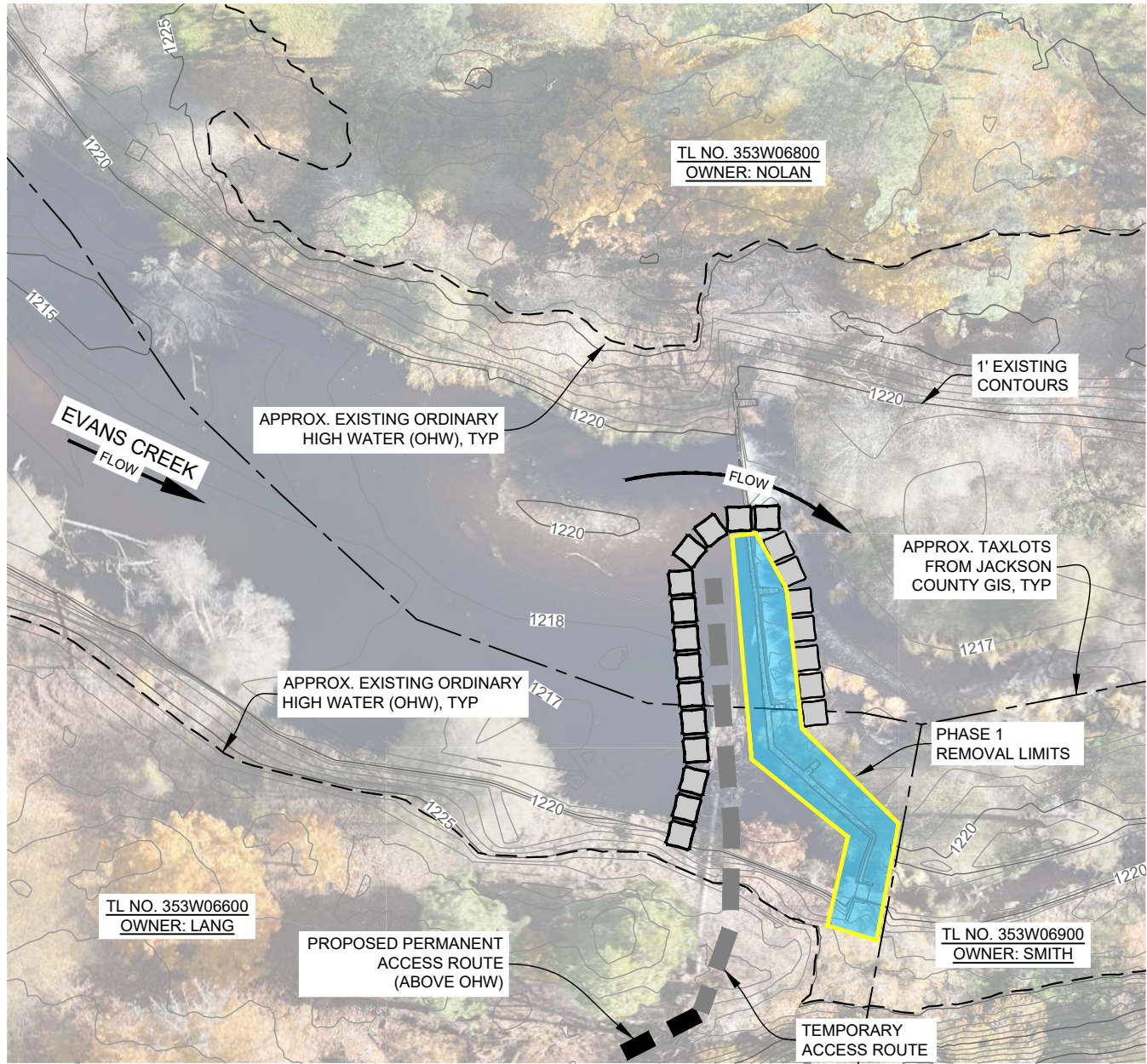
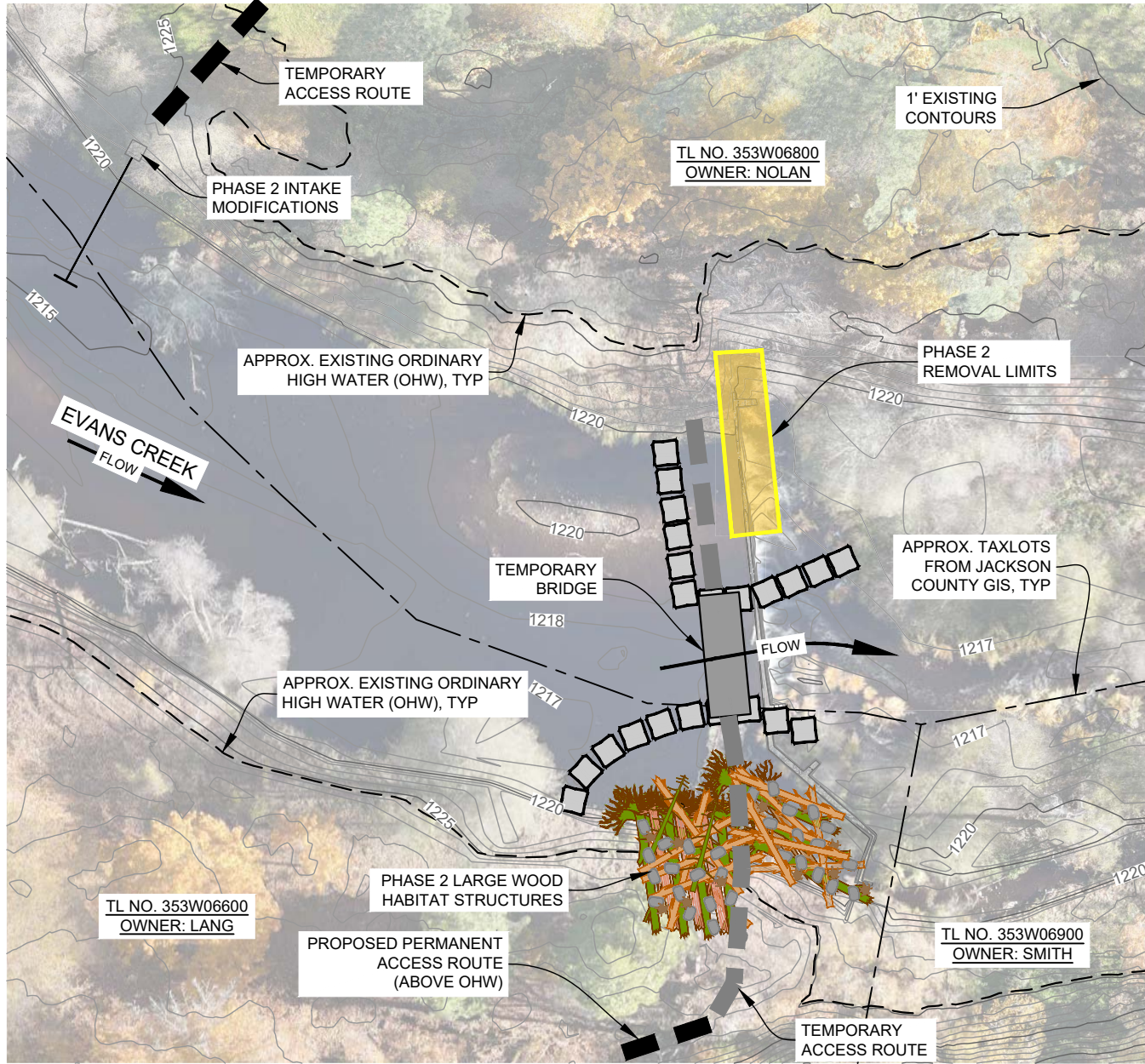


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PHASE 1

- 1.1 MOBILIZE CONSTRUCTION EQUIPMENT AND FACILITIES ON SITE.
- 1.2 ISOLATE CONCRETE STRUCTURE FOR REMOVAL BY INSTALLING TEMPORARY SAND BAGS/BULK BAGS UPSTREAM AND DOWNSTREAM OF DAM TO DIVERT STREAM FLOW THROUGH THE EAST (RIVER LEFT) NOTCH OF THE DAM. SEE DETAIL 2 ON DRAWING 3.3.
- 1.3 CONDUCT FISH SALVAGE IN ISOLATED AREAS OF DAM PER AQUATIC CONSERVATION MEASURES AND DETAILS, SEE DRAWINGS 3.2-3.3.
- 1.4 CONSTRUCT TEMPORARY ACCESS ROAD WITHIN RESERVOIR. SEE DRAWING 4.2.
- 1.5 REMOVE ISOLATED PORTION OF CONCRETE DAM. CONCRETE RUBBLE TO BE DISPOSED OF OFFSITE. APPROXIMATELY, ±30 CUBIC YARDS OF CONCRETE.
- 1.6 INSTALL BRIDGE TO BE USED FOR PHASE 2 ACCESS. SEE DRAWING 4.2.
- 1.7 REMOVE PHASE 1 WORK AREA ISOLATION MEASURES INCREMENTALLY DURING RESERVOIR DRAW DOWN PER THE DIRECTION OF THE ENGINEER. DIRECT RIVER TO FLOW THROUGH THE PHASE 2 BRIDGE AND REMOVED PORTION OF DAM.



PHASE 2

- 2.1 CONSTRUCT TEMPORARY ACCESS ROAD ALONG DAM CREST FOR ACCESS TO EAST PORTION OF DAM.
- 2.2 CONCURRENT TO ACCESS ROAD INSTALLATION, ISOLATE CONCRETE STRUCTURE FOR REMOVAL BY PLACING TEMPORARY BULK BAG COFFER DAM UPSTREAM OF DAM TO DIVERT STREAM FLOW THROUGH PHASE 1 REMOVED PORTION OF DAM. SEE DETAIL 2 ON DRAWING 4.2.
- 2.3 CONDUCT FISH SALVAGE IN ISOLATED AREAS PER AQUATIC CONSERVATION MEASURES AND DETAILS, SEE DRAWINGS 3.2-3.4.
- 2.4 REMOVE REMAINING PORTION OF DAM. CONCRETE RUBBLE TO BE DISPOSED OF OFFSITE. APPROXIMATELY, ±10 CUBIC YARDS OF CONCRETE.
- 2.5 REMOVE RIVER RIGHT PHASE 2 TEMPORARY ACCESS ROAD, TEMPORARY BRIDGE, AND ISOLATION MEASURES. ACCESS ROAD MATERIAL TO BE REMOVED FROM SITE.
- 2.6 CONSTRUCT RIVER LEFT LARGE WOOD STRUCTURES PER DRAWINGS 5.2-5.3.
- 2.7 REMOVE RIVER LEFT PHASE 2 TEMPORARY ACCESS ROAD AND ISOLATION MEASURES. ACCESS ROAD MATERIAL TO BE REMOVED FROM SITE.
- 2.8 STABILIZE AND REVEGETATE PROJECT AREA PER DRAWING 7.0.

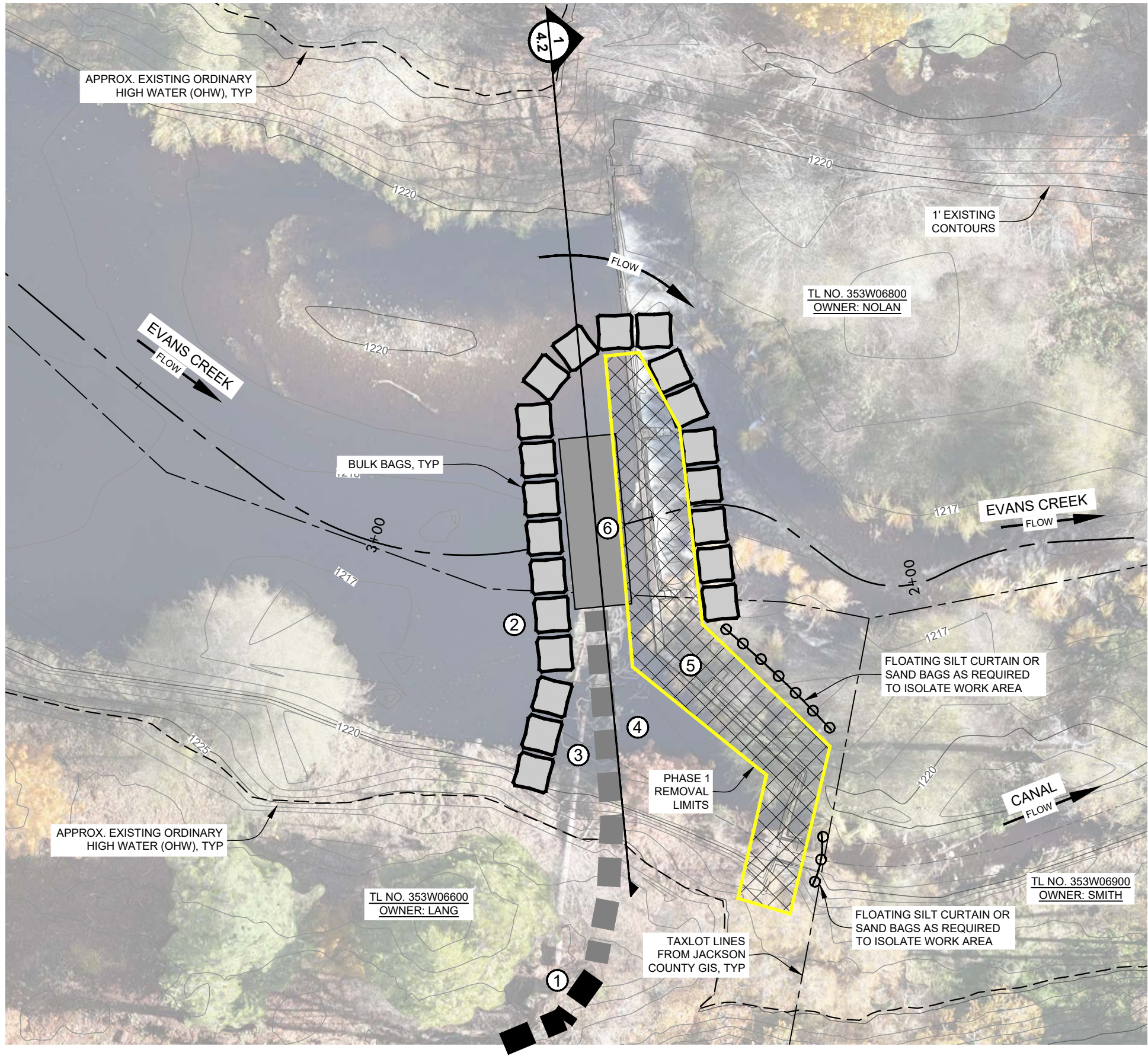


PROJECT SEQUENCING OVERVIEW

WILLIAMS WHALEN DAM REMOVAL
JACKSON COUNTY, OR

NO.	DATE	BY	DESCRIPTION	CHK	MCK
*	2/23/24	TF	PERMIT		
PROJECT NUMBER RDG-23-025					
DRAWING NUMBER 4.0					
Drawing 15 of 26					

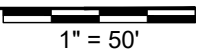
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ESTIMATED STRUCTURE REMOVAL QUANTITIES PHASE 1	
CONCRETE RUBBLE	±30 CY

1

PHASE 1 DAM REMOVAL



PHASE 1 CONSTRUCTION NOTES

- 1 ACCESS RIVER FROM WEST SIDE ROAD PER SITE ACCESS AND STAGING PLAN (DRAWING 3.0). IMPROVE EXISTING ROAD NETWORK AND CONSTRUCT PERMANENT ACCESS ROAD AS NEEDED OUTSIDE OF ORDINARY HIGH WATER (OHW) PER DETAIL DRAWING 3.5.
- 2 INSTALL TEMPORARY SAND BAGS, BULK BAGS, OR APPROVED ALTERNATIVE COFFERDAM PER DRAWING 3.3 TO ISOLATE ACTIVE FLOW FROM WORK AREA PER PHASE 1 CARE AND DIVERSION OF WATER NOTES THIS SHEET.
- 3 CONSTRUCT TEMPORARY ACCESS ROAD WITHIN ORDINARY HIGH WATER (OHW) PER DETAIL ON DRAWING 4.2.
- 4 FISH SALVAGE PLAN SHALL BE ACTIVATED FOR ISOLATED AREAS OF DAM. SALVAGE TO BE PER FISH SALVAGE NOTES THIS SHEET AND CONSERVATION MEASURES DRAWINGS 1.1-1.5.
- 5 REMOVE ISOLATED PORTION OF CONCRETE DAM AS NOTED ON DRAWING (1 SPILLWAY BAY). ENGINEER SHALL PROVIDE FINAL APPROVAL OF CONCRETE REMOVAL UPON INSPECTION. CONCRETE SHALL BE BROKEN INTO 2' BY 2' PIECES WITH ALL EXPOSED REBAR REMOVED. CONCRETE TO BE DISPOSED OF OFF-SITE AT LEGAL DUMPING FACILITY.
- 6 INSTALL TEMPORARY BRIDGE (DETAIL DRAWING 4.2). BRIDGE DESIGN PROVIDED BY CONTRACTOR SHALL BE ABLE TO PASS 25 CFS WITH 1' FREEBOARD.

PHASE 1 CARE AND DIVERSION OF WATER

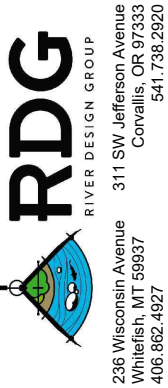
FLOW CONDITIONS DURING IN-WATER WORK
THE PROJECT WILL BE IMPLEMENTED DURING THE IN-STREAM WORK WINDOW JUNE 15 - SEPTEMBER 15. SEE TABLE ON DRAWING 3.2 FOR ANTICIPATED FLOWS DURING CONSTRUCTION.

METHOD OF WORK AREA ISOLATION - NORTH PORTION OF DAM
THE WORK AREA WILL BE ISOLATED FROM ACTIVE FLOW USING A SAND BAG/BULK BAG COFFERDAM INSTALLED UPSTREAM AND DOWNSTREAM OF THE STRUCTURE TO RETAIN ANY SUSPENDED SEDIMENT FROM REMOVAL ACTIVITIES.

FISH PASSAGE
FISH PASSAGE WILL BE PRESERVED THROUGH THE EXISTING RIVER-LEFT FLOW PATH.

PHASE 1 FISH SALVAGE NOTES

1. CONTRACTOR SHALL COORDINATE WITH OREGON DEPARTMENT OF FISH AND WILDLIFE (ODFW) TO REMOVE EXISTING FISH AT THE PROJECT SITE PRIOR TO ISOLATION AND DEWATERING THE AREA. FISH SALVAGE TO BE CONDUCTED BY TRAINED FISHERIES BIOLOGISTS AND PER ODFW AND NOAA RULES. IF POSSIBLE ALLOW FISH SPECIES TO MIGRATE OUT OF WORK AREA. IF NECESSARY, A BACKPACK ELECTROSHOCKER OR SEINE NET (MADE FROM 9.5 MM STRETCHED NYLON MESH) MAY BE USED TO REMOVE FISH FROM THE ISOLATED WORK AREA.
2. IN COFFERDAM WORK AREAS AND OTHER ISOLATED AREAS, WATER MAY BE DRAWN DOWN TO HELP CONSOLIDATE FISH AND IMPROVE SALVAGE EFFORTS IF DEEMED NECESSARY BY EITHER ODFW OR RDG BIOLOGISTS. REDUCING WATER VOLUME WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE DONE USING PUMPS FITTED WITH APPROVED FISH SCREENS THAT PREVENT IMPINGEMENT OR ENTRAINMENT OF FISH (SEE DRAWING 3.4).
3. WATER WILL BE DRAWN DOWN IN A CONTROLLED MANNER WITH FISH SALVAGE CREWS CONTINUOUSLY MONITORING THE PUMPS, NEWLY EXPOSED AREAS, AND FISH NUMBERS FOR CROWDING. IF ISOLATED POCKETS OR POOLS OCCUR, THEY WILL BE DEFISHED AND PUMPING WILL BE REDUCED ONCE MANAGEABLE WATER LEVELS ARE OBTAINED.
4. FOR THE PERIOD BETWEEN CAPTURE AND RELEASE, ALL CAPTURED AQUATIC LIFE WILL BE IMMEDIATELY PUT INTO CLEAN DARK COLORED FIVE GALLON BUCKETS FILLED WITH CLEAN RIVER WATER. FISH SPECIES AND LIFE STAGE WILL BE DOCUMENTED AND FISH WILL BE RELEASED IN A SAFE ENVIRONMENT DETERMINED BY EITHER ODFW OR RDG BIOLOGISTS WITHIN THE VICINITY OF THE PROJECT AREA.



PHASE 1 - DAM REMOVAL
WILLIAMS WHALEN DAM REMOVAL
JACKSON COUNTY, OR

NO.	DATE	BY	DESCRIPTION		CHK
			PERMIT	MCK	
*	2/23/24	TF			

PROJECT NUMBER
RDG-23-025

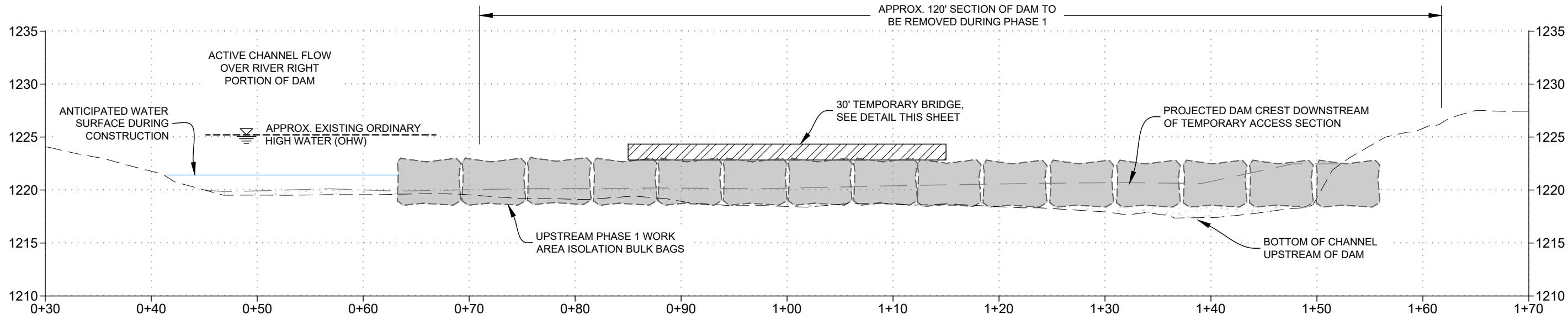
DRAWING NUMBER

4.1

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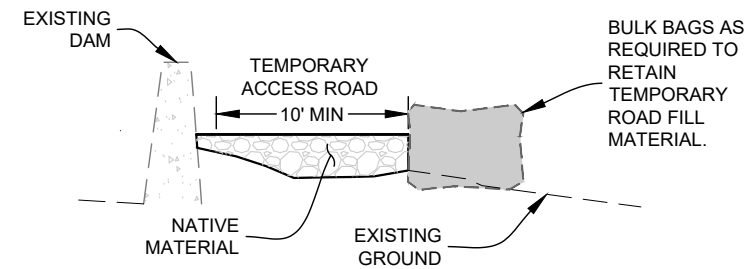


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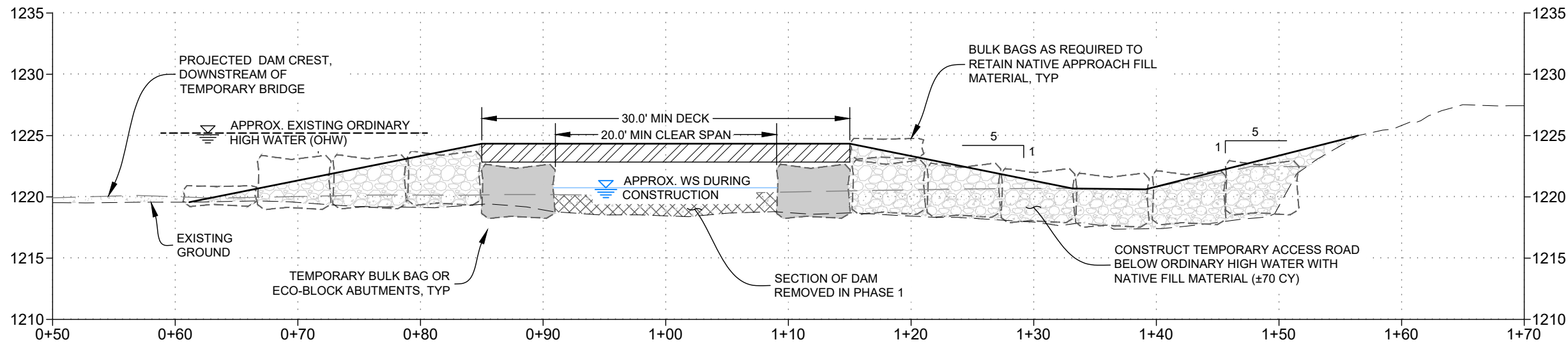
1 PHASE 1 ISOLATION DETAIL

HORZ 1" = 10'
VERT 1" = 10'



2 TYPICAL TEMPORARY ACCESS ROAD AND APPROACH DETAIL

HORZ 1" = 10'
VERT 1" = 10'



3 TEMPORARY BRIDGE DETAIL

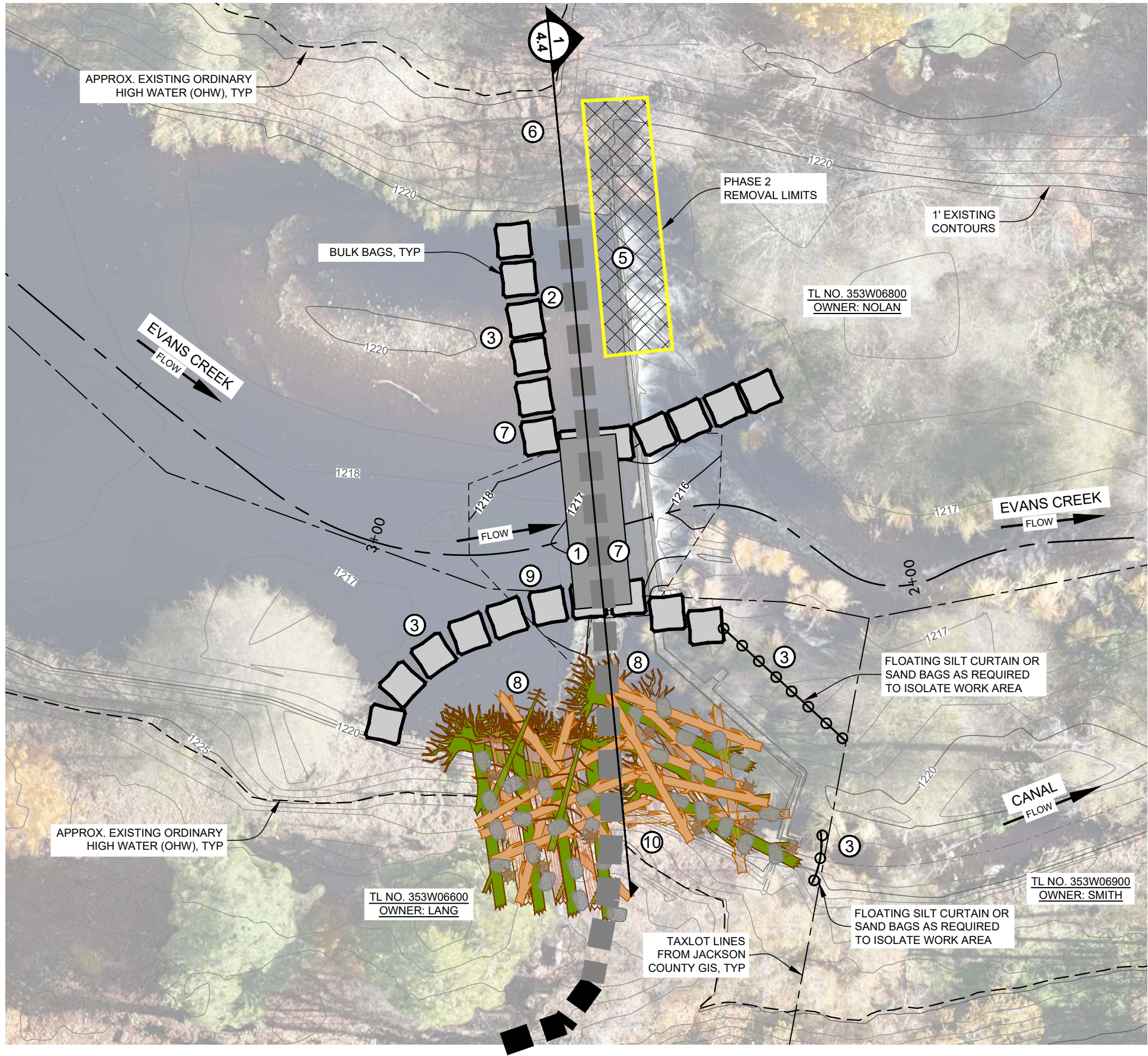
HORZ 1" = 10'
VERT 1" = 10'



PHASE 1 DETAILS
WILLIAMS WHALEN DAM REMOVAL
JACKSON COUNTY, OR

NO.	DATE	BY	DESCRIPTION	CHK
*	2/23/24	TF	PERMIT	MCK

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ESTIMATED STRUCTURE REMOVAL QUANTITIES PHASE 2	
CONCRETE RUBBLE	±10 CY

1 PHASE 2 DAM REMOVAL

1" = 50'



PHASE 2 CONSTRUCTION NOTES

- 1 ACCESS DAM BY MEANS OF TEMPORARY BRIDGE INSTALLED AT THE COMPLETION OF PHASE 1. (DETAIL DWG 4.2).
- 2 CONSTRUCT TEMPORARY ACCESS ROAD ALONG DAM CREST FOR ACCESS TO SOUTH PORTION OF DAM PER DETAIL DWG 4.2 (±20 CUBIC YARDS OF NATIVE MATERIAL).
- 3 INSTALL TEMPORARY FLOATING SILT CURTAIN, SAND BAGS, BULK BAGS, OR APPROVED ALTERNATIVE COFFERDAM PER DRAWINGS 3.3 AND 4.4 TO ISOLATE ACTIVE FLOW FROM WORK AREA PER PHASE 2 CARE AND DIVERSION OF WATER NOTES THIS SHEET.
- 4 FISH SALVAGE PLAN SHALL BE ACTIVATED FOR ISOLATED AREAS OF DAM. SALVAGE TO BE PER FISH SALVAGE NOTES THIS SHEET AND CONSERVATION MEASURES DRAWINGS 1.1-1.5.
- 5 REMOVE ISOLATED PORTION OF CONCRETE DAM, CANAL WALL, AND ASSOCIATED STRUCTURES AS NOTED ON DRAWING. ENGINEER SHALL PROVIDE FINAL APPROVAL OF CONCRETE REMOVAL UPON INSPECTION. CONCRETE TO BE DISPOSED OFF-SITE AT LEGAL DUMPING FACILITY.
- 6 STABILIZE AND REVEGETATE LEFT BANK PROJECT AREA.
- 7 REMOVE PHASE 2 TEMPORARY ACCESS ROAD, BRIDGE AND LEFT BANK ISOLATION MEASURES.
- 8 CONSTRUCT LARGE WOOD HABITAT STRUCTURES PER DRAWINGS 5.2-5.3.
- 9 SHAPE FISH PASSAGE PILOT CHANNEL PER DRAWINGS 5.0-5.1 AND REMOVE PHASE 2 RIGHT BANK WORK AREA ISOLATION MEASURES.
- 10 STABILIZE AND REVEGETATE RIGHT BANK, ACCESS ROUTES, AND STAGING PROJECT AREAS.

PHASE 2 CARE AND DIVERSION OF WATER

FLOW CONDITIONS DURING IN-WATER WORK
THE PROJECT WILL BE IMPLEMENTED DURING THE IN-STREAM WORK WINDOW JULY 1 - SEPTEMBER 30. SEE TABLE ON DRAWING 3.2 FOR ANTICIPATED FLOWS DURING CONSTRUCTION.

METHOD OF WORK AREA ISOLATION - EAST HALF OF DAM AND EAST FISH LADDER
THE WORK AREA WILL BE ISOLATED FROM ACTIVE FLOW USING A SAND BAG/BULK BAG COFFERDAM INSTALLED UPSTREAM AND DOWNSTREAM OF THE STRUCTURE TO RETAIN ANY SUSPENDED SEDIMENT FROM REMOVAL ACTIVITIES.

FISH PASSAGE
FISH PASSAGE WILL BE THROUGH THE NATURAL CHANNEL UNDER THE TEMPORARY BRIDGE.

PHASE 2 FISH SALVAGE NOTES

1. CONTRACTOR SHALL COORDINATE WITH OREGON DEPARTMENT OF FISH AND WILDLIFE (ODFW) TO REMOVE EXISTING FISH AT THE PROJECT SITE PRIOR TO ISOLATION AND DEWATERING THE AREA. FISH SALVAGE TO BE CONDUCTED BY TRAINED FISHERIES BIOLOGISTS AND PER ODFW AND NOAA RULES. IF POSSIBLE ALLOW FISH SPECIES TO MIGRATE OUT OF WORK AREA. IF NECESSARY, A BACKPACK ELECTROSHOCKER OR SEINE NET (MADE FROM 9.5 MM STRETCHED NYLON MESH) MAY BE USED TO REMOVE FISH FROM THE ISOLATED WORK AREA.
2. IN COFFERDAM WORK AREAS AND OTHER ISOLATED AREAS, WATER MAY BE DRAWN DOWN TO HELP CONSOLIDATE FISH AND IMPROVE SALVAGE EFFORTS IF DEEMED NECESSARY BY EITHER ODFW OR RDG BIOLOGISTS. REDUCING WATER VOLUME WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE DONE USING PUMPS FITTED WITH APPROVED FISH SCREENS THAT PREVENT IMPINGEMENT OR ENTRAINMENT OF FISH (SEE DRAWING 3.4).
3. WATER WILL BE DRAWN DOWN IN A CONTROLLED MANNER WITH FISH SALVAGE CREWS CONTINUOUSLY MONITORING THE PUMPS, NEWLY EXPOSED AREAS, AND FISH NUMBERS FOR CROWDING. IF ISOLATED POCKETS OR POOLS OCCUR, THEY WILL BE DEFISHED AND PUMPING WILL BE REDUCED ONCE MANAGEABLE WATER LEVELS ARE OBTAINED.
4. FOR THE PERIOD BETWEEN CAPTURE AND RELEASE, ALL CAPTURED AQUATIC LIFE WILL BE IMMEDIATELY PUT INTO CLEAN DARK COLORED FIVE GALLON BUCKETS FILLED WITH CLEAN RIVER WATER. FISH SPECIES AND LIFE STAGE WILL BE DOCUMENTED AND FISH WILL BE RELEASED IN A SAFE ENVIRONMENT DETERMINED BY EITHER ODFW OR RDG BIOLOGISTS WITHIN THE VICINITY OF THE PROJECT AREA.



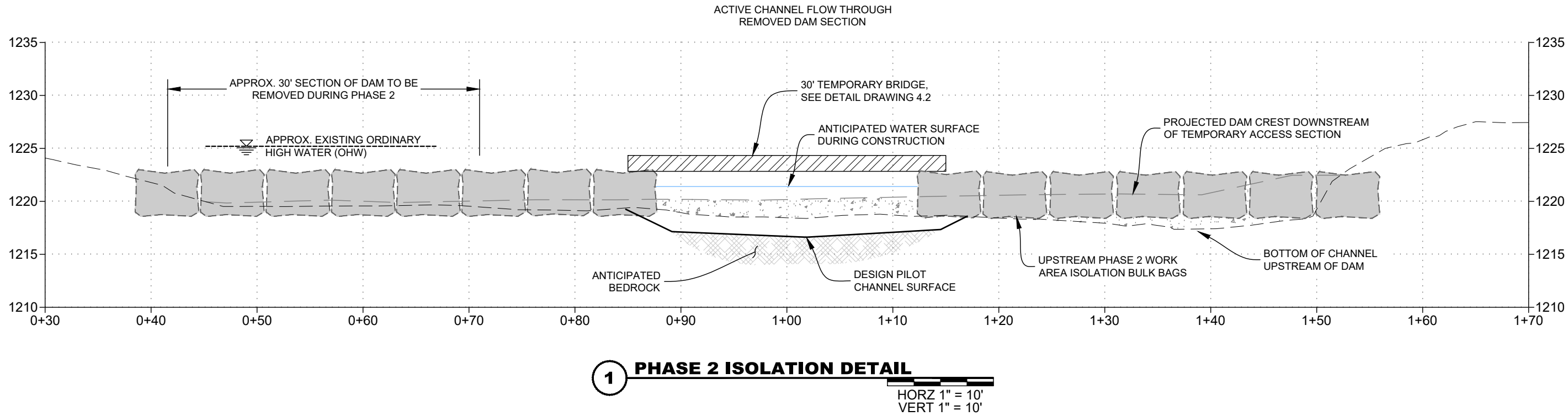
PHASE 2 - DAM REMOVAL
WILLIAMS WHALEN DAM REMOVAL
JACKSON COUNTY, OR

NO.	DATE	BY	DESCRIPTION	CHK
*	2/23/24	TF	PERMIT	MCK

PROJECT NUMBER RDG-23-025
DRAWING NUMBER 4.3
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1 PHASE 2 ISOLATION DETAIL

HORZ 1" = 10'
VERT 1" = 10'

PHASE 2 DETAILS

WILLIAMS WHALEN DAM REMOVAL

JACKSON COUNTY, OR

NO.	DATE	BY	DESCRIPTION	CHK	
				MCK	
*	2/23/24	TF	PERMIT		

PROJECT NUMBER
RDG-23-025

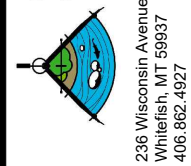
DRAWING NUMBER
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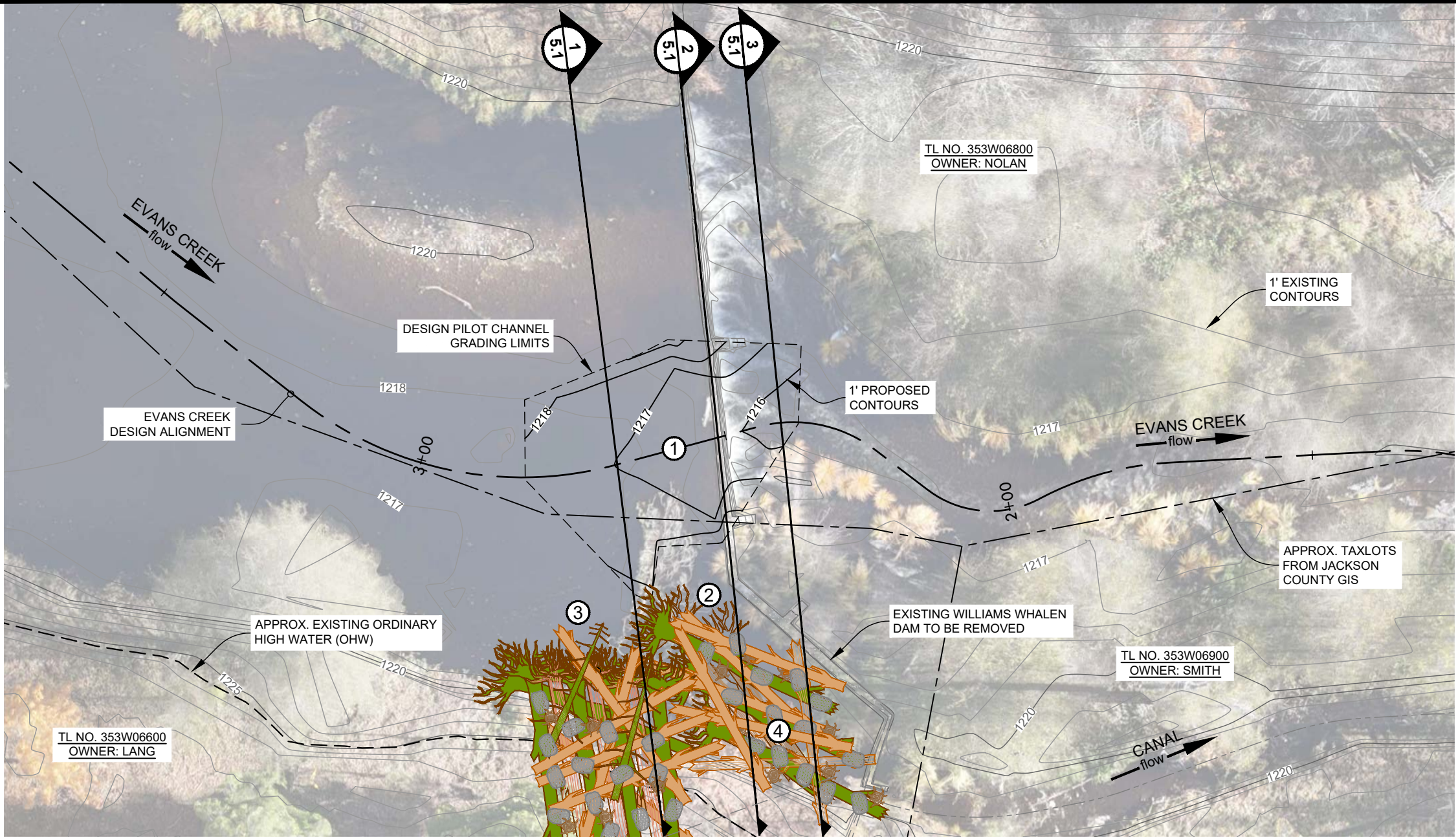
RDG
RIVER DESIGN GROUP



236 Wisconsin Avenue
Whitefish, MT 59937
406.862.4927

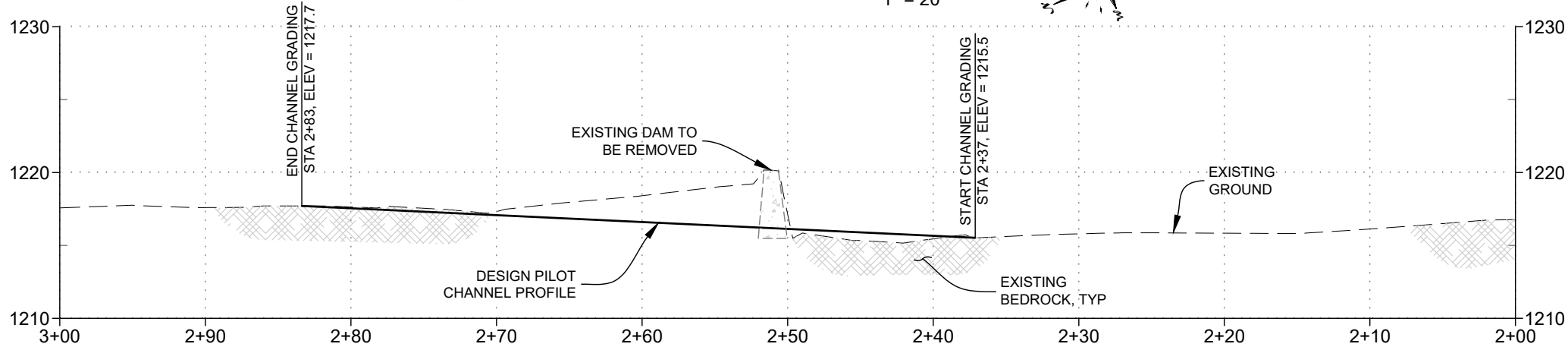
311 SW Jefferson Avenue
Corvallis, OR 97333
541.738.2920

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1 CHANNEL RESTORATION PLAN VIEW

1" = 20'

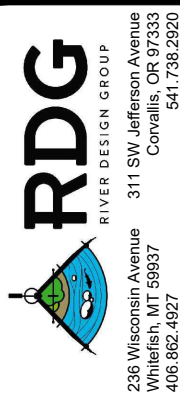


2 DESIGN PROFILE

HORIZ 1" = 20'
VERT 1" = 10'

CHANNEL RESTORATION CONSTRUCTION NOTES

- 1 CONSTRUCT PILOT CHANNEL BY SHAPING NATIVE GRAVELS TO LINES AND GRADES THIS SHEET.
- 2 CONSTRUCT BANK ATTACHED APEX LARGE WOOD STRUCTURE PER DRAWING 5.2.
- 3 CONSTRUCT BANK ROOTWAD LARGE WOOD STRUCTURE PER DRAWING 5.3.
- 4 REUSE SEDIMENT EXCAVATED FROM PILOT CHANNEL (~50 CY) IN GRAVEL BALLAST FOR BANK-ATTACHED APEX LARGE WOOD STRUCTURE.



CHANNEL RESTORATION

WILLIAMS WHALEN DAM REMOVAL
JACKSON COUNTY, OR

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PROJECT NUMBER
RDG-23-025

DRAWING NUMBER

5.0

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