Joint Permit Application

This is a joint application, and must be sent to all agencies (Corps, DSL, and DEQ). Alternative forms of permit applications may be acceptable; contact the Corps and DSL for more information.

Date Stamp

U.S. Army Corps of Engineers Portland District	Oregon Department of State Lands	Oregon Department of Environmental Quality
Action ID Number	Number	

(1) TYPE OF PERMIT(S) IF KNOWN (check all that apply)

Corps: ☐ Individual ☒ Nationwide No.: _3____ ☐ Regional General Permit _____ ☐ Other (specify): _____

DSL: ☐ Individual ☐ GP Trans ☐ GP Min Wet ☒ GP Maint Dredge ☐ GP Ocean Energy ☐ No Permit ☐ Waiver

(2) APPLICANT AND LANDOWNER CONTACT INFORMATION

	Applicant	Property Owner (if different)	Authorized Agent (if applicable) ☑ Consultant ☐ Contractor
Name (Required)	Ryan Beckley		James Stupfel, Sr. Environmental Specialist
Business Name	Winchester Water Control District (WWCD)		DOWL
Mailing Address 1	PO Box 661		5000 Meadows Rd.
Mailing Address 2			#420
City, State, Zip	Winchester, OR 97495		Lake Oswego, OR 97035
Business Phone			971.634.2014
Cell Phone	541.784.8300		
Fax			
Email	rbeckley@terrafirmafs.com		jstupfel@dowl.com

(3) PROJECT INFORMATION

A. Provide the project location.

Project Name	Latitude & Longitude*
Winchester Dam Repair Project	43.284150, -123.353891

Project Address / Location	City (nearest)	County
Winchester Dam on the North Umpqua River	Winchester	Douglas

Township	Range	Section	Quarter / Quarter	Tax Lot
26S	06W	25	NW / NE	300, 501, 102
26S	06W	25	SW / NE	200

Brief Directions to the Site:
From Eugene take exit 129 from I-5 South, turn left onto Del Rio Road, cross over I-5 and turn right onto Oakland-Shady Highway. The gravel access road to the northern side of the project area will be on the left.

B. What types of waterbodies or wetlands are present in your project area? (Check all that apply.)

☑ River / Stream ☐ Non-Tidal Wetland ☑ Lake / Reservoir / Pond

☐ Estuary or Tidal Wetland ☐ Other ☐ Pacific Ocean

Waterbody or Wetland Name**	River Mile	6th Field HUC Name	6th Field HUC (12 digits)

(3) PROJECT INFORMATION

North Umpqua River	6.9	North Umpqua River	171003011105

* In decimal format (e.g., 44.9399, -123.0283)
** If there is no official name for the wetland or waterbody, create a unique name (such as “Wetland 1” or “Tributary A”).

C. Indicate the project category. (Check all that apply.)		
☐ Commercial Development	☐ Industrial Development	☐ Residential Development
☐ Institutional Development	☐ Agricultural	☐ Recreational
☐ Transportation	☐ Restoration	☐ Bridge
☐ Dredging	☐ Utility lines	☐ Survey or Sampling
☑ In- or Over-Water Structure	☑ Maintenance	☐ Other:

(4) PROJECT DESCRIPTION

A. Summarize the overall project including work in areas both in and outside of waters or wetlands.
The project will undertake maintenance work to repair the existing structure and ensure that the dam continues to function in line with state dam safety requirements. No changes to the dam height, footprint, or operation are proposed.

The project is located in the North Umpqua River immediately upstream of the I-5 highway bridge near Winchester, Oregon. The existing dam consists of a rock-filled timber crib weir flanked by a concrete fishway on the north end and a concrete spillway-powerhouse structure on the south end. The entire structure is founded on solid rock, with a reinforced concrete sill extending the full length under the downstream face of the timber cribbing. The original timber-capped weir has been replaced with a concrete cap for the southerly 202 feet and rebuilt with a timber cap for the remaining 165 feet.

Based on previous repairs and structural analysis, it was determined that the Winchester Dam is in need of repairs and reinforcement in several areas. This work is being coordinated with the Oregon Water Resources Department to comply with dam safety requirements. The proposed work can be broken down into four main components, described as follows:

1. Repair dam face near fish ladder to eliminate false attractant flows. This involves removing an existing log boom and replacing a small section of the dam face with a new concrete section. This work will limit unintended flows into the adjacent fish ladder which may create a false attractant for migrating fish. There will be no impact to the existing fish ladder.

2. Repair timber faced portions of the dam by installing intermediate vertical steel supports and horizontal steel whalers that tie them together. The vertical steel components will be located on repaired concrete sills (on which existing vertical timber components rest). Along with this repair, some of the existing timber elements may need to be repaired or replaced depending on conditions encountered during construction.

3. Fill voids in the existing dam embankment using polyurethane foam. There are several known areas where embankment material has been washed out of the dam creating voids behind the wall face. These areas need to be filled and doing so with foam will likely be the least intrusive and overall most effective solution.

4. Install a sheet pile cutoff wall and re-configure existing concrete paving along the stream bottom to bridge the gap between the cutoff wall and the upstream dam face. This work will address the critical issue of subsurface water migration below the southern portion of the dam and south powerhouse. Sheet piles will be installed upstream of the spillway/gate section of the dam and south powerhouse. The sheets will be advanced into the bedrock to cut off the flow of water. The sheet pile will be installed with a crane on a barge. The concrete surfacing will then be re-configured in the area to bridge the gap between the dam face and the sheet pile cutoff wall which will prevent river water from migrating through the stream bottom in the space between the cutoff wall and the dam face.

Repairs to the dam will occur in two phases. Phase 1 work will consist of work on the timber portion of the dam (components 1-3 described above) and includes lowering water levels above and below the dam to expose the upstream and downstream work areas. Phase 1 dam repairs will be performed during low water with the reservoir behind the dam lowered a minimum of four feet to expose the structure. To lower the water in the reservoir, the spill gates for the dam will need to be opened. Additional detail on the operation of these gates can be found in JPA Attachment 8. The use of temporary cofferdams and water management systems will allow sufficient dewatering of the downstream face for repairs. After Phase 1 work is complete, water levels will be returned to pre-work levels. Phase 2 work will include repairs near the south power building/spillway gates. Water levels will not be lowered, rather, a permanent sheet pile cut-off wall will be used for temporary water management in an interim condition before the sheet piles are cut off.

Access Roads and Staging

Construction access to the riverbed will be via previously disturbed areas on both banks of the river on the upstream side of the dam. There are existing gravel access roads on both sides of the dam leading to the riverbank. From the northern riverbank, access will be via existing fill material along the upstream portion of the dam fill prism. Some minor temporary grading may be necessary to transition from the upstream gravel roads to the instream work areas and may include importing temporary work area surfacing material (e.g. aggregate), as shown on Figure 6E. Additional work access for the south side repairs will likely be taken from a barge stationed adjacent to the work area. The barge will be launched from the north bank of the river above the dam from existing access where a crane will be set up for mobilization of the barge. Staging areas will be located above ordinary high water (OHW) on both sides of the dam.

B. Describe work within waters and wetlands.

As described above, project actions will require work below the OHW of the North Umpqua River. These activities are discussed in further detail below. It is anticipated that the structural repairs of the dam will occur during the Oregon Department of Fish and Wildlife's (ODFW) recommended in-water work period or pre-approved extensions. For this location, the window is established on a case-by-case basis. For this project, the anticipated in-water work window will be July 7 – August 28.

Temporary Impacts (15,470 SF, 1,395 CY of Fill and 1,395 CY of Removal)

Temporary Water Management (4,440 SF, 987 CY of Removal and 987 CY of Fill)

During Phase 1, water levels will be lowered to expose the upstream part of the dam. To lower the water levels in the reservoir, the spill gates for the dam will need to be opened. Additional detail on the operation of these gates can be found in JPA Attachment 8. Temporary isolation will be required for construction activities below the dam (Figure 6E, Attachment 2). It is anticipated that isolation will consist of sandbags, super-sacks, and plastic sheeting; however, other materials may be used depending on the contractor's temporary water management design. If required by site conditions, pumps equipped with a fish screen may be installed to pump water out of the isolation area to a temporary water quality facility placed in an upland area on the south bank. Fish salvage will occur within the isolated area as needed before repairs begin.

Temporary Access Road and Work Platforms (11,030 SF, 408 CY of Fill and 408 CY of Removal)

Temporary access roads will be required to access the work areas from the north and south banks (Figures 6E and 6F, Attachment 2). Construction of the access road may involve improvements with the following impacts:

- The temporary access road on the north bank will connect to the existing work platform on the upstream side of the dam. Vegetation removal, minor grading, and the installation of aggregate material to stabilize the road may be required, resulting in up to 1,380 SF of temporary impacts with 51 CY of fill and 51 CY of removal.
- Temporary access on the south bank for removal of existing concrete may involve minor grading or installation of aggregate material to stabilize the access road or require temporary impacts below OHW from equipment during concrete removal activities resulting in up to 2,250 SF of temporary impacts including 83 CY of fill and 83 CY of removal.

Work platforms used during the repair work on the timber dam section will result in the following impacts:

- The existing work platform on the upstream side of the dam may need to be stabilized with aggregate resulting in up to 4,440 SF of temporary impacts including 164 CY of fill and 164 CY of removal (Figure 6E, Attachment 2). If aggregate is required, all aggregate will be removed after construction activities are complete.

- Below the dam between the temporary isolation barrier and the dam, a temporary aggregate work base will be installed resulting in 2,960 SF of impacts including 110 CY of fill and 110 CY of removal (Figure 6E, Attachment 2). All aggregate will be removed after construction activities are complete.

Permanent Impacts - (2,220 SF, 83 CY of Removal; 4,221 SF, 189 CY of Fill)

Dam Repair at Fish Ladder Interface (20 SF, 2 CY of Removal; 18 SF, 10 CY of Fill)

Once the water levels have been lowered and temporary isolation has been installed for Phase 1 work, the contractor will remove an existing log flow diverter (20 SF, 1 CY), install a concrete slab against the existing dam face and construct a concrete wall perpendicular to the dam face to stop the flows coming through the dam (18 SF, 10 CY) (Figure 6, Attachment 2).

Timber Dam Repair – (2,003 SF, 97 CY of Fill)

Steel vertical and horizontal whalers will be installed to reinforce the existing dam (1,113 SF, 20 CY) with minor repair work done to expand the existing concrete sill where the vertical posts will be anchored (740 SF, 55 CY). The vertical posts will be anchored to the concrete sill as well as the existing dam and into the bedrock. Additionally, tie rods will be inserted through the vertical posts and anchored into bedrock (Figures 6A and 6B, Attachment 2). All repairs and replacement of dam components will be within the existing footprint of the structure.

Several voids/seepage paths along the dam will be filled with hydrophobic foam below the wood cap or in the existing timbers behind the dam face. Foam repairs will include roughly 150 SF and 22 CY of foam placed under or within voids identified within the existing structure (Figure 6D, Attachment 2).

During Phase 1 repair work to the dam, the fish ladder will be shut down for up to three weeks as the ladder will not be operable due to the lowered water conditions.

South Dam Repair – Spillway/Gate (1,100 SF, 41 CY of Removal; 2,200 SF, 41 CY of Removal, 82 CY of Fill)

During Phase 1 when the water levels are lowered, a portion of the outer area of the concrete paving above the south power building will be removed. The water level will then be brought back up for Phase 2 work. Work will occur from a 40- by 60-foot barge stationed next to the dam and secured with several spud piles. A vibratory hammer will be used to install spud piles to secure the barge during the work. A bubble curtain will

be deployed during impact hammer activities. Sheet pile will then be installed parallel to the dam face to form a sheet pile cutoff wall approximately 18 feet wide and 120 feet long above the spill gates (Figure 6C, Attachment 2). The sheet pile will be installed with a vibratory hammer and seated with an impact hammer into bedrock. During impact hammer use, a bubble curtain will be deployed. This sheet pile wall will provide isolation between the sheet pile and the spill gates during construction. If required by site conditions, pumps equipped with a fish screen may be installed to pump water out of the isolation area to a temporary water quality facility placed in an upland area on the south bank to allow filtered water to flow back into the North Umpqua River. Fish salvage will occur within the isolated area before the area is fully dewatered or other work begins. After the isolated area is dewatered, the remaining concrete pavement between the sheet pile wall and the dam face will be removed and replaced a concrete apron. Approximately 1,100 SF of concrete will be permanently removed outside of the sheet pile cutoff wall area during Phase 1 when water levels are low. During Phase 2, 1,100 SF of concrete will be replaced in-kind and 1,100 SF of new concrete apron will be installed. The permanent removal of the existing concrete will offset the permanent installation of new concrete, resulting in no net addition of concrete surfacing area below OHW of the North Umpqua River.

C. Construction Methods. Describe how the removal and/or fill activities will be accomplished to minimize impacts to waters and wetlands.

Pre-Construction Minimization

Some of the elements to be implemented prior to construction to minimize impacts to resources are as follows:

- Inform contractor of all permit conditions.
- Have emergency spill response materials on-site prior to construction.

Minimization Measures During Construction

For work areas below OHW of the North Umpqua River, equipment will be operated from existing adjacent areas above OHW, or from existing and proposed work platforms prepared with temporary aggregate surfaces. Temporary access roads will only require minor grading below OHW to transition from upland access roads to the existing work platform above the dam. The proposed temporary work platform below the dam will include the installation of geotextile fabric and aggregate that will be entirely removed once construction is complete. The contractor will clean and inspect all machinery when working near or below OHW to confirm that it is free of weeds, leaks, and grease. Erosion control measures are not anticipated as ground disturbance will be limited.

In-water work timing restrictions will minimize project impacts on listed coho salmon, Chinook salmon, and steelhead, as well as other aquatic species within the North Umpqua River. Repairs of the dam will occur during the ODFW's recommended in-water work period or pre-approved extensions. For this location, the window is established on a case-by-case basis. For this project, the anticipated in-water work window will be July 7 – August 28.

Post-Construction Minimization

Some of the post-construction elements to be implemented to minimize impacts to resources are as follows:

- All disturbed areas on riverbanks will be seeded with native seed as needed.
- Seed establishment will be monitored and supplemented, if needed

(4) PROJECT DESCRIPTION (continued)

D. Describe source of fill material and disposal locations if known.

The contractor will be responsible for confirming that all source and disposal locations are located in uplands or are operating under the appropriate permits.

E. Construction timeline.

What is the estimated project start date?	Summer 2023
What is the estimated project completion date?	Fall 2023
Is any of the work underway or already complete? If yes, please describe.	☐ **Yes** ☑ **No**

F. Removal Volumes and Dimensions (if more than 7 impact sites, include a summary table as an attachment)

Wetland / Waterbody Name *	Removal Dimensions					Time Removal is to remain**	Material***
	Length (ft.)	Width (ft.)	Depth (ft.)	Area (sq.ft. or ac.)	Volume (c.y.)		

See Attachment 1 for Details

G. Total Removal Volumes and Dimensions

Total Removal to Wetlands and Other Waters		Length (ft.)	Area (sq. ft or ac.)	Volume (c.y.)
Total Removal to Wetlands				
Total Removal Below Ordinary High Water		Varies	17,690	1,478
Total Removal Below Highest Measured Tide				
Total Removal Below High Tide Line				
Total Removal Below Mean High Water Tidal Elevation				

H. Fill Volumes and Dimensions (if more than 7 impact sites, include a summary table as an attachment)

Wetland / Waterbody Name*	Fill Dimensions					Time Fill is to remain**	Material***
	Length (ft.)	Width (ft.)	Depth (ft.)	Area (sq. ft. or ac.)	Volume (c.y.)		

See Attachment 1 for Details

(4) PROJECT DESCRIPTION (CONTINUED)

I. Total Fill Volumes and Dimensions

Total Fill to Wetlands and Other Waters		Length (ft.)	Area (sq. ft or ac.)	Volume (c.y.)
Total Fill to Wetlands				
Total Fill Below Ordinary High Water		Varies	19,691	1,584
Total Fill Below Highest Measured Tide				
Total Fill Below High Tide Line				
Total Fill Below Mean High Water Tidal Elevation				

*If there is no official name for the wetland or waterbody, create a unique name (such as "Wetland 1" or "Tributary A").
**Indicate whether the proposed area of removal or fill is permanent or, if you are proposing temporary impacts, specify the days, months or years the fill or removal is to remain.
*** Example: soil, gravel, wood, concrete, pilings, rock etc.

THERE

(5) PROJECT PURPOSE AND NEED

Provide a statement of the purpose and need for the overall project.

The purpose of the project is to provide inspection and repairs to ensure the continuing safe operation of the Winchester dam. The dam needs periodic maintenance to continue to function in a safe and effective manner. There are several known issues with the dam that require attention including areas of scour, degraded timbers, and leakage.

Regular inspection and maintenance are also a requirement of Oregon Water Resources Department (OWRD). WWCD and DOWL have been coordinating with OWRD to plan inspections, prepare designs for necessary fixes, and to update the emergency action plan for the dam.

(6) DESCRIPTION OF RESOURCES IN PROJECT AREA

A. Describe the existing physical, chemical, and biological characteristics of each wetland or waterbody. Reference the wetland and waters delineation report if one is available. Include the list of items provided in the instructions.

North Umpqua River

Within the project area, the North Umpqua River is a low gradient perennial waterway that flows generally northeast to southwest. Developed areas associated with the community of Winchester and John P. Amacher Park occupy the south side of the river and a few residences and maintenance roads associated with the Winchester dam occupy the north side. The river flows over the Winchester dam at the project area before flowing under the OR 99 and I-5 bridges and a railroad bridge.

Within the project area, riparian vegetation consists of landscaped areas, forested areas, and areas dominated by herbaceous species and shrubs. Both sides of the river support riparian species with trees and shrubs that overhang the edges of the river in places. On the north bank, the project area is mostly undeveloped with gravel access roads upstream of the dam. On the south bank and upstream of the dam, the riparian area consists primarily of landscaped residential areas.

This reach of the river has moderate channel depth variability, with generally deeper water above the dam and shallower water below. Below the dam, there is further variability with deep pools in places and shallow areas where gravel and rock are near the surface or exposed, creating ripples and flow variability. There is a deep pool on the downstream side of the dam between the bedrock bench described above and the fish ladder. The channel depth variability and low embeddedness downstream of the dam contribute to a more variable velocity; the dam also imposes velocity variation within the assessment area. Aerial imagery suggests that large woody debris occasionally occurs at the edges of the channel. In addition to the vegetated bench described above, there are several small gravel bars within the channel that area vegetated with shrubs and herbaceous vegetation.

Below the dam, the channel substrate is largely comprised of bedrock, gravel, and large rocks; the substrate is not embedded, meaning larger stream substrate particles are not surrounded by finer sediments on the bed surface. Upstream of the dam, substrate is siltier and more embedded.

The North Umpqua River is habitat to Endangered Species Act (ESA)-listed salmonid species, as well as other native migratory aquatic species. The river is designated Essential Salmonid Habitat (ESH) by the Department of State Lands (DSL) and as Essential Fish Habitat (EFH) for coho and Chinook salmon by the National Marine Fisheries Service (NMFS).

Functional Assessment

A best professional judgment (BPJ) functional assessment was done for the North Umpqua River. Based on the assessment and project activities, the project will not impact the functions and values of the North Umpqua River. The complete functional assessment is included in Attachment 4.

Functional Group	Existing Function	Post-Project Function	Existing Value	Post-Project Value
Hydrologic Functions	Moderate	Moderate	Moderate/High	Moderate/High
Geomorphic Functions	Low/Moderate	Low/Moderate	Moderate	Moderate
Biological Functions	Moderate	Moderate	High	High
Water Quality Functions	Low/Moderate	Low/Moderate	Moderate/High	Moderate/High

Cultural Resources

An archeological survey was performed by Heritage Research Associates, Inc (Heritage). The September 2021 Archaeological Survey Report found no evidence of prehistoric or historical archaeological artifacts, features, or deposits in the area of potential impact (API) for the project. The report is included in Attachment 5 (USACE only).

The Winchester Dam is listed on the National Register of Historic Places. The majority of anticipated work will occur below the ordinary high water (OHW) level, will use compatible industrial materials, and will have little or no visual impact to any of the resource's character-defining historic elements. The Oregon State Historic Preservation Office (SHPO) Clearance Form has been submitted to the SHPO on behalf of WWCD and is included in Attachment 5 (USACE only).

Larval Lamprey (Ammocoete) Beds

Ammocoete beds have been identified upstream of the dam. During the period of the time that the water level is lowered, and the beds are exposed, an irrigation system will be installed to water all identified ammocoete beds upstream of the dam. The irrigation will run continuously for the duration of the low water period (three weeks). The plan for irrigation operations will be reviewed and approved by ODFW. In addition to irrigation, salvage of the ammocoetes will be conducted as necessary and relocated to a predetermined location in the river. A large-scale salvage plan will be prepared and approved by ODFW through the Scientific Take Permit (STP) process.

ESA-Listed Species

Oregon coast coho (listed threatened) and their designated critical habitat are present within the project area. Additionally, spring run Oregon coast Chinook (candidate species) are present. The North Umpqua River is designated EFH by NMFS for Chinook and coho salmon, and ESH by the DSL.

To comply with the ESA, the project has been designed to meet the design criteria of the Standard Local Operating Procedures for Endangered Species (SLOPES) IV to reduce and minimize any potential impacts to ESA-listed fish. A SLOPES memo has been prepared and is included in Attachment 5.

In-water work timing restrictions have been identified to minimize project impacts on listed coho salmon, Chinook salmon, and steelhead, as well as other aquatic species within the North Umpqua River. Repairs of the dam will occur during the ODFW's recommended in-water work period or pre-approved extensions. For this location, the window is established on a case-by-case basis. For this project, the anticipated in-water work window will be July 22 – September 15.

B. Describe the existing navigation, fishing and recreational use of the waterbody or wetland.

Within the project area, the North Umpqua River is used for fishing and recreation. The dam makes the project area impassible by boat and no known navigation uses are present within the project area. A boat ramp for loading and unloading boats is located downstream of the project area at John P. Amacher Park. The reservoir above the dam is also used for boating, primarily by residents immediately adjacent to the reservoir. There is no public access directly to the reservoir. The fish ladder has a viewing area open to the public. The project will have no impact on the ability for the public to access the viewing area.

Following construction of the dam repairs, the use of watercraft would not be affected by the proposed project.

(7) PROJECT SPECIFIC CRITERIA AND ALTERNATIVES ANALYSIS

Describe project-specific criteria necessary to achieve the project purpose. Describe alternative sites and project designs that were considered to avoid or minimize impacts to the waterbody or wetland.*[*]

In order to achieve the necessary goals of the project, the following project-specific criteria had to be met:

- Minimize impacts to aquatic species including ESA-listed species, their critical habitat, and EFH to the maximum extent practicable
- Provide inspection and repairs to ensure the continuing safe operation of the Winchester dam.
- Stay within the programmed and available funding limits
- Minimize construction costs and impacts to surrounding properties
- Minimize impacts to the North Umpqua River and its associated riparian area to the maximum extent practicable

No Build Alternative – This alternative would not meet the needs of the project to repair the dam.

Alternative Repair Plans

Northern Dam Abutment – The initial repair plan to repair the false attractant flow near the fish ladder would have included replacing the log diverter and repairing the leaking section of wall with concrete, wood, or other suitable materials. This repair design was not chosen because it would have been challenging to ensure a water-tight seal in this section of dam and the repair would likely not have been a long-term solution. The purpose of this repair is to avoid any false attractant near the fish ladder.

Timber Dam Repair - The initial repair plan included inspecting key structural components including:

- Tie rod testing and replacement. If rods fail during testing, new rods and anchors will have to be drilled into the bedrock.
- Timber cribbing inspection and replacement.
- Fill removal and replacement to inspect and repair voids in fill behind the face of the dam.
- Placement of polyurethane foam or grout to fill voids in the fill behind the timber cribbing.
- Repairs will be made in-kind with similar materials where feasible

Any repairs identified would have consisted of replacing existing structural elements and engineered fill that make up the timber faced section of the dam. This repair design was not chosen as there would have been difficulty in properly inspecting the various dam components to determine the extent of repairs. Additionally, replacing individual components may have affected the structural integrity of the dam. Finally, testing and construction during the same work window while possible, would likely be problematic. Quantities of replacement materials needed would be difficult to estimate and the duration of work would also be hard to define prior to starting the work.

South Power Building and Spill Gates – To repair areas of scour near the spillway/gate section, proposed repairs included isolating work areas above and below the dam and installing concrete or grout to seal off the scour holes. To isolate the upstream work area, a sheet pile coffer dam would be installed between the concrete spillway structure and the shore to isolate the upstream work area. A work area downstream of the spillway structure would have been isolated using water bladder or super sac coffer dam. A sheet pile cut-off wall would have been installed along the face of the concrete spillway structure and a shotcrete build-up wall would have been installed against the existing structure to provide long-term, protection and prevent future leaks from forming. This repair design was not chosen as installing sheet pile along the face of the spillway structure with multiple angles would have been difficult. Additionally, this repair design would have resulted in additional temporary isolation above and below the dam.

[*] Not required by the Corps for a complete application, but is necessary for individual permits before a permit decision can be rendered.

(8) ADDITIONAL INFORMATION

Are there state or federally listed species on the project site?	☑ Yes	☐ No	☐ Unknown
Is the project site within designated or proposed critical habitat?	☑ Yes	☐ No	☐ Unknown
Is the project site within a national Wild and Scenic River ?	☐ Yes	☑ No	☐ Unknown
Is the project site within a State Scenic Waterway?	☐ Yes	☑ No	☐ Unknown
Is the project site within the 100-year floodplain?	☑ Yes	☐ No	☐ Unknown

If yes to any above, explain in Block 6 and describe measures to minimize adverse effects to those resources in Block 7.

Is the project site within the Territorial Sea Plan (TSP) Area?	☐ Yes	☑ No	☐ Unknown

If yes, attach TSP review as a separate document for DSL.

Is the project site within a designated Marine Reserve?	☐ Yes	☑ No	☐ Unknown

If yes, certain additional DSL restrictions will apply.

Will the overall project involve ground disturbance of one acre or more?	☐ Yes	☑ No	☐ Unknown

If yes, you may need a 1200-C permit from the Oregon Department of Environmental Quality (DEQ).

Is the fill or dredged material a carrier of contaminants from on-site or off-site spills?	☐ Yes	☐ No	☑ Unknown
Has the fill or dredged material been physically and/or chemically tested?	☐ Yes	☐ No	☑ Unknown

If yes, explain in Block 6 and provide references to any physical/chemical testing report(s).

Has a cultural resource (archaeological and/or built environment) survey been performed on the project area?	☑ Yes	☐ No	☐ Unknown
Do you have any additional archaeological or built environment documentation, or correspondence from tribes or the State Historic Preservation Office?	☑ Yes	☐ No	☐ Unknown

If yes, provide a copy of the survey and/or documentation of correspondence with this application to the Corps only. Do not describe any resources in this document. Do not provide the survey or documentation to DSL.

Is the project part of a DEQ Cleanup Site? No☒ Yes☐ Permit number _____DEQ contact._____

Will the project result in new impervious surfaces or the redevelopment of existing surfaces? Yes ☐ No ☒

If yes, the applicant must submit a post-construction stormwater management plan as part of this application to DEQ's 401 WQC program for review and approval, see https://www.oregon.gov/deq/FilterDocs/401wqcertPostCon.pdf

Identify any other federal agency that is funding, authorizing or implementing the project.

Agency Name	Contact Name	Phone Number	Most Recent Date of Contact

List other certificates or approvals/denials required or received from other federal, state or local agencies for work described in this application.

Agency	Certificate / approval / denial description	Date Applied
NMFSDouglas County	SLOPES	Concurrent with JPA
Oregon DEQ	Floodplain Development Permit	In process
ODFW	401 Water Quality Certification	Concurrent with JPA
NMFS/ODFW	Fish Passage Plan	Concurrent with JPA
	Scientific Take Permit	Prior to IWWW

Other DSL and/or Corps Actions Associated with this Site (Check all that apply.)

☐ Work proposed on or over lands owned by or leased from the Corps (may require authorization pursuant to 33 USC 408). These could include the federal navigation channel, structures, levees, real estate, dikes, dams, and other Corps projects.

☐ State owned waterway DSL Waterway Lease #:

☐ Other Corps or DSL Permits Corps # DSL #

☐ Violation for Unauthorized Activity Corps # DSL #

☐ Wetland and Waters Delineation Corps # DSL #

Submit the entire delineation report to the Corps; submit only the concurrence letter (if complete) and approved maps to DSL. If not previously submitted to DSL, send under a separate cover letter

(9) IMPACTS, RESTORATION/REHABILITATION, AND COMPENSATORY MITIGATION

A. Describe unavoidable environmental impacts that are likely to result from the proposed project. Include permanent, temporary, direct, and indirect impacts.

No adverse indirect impacts are anticipated to occur resulting from the proposed repair activities.

Temporary Impacts

Direct temporary impacts are associated with the following activities:

- Installation and removal of sandbag barriers for temporary isolation (4,440 SF, 987 CY)
- Installation and removal of aggregate work platforms above and below the dam (7,400, 274 CY)
- Installation and removal of aggregate for access road improvements (1,380 SF, 51 CY)
- Temporary work area to remove concrete on the south dam near the spillway/gate section (2,250 SF, 83 CY)

After work has been completed, all temporary impact materials will be removed and temporary impact areas will be returned to previous conditions. Any vegetation disturbance along the riverbank is anticipated to only be to herbaceous vegetation. Disturbed areas will be restored with a native seed mix.

Permanent Impacts

Direct permanent impacts to the dam/fish ladder interface are associated with:

- Installation of a concrete slab up against the existing face of the dam and connecting wingwall perpendicular to the dam face (18 SF, 10 CY)
- Removal of the existing log boom (20 SF, 2 CY)

Permanent impacts of the concrete wall sections will provide the benefit of eliminating a false attractant to fish near the fish ladder. The concrete walls will be within the existing footprint of the dam and fish ladder structure and will not alter the structure in a significant way.

Direct permanent impacts to the timber dam are associated with the following activities:

- Installation of vertical and horizontal steel structural elements for reinforcement of the timber dam and modification/repair of the concrete sill where vertical steel supports will be anchored (1,853 SF, 75 CY)
- Installation of hydrophobic foam to fill voids/seepage paths below the wood cap or in the existing timbers behind the dam face (150 SF, 22 CY)

Permanent impacts from the addition of the steel structural supports and repair of the concrete sill will not result in a significant alteration of the footprint or function of the dam. The addition of the steel within the existing framework will not increase the footprint of the dam and flows over the dam will not be affected. The addition of the hydrophobic foam will be inside the existing structure of the dam and will have no impact on the function or footprint of the dam. These repairs will not result in any net loss of waters.

Direct permanent impacts to the south section of the dam at the spillway/gate section are associated with the following activities:

- Removal of a portion of the existing concrete apron (1,100 SF, 41 CY)
- Removal of 1,100 SF (41 CY) of existing concrete apron and in-kind placement of 1,100 SF (41 CY) of concrete within sheet pile cutoff wall
- Placement of 1,100 SF (41 CY) of new concrete within sheet pile cutoff wall

The permanent removal of concrete will offset of the new additional concrete apron within the sheet pile cutoff wall. The work will occur within the existing footprint of the dam and will not result in the net loss of any waters.

The structural repairs of the dam occur within the existing footprint of the dam and will not result in any net loss of waters nor affect the hydrologic characteristics of the North Umpqua River beyond the existing conditions of the dam.

B. For temporary removal or fill or disturbance of vegetation in waterbodies, wetlands or riparian (i.e., streamside) areas, discuss how the site will be restored after construction to include the timeline for restoration.

No vegetation within the North Umpqua River channel will be disturbed during construction and only temporary disturbances to the adjacent riverbanks are anticipated. Anticipated impacts include the removal of native and non-native herbaceous species. All disturbed areas will be seeded with native seed mix and protected via erosion control measures, if needed, following construction completion. No riparian tree removal is anticipated.

Compensatory Mitigation

C. Proposed mitigation approach. Check all that apply:

☐ Permittee-responsible Onsite Mitigation	☐ Permittee-responsible Offsite mitigation	☐ Mitigation Bank or In-Lieu Fee Program	☐ Payment to Provide (not approved for use with Corps permits)

D. Provide a brief description of proposed mitigation approach and the rationale for choosing that approach. If you believe mitigation should not be required, explain why.

No mitigation plans have been developed for this project. The repairs to the dam will not alter the overall footprint or function of the dam and will not result in a net loss of waters. This repair project will eliminate scour and leakage, and provide additional support to the dam to continue to function in a safe and effective manner. The project will also provide a benefit by eliminating the false attractant near the fish ladder, which could reduce the effectiveness of the fish ladder.

Mitigation Bank / In-Lieu Fee Information:

Name of mitigation bank or in-lieu fee project: n/a

Type and amount of credits to be purchased: n/a

If you are proposing permittee-responsible mitigation, have you prepared a compensatory mitigation plan?

☐ Yes. Submit the plan with this application and complete the remainder of this section.

☐ No. A mitigation plan will need to be submitted (for DSL, this plan is required for a complete application).

Mitigation Location Information (Fill out only if permittee-responsible mitigation is proposed)

Mitigation Site Name/Legal Description	Mitigation Site Address	Tax Lot #

County	City	Latitude & Longitude (in DD.DDDD format)

Township	Range	Section	Quarter/Quarter

(10) ADJACENT PROPERTY OWNERS FOR PROJECT AND MITIGATION SITE

☐ **Pre-printed mailing labels of adjacent property owners attached**	**Project Site Adjacent Property Owners**	**Project Site Adjacent Property Owners**

Contact Name
Address 1
Address 2
City, ST ZIP Code

Contact Name
Address 1
Address 2
City, ST ZIP Code

Contact Name
Address 1
Address 2
City, ST ZIP Code

(11) CITY/COUNTY PLANNING DEPARTMENT LAND USE AFFIDAVIT (TO BE COMPLETED BY LOCAL PLANNING OFFICIAL)

I have reviewed the project described in this application and have determined that:

- ☐ This project is not regulated by the comprehensive plan and land use regulations
- ☐ This project is consistent with the comprehensive plan and land use regulations
- ☑ This project is consistent with the comprehensive plan and land use regulations with the following:
  - ☐ Conditional Use Approval
  - ☐ Development Permit
  - ☑ Other Permit (explain in comment section below)
- ☐ This project is not currently consistent with the comprehensive plan and land use regulations. To be consistent requires:
  - ☐ Plan Amendment
  - ☐ Zone Change
  - ☐ Other Approval or Review (explain in comment section below)

An application or variance request has ☐ has not ☐ been filed for the approvals required above.

Local planning official name (print)	Title	City / County
Jeff Lehrbach	Planning Manager	Douglas
Signature Jeff Lehrbach	**Date** 1/31/2022	

Comments: Requires Floodplain Development review to ensure FEMA NFIP requirements are met, particularly being able to address No Rise requirements since the project is located in the mapped Floodway. No structural development authorized - LUCS only.

R52716; R52520; R52317 & R12452

(12) COASTAL ZONE CERTIFICATION

If the proposed activity described in your permit application is within the Oregon Coastal Zone, the following certification is required before your application can be processed. The signed statement will be forwarded to the Oregon Department of Land Conservation and Development (DLCD) for its concurrence or objection. For additional information on the Oregon Coastal Zone Management Program and consistency reviews of federally permitted projects, contact DLCD at 635 Capitol Street NE, Suite 150, Salem, Oregon 97301 or call 503-373-0050 or click here.

CERTIFICATION STATEMENT

I certify that, to the best of my knowledge and belief, the proposed activity described in this application complies with the approved Oregon Coastal Zone Management Program and will be completed in a manner consistent with the program.

Print /Type Applicant Name	Title
Applicant Signature	Date

(13) SIGNATURES

Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and, to the best of my knowledge and belief, this information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities. By signing this application I consent to allow Corps or DSL staff to enter into the above-described property to inspect the project location and to determine compliance with an authorization, if granted. I hereby authorize the person identified in the authorized agent block below to act in my behalf as my agent in the processing of this application and to furnish supplemental information in support of this permit application. I understand that the granting of other permits by local, county, state or federal agencies does not release me from the requirement of obtaining the permits requested before commencing the project. I understand that payment of the required state processing fee does not guarantee permit issuance.

To be considered complete, the fee must accompany the application to DSL. The fee is not required for submittal of an application to the Corps.

Fee Amount Enclosed	$1,063.00

Applicant Signature (required) must match the name in Block 2

Print Name Ryan Beckley	Title President, Winchester Water Control District
Signature Ryan T. Beckley President	Date 2/1/22

Authorized Agent Signature

Print Name James Stupfel	Title Sr. Environmental Specialist
Signature James Stupfel	Date 2/1/2022

Landowner Signature(s)*

Landowner of the Project Site (if different from applicant)

Print Name	Title
Signature	Date

Landowner of the Mitigation Site (if different from applicant)

Print Name	Title
Signature	Date

Department of State Lands, Property Manager (to be completed by DSL)

If the project is located on state-owned submerged and submersible lands, DSL staff will obtain a signature from the Land Management Division of DSL. A signature by DSL for activities proposed on state-owned submerged/submersible lands only grants the applicant consent to apply for a removal-fill permit. A signature for activities on state-owned submerged and submersible lands grants no other authority, express or implied and a separate proprietary authorization may be required.

Print Name	Title
Signature	Date

* Not required by the Corps.

(14) ATTACHMENTS

- ☒ Drawings
  - ☒ Location map with roads identified
  - ☒ U.S.G.S topographic map
  - ☒ Tax lot map
  - ☒ Site plan(s)
  - ☒ Plan view and cross section drawing(s)
  - ☒ Recent aerial photo
  - ☒ Project photos
  - ☐ Erosion and Pollution Control Plan(s), if applicable
  - ☒ DSL / Corps Wetland Concurrence letter and map, if approved and applicable
- ☐ Pre-printed labels for adjacent property owners (Required if more than 5)
- ☐ Incumbency Certificate if applicant is a partnership or corporation
- ☐ Restoration plan or rehabilitation plan for temporary impacts
- ☐ Mitigation plan
- ☐ Wetland functional assessments, if applicable
  - ☐ Cover Page
  - ☐ Score Sheets
  - ☐ ORWAP OR, F, T, & S forms
  - ☐ ORWAP Reports
  - ☐ Assessment Maps
  - ☐ ORWAP Reports: Soils, Topo, Assessment area, Contributing area
- ☒ Stream Functional Assessments, if applicable
  - ☐ Cover Page
  - ☐ Score Sheets
  - ☐ SFAM PA, PAA, & EAA forms
  - ☐ SFAM Report
  - ☐ Assessment Maps
    - ☐ Aerial Photo Site Map and Topo Site Map (Both maps should document the PA, PAA, & EAA)
- ☐ Compensatory Mitigation (CM) Eligibility & Accounting Worksheet
  - ☐ Matching Quickguide sheet(s)
  - ☐ CM Eligibility & Accounting sheet
- ☐ Alternatives analysis
- ☐ Biological assessment (if requested by the Corps project manager during pre-application coordination)
- ☐ Stormwater management plan (may be required by the Corps or DEQ)
- ☐ Other
  - ☐ Please describe:

(14) ATTACHMENTS

List of Attachments Sections

Attachment 1: Impact Summary Table
Attachment 2: JPA Figures
Attachment 3: Site Photos
Attachment 4: Stream Functional Assessment (DSL Only)
Attachment 5: SLOPES Memo (USACE Only)
Attachment 6: Property Owner Address Labels (DSL Only)
Attachment 7: Cultural Resource Reports (USACE Only)
Attachment 8: Gate Operation Supplemental Information Memo

For U.S. Army Corps of Engineers send application to:

USACE Portland District
ATTN: CENWP-ODG-P
PO Box 2946
Portland, OR 97208-2946
Phone: 503-808-4373
portlandpermits@usace.army.mil

Counties:
Baker, Benton, Clackamas, Clatsop, Columbia, Gilliam, Grant, Hood River, Jefferson, Lincoln, Linn, Malheur, Marion, Morrow, Multnomah, Polk, Sherman, Tillamook, Umatilla, Union, Wallowa, Wasco, Washington, Wheeler, Yamhill

U.S. Army Corps of Engineers
ATTN: CENWP-ODG-E
211 E. 7th AVE, Suite 105
Eugene, OR 97401-2722
Phone: 541-465-6868
portlandpermits@usace.army.mil

Counties:
Coos, Crook, Curry, Deschutes, Douglas, Jackson, Josephine, Harney, Klamath, Lake, Lane

For Department of State Lands send application to:

West of the Cascades:
Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
Phone: 503-986-5200

East of the Cascades:
Department of State Lands
1645 NE Forbes Road, Suite 112
Bend, Oregon 97701
Phone: 541-388-6112

For Department of Environmental Quality e-mail application to:

ATTN: DEQ 401 Certification Program
Water Quality
700 NE Multnomah St, Suite 600
Portland, OR 97232
401applications@deq.state.or.us

ATTACHMENT 1

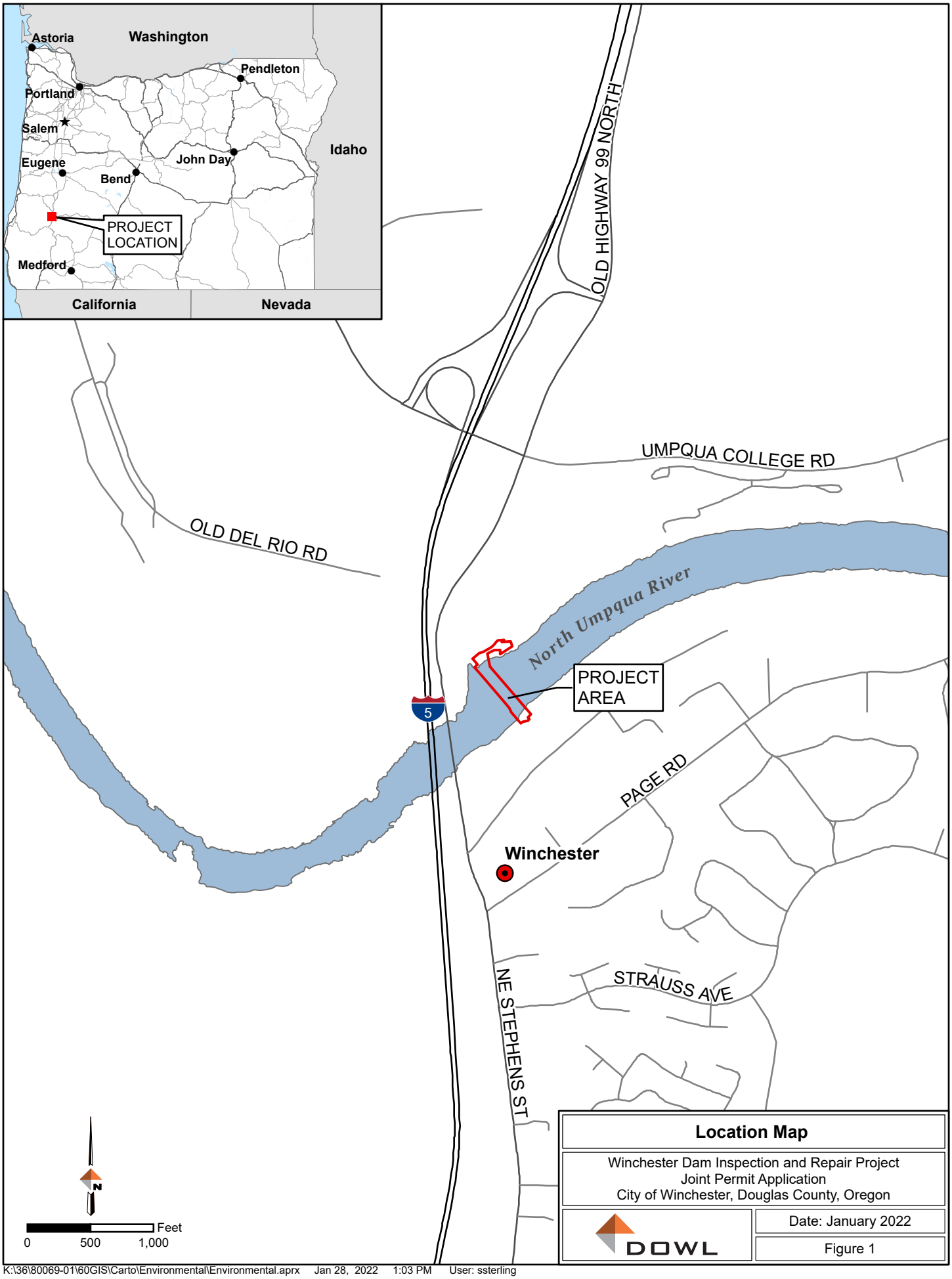
PROJECT IMPACT SUMMARY TABLE

4(F) REMOVAL Volumes and Dimensions							
Wetland / Waterbody Name	**Removal Dimensions**					**Duration of Impact**	**Material**
	Length (FT)	**Width (FT)**	**Depth (FT)**	**Area (SF)**	**Volume (CY)**		
North Umpqua River (DS Isolation)	370	12	6	4,440	987	3 Weeks	Sandbags
North Umpqua River (DS Aggregrate Base)	370	8	1	2,960	110	3 Weeks	Aggregate
North Umpqua River (North Access Road)	115	12	1	1,380	51	3 Weeks	Aggregate
North Umpqua River (South Access Road)	Varies	Varies	1	2,250	83	3 Weeks	Aggregate/Concrete/Native Material
North Umpqua River (Dam Work Platform)	370	12	1	4,440	164	3 Weeks	Native Material
North Umpqua River (North Side Log Removal)	10	2	2	20	1	Permanent	Wood
North Umpqua River (Concrete Removal - South Dam Fill Gates)	Varies	Varies	1	1,100	41	Permanent	Concrete
North Umpqua River (Concrete Removal for In-kind Replaced - South Dam Fill Gates)	Varies	Varies	1	1,100	41	Permanent	Concrete
Total Removal Below OHW				**17,690**	**1,478**		

4(H) FILL Volumes and Dimensions							
Wetland / Waterbody Name	**Fill Dimensions**					**Duration of Impact**	**Material**
	Length (FT)	**Width (FT)**	**Depth (FT)**	**Area (SF)**	**Volume (CY)**		
North Umpqua River (DS Isolation)	370	12	6	4,440	987	3 Weeks	Sandbags
North Umpqua River (DS Aggregate Base)	370	8	1	2,960	110	3 Weeks	Aggregate
North Umpqua River (North Access Road)	115	12	1	1,380	51	3 Weeks	Aggregate
North Umpqua River (South Access Road)	Varies	Varies	1	2,250	83	3 Weeks	Aggregate/Concrete/Native Material
North Umpqua River (Dam Work Platform)	370	12	1	4,440	164	3 Weeks	Native Material
North Umpqua River (North Side Existing Wall)	6	1.5	16	9	5	Permanent	Concrete
North Umpqua River (North Side New Wall)	6	1.5	16	9	5	Permanent	Concrete
North Umpqua River (Dam Vertical Supports)	850	0.75	0.75	638	18	Permanent	Steel
North Umpqua River (Dam Horizontal Supports)	950	0.5	0.083	475	2	Permanent	Steel
North Umpqua River (Concrete Sill)	370	2	2	740	55	Permanent	Concrete
North Umpqua River (Timber Dam Embankment)	Varies	Varies	Varies	150	22	Permanent	Foam
North Umpqua River (In-kind Concrete Fill - South Dam Fill Gates)	Varies	Varies	1	1,100	41	Permanent	Concrete/Granular sub-base/Sheet pile
North Umpqua River (New Concrete Fill - South Dam Fill Gates)	Varies	Varies	1	1,100	41	Permanent	Concrete/Granular sub-base/Sheet pile
Total Fill Below OHW				**19,691**	**1,584**		

ATTACHMENT 2

PERMIT FIGURES



Location Map

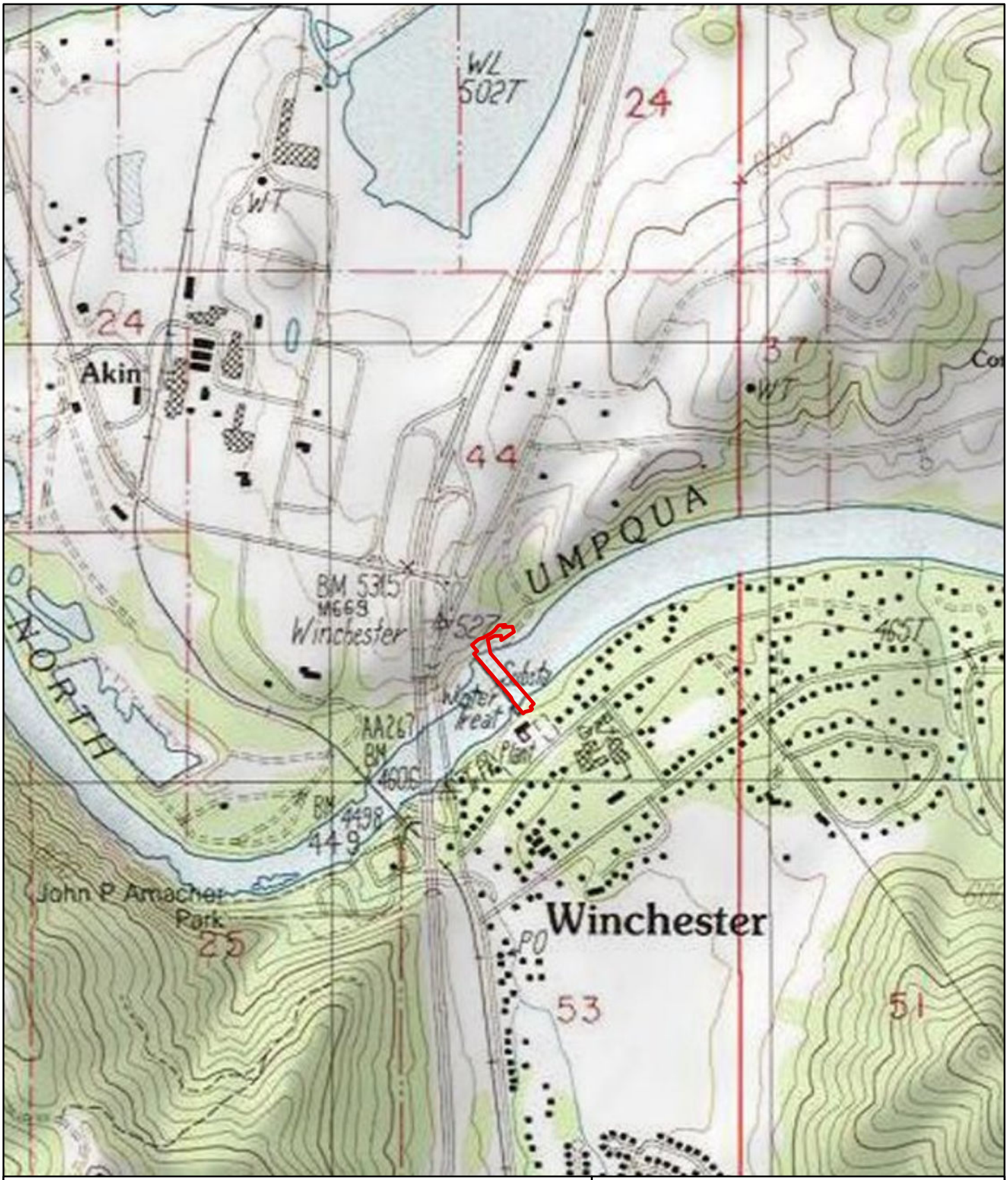
Winchester Dam Inspection and Repair Project
Joint Permit Application
City of Winchester, Douglas County, Oregon

DOWL

Date: January 2022

Figure 1

K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:03 PM User: ssterling



Project Area

**Map Source: USA Topo Maps, National Geographic Society*

N

Feet

0 500 1,000

Topographic Map

Winchester Dam Inspection and Repair Project
Joint Permit Application
City of Winchester, Douglas County, Oregon

DOWL

Date: January 2022

Figure 2

K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:03 PM User: ssterling
Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

Project Area
Taxlot (Douglas County)
Impacted Taxlot

N

0 50 100 Feet

Tax Lot Map

Winchester Dam Inspection and Repair Project
Joint Permit Application
City of Winchester, Douglas County, Oregon

DOWL

Date: January 2022

Figure 3

K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:03 PM User: ssterling
Service Layer Credits: Oregon Statewide Imagery Program (OSIP) - Oregon Imagery Framework Implementation Team

Project Area

N

Feet

0 50 100

Aerial Photograph (2018)

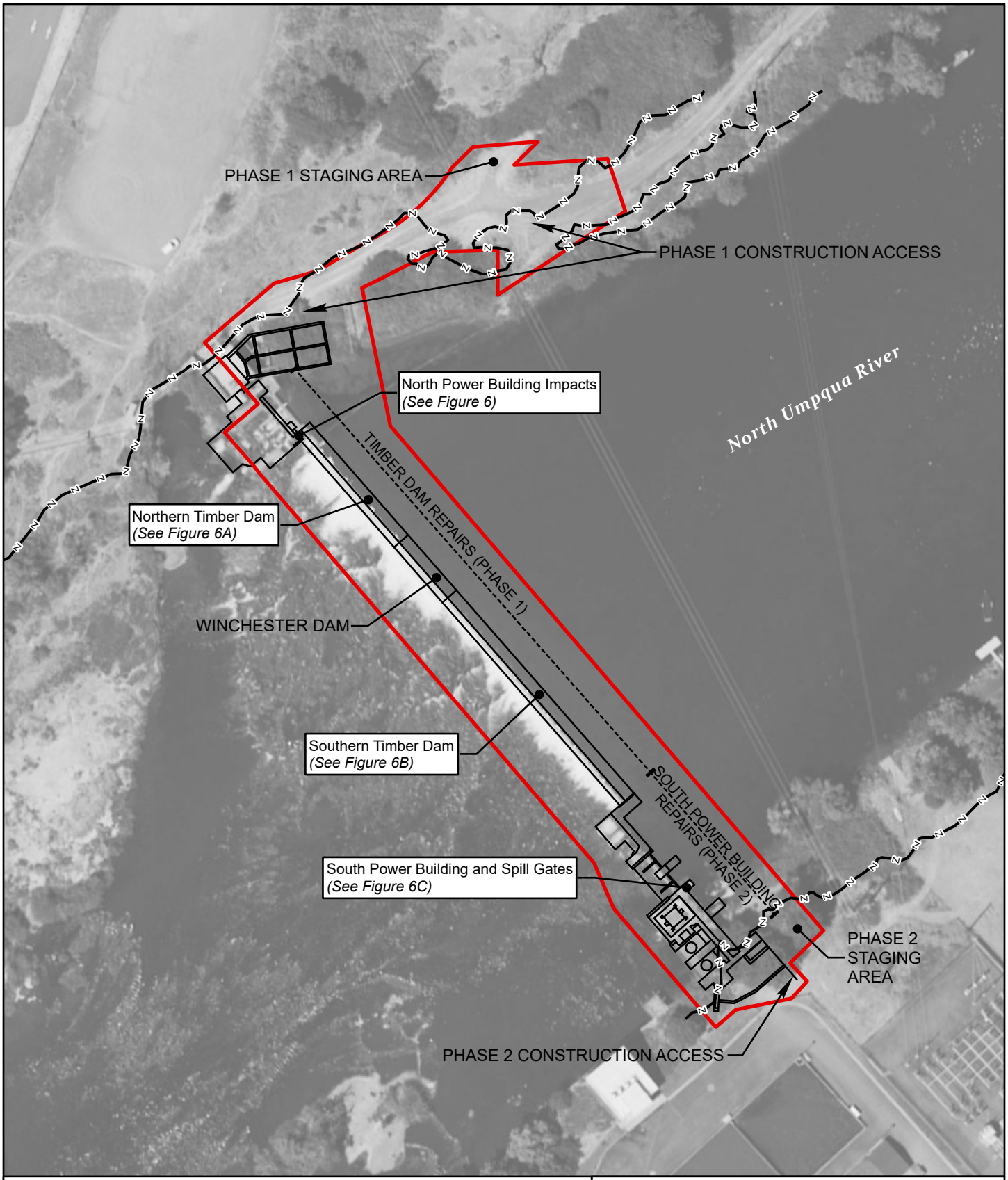
Winchester Dam Inspection and Repair Project
Joint Permit Application
City of Winchester, Douglas County, Oregon

DOWL

Date: January 2022

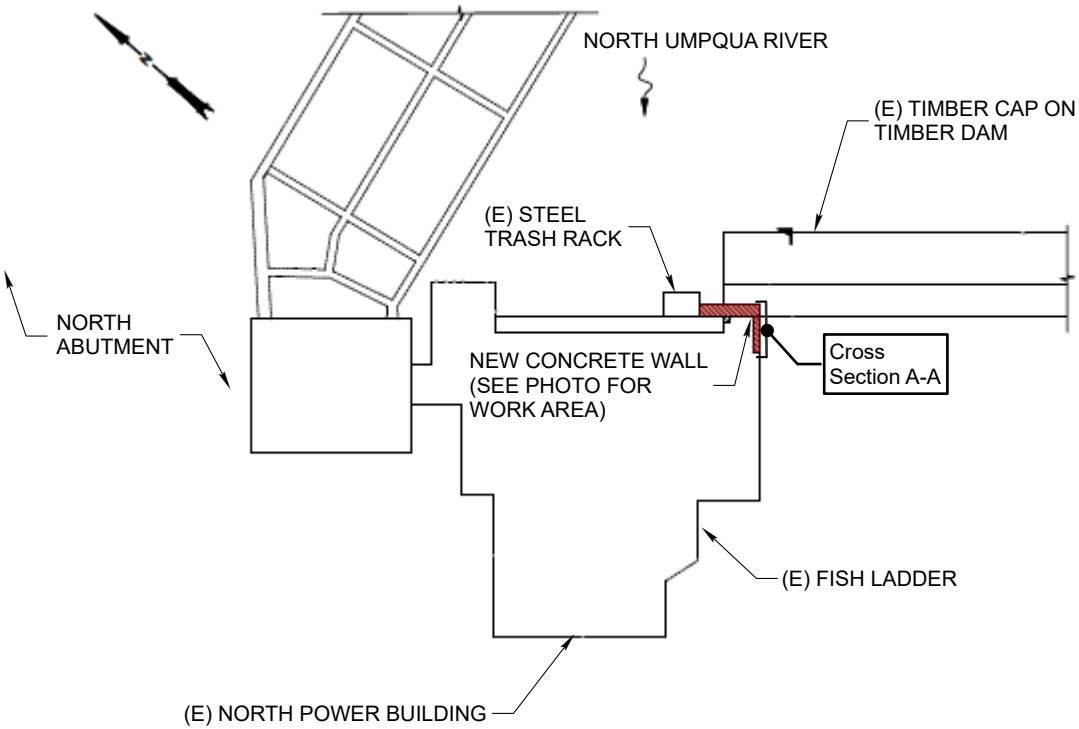
Figure 4

K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:04 PM User: ssterling
Service Layer Credits: Oregon Statewide Imagery Program (OSIP) - Oregon Imagery Framework Implementation Team



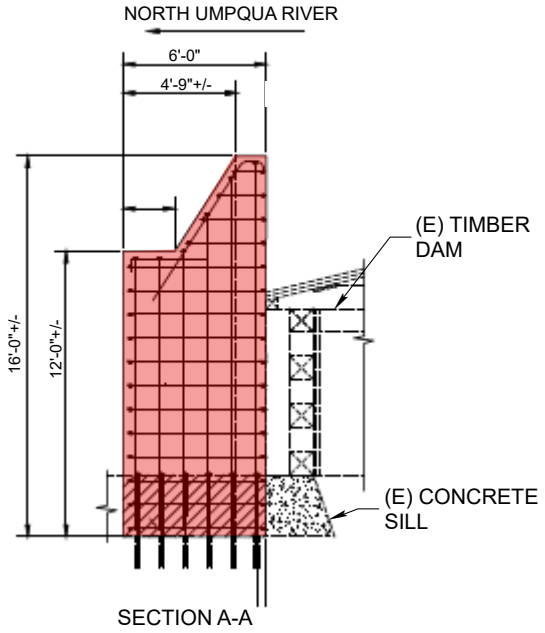
K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:04 PM User: ssterling
Service Layer Credits: Oregon Statewide Imagery Program (OSIP) - Oregon Imagery Framework Implementation Team

(E) = Existing Component
= Permanent Impacts



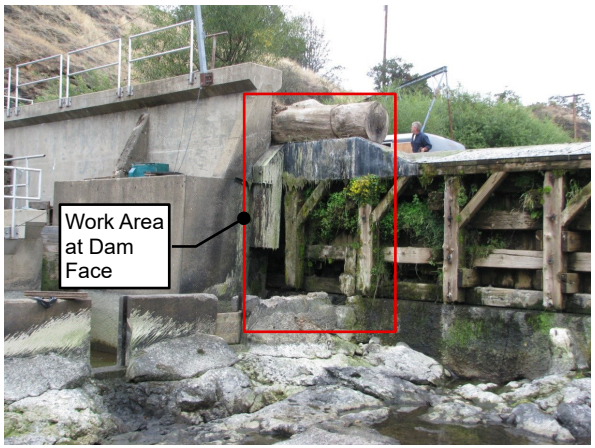
NORTH POWER BUILDING AND FISH LADDER PLAN

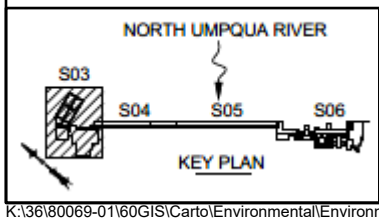
SCALE 1" = 30'



REINFORCED CONCRETE WALL SECTIONS

SCALE 3/8" = 3'





Impact Summary				
Resource	Duration	Impact Area (SF)	Removal (CY)	Fill (CY)
North Umpqua River (Concrete Wall)	Permanent	18	0	10
North Umpqua River (Log Removal)	Permanent	20	2	0

Permanent Impacts to North Power Building near Fish Ladder (Phase 1)

Winchester Dam Inspection and Repair Project
Joint Permit Application
City of Winchester, Douglas County, Oregon

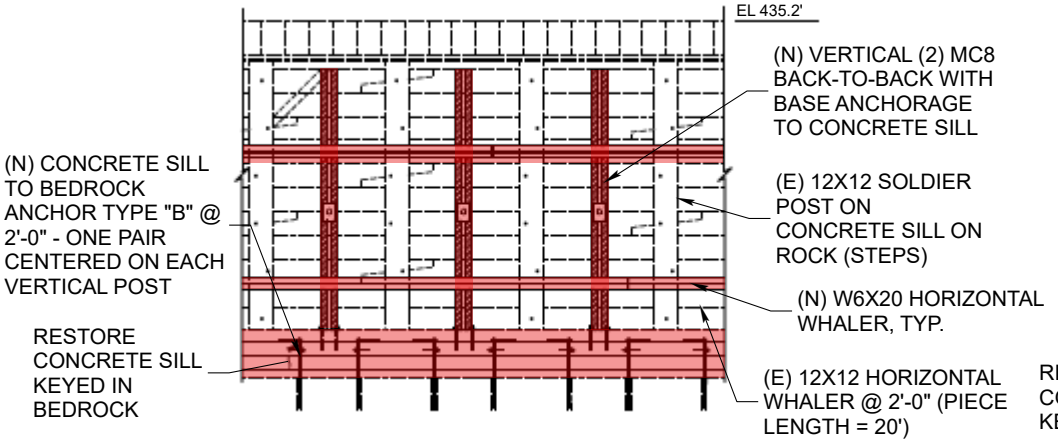
DOWL

Date: January 2022

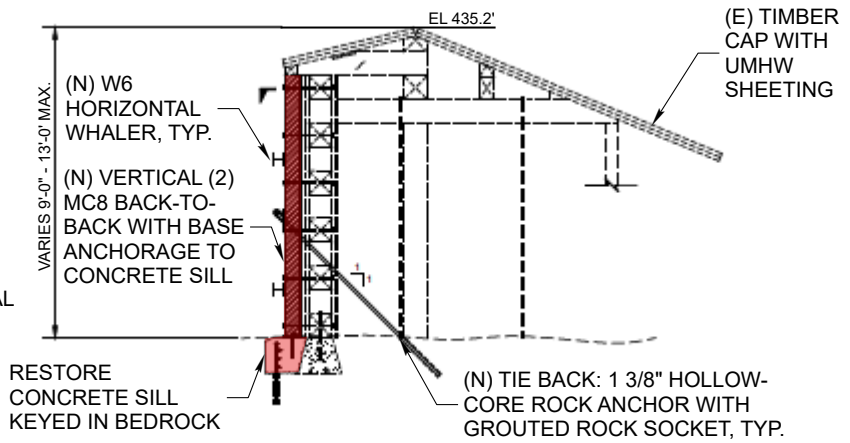
Figure 6

K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:04 PM User: ssterling

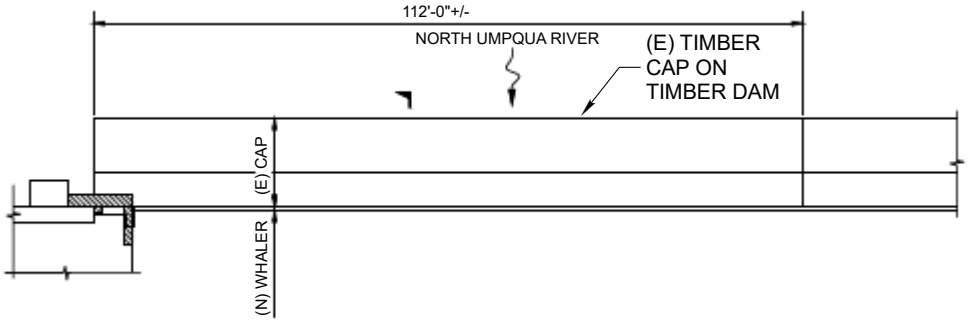
(N) = New Component
(E) = Existing Component
= Permanent Impacts



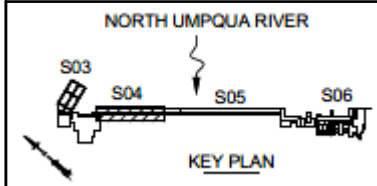
NORTHERN TIMBER DAM - PARTIAL ELEVATION, LOOKING UPSTREAM
SCALE 3/8" = 3'



NORTHERN TIMBER DAM SECTION
SCALE 3/8" = 3'



TIMBER DAM - NORTHERN PLAN
SCALE 1" = 30'



Impact Summary*				
Resource	Duration	Impact Area (SF)	Removal (CY)	Fill (CY)
North Umpqua River (Dam Vertical Supports)	Permanent	638	0	18
North Umpqua River (Dam Horizontal Supports)	Permanent	475	0	2
North Umpqua River (Concrete Sill)	Permanent	740	0	55
*Impacts are for entire length of dam				

Permanent Impacts to Northern Dam Section (Phase 1)

Winchester Dam Inspection and Repair Project
Joint Permit Application
City of Winchester, Douglas County, Oregon

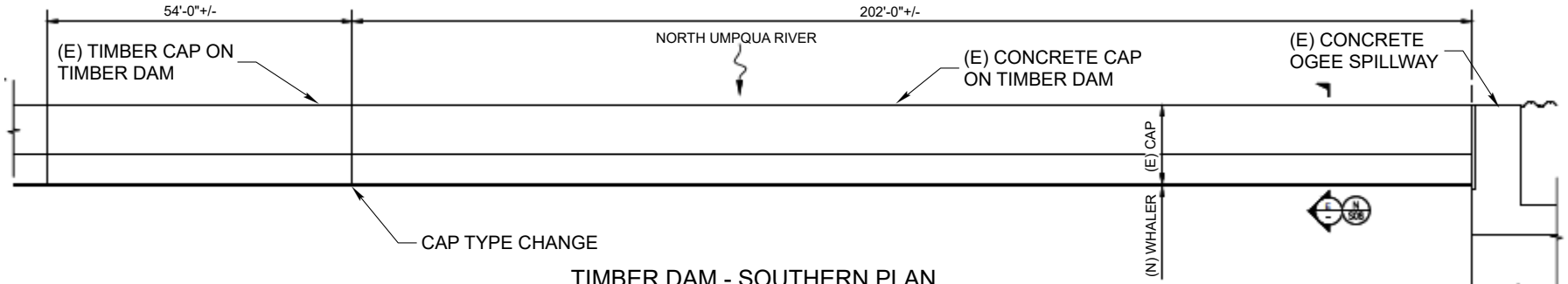
DOWL

Date: January 2022

Figure 6A

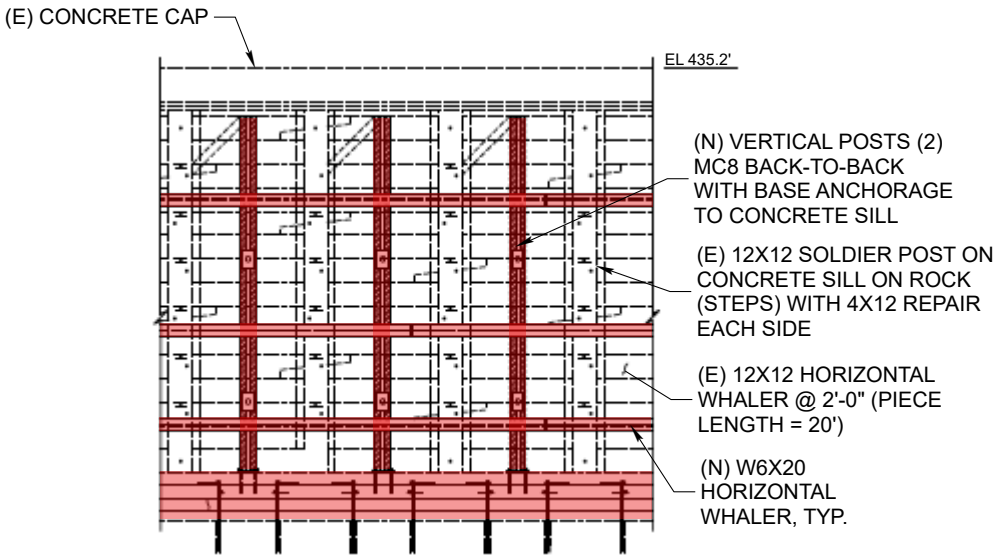
K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:03 PM User: ssterling

(N) = New Component
(E) = Existing Component
= Permanent Impacts



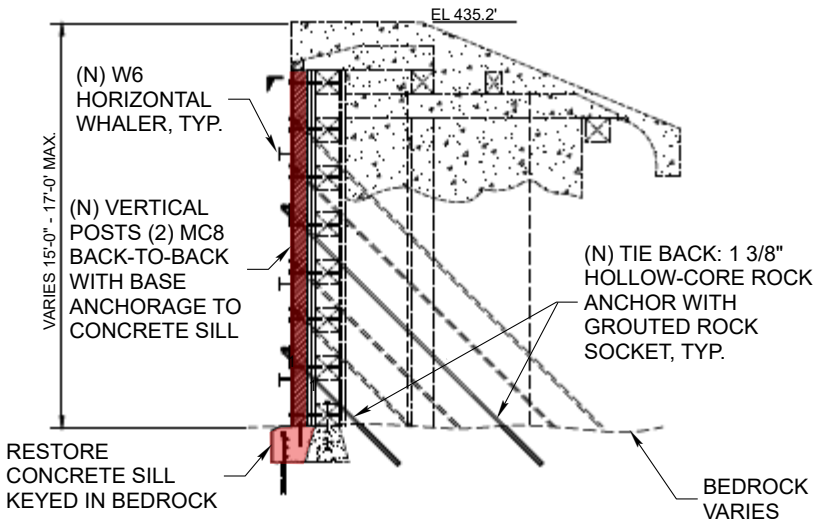
TIMBER DAM - SOUTHERN PLAN

SCALE 1" = 30'



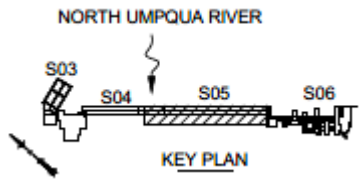
SOUTHERN TIMBER DAM PARTIAL ELEVATION - LOOKING UPSTREAM

SCALE 3/8" = 3'



SOUTHERN TIMBER DAM SECTION

SCALE 3/8" = 3'



Impact Summary*				
Resource	Duration	Impact Area (SF)	Removal (CY)	Fill (CY)
North Umpqua River (Dam Vertical Supports)	Permanent	638	0	18
North Umpqua River (Dam Horizontal Supports)	Permanent	475	0	2
North Umpqua River (Concrete Sill)	Permanent	740	0	55
*Impacts are for entire length of dam				

Permanent Impacts to Southern Dam Section (Phase 1)

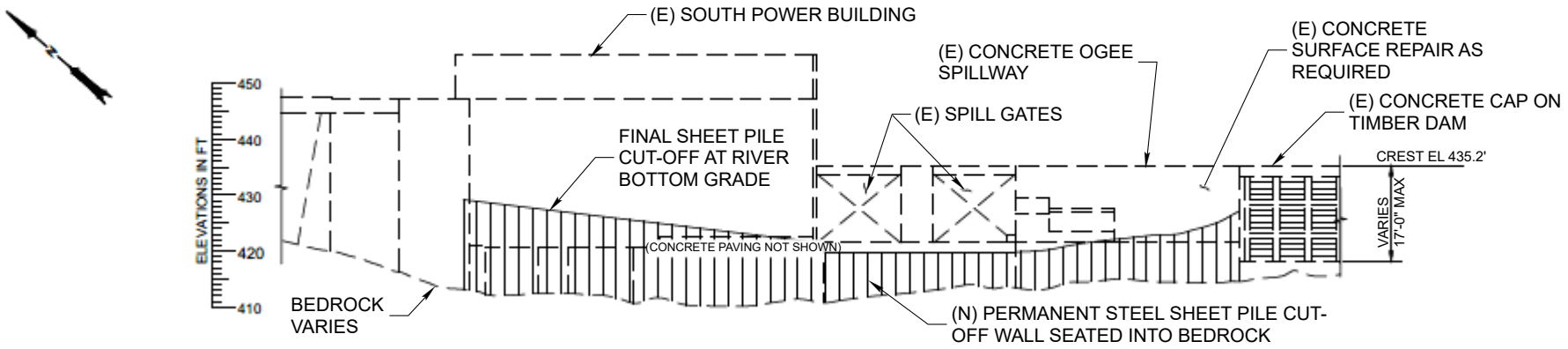
Winchester Dam Inspection and Repair Project
Joint Permit Application
City of Winchester, Douglas County, Oregon

DOWL

Date: January 2022

Figure 6B

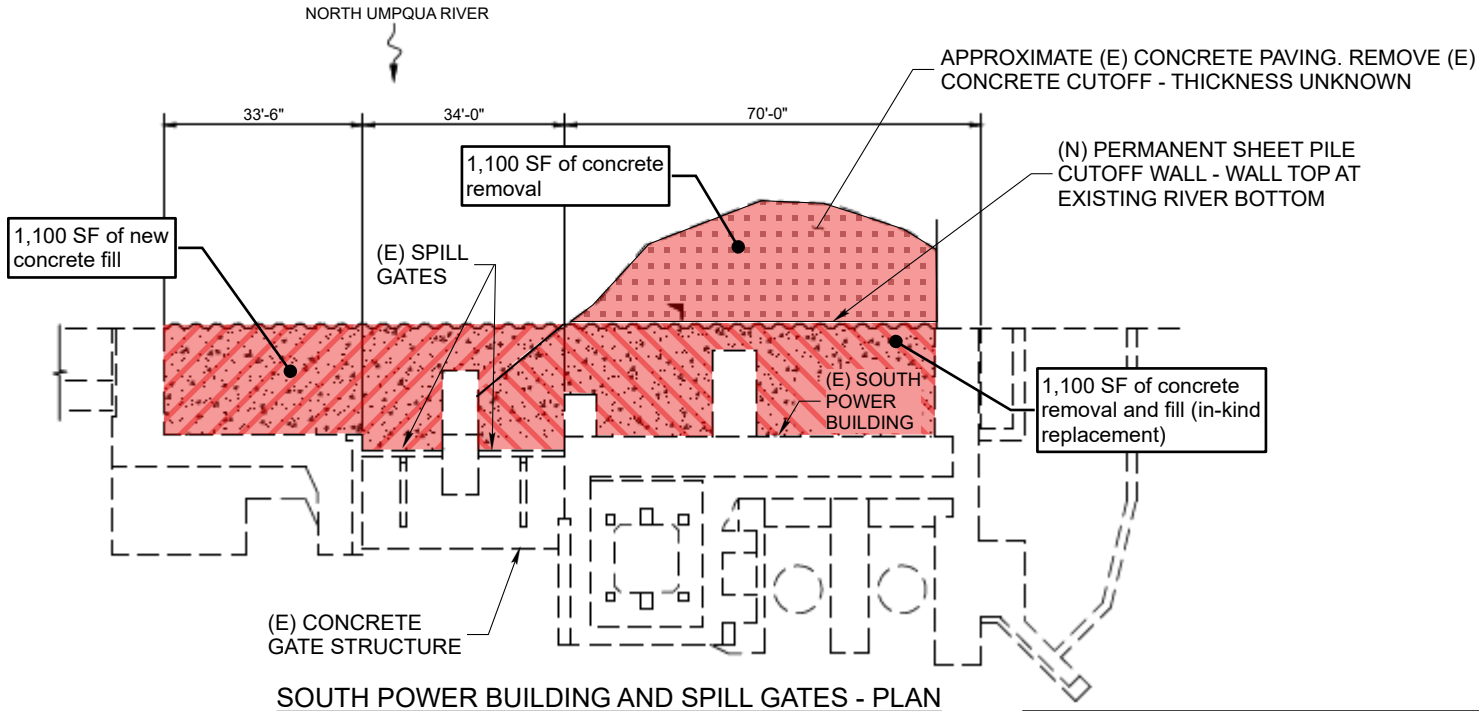
K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:04 PM User: ssterling



SOUTH POWER BUILDING AND SPILL GATES - ELEVATION - LOOKING DOWNSTREAM

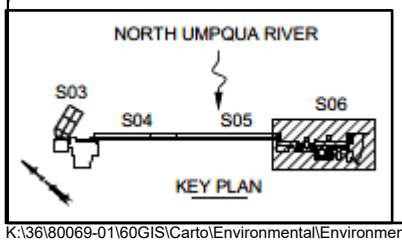
SCALE 1" = 30'

(N) = New Component
(E) = Existing Component
= Permanent Impacts



SOUTH POWER BUILDING AND SPILL GATES - PLAN

SCALE 1" = 30'



Impact Summary				
Resource	Duration	Impact Area (SF)	Removal (CY)	Fill (CY)
North Umpqua River (Permanent Removal)	Permanent	1,100	41	0
North Umpqua River (In-kind Replacement)	Permanent	1,100	41	41
North Umpqua River (New Permanent Fill)	Permanent	1,100	0	41

Permanent Impacts to South Power Building and Fill Gates (Phase 2)

Winchester Dam Inspection and Repair Project
Joint Permit Application
City of Winchester, Douglas County, Oregon

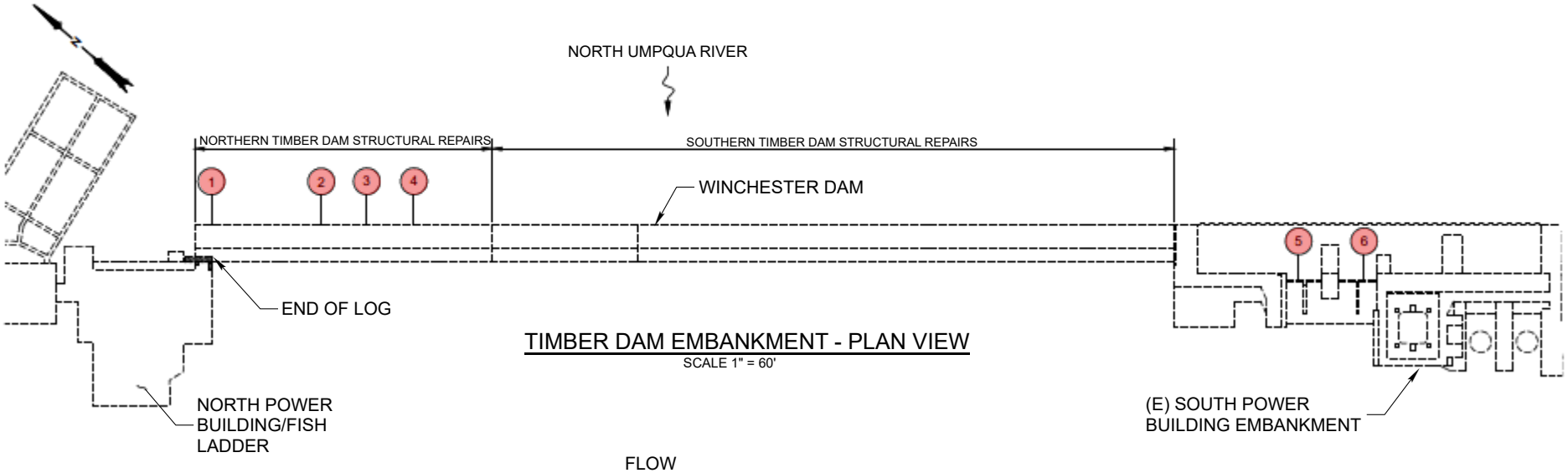
DOWL

Date: January 2022

Figure 6C

K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:04 PM User: ssterling

(E) = Existing Component
= Permanent Impacts



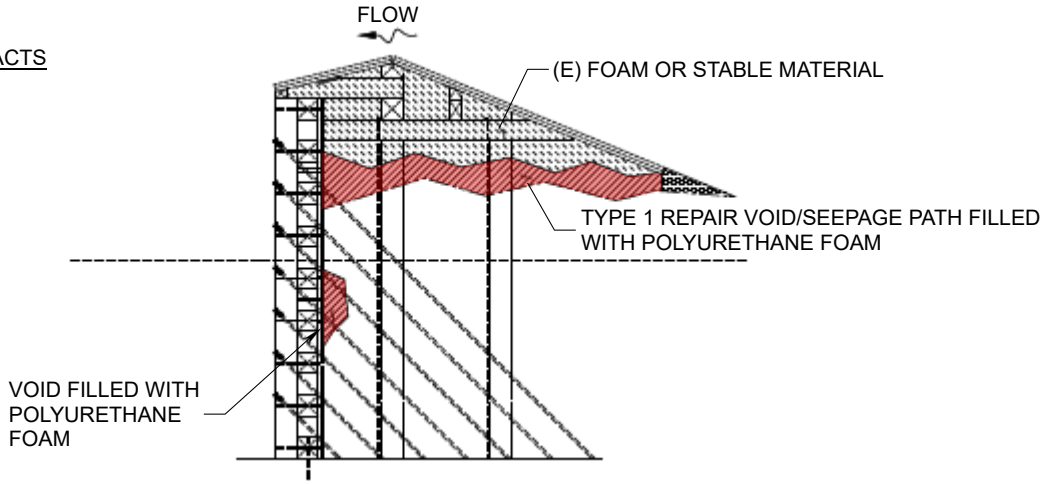
TIMBER DAM EMBANKMENT - PLAN VIEW

SCALE 1" = 60'

TYPE 1 REPAIR LOCATIONS/IMPACTS

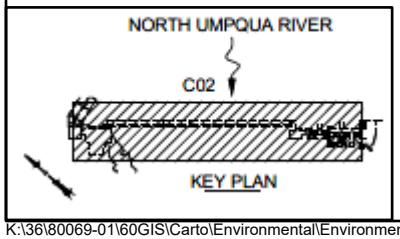
1. 100 SF
2. 5 SF
3. 5 SF
4. 10 SF
5. 5 SF
6. 25 SF

Note: Additional fill locations may be discovered during repair work



POLYURETHANE FOAM HOLE REPAIR DETAIL

NO SCALE



Impact Summary				
Resource	Duration	Impact Area (SF)	Removal (CY)	Fill (CY)
North Umpqua River	Permanent	150	0	22

Polyurethane Foam Repair Impacts (Phase 1)

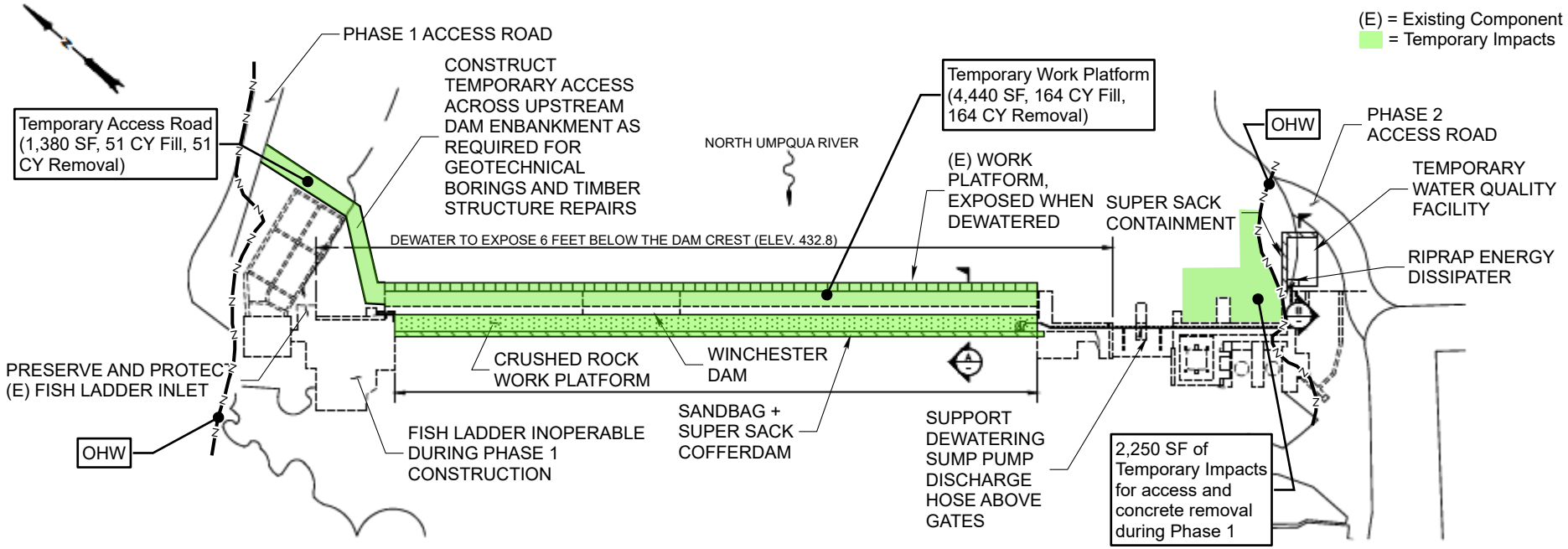
Winchester Dam Inspection and Repair Project
Joint Permit Application
City of Winchester, Douglas County, Oregon

DOWL

Date: January 2022

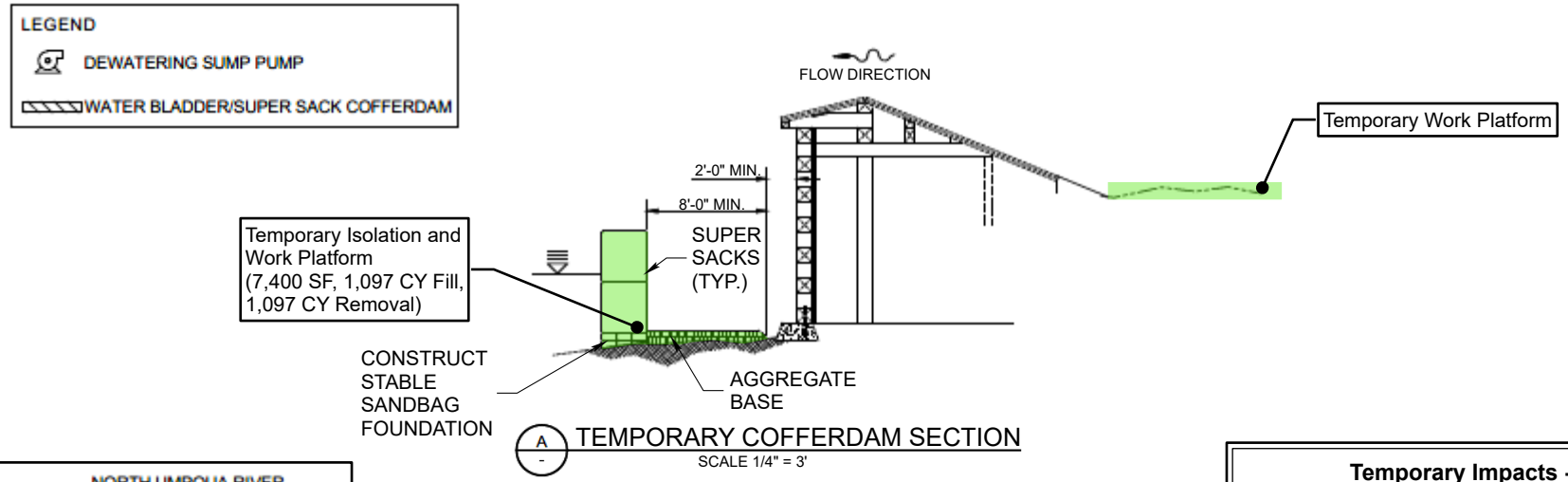
Figure 6D

K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:04 PM User: ssterling



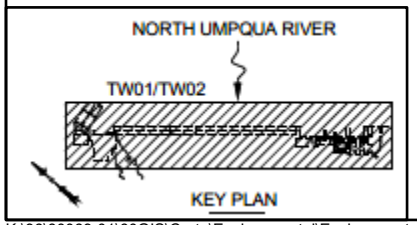
PHASE 1 TEMPORARY WATER MANAGEMENT - PLAN VIEW

SCALE 1" = 90'



A - TEMPORARY COFFERDAM SECTION

SCALE 1/4" = 3'



Impact Summary				
Resource	Duration	Impact Area (SF)	Removal (CY)	Fill (CY)
North Umpqua River	Temporary	15,470	1,395	1,395

Temporary Impacts - Phase 1

Winchester Dam Inspection and Repair Project
Joint Permit Application
City of Winchester, Douglas County, Oregon

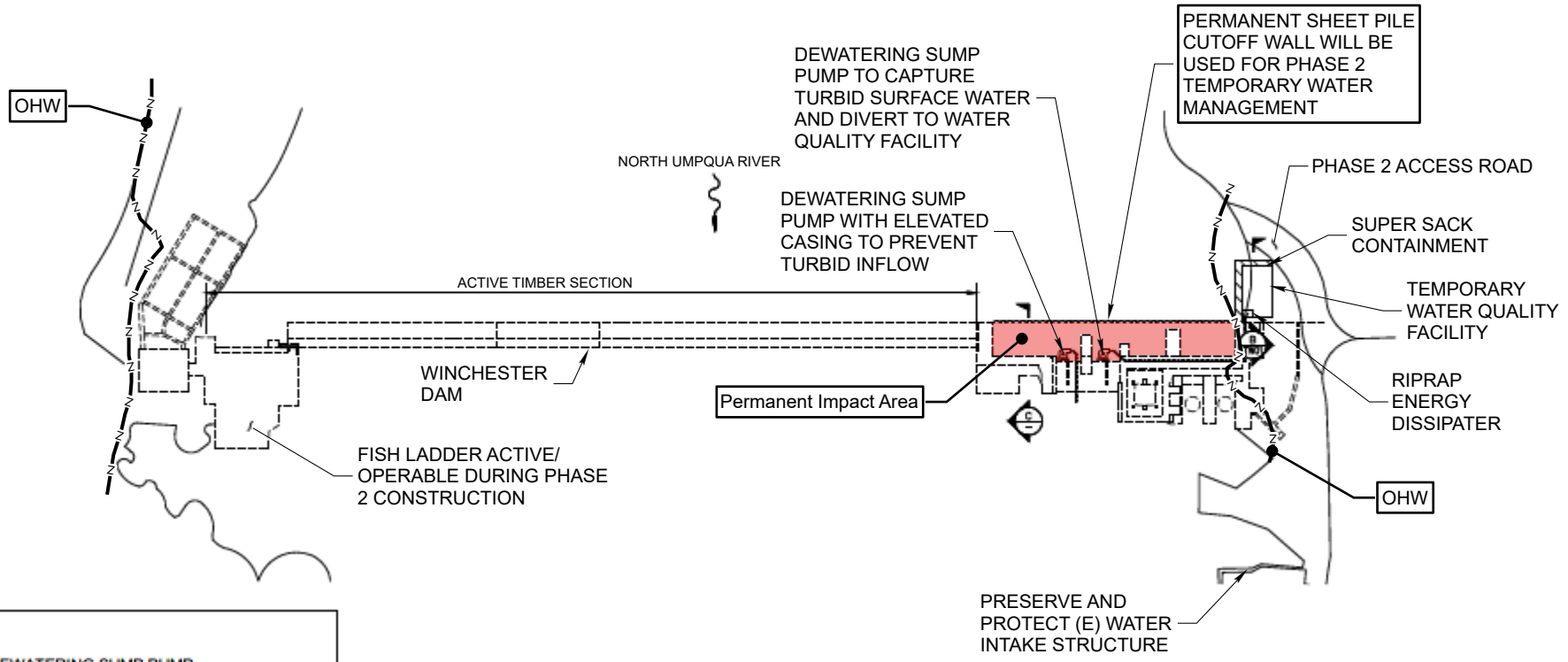
DOWL

Date: January 2022

Figure 6E

K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:04 PM User: ssterling

(E) = Existing Component
= Permanent Impacts



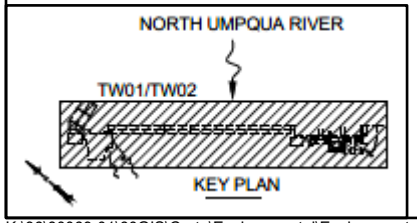
LEGEND

DEWATERING SUMP PUMP

WATER BLADDER/SUPER SACK COFFERDAM

PHASE 2 TEMPORARY WATER MANAGEMENT - PLAN VIEW

SCALE 1" = 90'



Temporary Water Management- Phase 2

Winchester Dam Inspection and Repair Project
Joint Permit Application
City of Winchester, Douglas County, Oregon

DOWL

Date: January 2022

Figure 6F

K:\36\80069-01\60GIS\Carto\Environmental\Environmental.aprx Jan 28, 2022 1:04 PM User: ssterling

ATTACHMENT 3

PROJECT AREA PHOTOGRAPHS

Photograph 1: View looking north across the Winchester Dam from the south power station. (September 2021)

Photograph 2: View looking south at the Winchester Dam from the fish ladder. (September 2021)

Photograph 3: View looking southeast from the north bank of the North Umpqua River where temporary access to the dam will be located. (September 2021)

Photograph 4: Log flow diverter on the north side of the dam near the fish ladder. (September 2021)

Photograph 5: View of the false attractant flowing through the dam (center of photo) near the fish ladder. (June 2021)

Photograph 6: View of the dam face near the fish ladder where the false attractant flows occur, taken when water levels were previously lowered. (September 2009)

Photograph 7: View of the dam from the north bank, taken when water levels were previously lowered. (September 2009)

ATTACHMENT 8

GATE OPERATION SUPPLEMENTAL INFORMATION MEMO

DOWL

MEMORANDUM

TO: Jeff Brittain, DEQ
Kate Wells, NMFS
Melanie O'Meara, USACE

FROM: James Stupfel, DOWL on behalf of
Ryan Beckley, Winchester Water Control District

DATE: July 7, 2023

SUBJECT: Gate Operation Supplemental Information Memo
Winchester Dam Repair Project

INTRODUCTION

This brief memorandum has been prepared to serve as a consolidation of information related to operation of the spill gates during the Winchester Dam Repair Project (Project). The USACE number for the Project is NWP 2018-505-1. The information contained in this memorandum has previously been provided through various post submittal coordination calls, meetings, and emails related to the application for the Project. Except for one additional best management practice (BMP) that the applicant proposes to implement if recommended and approved by the agencies, no new activities not previously covered in the original application are proposed. Rather, this information is provided as additional detail to describe the activities already proposed in the original application materials (namely lowering of the reservoir pool elevation through operation of the spill gates).

RESPONSES TO DEQ INFORMATION REQUESTS

Listed below in italicized font are questions or informational requests received from DEQ regarding the operation of the spill gates as needed for the Project. Informational responses follow each question.

1. *A description of the proposed methods for gate operation to draw down the reservoir and all best management practices which will be utilized to minimize downstream turbidity. This should include a timeline which describes a draw down schedule and estimates for reservoir level/surface water elevation at each phase of the draw down. Please include any existing documentation from ODFW regarding draw down rates requirements.*

    a. Gate operation is a straightforward process. Cables are attached to the gate winches and raise the gates when operated. Additional details on this process can be found in Attachment 1 to this memo which provides notes from a previous gate opening in 2013. Winchester Dam is a run of the river dam with water flowing over most of the dam face. There will be a period after the gates are initially opened that water flows both over the top of the dam (normal condition) and through the gates. This can be seen in the notes from the 2013 gate opening.
    b. Regarding BMPs to minimize turbidity, the slow rate of opening/drawdown is the primary measure to limit downstream turbidity. Another BMP is to install a 50' X 100' membrane secured to the bottom of the reservoir immediately upstream from the spill gates. The membrane would provide a barrier protecting against mobilization of sediments in those high velocity areas near the gates. The membrane would be installed using divers to lay it flat against the reservoir

bottom. It would likely be keyed in 6-12” on the leading (upstream) edge. Sandbags would be placed along the leading edge with additional sandbags placed along the sides of the membrane as needed to secure it to the bottom of the reservoir. In total, it is estimated that this BMP would result in temporary fill of only 14 cubic yards of sandbags/membrane material. The membrane is anticipated to be removed as soon as the reservoir is refilled. The 7,500 square feet of reservoir bottom temporarily covered by the membrane will be returned to its previous condition upon removal.

c. Regarding timeline, schedule, and estimates of the reservoir elevation at each phase of the drawdown- the rate of drawdown specified by ODFW’s draft fish salvage conditions (see Attachment 2) is the rate at which the applicant intends to apply to the process. The water level will be lowered at a rate of +/- 2” per hour over the course of 2-3 days. There are no distinct phases of the drawdown- it is expected to start and be continuous until complete. Complete drawdown is expected to be 8 feet below the existing reservoir water surface elevation (dam crest).
d. A copy of the photo log prepared for the Biological Assessment can be found in Attachment 4. This photo log includes additional photos of the gates and the dam in normal conditions as well as during times when the reservoir water levels have been lowered.

2. *A description of the sediment composition and any memorandum from the Portland Sediment Evaluation Team (PSET) describing the suitability of material and leave surface for unconfined aquatic exposure or placement.*

    a. The material is fine silts, sands, and decomposed organics overlaying a bed of alluvial gravels and bedrock. The area immediately above the gates has a relatively comprehensive layer of Milfoil that will serve to stabilize the sediment layer in the area where the water velocity will increase as the flow channel narrows. The applicant believes that this, in conjunction with the previously listed BMP’s, would suggest no measurable volume of material is anticipated to be discharged.
    b. **The applicant believes there will be a temporary and very minor increase in turbidity as expected with any in-water work, however, there is no anticipated discharge as regulated by USACE.** The applicant estimates that in the last 40 plus years the gates have been opened over 15 times. The last full operation of the gates took place in 2013. The applicant has noted that during the many times they’ve seen the gates open they have never seen any downstream evidence of a discharge (such as a buildup of materials in or along the river). Alluvial material has been seen building up downstream of the dam only after high water events going over the dam during normal operation (when the gates are closed).
    c. The south gate was partially operated in February 2023. The 2023 operation lasted for a period of 4-5 hours and no evidence of a discharge was noted. During that period the applicant indicates that there was a noticeable decline in turbidity indicating that the turbidity increase associated with gate opening is minor, very short term, and reaches a stabilization point quickly.
    d. USACE has not initiated PSET review and there is no memorandum from PSET. There is no discharge of dredged materials anticipated or proposed.

3. *A summary of the volume of material accumulated behind the dam and the volume anticipated to be flushed downstream.*

    a. There is a very recent bathymetric survey (Attachment 3) that clearly shows the bottom elevation of the reservoir. While the survey shows the bottom elevation, no conclusions can be drawn relative to when this material accumulated. Based on their knowledge of the site, the applicant has indicated that there is no material built up directly behind the gates. There is no anticipated measurable discharge of material accumulated in the reservoir.
    b. DEQ has asked about the applicant's intent to dredge the reservoir. Any dredging the district may want to perform is not proposed as part of this Project and is not covered by this application. **No dredging of the reservoir is proposed or will be performed as part of the Project.**

4. *A rationale for the proposed method of sediment flushing compared to alternative methods such as routine maintenance dredging.*

    a. Sediment flushing is not being proposed as part of the Project. Operation of the gates is for dewatering of the reservoir for the sole purpose of conducting repairs to the downstream face and core of the dam.
    b. Maintenance dredging was not considered as it would serve no purpose for this specific project. The applicant conducted two separate dive inspections in June of 2023 and confirms that there is no material built up behind the gates. The river bottom is very consistent and there is no reason to assume any measurable degree of discharge will occur.
    c. **No dredging of the reservoir is proposed or will be performed as part of the Project.**

5. *One more item that would be helpful to distinguish is the one-time action of this dam repair and reservoir drawdown versus the more routine gate maintenance that Ryan mentioned which might occur on a more annual basis. Is WWCD seeking coverage for both this one-time action **and** the annual gate maintenance or not?*

    a. WWCD is seeking approval only for the one-time operation of the gates to lower the reservoir pool elevation and perform the work as outlined in the application for the Project. No coverage for future annual gate operation or maintenance is requested as part of the Project.

CONCLUSION

The Project must open the spill gates to lower the reservoir pool elevation and complete repairs that are necessary to dam safety. The Project proposes to open the gates only as part of repair work scheduled to take place August 7-28, 2023. Minor increases in turbidity are expected as a result of opening the spill gates and those increases are expected to be within the limitations outlined in DEQ's 401 WQ certification as issued on March 2, 2023. No discharge is anticipated as a result of opening the gates. Dredging, discharges of dredged material, or future gate operations are not part of the Project.

Attachment 1

Gate Operation Notes

Hobi Logging Supply, Inc.

1810 NE Stephens St.
P.O. Box 299
Roseburg, OR 97470
(541) 672-7754 Fax (541) 673-8495
Email: hobilog@yahoo.com

RECAP OF DEWATERING – WINCHESTER DAM

September 2 - 19, 2013

8/14/13 Visual Inspection of platform and winches.

8/15/13 Picked up winch parts from Orenco. Assembled and tested winches, disassembled. All parts accounted for. All winches worked. Walk dam, checked all holds for cables. Sheave bracket for south side of north gate bent too far for sheave to be installed.

8/16/13 Two trips to dam to remove sheave bracket. 1st trip--turned nuts but bolts also turned. 2nd trip—attempted to pry bracket out of dam with no success. Removed hornets nest from winch #4.

8/19/13 Loosened winch bolts that held cable in center of each drum. Took sheave and pin to Basco to repair bracket.
Scuba dived downstream side of gates to make sure no water was flowing under dam. No holes found. Dam looked good under water.

8/31/13 Snorkel upstream side of gates. Moved logs and limbs to bank and tied off, or removed from river. One limb stuck in mud. Attached rope and pulled out with vehicle.

9/1/13 Greased and assembled winches, and installed cable. Rigged dam and raised gates a few inches.

9/2/13 Continued raising gates. Tied off more limbs. Placed stake at Hestness Landing to check water level.

9/3-4/13 Raised gates. Broke u-bolt on north bulkhead of south gate. Block fell but remained on cable. Could not raise south gate further but it was high enough.

9/16/13 Rigged south gate and lowered both gates to touch water.

9/17/13 8am heavy rain. Raised gates so work area would not be flooded. 2:30pm began lowering gates.

9/19/13 12:30pm water flowed over dam. Attempted to close gates and neither would close completely. South gate appeared to have large limb under it. Rerigged north gate and closed it completely with very little down pressure.

9/20/13 Took boat to dam. Cleaned debris and noxious items from behind south gate. No limb was under gate. Rerigged north side of south gate and closed gate with some down pressure required. Both gates were closed tightly. Derigged dam. Took cables to Flury Supply to have drum ends recut, cables recoiled and tagged.

WINCHESTER DAM 2013

Dewatering Pond

Date	Time	Winch Rotations	Water Change at Hestness	
9/1/13	11:00 am	8 predewatering		
9/2/13	4:30 pm	3		
	7:30 pm	3 water still flowing over top of dam		
9/3/13	7:00 am	18 dewatering started		
	9:30 am	18	12:10 pm	Up 2 ¼ "
	12:30 pm	12		
	2:30 pm	12	4:30 pm	Up 4 ¼ "
	6:30 pm	12		
9/4/13	7:00 am	14 (u-bolt broke)		
	9:30 am	Water now below gates		

Total Rotations = 100

Total Time to Dewater = 26 ½ hrs

Water flow according to WNR03 Hydrograph N. Umpqua River at Browns Bridge.

9/3/13 at 5:30 am 1.91 ft. prior to dewatering.

9/3-4/13 maximum level 2.73 ft. Water raised 9.8 " *After rain on 8/24/13 water level was higher than 2.73 ft.

WINCHESTER DAM 2013

Refilling Pond

Date	Time	Winch Rotations	Water Change at Hestness
9/17/13	2:30 pm	20 (after gates lowered to touch water)	
	7:30 pm	12	9:30 pm Down 1 ¾"
			11:00pm Down 1 1/8"
9/18/13	7:30 am	12	
	11:00 am	2	1:00 pm Down 1"
	1:00 pm	6	5:00 pm Down 1 5/8"
	5:00 pm	6	11:00 pm Down 1 ¼"
9/19/13	7:00 am	6	11:30 am Down 1"
	12:30 pm	Water flowing over top of dam	

Total Rotations = 64

Total Time to refill pond = 46 hrs.

WNR03 Hydrograph @ Browns Bridge was not recording while refilling pond.

Hobi Logging Supply, Inc.

1810 NE Stephens St.
P.O. Box 299
Roseburg, OR 97470
(541) 672-7754 Fax (541) 673-8495
Email: hobilog@yahoo.com

RECAP OF DEWATERING – WINCHESTER DAM

2009

08-24-09 Dove with snorkel behind gates to inspect debris. Limbs and logs in front of the gates must be removed because in the past they have become wedged under the gates. This creates a major problem when lowering the gates. It is much easier to remove them in advance.

Cleared large underwater limbs in front of gates using tree surgeon rope and 4x4 pickup to yard debris onto bank (some were lodged so tight the pickup spun out). Inspected winches – one winch was missing a part. Took part from another winch to Con-Vey Keystone to have a duplicate made.

08-26-09 Collected all winch parts, cable, blocks, shackles and rope from Hobi Equipment. Delivered to Dam, assembled winches, trimmed cable ends, installed cable, rigged gates and raised gates 2". Removed winch handles and left tension on all 4 cables.

08-31-09 Dewatered Pond – Water Height Downstream: 1.98 Feet

		TURNS OF WINCH HANDLE	
	TIME	*ACTUAL*	RECOMMEND IN FUTURE
08-26-09		8	10
08-31-09	7:00AM	18	24
	9:00AM	12	24
	11:00AM	18	24
	12:30PM	12	--
	1:00PM	24	30
	3:30PM	20	--
	TOTAL	112	112

Maximum River Rise Downstream – 8"
Total time to drain Pond – 30 Hours

09-09-09 Refill Pond – Water Flow Downstream – 1.96 Feet
Lower gates to touch water.

		TURNS OF WINCH HANDLE	
	TIME	*ACTUAL*	RECOMMEND IN FUTURE
09-09-09	4:00PM	20	20
	6:30PM	10	12

09-10-09	8:00AM	10	12
	5:30PM	5	10
09-11-09	8:00AM	5	10
	5:00PM	12	10

Maximum River Drop – 3 ¼ inch
Total time to refill Pond – 54 Hours

09-12-09 River Flow – 1.89 Feet 1.78

09-14-09 Completely close gates. Slack cable. Take all 4 ends from bulkheads and attach to top of gates. On South gate remove North block and attach to eyebolt in cement at the bottom between the gates. Cranked winch 2. It applied enough pressure to lower gate without rigging South side of South gate.

On North gate, we rerigged South side only and cranked winch #3. It applied enough pressure to close gate.

Completely derig dam, grease winches, take pictures of winches, disassemble winches, label parts, remove cables, trim ends, coil and tag length. Return all winch parts, blocks, shackles and cable to storage box at Hobi Equipment.

RECOMMENDATIONS

Post signs on gates and on platform by winches:

DANGER KEEP OFF
NO TRESPASSING
PRIVATE PROPERTY

Before next dewatering:

- Install eyebolts on walls 3' from bottom
- Purchase 4 6" or 8" blocks
- Pre-hang blocks on newly installed eyebolts before gates are opened. This will make it safer to rerig cables to apply down pressure when closing gates.

Robert H. Hobi
President

Hobi Logging Supply, Inc.

1810 NE Stephens St.
P.O. Box 299
Roseburg, OR 97470
(541) 672-7754 Fax (541) 673-8495
Email: hobilog@yahoo.com

RECAP OF DEWATERING – WINCHESTER DAM

08-24-09 Dove with snorkel behind gates to inspect debris. Limbs and logs in front of the gates must be removed because in the past they have become wedged under the gates. This creates a major problem when lowering the gates. It is much easier to remove them in advance.

Cleared large underwater limbs in front of gates using tree surgeon rope and 4x4 pickup to yard debris onto bank (some were lodged so tight the pickup spun out). Inspected winches – one winch was missing a part. Took part from another winch to Con-Vey Keystone to have a duplicate made.

08-26-09 Collected all winch parts, cable, blocks, shackles and rope from Hobi Equipment. Delivered to Dam, assembled winches, trimmed cable ends, installed cable, rigged gates and raised gates 2". Removed winch handles and left tension on all 4 cables.

08-31-09 Dewatered Pond – Water Height Downstream: 1.98 Feet

		TURNS OF WINCH HANDLE	
	TIME	*ACTUAL*	RECOMMEND IN FUTURE
08-26-09		8	10
08-31-09	7:00AM	18	24
	9:00AM	12	24
	11:00AM	18	24
	12:30PM	12	--
	1:00PM	24	30
	3:30PM	20	--
	TOTAL	112	112

Maximum River Rise Downstream – 8"
Total time to drain Pond – 30 Hours

09-09-09 Refill Pond – Water Flow Downstream – 1.96 Feet
Lower gates to touch water.

		TURNS OF WINCH HANDLE	
	TIME	*ACTUAL*	RECOMMEND IN FUTURE
09-09-09	4:00PM	20	20
	6:30PM	10	12

09-10-09	8:00AM	10	12
	5:30PM	5	10
09-11-09	8:00AM	5	10
	5:00PM	12	10

Maximum River Drop – 3 ¼ inch
Total time to refill Pond – 54 Hours

09-12-09 River Flow – 1.89 Feet

09-14-09 Completely close gates. Slack cable. Take all 4 ends from bulkheads and attach to top of gates. On South gate remove North block and attach to eyebolt in cement at the bottom between the gates. Cranked winch 2. It applied enough pressure to lower gate without rigging South side of South gate.

On North gate, we rerigged South side only and cranked winch #3. It applied enough pressure to close gate.

Completely derig dam, grease winches, take pictures of winches, disassemble winches, label parts, remove cables, trim ends, coil and tag length. Return all winch parts, blocks, shackles and cable to storage box at Hobi Equipment.

RECOMMENDATIONS

Post signs on gates and on platform by winches:

DANGER KEEP OFF
NO TRESPASSING
PRIVATE PROPERTY

Before next dewatering:

- Install eyebolts on walls 3' from bottom
- Purchase 4 6" or 8" blocks
- Pre-hang blocks on newly installed eyebolts before gates are opened. This will make it safer to rerig cables to apply down pressure when closing gates.

Robert H. Hobi
President

HANDLE POSITION TO RAISE OR LOWER WHEN COUNTING CRANKS (TURNS)

HANDLE POSITION FOR QUICK TAKE UP OR DOWN. DO NOT USE THIS POSITION FOR COUNTING

END OF CABLE

SCREW BOLT IN TO CLAMP CABLE IN DRUM

2

1 - SPACER -

PIN & LOCKS LARGE GEAR SO IT WILL NOT BACK OUT

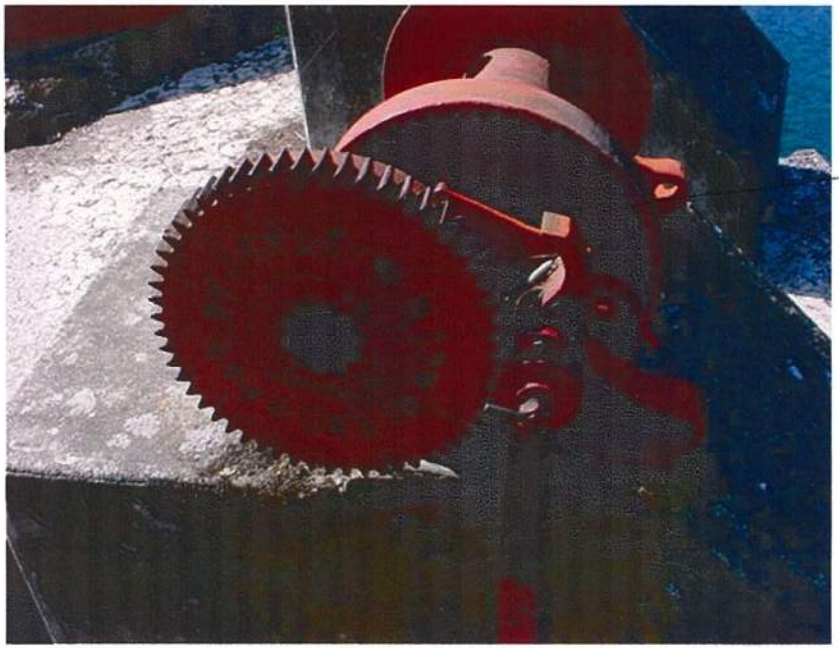
DOG OF UNION LOCKING GATES

END OF CABLE

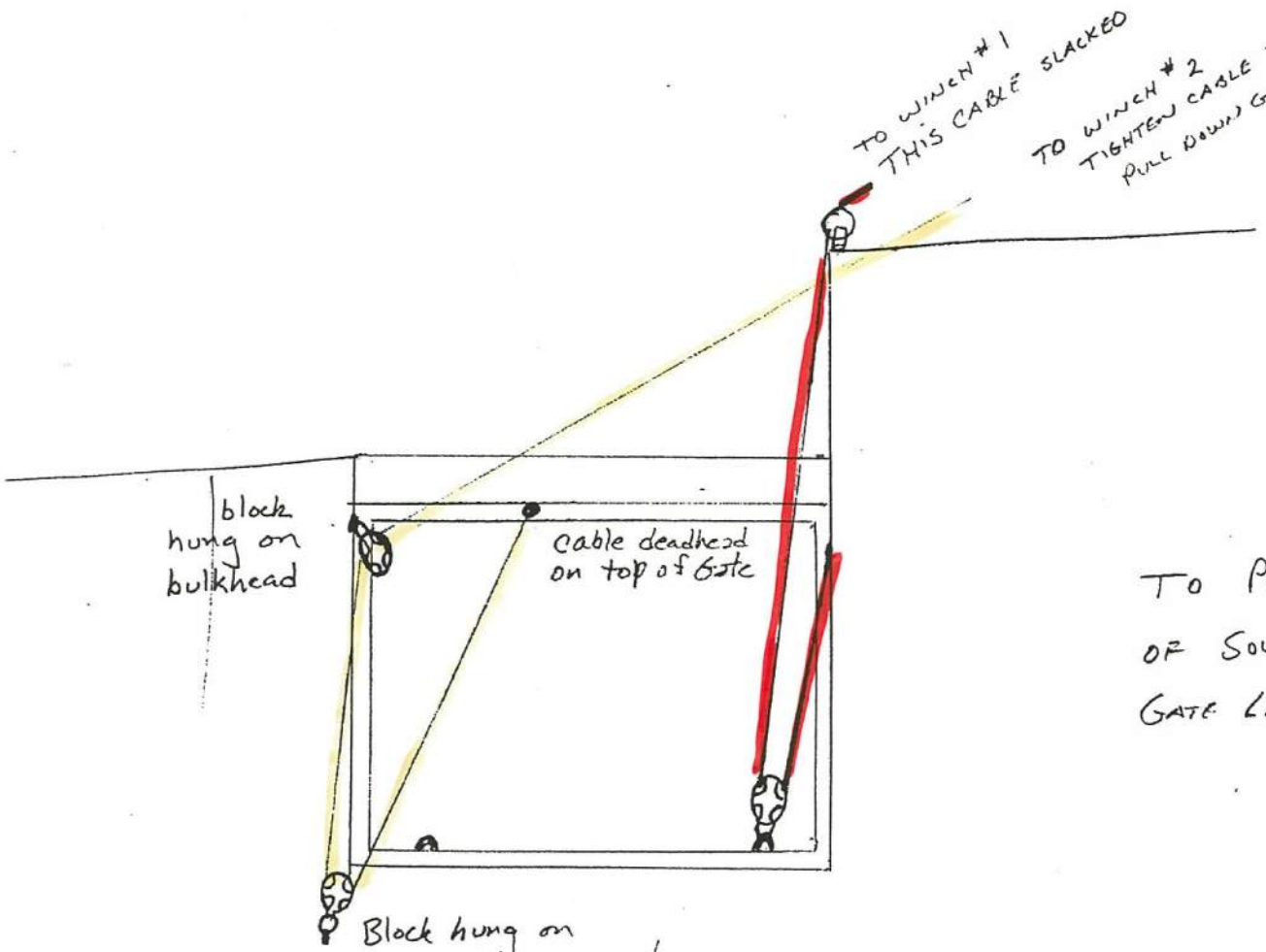
SCREW BOLT IN TO CLAMP CABLE TO WINCH

7

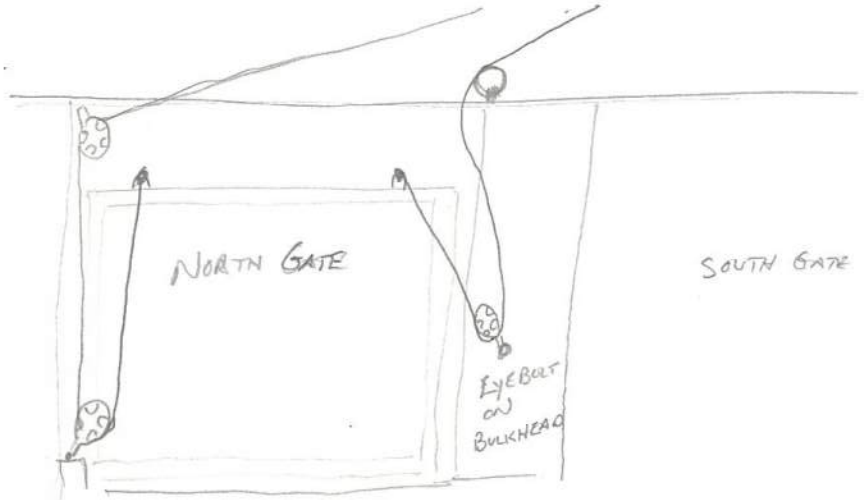
1

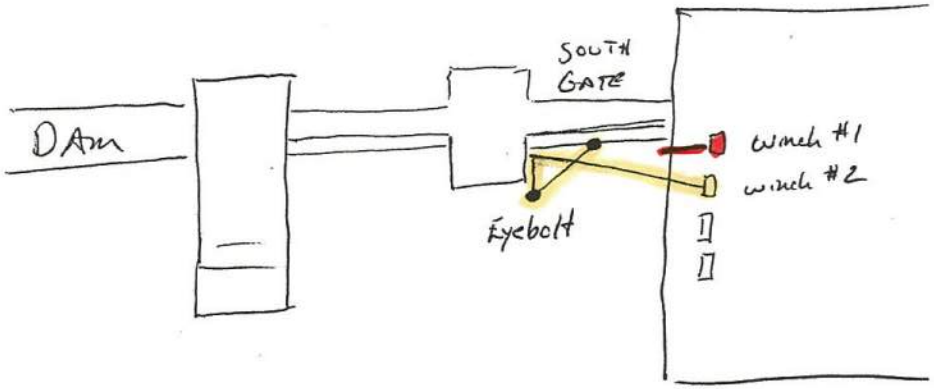


DOG UP WHEN LOWERING GATES



TO PULL DOWN NORTH CORNER OF SOUTH GATE WE RIGGED THE GATE LIKE THIS





Dive Behind Gates -

Remove Large Limbs any logs under water behind gates.

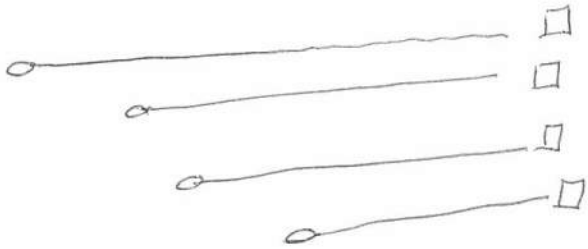
Remove log on Top

Assemble winches

Grease all Fittings on winches

String out each cable on deck - eye end to bank

Clamp end of cable in winch



wind this direction so cable comes off top of winch when it goes to gates

Hobi Logging Supply, Inc.

1810 NE Stephens St.
P.O. Box 299
Roseburg, OR 97470
(541) 672-7754 Fax (541) 673-8495
Email: hobilog@yahoo.com

RECAP OF DEWATERING – WINCHESTER DAM

08-24-09 Dove with snorkel behind gates to inspect debris. Limbs and logs in front of the gates must be removed because in the past they have become wedged under the gates. This creates a major problem when lowering the gates. It is much easier to remove them in advance.

Cleared large underwater limbs in front of gates using tree surgeon rope and 4x4 pickup to yard debris onto bank (some were lodged so tight the pickup spun out). Inspected winches – one winch was missing a part. Took part from another winch to Con-Vey Keystone to have a duplicate made.

08-26-09 Collected all winch parts, cable, blocks, shackles and rope from Hobi Equipment. Delivered to Dam, assembled winches, trimmed cable ends, installed cable, rigged gates and raised gates 2". Removed winch handles and left tension on all 4 cables.

08-31-09 Dewatered Pond – Water Height Downstream: 1.98 Feet

		TURNS OF WINCH HANDLE	
	TIME	*ACTUAL*	RECOMMEND IN FUTURE
08-26-09		8	10
08-31-09	7:00AM	18	24
	9:00AM	12	24
	11:00AM	18	24
	12:30PM	12	--
	1:00PM	24	30
	3:30PM	20	--
	TOTAL	112	112

Maximum River Rise Downstream – 8"
Total time to drain Pond – 30 Hours

09-09-09 Refill Pond – Water Flow Downstream – 1.96 Feet
Lower gates to touch water.

		TURNS OF WINCH HANDLE	
	TIME	*ACTUAL*	RECOMMEND IN FUTURE
09-09-09	4:00PM	20	20
	6:30PM	10	12

09-10-09	8:00AM	10	12
	5:30PM	5	10
09-11-09	8:00AM	5	10
	5:00PM	12	10

Maximum River Drop – 3 ¼ inch
Total time to refill Pond – 54 Hours

09-12-09 River Flow – 1.89 Feet

09-14-09 Completely close gates. Slack cable. Take all 4 ends from bulkheads and attach to top of gates. On South gate remove North block and attach to eyebolt in cement at the bottom between the gates. Cranked winch 2. It applied enough pressure to lower gate without rigging South side of South gate.

On North gate, we rerigged South side only and cranked winch #3. It applied enough pressure to close gate.

Completely derig dam, grease winches, take pictures of winches, disassemble winches, label parts, remove cables, trim ends, coil and tag length. Return all winch parts, blocks, shackles and cable to storage box at Hobi Equipment.

RECOMMENDATIONS

Post signs on gates and on platform by winches:

DANGER KEEP OFF
NO TRESPASSING
PRIVATE PROPERTY

Before next dewatering:

- Install eyebolts on walls 3' from bottom
- Purchase 4 6" or 8" blocks
- Pre-hang blocks on newly installed eyebolts before gates are opened. This will make it safer to rerig cables to apply down pressure when closing gates.

Robert H. Hobi
President

www.nws.noaa.gov

National Weather Service
Northwest
River Forecast Center

Home Site Map News Organization Search

N UMPQUA--AT WINCHESTER (WNRO3)

County: DOUGLAS State: OR
Elevation: 372 (feet) Latitude: 43 16' 4" Longitude: 123 24' 33"
Flood Stage: 26.00 (feet) Bankfull Stage: 18.00 (feet)

WNRO3 Data
Hydrograph

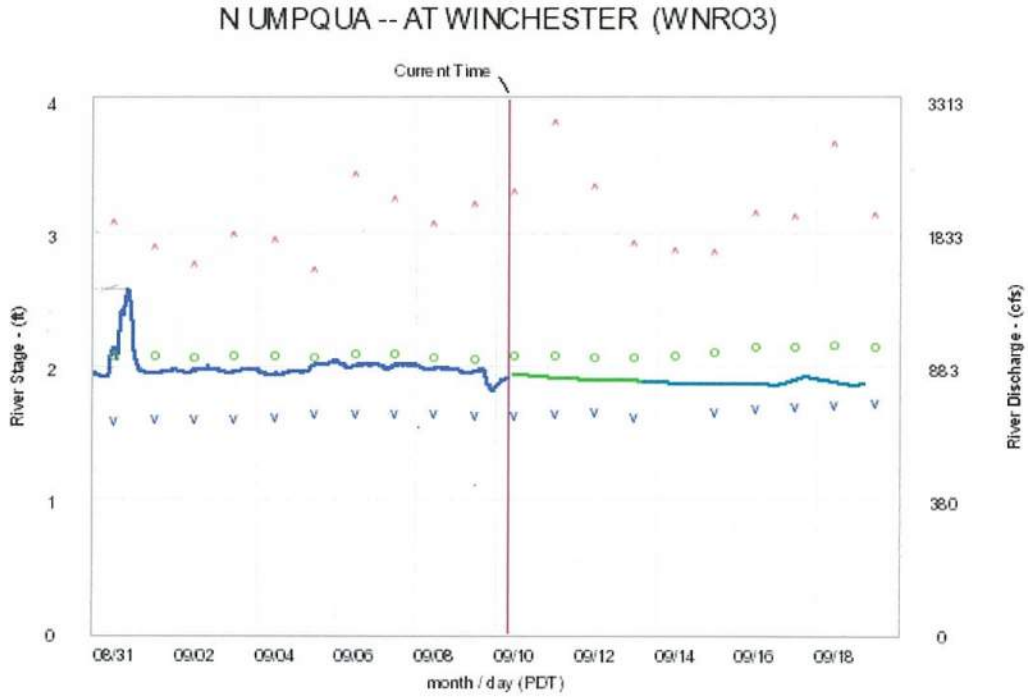
WNRO3 Gage Info
Conditions Map
Photos
Gage Information
Rating Table

Return Main Menu

River Information Plots

Thursday - September 10, 08:41 PDT

The following data are preliminary and is subject to change



Latest: 1.91 ft 818 cfs (1% of flood flow) [09/10 07:30]

Daily statistics: v - Minimum, o - Mean, ^ - Maximum (USGS data)

Observed — Forecast — Trend — Flood Level —

Fcst created: 2009Sep09 09:11 PDT
Plot created: 2009Sep10 08:21 PDT
Northwest River Forecast Center

For Data Used In Plot XML

Show Flood Stage | Scale to Zero Stage | Hide Statistics | Plot Max Number Days | Plot Water Year

Flow statistics for September 10 mean stage: 2.08 ft 943 cfs
max stage: 3.28 ft 2200 cfs (1978) min stage: 1.63 ft 629 cfs (1992)
Statistics based on water years: 1909-2007

Weather Forecast -- Central Douglas County

TODAY...PARTLY CLOUDY THIS MORNING THEN CLEARING. HIGHS IN THE MID 80S TO MID 90S. NORTHEAST WINDS AROUND 5 MPH SHIFTING TO THE NORTHWEST LATE THIS AFTERNOON.

TONIGHT...CLEAR. LOWS IN THE MID 50S TO LOWER 60S. NORTHWEST WINDS 5 TO 10 MPH SHIFTING TO THE SOUTH WELL AFTER MIDNIGHT.

www.nws.noaa.gov

National Weather Service
Northwest
River Forecast Center

Home Site Map News Organization Search

N UMPQUA--AT WINCHESTER (WNRO3)

County: DOUGLAS State: OR
Elevation: 372 (feet) Latitude: 43 16' 4" Longitude: 123 24' 33"
Flood Stage: 26.00 (feet) Bankfull Stage: 18.00 (feet)

WNRO3 Data
Hydrograph

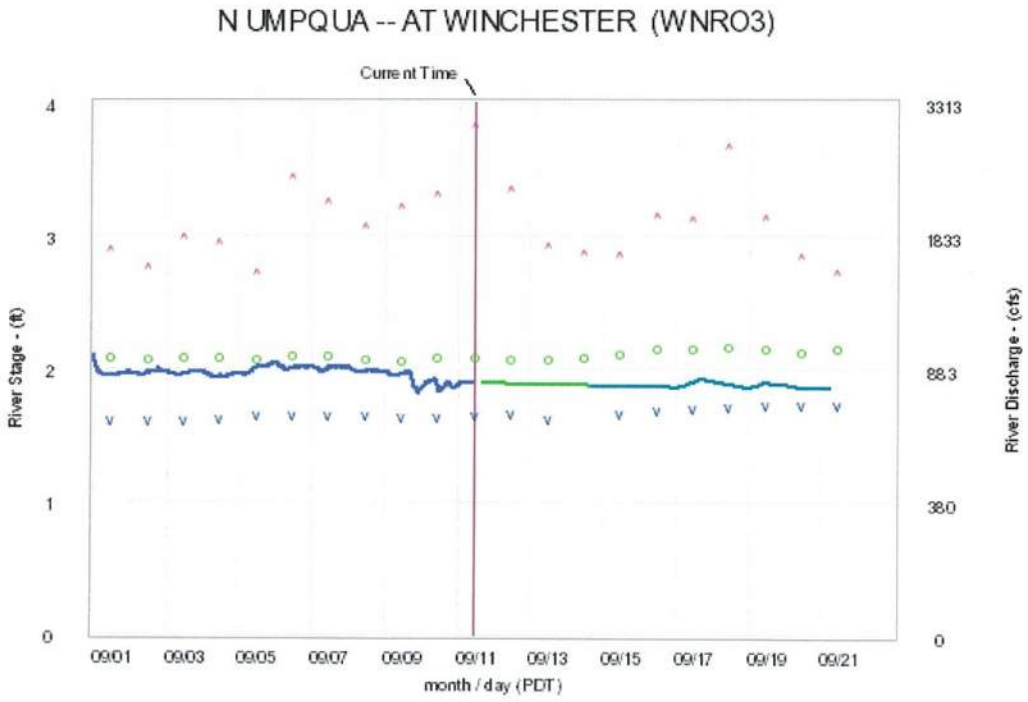
WNRO3 Gage Info
Conditions Map
Photos
Gage Information
Rating Table

Return Main Menu

River Information Plots

Friday - September 11, 11:32 PDT

The following data are preliminary and is subject to change



1.97 START

1.69 LOWEST

Latest: 1.89 ft 804 cfs (1% of flood flow) [09/11 10:30]

Daily statistics: v - Minimum, o - Mean, ^ - Maximum (USGS data)

Observed *Forecast* *Trend* *Flood Level*

Fcst created: 2009Sep11 10:16 PDT
Plot created: 2009Sep11 11:08 PDT
Northwest River Forecast Center

For Data Used In Plot XML

Show Flood Stage | Scale to Zero Stage | Hide Statistics | Plot Max Number Days | Plot Water Year

Flow statistics for September 11 mean stage: 2.08 ft 945 cfs
max stage: 3.81 ft 2990 cfs (1978) min stage: 1.64 ft 637 cfs (1992)
Statistics based on water years: 1909-2007

Weather Forecast -- Central Douglas County

TODAY...SUNNY. HIGHS 90 TO 100. SOUTHEAST WINDS AROUND 5 MPH THIS MORNING BECOMING LIGHT...THEN BECOMING NORTHWEST 5 TO 10 MPH LATE THIS AFTERNOON.

TONIGHT...CLEAR. LOWS IN THE MID 50S TO LOWER 60S. NORTHWEST WINDS 5 TO 10 MPH UNTIL WELL AFTER MIDNIGHT BECOMING LIGHT.

www.nws.noaa.gov

National Weather Service
Northwest
River Forecast Center

Home Site Map News Organization Search

N UMPQUA--AT WINCHESTER (WNRO3)

County: DOUGLAS State: OR
Elevation: 372 (feet) Latitude: 43 16' 4" Longitude: 123 24' 33"
Flood Stage: 26.00 (feet) Bankfull Stage: 18.00 (feet)

WNRO3 Data
Hydrograph

WNRO3 Gage Info
Conditions Map
Photos
Gage Information
Rating Table

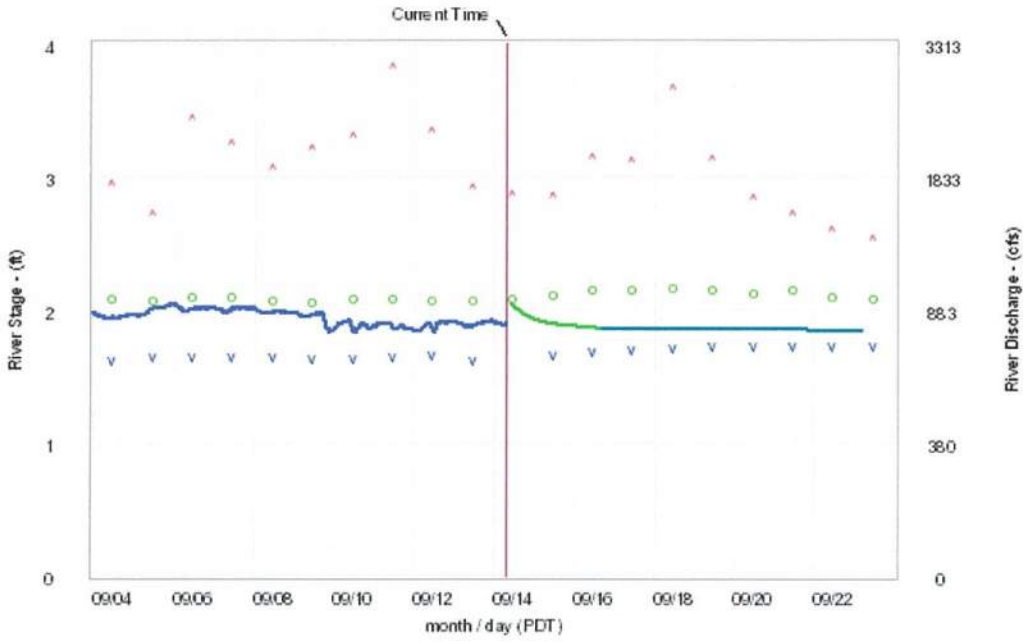
Return Main Menu

River Information Plots

Monday - September 14, 09:18 PDT

The following data are preliminary and is subject to change

N UMPQUA -- AT WINCHESTER (WNRO3)



Latest: 1.89 ft 804 cfs (1% of flood flow) [09/14 07:30]

Daily statistics: v - Minimum, o - Mean, ^ - Maximum (USGS data)

Observed — Forecast — Trend — Flood Level —

Fcst created: 2009Sep13 10:47 PDT
Plot created: 2009Sep14 08:56 PDT
Northwest River Forecast Center

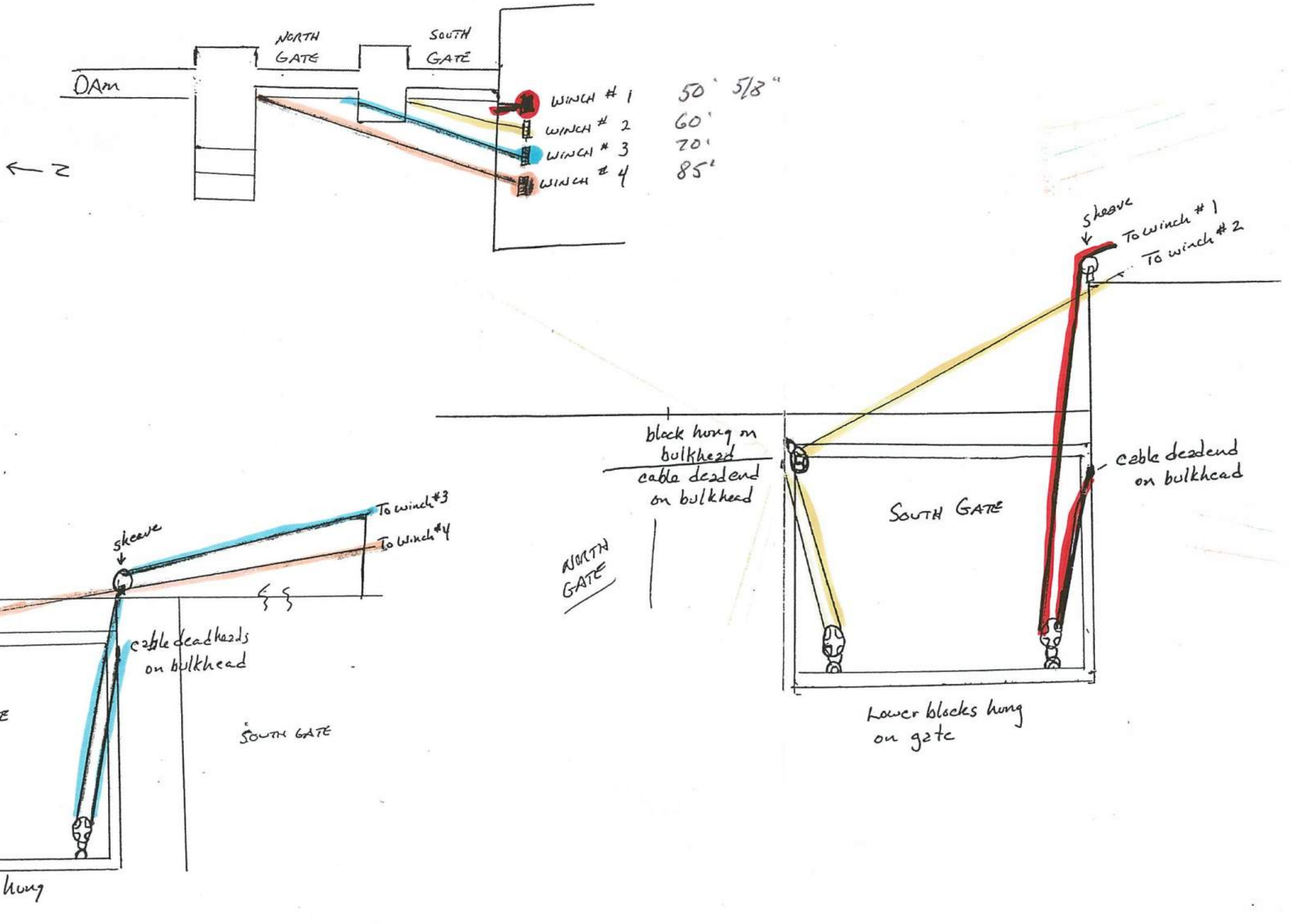
For Data Used In Plot XML
Show Flood Stage | Scale to Zero Stage | Hide Statistics | Plot Max Number Days | Plot Water Year

Flow statistics for September 14 mean stage: 2.09 ft 947 cfs
max stage: 2.84 ft 1640 cfs (1978) min stage: 1.58 ft 578 cfs (1959)
Statistics based on water years: 1909-2007

Weather Forecast -- Central Douglas County

TODAY...MOSTLY CLOUDY. SLIGHT CHANCE OF SHOWERS THIS MORNING. HIGHS IN THE LOWER 70S TO LOWER 80S. SOUTHEAST WINDS AROUND 5 MPH SHIFTING TO THE SOUTHWEST THIS AFTERNOON.

TONIGHT...MOSTLY CLOUDY IN THE EVENING THEN BECOMING PARTLY CLOUDY. LOWS AROUND 50. WEST WINDS 10 TO 15 MPH SHIFTING TO THE NORTHWEST 5 TO 10 MPH LATE IN THE EVENING...THEN SHIFTING TO THE


NORTH GATE
SOUTH GATE
DAm
WINCH # 1
WINCH # 2
WINCH # 3
WINCH # 4
50' 5/8"
60'
70'
85'
sheave
To winch #1
To winch #2
block hung on bulkhead
cable deadend on bulkhead
SOUTH GATE
Lower blocks hung on gate
To winch #3
To winch #4
block hung on bulkhead
cable deadheads on bulkhead
NORTH GATE
SOUTH GATE
Lower blocks hung on gate

Attachment 2

ODFW Draft Fish Salvage Conditions

Terms and Conditions of This Authorization:

1. The Applicant/Permit Holder, Responsible Party, Principal Investigator, Co-Investigator, and all people working under their supervision shall at all times observe and comply with all federal and state laws, including the Endangered Species Act of 1973, as amended, and lawful regulations issued thereunder, which relate to threatened or endangered plant or animal species while performing activities described in the authorization application. ODFW's approval of this authorization does not certify that applicant's activities described in its application are lawful under the federal ESA. Applicant's compliance with authorization conditions is not in lieu of compliance with any federal requirements related to the federal Endangered Species Act. General conditions of Oregon Revised Statutes and Oregon Administrative Rules apply to this authorization that cannot be used in lieu of any permit required by federal law or regulation. Permission to sample in areas where federally protected fish may occur is contingent upon the applicant obtaining necessary authorization from the appropriate federal agency and acting in accordance with the conditions established by the federal government. If a condition on this authorization conflicts with a condition on a federal permit or authorization, then the applicant must comply with the more restrictive condition.
2. This authorization is not transferable and must be carried while collecting. The Principal Investigator and all Co-Investigators must sign their own copy of the authorization.
3. Persons not named on the authorization may assist in collecting only while accompanied by the Principal Investigator or Co-investigator(s) listed above.
4. Access to private property is contingent on landowner permission. This authorization does not authorize trespassing.
5. This authorization is not valid in any refuge, park, city, wildlife area, or area closed to collection without written approval of manager or administrator. When collecting from state parks, please contact Oregon Parks and Recreation Department to inquire about the need for a scientific research collection permit from them - https://oprdpermits.org/
6. Sampling must be coordinated with local Oregon Department of Fish and Wildlife District Fish Biologists (contact list attached in permit). All requirements contained in the district biologist comments section of the application must be followed and you must notify them prior to sampling in their districts. Oregon State Police must also be notified prior to sampling, preferably by contacting local offices
   http://www.oregon.gov/osp/Pages/contact_us.aspx or else the Northern (503-375-3555) or Southern
   (541-776-6111) non-emergency dispatch after hours.
7. An annual activity/collection report associated with this authorization must be submitted to ODFW by December 31, 2023 via **https://apps.nmfs.noaa.gov/.** Renewal of this authorization will not be issued until ODFW reviews and approves the annual activity/collection report. All fish, shellfish, and marine invertebrates must be recorded in the annual report. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, control, capture, or collect, or to attempt to engage in any such conduct.
8. In-water work must occur during the appropriate in-water work window (http://www.dfw.state.or.us/lands/inwater/oregon_guidelines_for_timing_of_%20InWater_work2008.pdf). Exceptions to in-water work periods must be approved by the local ODFW District Fish Biologist and submitted to the ODFW ESA staff in writing prior to commencing work outside the approved in-water work windows.
9. May rescue or salvage fish, shellfish, and marine invertebrates during in-water construction area isolation as described in this final authorization and the attached APPS take table and authorization. After examination and recovery, all species should be released as soon as possible, unharmed, in nearby free-flowing water or as instructed by local ODFW biologists. Prior to release, species should be held in fresh, cool, aerated water.
10. May only conduct rescue and salvage activities as described in all sections of the approved APPS application. Actual distribution of take among sites is authorized as described in the APPS application. The numbers of species detailed in the take table within the approved APPS application are annual totals.
11. Follow FDA approved protocols and use only FDA approved substances for anesthetizing fish.
    a) **MS-222** may not be used where fish may be subject to sport harvest fisheries within 21 days;
    b) **Clove oil** may not be used at all;

c) **AQUI-S®** may be used as an alternative to MS-222. To use AQUI-S® 20E as an immediate release sedative in

freshwater fish for field-based activities, applicant must sign up to participate in USFWS-AADAP INAD 11-741 and must comply with the requirements as set forth in the INAD Study Protocol for AQUI-S® 20E https://www.fws.gov/service/investigational-new-animal-drugs-inads

d) **Carbon dioxide** can be used as a fish anesthetic as per FDA rules and requires no withdrawal time;

e) **Electro-anesthesia** can be used as a fish anesthetic as an alternative to chemicals, and requires no withdrawal time.

12. If sampling in multiple sub-basins (4th field HUCs), we recommend that after each sampling event concludes all gear is cleaned and/or allowed to completely dry to prevent the spread of invasive species.

DRAFT Project #27400 Specific Guidance/T&C's (in addition to regular OR- RSA T&Cs above):

1. Drawdown rate shall be no more than 2 inches per hour over at least 2-3 days to avoid excessive mortality for lamprey. Slower is better to make it feasible to salvage the high numbers of fish that will need to be salvaged.
2. ODFW shall be given access to all areas of project that require salvage for consultation and evaluation as needed.
3. Haze avian predators to the extent possible to reduce predation on exposed and concentrated fish. Methods may include, but are not limited to, using squawk boxes and/or predator decoys.
4. Fish salvaged during the project shall be released as follows:
    a. Adult lamprey- Shall be placed in closest suitable oxygenated and flowing water downstream of dam.
    b. Juvenile Lamprey- Salvaged above the dam shall be placed in closest suitable oxygenated and flowing water above the dam. Juveniles that are salvaged below the dam shall be placed in closest suitable oxygenated and flowing water downstream of the dam. Amacher Boat Ramp is a recommended easy spot for access and release.
    c. Mussels- Shall be released just below dam on south bank, between the bank and small island in the existing mussel bed area (consistent with BMPs on pg 55; https://xerces.org/publications/guidelines/conserving-gems-of-our-waters).
    d. Other Fish Species-
        i. Any adult salmonid salvaged in the fishway during drawdown and/or while suitable oxygenated and flowing water is connected to the ladder shall be placed immediately above the ladder.
        ii. All other fish species salvaged above the dam shall be placed in closest suitable oxygenated and flowing water above the dam. All other fish salvaged in the fishway or below the dam shall be placed in closest suitable oxygenated and flowing water downstream of the dam.
5. If mussels are present, BMPs shall be followed (https://xerces.org/publications/guidelines/conserving-gems-of-our-waters).
6. Lamprey
    a. Given the extent of the dewatered area, rate at which salvage can occur, and potential delayed emergence from dewatered substrate, lamprey are expected to require salvage for the entire duration of dewatering over an extensive area. The Applicant shall salvage lamprey during this period as necessary and should be prepared for a significant salvage effort in the entire dewatered area 1.5 miles upstream of the dam on both dewatered shorelines, in sediment above the dam, as well as at, in, on, and below the dam. Adults are likely to be present at, in, and below the dam and fishway. Juveniles are likely to be present in highest concentrations in the area above the dam near the north shore and on the south shore bend above the dam.

b. Lamprey shall be held consistent with the *Best Management Guidelines for Native Lampreys During In-Water Work* (Lamprey BMGs; see electronic pages 18-20; available here: https://www.pacificlamprey.org/wp-content/uploads/2022/10/BMGs-for-Native-Lampres-During-In-Water-Work-Final-Updated-2022-2.pdf).
c. Juvenile lamprey will likely be in the substrate and may or may not emerge immediately when an area is dewatered. Backpack electrofishing should be conducted in all project areas with rocky or sandy substrates prior to and after dewatering in order to collect lampreys for salvage; electrofishing may be less effective in some areas with silt and mud substrates and hand collection may be more successful. When electrofishing:
    i. Only lamprey-specific electrofisher "tickle settings" shall be used (see Appendix C in the Lamprey BMGs);
    ii. Electrofishing should include a minimum effort rate of 60 seconds/square meter;
    iii. Multiple passes should be made through areas with lamprey; and
    iv. After dewatering, 'dry shocking' (i.e., positioning the cathode and anode directly on the dewatered, moist river substrate and shocking using lamprey "tickle settings") should be conducted to help get more lamprey to escape the substrate and be available for netting/picking up.
d. Project shall have sprinklers and hay/straw available on site and ready to use if determined necessary by ODFW. However, neither of these options are in lieu of salvage and shall be coordinated with ODFW in real time. Previous work at the site has resulted in large numbers of lamprey exposed at once, so sprinklers may be a way to buy time until they are able to be salvaged. For more background, see electronic page 15 of the Lamprey BMGs. The Lamprey BMGs also discuss other ways to protect larvae from desiccating or being eaten by predators (e.g., covering areas that cannot be immediately salvaged with hay/straw, mesh, sticks, or grass and/or providing refuge holes).

7. All live take and all mortalities (taken or not) for all aquatic species throughout the entire project area shall be recorded and tallied for the duration of the project so real time and mortality estimates are available to track authorized project take. If project approaches the authorized indirect mortality listed in the APPS Take Table, Applicant/PI shall contact ODFW District staff (541-440-3353) immediately to determine additional necessary actions to avoid further mortality.
8. All non-indigenous non-game fish may be euthanized and not released after salvage. All non-indigenous game fish may be euthanized and not released (please put on ice and transfer to ODFW).

Attachment 3

Bathymetric Survey Information

TECHNICAL MEMORANDUM

WEST Consultants, Inc.
2601 25th St. SE
Suite 450
Salem, OR 97302-1286
(503) 485-5490
(503) 485-5491 Fax
www.westconsultants.com

To: Tony Janicek, State Engineer for Water Resources
Company: Oregon Water Resources Department
Date: 21 December 2022
From: Jeff Budnick and Chris Bahner, PE
Subject: Bathymetric Survey of Winchester Dam

Introduction

This memorandum documents the bathymetric survey and analysis of the collected data to define the latest elevation versus volume relationship for Winchester Dam near Roseburg, OR. Figure 1 shows location map. It should be noted that all figures are provided in Appendix A.

Bathymetric Survey

A bathymetric survey of the North Umpqua River upstream of Winchester Dam was conducted over two days on Nov. 28th and 29th of 2022. All survey data are referenced to NAD 83 Oregon State Plane South (Int. Ft.) horizontal datum and projection and NAVD 88 vertical datum. The survey limits extend from the dam upstream approximately 7,500 ft.

Prior to collecting the bathymetric data, a Topcon Hiper VR GNSS rover connected to the Oregon Real-time GNSS Network (ORGN) was used to check the accuracy of the ORGN. A Topcon FC-6000 tablet running Magnet Field software was used to collect GNSS and echosounder data. A Verizon Wireless Hotspot was used to provide cellular communication with the ORGN. The National Geodetic Survey point PC0757, located approximately 2 miles to the south of the project site, was used to validate the control network. The data collected for PC0757 were within tolerances of less 0.1 ft horizontally and vertically of the published coordinates.

A private homeowner's boat launch, located at 700 Pioneer Way, was used to access the river. Permission to use the private boat launch was secured by Oregon Water Resources Department (OWRD). A temporary survey control point was set at the boat launch to check into at the start and end of each day. The bathymetric data was collected with a Seafloor System's Hydrolite single beam echosounder connected to the Hiper VR GNSS (See Figure 2 in Appendix A). Prior to collecting data with the echosounder, the water temperature was measured using a YSI EcoSense EC300A thermometer. The water temperature was used to adjust the speed of sound in the echosounder settings to properly measure

depth. Additionally, a rod check was conducted in the middle of the river at a depth of about 10 ft. The manual rod measurement of depth matched the echosounder reading of depth (plus draft) within 0.1 ft. Bathymetric data were then collected for over 190 transects starting at the dam and extending about 7,500 ft upstream. The transects are spaced about 50 ft apart for the first 6,000 ft and then narrow to approximately 20 ft in the upper 1,500 ft (See Figure 1). In addition to the bathymetric survey, survey points were also collected on Winchester Dam (See Figure 3 in Appendix A): (1) south side wall (Point 105) has as an elevation of 441.44 ft, (2) south side section (Point 104) has an elevation of 440.27 ft, and (3) north side walkway (Point 106) with an elevation of 444.63 ft and a measure down to the top of dam resulting in an elevation of 439.51 ft.

Elevation versus Volume Relationship

The bathymetric survey data was imported into ArcGIS to develop a Triangular Irregular Network (TIN) and raster surfaces. The bathymetric raster file was mosaiced with the LiDAR data available from the Oregon Department of Geology and Mineral Industries (DOGAMI) website to develop of raster surface of the entire reservoir area. HEC-RAS Mapper was used to develop an elevation versus volume relationship for Winchester Dam from the raster data. Figure 4 shows the elevation versus volume relationship for the Winchester Dam. The volume for the top of dam elevation of 439.51 ft is about 391 acre-feet.

Appendix A
Figures

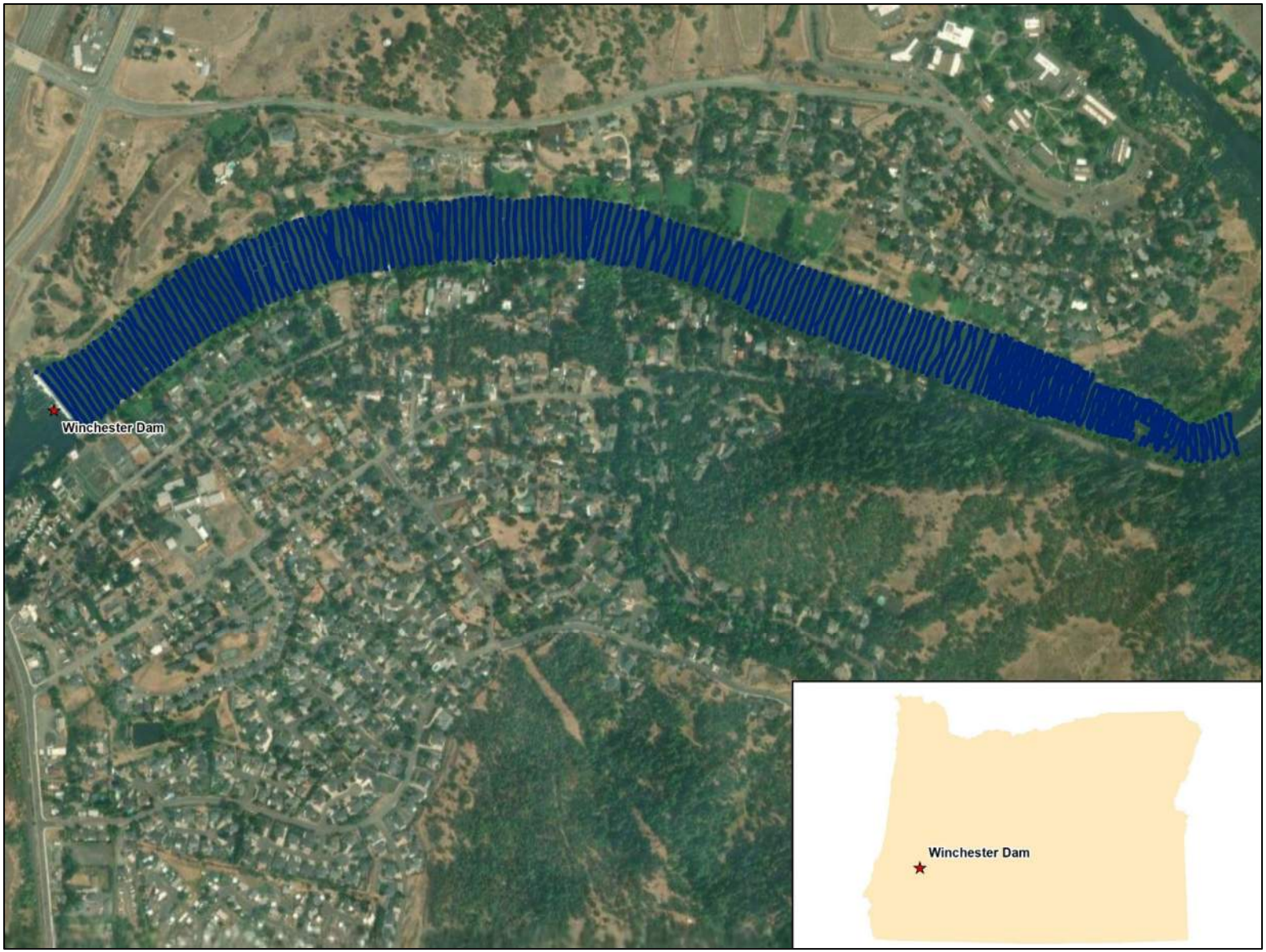


Figure 1: Location and survey data point map

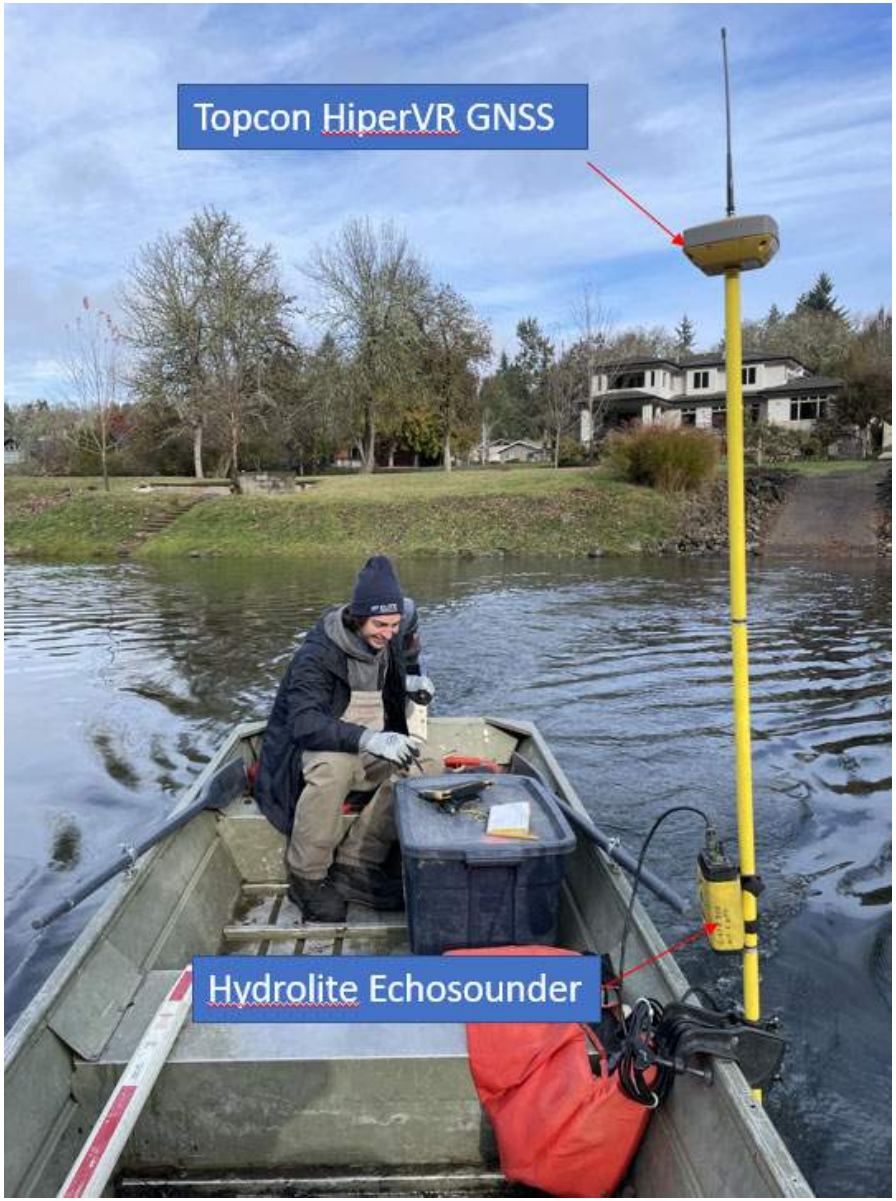


Figure 2: Equipment setup

Figure 3: Dam survey points

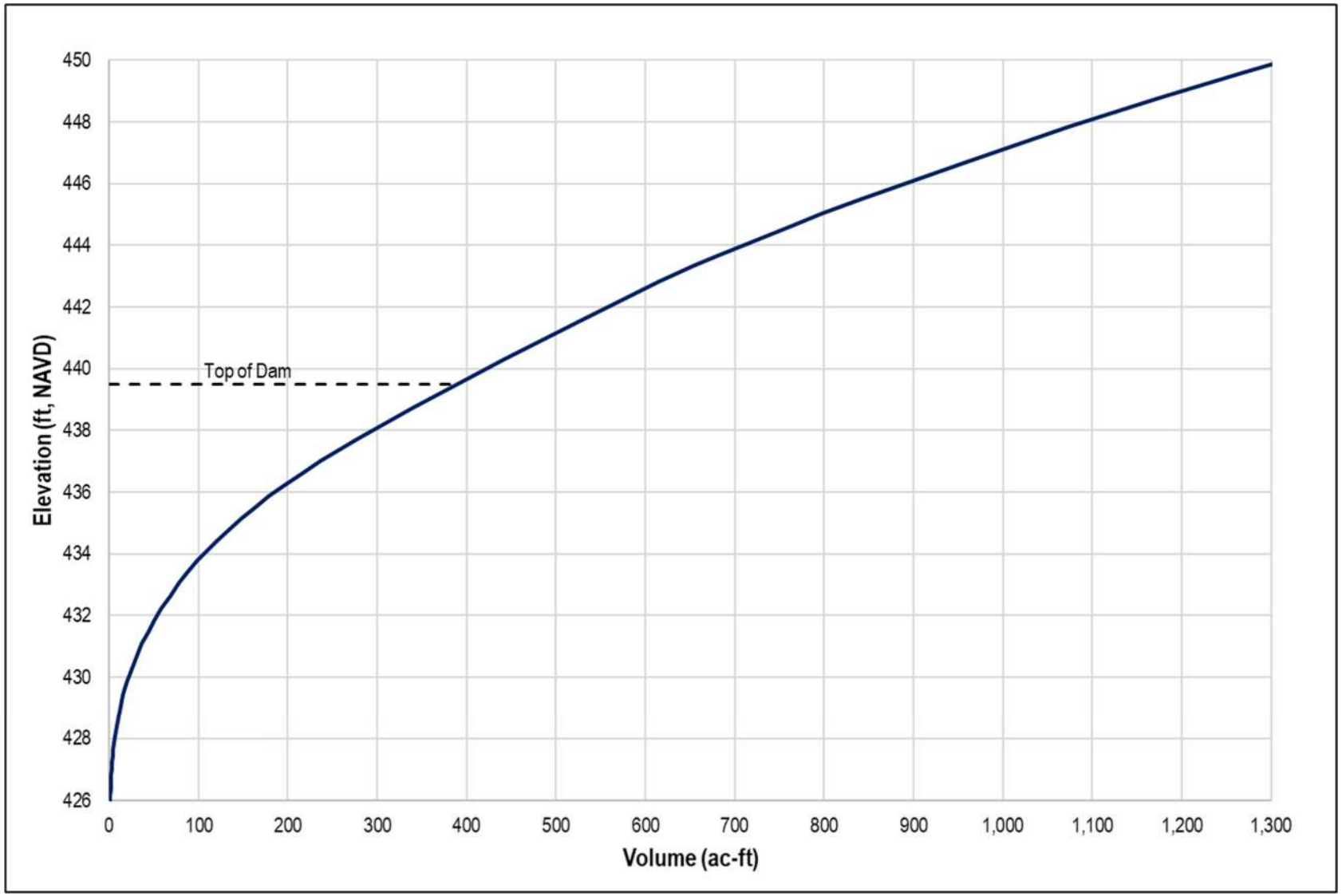


Figure 4: Winchester Dam elevation-volume relationship

Attachment 4

Biological Assessment Photo Log

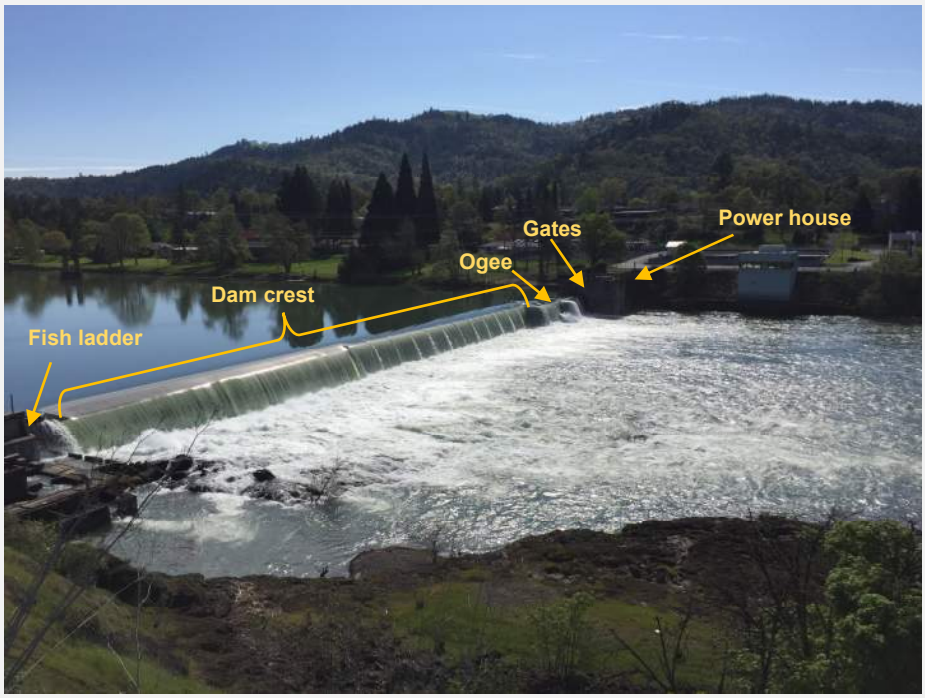


Figure A1-1: Winchester Dam, looking south (04/19/2019)

Figure A1-2: Powerhouse and gates, looking north (10/25/2017)

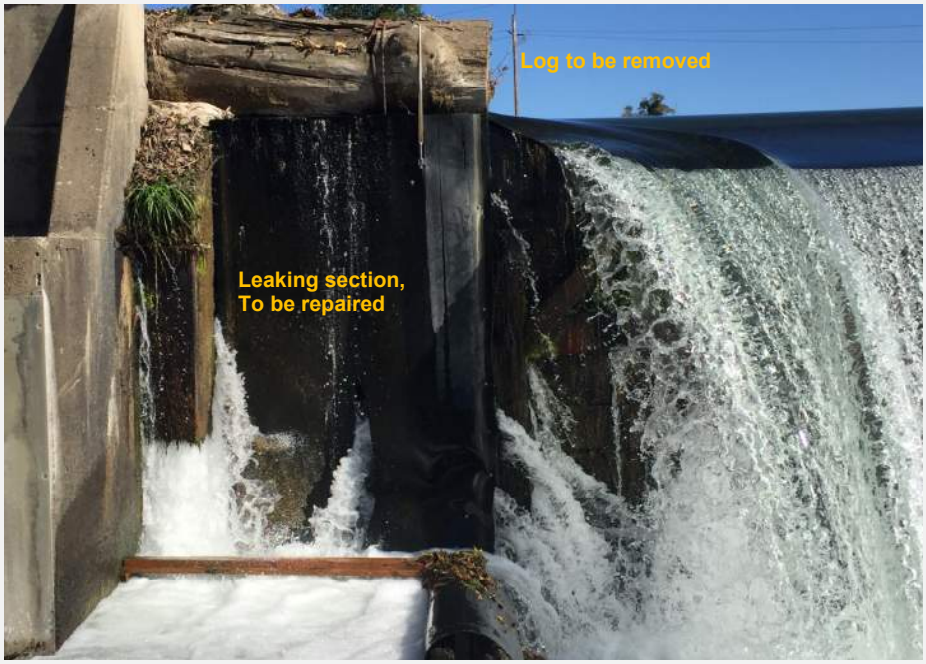


Figure A1-3: Leak creating false attraction flow at fish ladder (10/10/2019)

Figure A1-4: Fish ladder during normal operation (05/30/2019)

Figure A1-5: Fish ladder during normal operation (03/31/2009)

Figure A1-6: Concrete shelf at gates during normal operation (10/03/2018)

Figure A1-7: Gates open during lake drawdown (09/05/2013)

Figure A1-8: Downstream dam face during drawdown (09/01/2009)

Figure A1-9: Upstream view of the gates during drawdown (09/01/2009)

Figure A1-10: Fish ladder during drawdown (09/01/2009).

Figure A1-11: Upstream dam face during drawdown (09/01/2009)

Figure A1-12: Water infiltration leaking from powerhouse (10/10/2012).