 Feb**
		4. Water up: **24 Feb**
2. **WASHINGTON SIDE**
	1. **Cascades Island: 05 December – 23 January 2023**
		1. Orifice Flow: **01 December**
		2. Dewater to Tailwater: **05/06 December**
		3. Dewater Past Tailwater: **12-15 December**
		4. FV 5-3 and 5-4 Pits Inspections and Repairs
		5. FG 6-11 oos, stuck closed
		6. FG 6-12 oos, stuck open
		7. FG 6-17 repair
		8. Cascades Island conduit water level sensor – address sediment accumulation
		9. CI temperature probe stillwell repair
		10. Pressure wash fishway
		11. Pressure wash CI LPS
		12. Pressure wash CI Lamprey Trap
	2. **Washington Shore Ladder: 05/06 December – ~28 February 2023**
		1. Orifice Flow: **Thursday, 1 December**
		2. Dewater to Tailwater and FISH: **05/06 December**
		3. Dewater Past Tailwater: **07-09 December**
		4. FV 6-9 picket lead air blowdown install
		5. Pressure wash fishway
		6. Pressure wash WA Shore LPS
		7. Pressure Wash AFF Lamprey Trap
		8. Polish and clean WA Shore Fish Count Window
		9. PM/Rehab fish count crowder/gear box
	3. **PH2CC, North and South Entrances**
		* 1. Sand Removal
				1. Suck truck tracking- tech staff
			2. Environmental will require 5 days to get sample of sand tested before disposal (BI Super Fund PDT guidance)
		1. Differential sensor rehab
		2. Diffuser A2 repair
		3. C valves PM and repair
		4. PH2CC grating
		5. Repair/Replace Tailwater gauges at **PH1** S, **PH2 Downstream Monolith N and S TW’s**, **Spillway N and S TW**
		6. Weld work at NDE
		7. Calibrate NDE gate
	4. **B2CC: Tagged out – Early March 2023**
		1. Spalling Fixes – 1 to 2 weeks of work at beginning of March
	5. **DSM 2: 19 Dec 2022 – 28 Feb 2023**
		1. Pull STSs: **12 - 15 December**
		2. Go to “orifice flow”/turn off orifice lights: **15 December**
		3. Dewater DSM: **19 December**
		4. STS repairs / maintenance
		5. 2-mile pipe inspection **10 January 2023**
		6. Install STSs starting week of **21-28 February**
	6. Repair avian lines/broken B2CC avian lines
		* 1. Re-install post spillway erosion repairs: **estimated** **by 15 March**
3. **OTHER FACILITIES**
	1. **Adult Fish Facility (Late Nov –Early Apr)**
		1. Orifice Flow: **16 November**
		2. Dewater: ***completed***
		3. Pressure wash accessible surfaces (Normal PM)
		4. All valve PMs
		5. Inspect/repair leaking entrance bulkhead
	2. **Lamprey Passage Systems (01 Nov – 01 Apr)**
		1. Turn off systems, check rest boxes, and dewater ***Completed***
		2. Pull pumps week of **01 November *Completed***
		3. Power wash accessible surfaces (PM)
		4. Replace all PVC drain valves with metal
		5. WA Shore AWS LPS Flume – Fab and replace broken ramp
	3. **Smolt Monitoring Facility (01 Nov – 28 Feb)**
		1. Switch to bypass, drain and inspect sample flume on **Tuesday 01 Nov** (PSMFC)
		2. **Priority New Work Requests:**
			1. Repair/replace the failing air regulator on 2-way rotating gate.
			2. Repair/replace compromised air/water traps on air regulator at 2-way and 3-way rotating gates.
			3. Secure circular perforated plate (upwelling flow) on floor of sample tank.
			4. Replace degraded ball valve on plumbing of fish lift #2 (upstairs).
			5. Replace the weather-beaten rubber flaps at upstream switchgate piston.
			6. Repair exhaust fan located near sewage lift station in basement.
			7. Repair lock on south door of facility.
			8. Investigate/repair leaks in roof especially over SMP and Dive Team offices.
		3. **Annual Maintenance Items:**
			1. Inspect and repair (where needed) all joints in the fish distribution flumes paying particular attention to those upstream of the 3-way rotating gate and downstream of River Exit PIT detector.
			2. Winterize the 2 and 3-way rotating gates, including:
				1. Inspect and repair any cracks in the movable sections of the rotating gates.
				2. Insure free rotation of the movable sections.
				3. Adjust or replace drive belts, if needed.
				4. Replace shock absorbers, if needed.
			3. Replace the charcoal filters on the water treatment system. Please ensure lids have center-cut inflow to match existing plumbing.
			4. Inspect all fish lift cables with special attention to the most used lift, #2
			5. Winterize compressed air system in facility.
			6. Inspect entire air system for leaks, especially at the regulators and oil/water traps.
			7. Arrange to have sludge pumped/removed from 1000-gallon wastewater tank.
4. **LAMPREY ACCORDS:**
	1. Orifice Ramp/rounded edge Grinding
		1. One week of a 5 person crew allotted, full scope not yet known
5. **NAVLOCK** – Only unwatering to upper sill
6. **FGE Work**
	1. MPH2/Riggers – MIN of 16 days of work 5 person crew

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| --- | --- | --- | --- |
| **Month** | **Date** | **Unit** | **Description** |
| **NOVEMBER** | **30th**  | U11 | **U11 OOS** |
|  |  |  |  |
| **DECEMBER** | **5th**  | U11 | Northbank Allowed to Start Work on U11 |
|  |  |  |  |
| **JANUARY** | **16th**  | U11 | Northbank Work Complete on U11 |
|  | **17th**  | U11/U18 | Water-Up U11, Move Equipment to U18 |
|  | **25th**  | U18 | **U18 OOS** |
|  | **30th**  | U18 | Northbank Allowed to Start Work on U18 |
|  |  |  |  |
| **FEBRUARY** | **1st**  | U11 | **U11 RTS** (after 15-day cure) |
|  |  |  |  |
| **MARCH** | **13th**  | U18 | Northbank Work Complete on U18 |
|  | **14th**  | U18 | Water-Up U18 (start 15-day cure) |
|  | **28th**  | U18 | **U18 RTS** |

Bonneville Prioritization List:

Tier 1 (essential):

-PH2 A2 diffuser/valve repair

-CI entance bay valve repair (3 +)

-PH2 valve B1 full replacement (pending arrival of parts)

-PH2 C valves inspect and repairs

-STS repair

-PH2 collection Channel AWS sand removal

Tier 2 (less essential):

-FV 6-9 blowdown system install

-FV 5-3/5-4 pit cleaning

-CI temp probe stillwell repair

- Cascades Island conduit water level sensor

-Wa Shore AWS LPS ramp fab and replacement