CENWP-OD-B

MEMORANDUM FOR THE RECORD

SUBJECT: BONNEVILLE DAM WINTER NON-ROUTINE FISHWAY MAINTENANCE 2023/2024.

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

KEY TO COLORS:

Blue – Mechanics/Riggers

Green – Garage/Paint

Orange – Electricians

Aqua – Fisheries

Red – Contractors or Researchers

Purple – Engineers/Tech

**Prospected Dates**

* **Bradford Island Ladder:**
  + Orifice Flow: **Friday 01 Dec (Derugin)**
  + Mech Prep/Staging Day: **Monday 04 Dec**
  + Dewater to tailwater: **Tuesday 05 Dec**
  + Dewater past TW:
    - B-Branch: **06 – 07 Dec**
    - A-Branch: **Week of 11 Dec?**
  + Water Up: **By 28 Feb**
  + Project Winter Maint work in B-Branch to Occur: **22-26 Jan**
* **B2CC:**
  + Spalling fixes: **~~09-15 Sept 2023~~** Work occurred, but requires further work. Coordination still to come.
* **DSM2:** **\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
  + Turn off orifice lights: **\_\_per Ops\_\_\_\_\_\_\_\_\_\_\_**
  + Dewater DSM: \_\_\_\_\_**per Ops**\_\_\_\_\_\_\_\_
  + Pull STS’s: **Week of 11 Dec**
  + 2-Mile pipe inspection: **10 Jan**
* **AFF:** **(Late Nov to Early April)**
  + Go to orifice flow: **24 Nov**
  + Dewater on: **27 Nov**
  + Water up: **By early April**
* **LPS’s:**
  + ~~Take down LPS’s:~~ **~~01 Nov~~** complete!
  + Pull pumps: **week of 01 Nov**
* **SMF:**
  + ~~Switch to bypass:~~ **~~01 Nov~~** complete!
* **Navlock 2:** Dewatering to upper sill: 1st two weeks of March
* **B-Branch LPS Construction:**
  + Expected arrival of premade lamprey flume: **05 Jan**
  + Contractors onsite: 30 Oct to start mobilize
  + Trench work at B-Branch: **06 Nov – 24/25 Nov**
  + Project-related winter maintenance work (WORs/PMs) in B-Branch to occur: **22-26 Jan**

**Work Priority:**

1. **Final Fishway Inspection with Fisheries and Maintenance Supervisors**
   1. **21 February**
2. **~~Avian Line Re-Install~~ *~~(If required)~~*** \*\*\***not required this year, unless wires break\*\*\***
   1. ~~1~~~~st~~ ~~or 2~~~~nd~~ ~~week of March (prior to kelt trigger starting B2CC)~~
3. **BI Exit Dredging (Possibly in Feb - TBD)**
   1. Project support needed for at least pulling boom from area
   2. Corps District Dive team NOT involved (but there is a Contract dive team) in veg removal
   3. MPH1 may want to install bulkheads to prevent excess debris movement
   4. MPH1 possibly need to remove raking skiff (Derugin to find out)
4. **Bradford Island**
   1. B-Branch (Week of 22-26 January set aside for Project work)
      1. B-Branch South Entrance Gate stuck in the closed position
      2. FV 4-4 Brakes Hanging Up
      3. Investigate Controls for FV 4-3 and FV 4-4 Not Responding
   2. A-Branch
      1. FG 3-4 In manual control until lower limits set
   3. PH1 Collection Channel
      1. FG 2-19 Stuck in the closed position
      2. AWS Sensor Relocation
5. **B-Branch LPS Construction**
   1. Inspect B-Branch Entrance Bay thoroughly.
   2. Expected arrival of pre-made flume: 05 January
   3. Electrical preps
6. **Rehab Flow Control Louvre in BI Flow Control Section**
   1. “Evaluation” with this WOR to determine if we can make it work/what it needs
7. **Pressure wash fishways, remove vegetation on top of weirs (Normal PM)**
   1. Cut brush away at A-Branch Staff Gauge
8. **SMF Outdoor Water Supply Drain**
9. **FV 4-3/4-4:**
   1. Clean pit (Normal PM)
10. **FV 1-1/FV 1-2**
    1. Clean pit (Normal PM)
    2. Check structural integrity of valve pits
    3. TECH to inspect possible concrete spalling at FV 1-1 Valve (Leakage)
    4. Derugin asked MPH1 to look into doing a ROV inspection of forebay sill of FV 1-1 bulkhead during outage (spalling suspected due to heavy leakage).
11. **A-Branch Leak**
    1. Check structural integrity
    2. Utilize Dock Blocks to inspect conduit?
12. **Staff Gauges (WOR created)**
    1. CAD Design
    2. Make Gauges and Install
    3. Next on list to install are:
       1. PH2 TW gauges (bottom sections need to be finished)
       2. Spillway N and S TW gauges
       3. PH1 S TW
13. **DSM Tunnel Ride**
    1. Who’s getting the honor of riding: Tucker and TECH
14. **Inspect old wooden gate bulkheads in slots at juvenile bypass section at B-Branch/Main Dam South Tower**
    1. Get eyes on slots and check to see if still usable (MPH1)
15. **LPS**
    1. Pressure wash all LPS’s (including ramps from water level to rest boxes
    2. Install shroud over pump control panels (BI LPS, CI LPS)
    3. Pressure wash all lamprey traps
16. **AFF**
    1. Pressure wash accessible surfaces (Normal PM)
    2. Valve PMs
17. **Lamprey Minor Mods:** (Expect about 2 days of work?)
    1. Orifice ramps
       1. Only needed anywhere there is a step (even a 1” step should be ramped)
       2. Size depends on the height of step. End goal is “continuous planar surface” through the high velocity zone of influence from the orifice
    2. Finish lamprey orifices in flow control section
       1. 5 more volutes on hand in Blue (FISH) Connex behind BISB
    3. Lamprey rest box rehab (BI Control Section)
       1. Create PM for this?
       2. Properly blow out/clean bolt holes in floor
       3. Fasten boxes back on prior to water up
          1. Possibly use bigger, thicker gaskets to create better connection (less rattling ability)
       4. Address broken box
          1. Possibly attach with eye bolts instead of current fasteners
18. **Polish Windows at VC/Count Window**
    1. Normal PM
19. **SMF** 
    1. **Priority New Work Requests:**
       1. Address/repair the section of the adult bypass flume that has subsided.
       2. Replace the degraded rubber join on subsided flume (above) and other adult flume sections, as required.
       3. Replace the burned-out Infrared heaters at the PDS.
       4. Re-caulk PDS wedge wire, perf plate, and separator bar areas.
       5. Add bleed valve to compressed air system on 2-way and 3-way rotating gates for safety.
       6. Remove overgrown foliage that is impacting fish flume and grating.
       7. Activate or repair digital video camera to enable high-definition feed to monitors.
    2. **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 use 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.