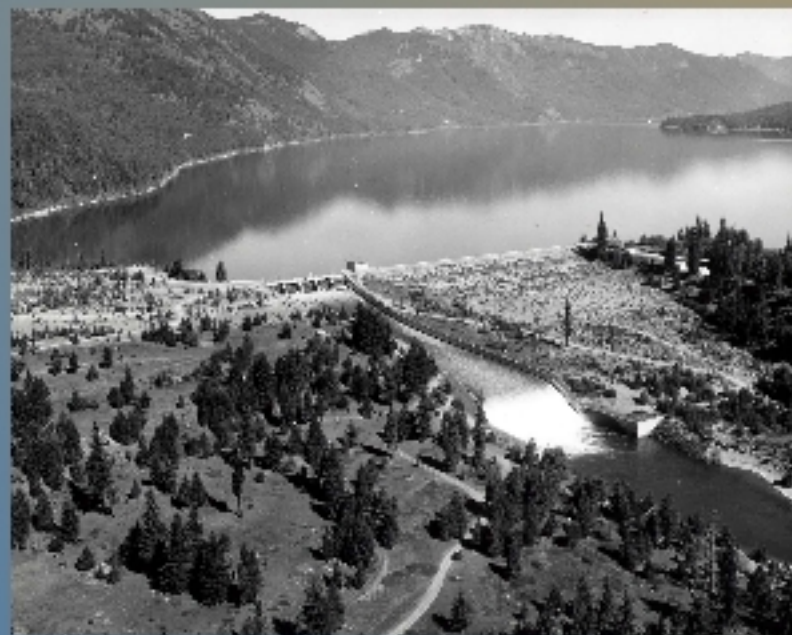


RECLAMATION

Managing Water in the West

Storage Dam Fish Passage Feasibility Study



U.S. Department of the Interior
Bureau of Reclamation

Recap

- **FY 2002 – FY 2003**
 - Phase I Assessment
- **FY 2003**
 - Developed Feasibility Study schedule & budget
 - Selected Cle Elum and Bumping Lake for early action
 - Began limnology & macroinvertebrate studies at Cle Elum and Bumping Lake
- **FY 2004**
 - First year of limited funding for feasibility study
 - Continued limnology and macroinvertebrate studies at Cle Elum and Bumping Lake
 - Developed plans and awarded construction contract for downstream interim passage at Cle Elum Dam

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- **FY2005**

- Completed downstream interim (temporary) passage at Cle Elum Dam and conducted limited testing
- Completed macroinvertebrate studies at Cle Elum and Bumping Lake
- Completed additional limnology field work at Cle Elum
- USFS completed habitat surveys on Cle Elum River and on Deep Creek above Bumping Lake
- Continued development of production potential models for coho and sockeye salmon at Cle Elum and Bumping Lake
- Collected feasibility design data for potential permanent passage facilities at Cle Elum and Bumping lake

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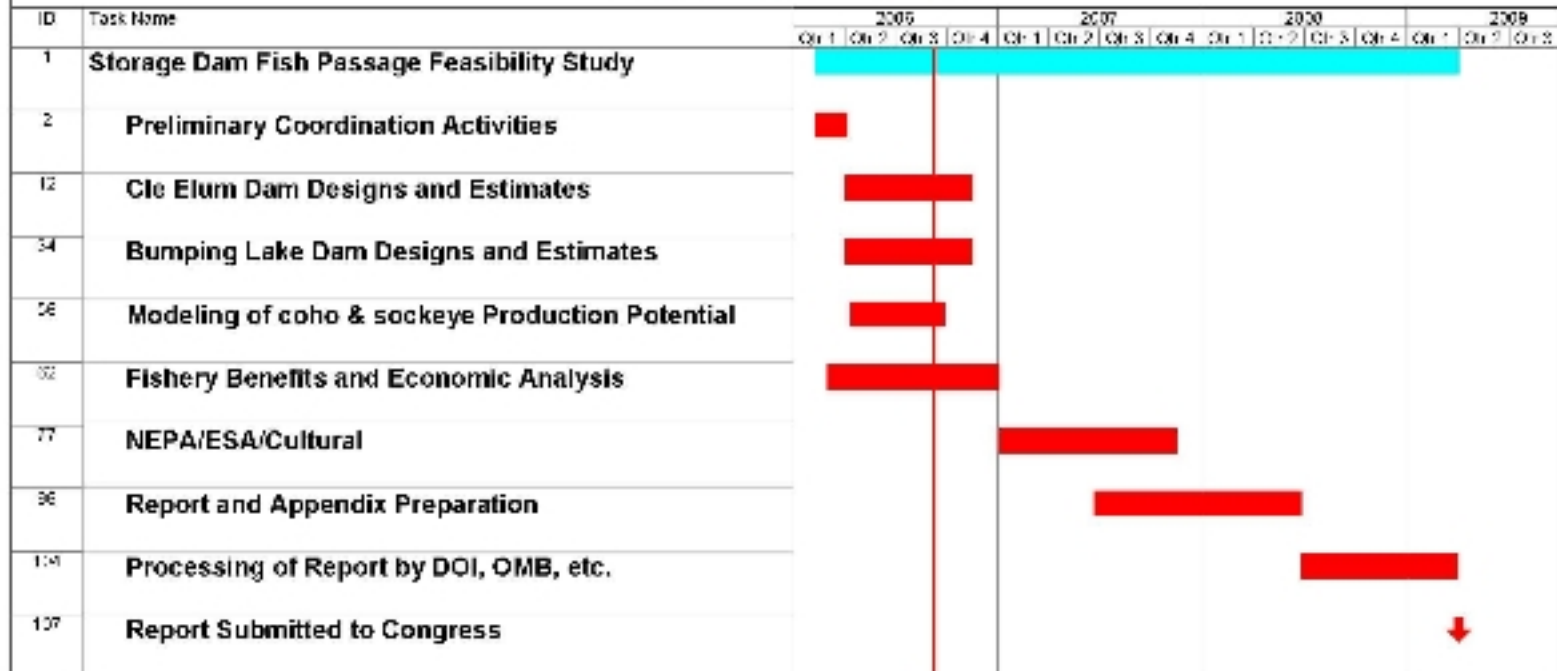
Current Activities

- **FY 2006**
 - Develop fishery benefits associated with passage at dams
 - Complete limnology reports
 - Revise and complete coho and sockeye models
 - Prepare feasibility level designs and cost estimates for permanent passage facilities at Cle Elum and Bumping Lake
 - Continue experiments at Cle Elum Dam interim passage facility

Next Steps

- **FY 2007 – FY 2008**
 - Prepare economic and financial analysis
 - Prepare environmental analysis including NEPA documents, ESA consultation, and cultural clearances
 - Prepare Feasibility Report for Cle Elum and Bumping Lake
 - Continue interim passage studies at Cle Elum Dam

Yakima Dams Fish Passage Cle Elum & Bumping Lake Feasibility Study Schedule of Activities



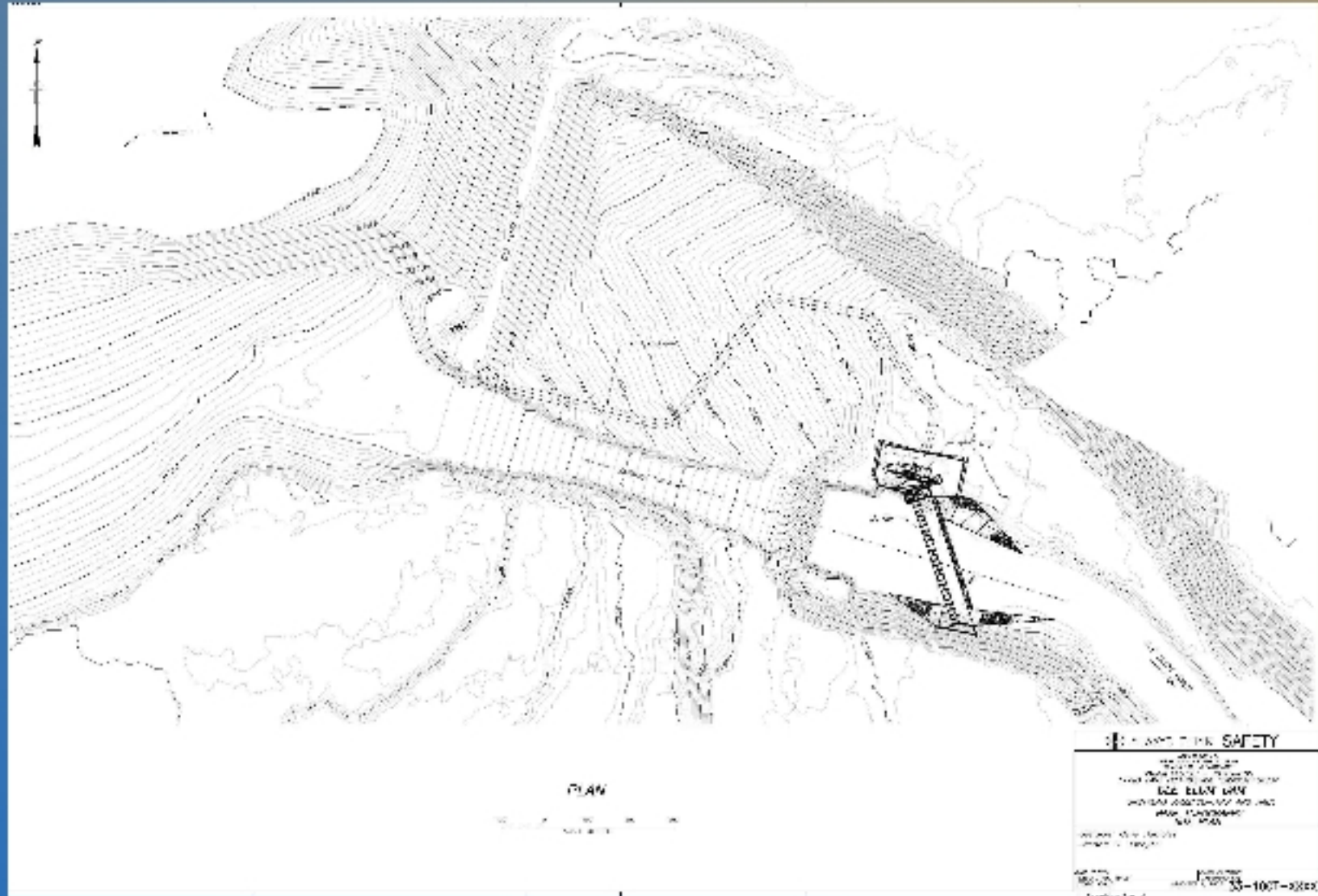
Yakima-Cle Elum & Bumping feasibility (9/8/08) map

Redacted: 11/16/05

Passage Concepts

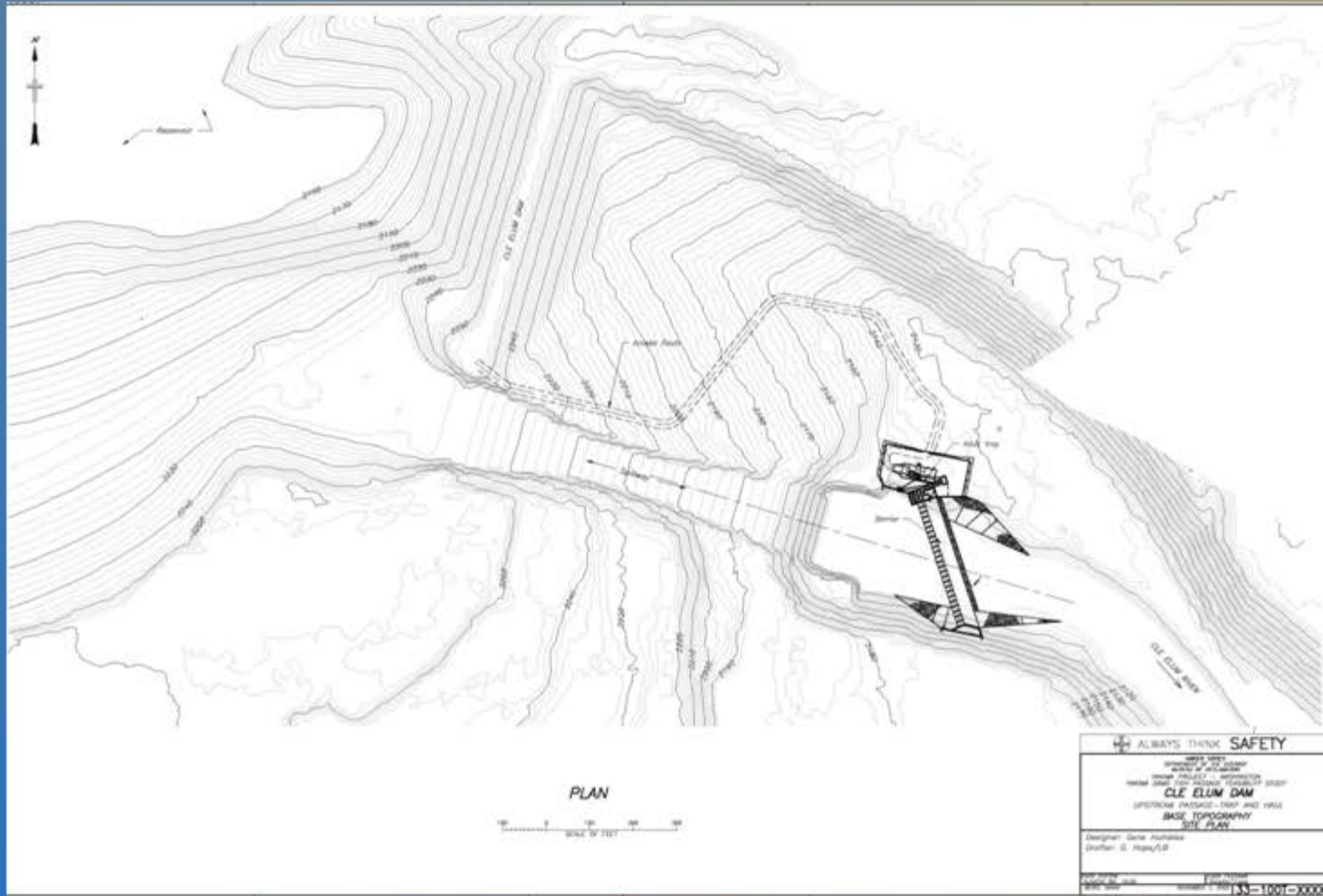
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Cle Elum Upstream Passage

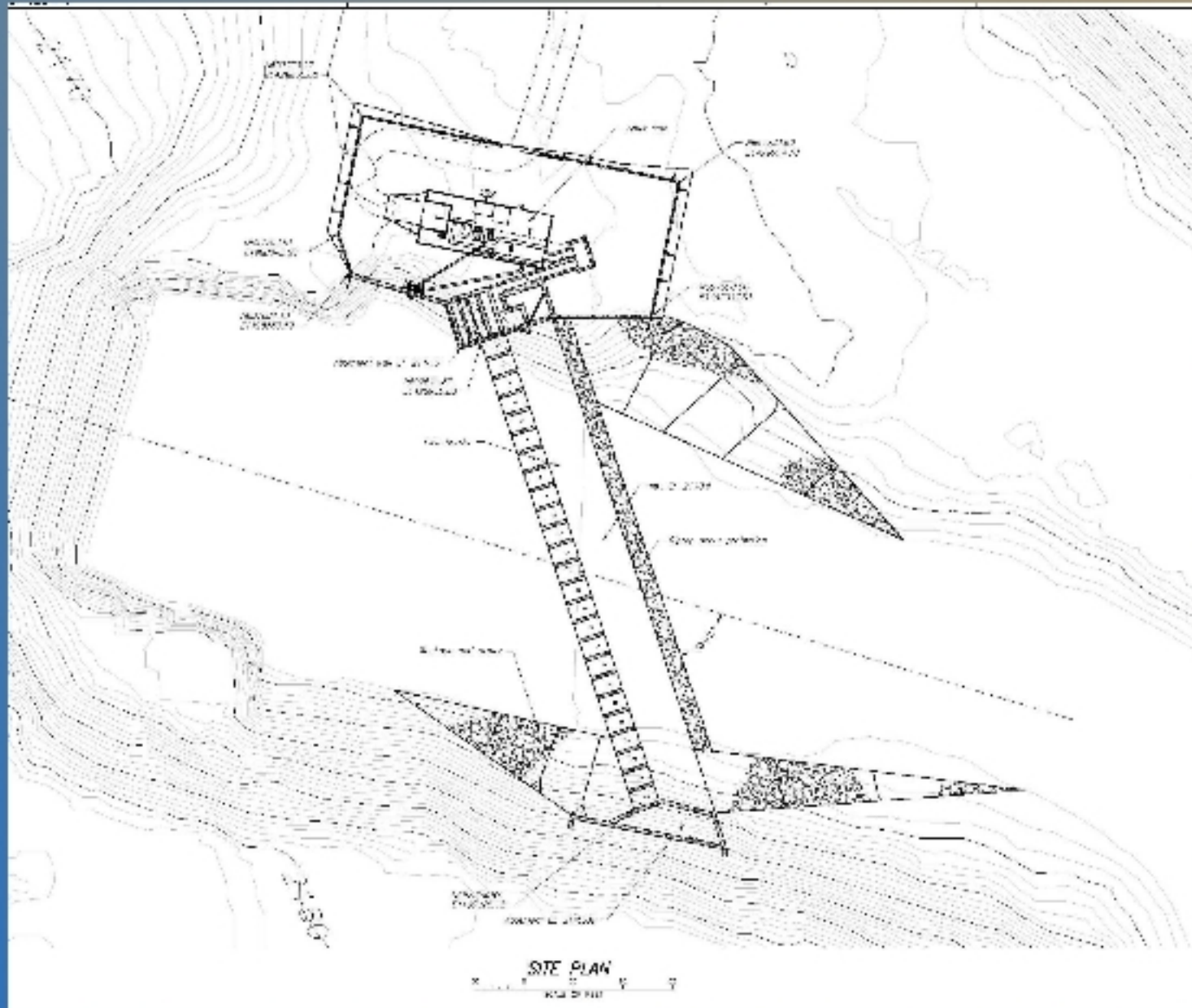


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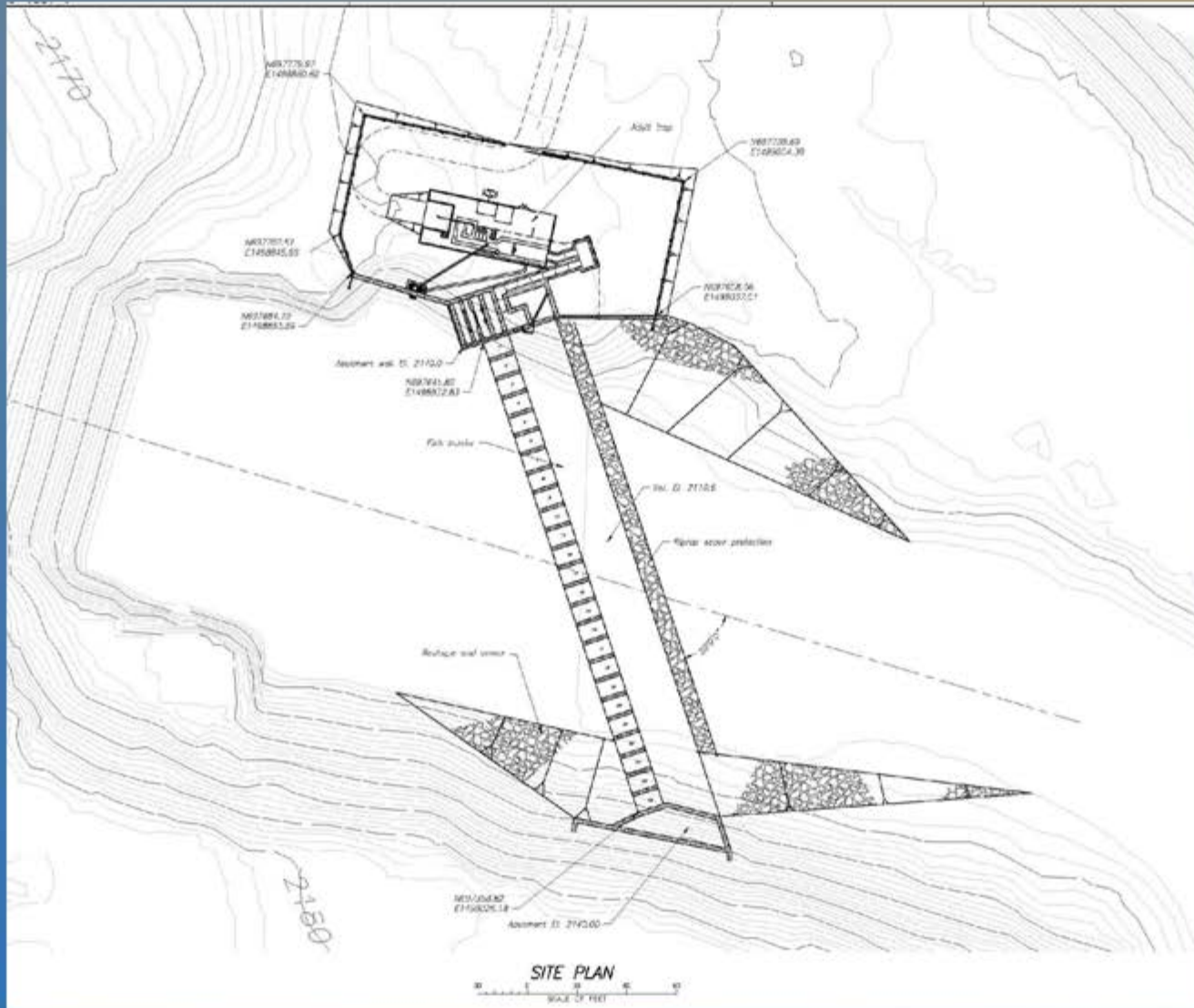
Cle Elum Upstream Passage



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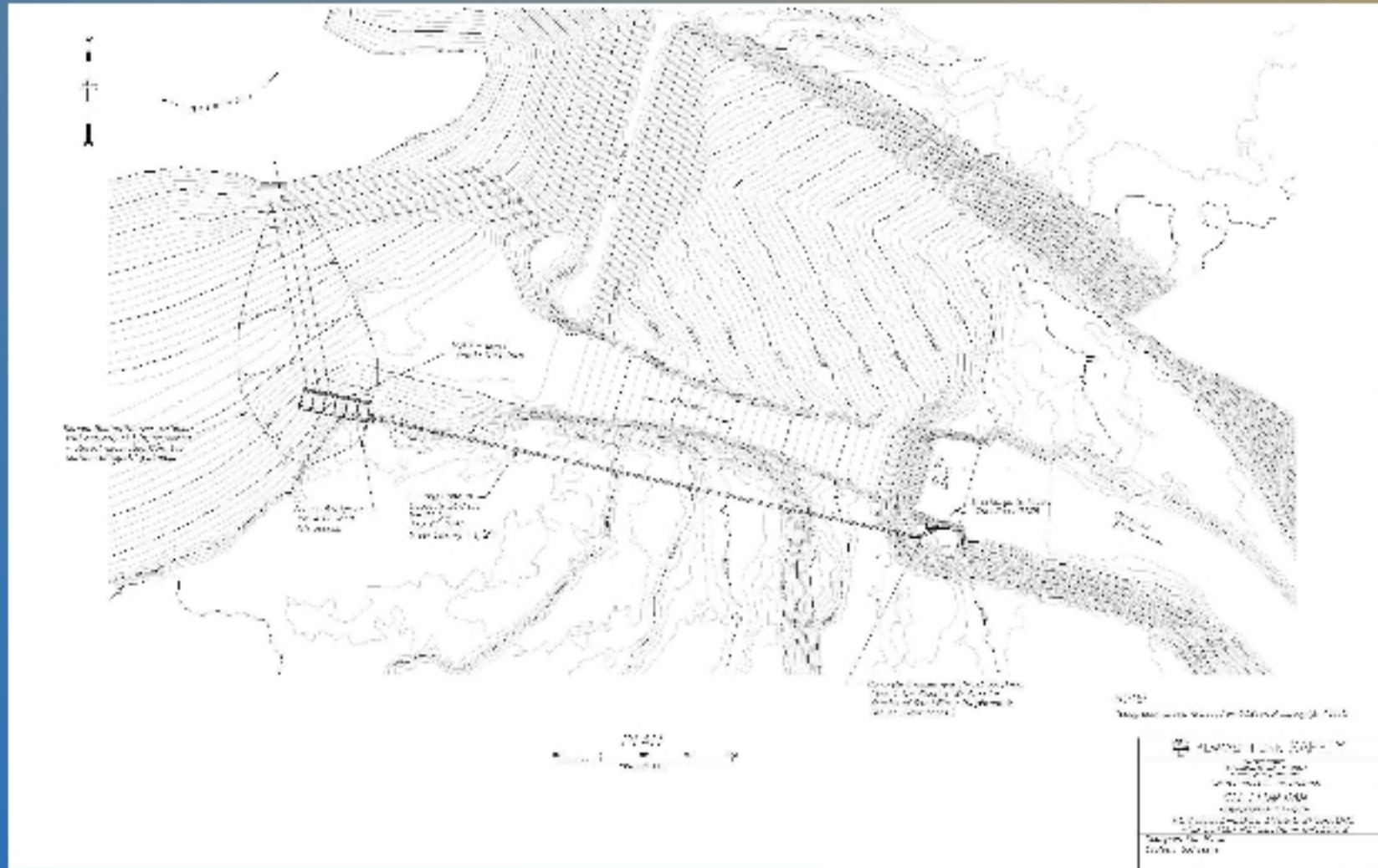


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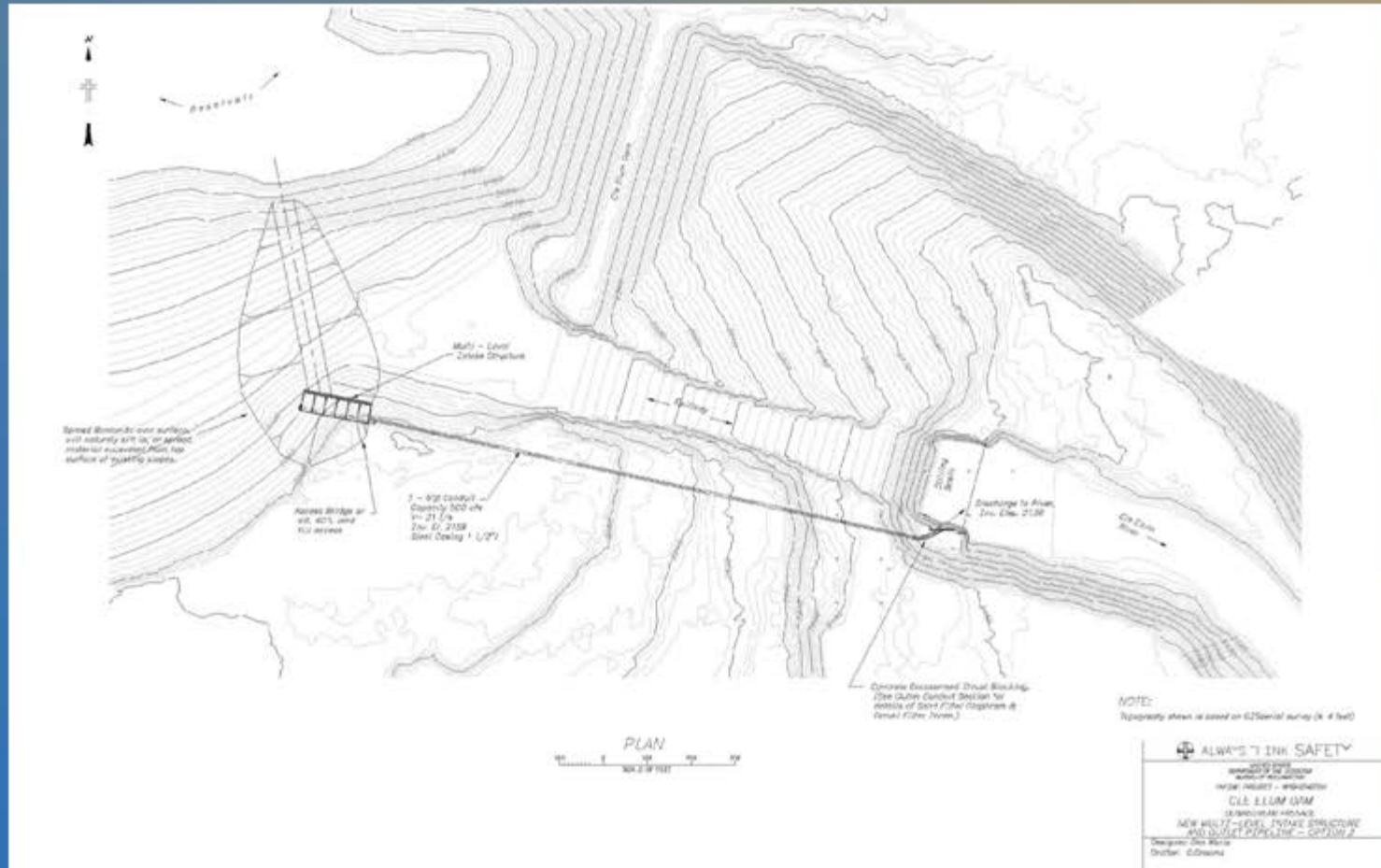
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Cle Elum Downstream



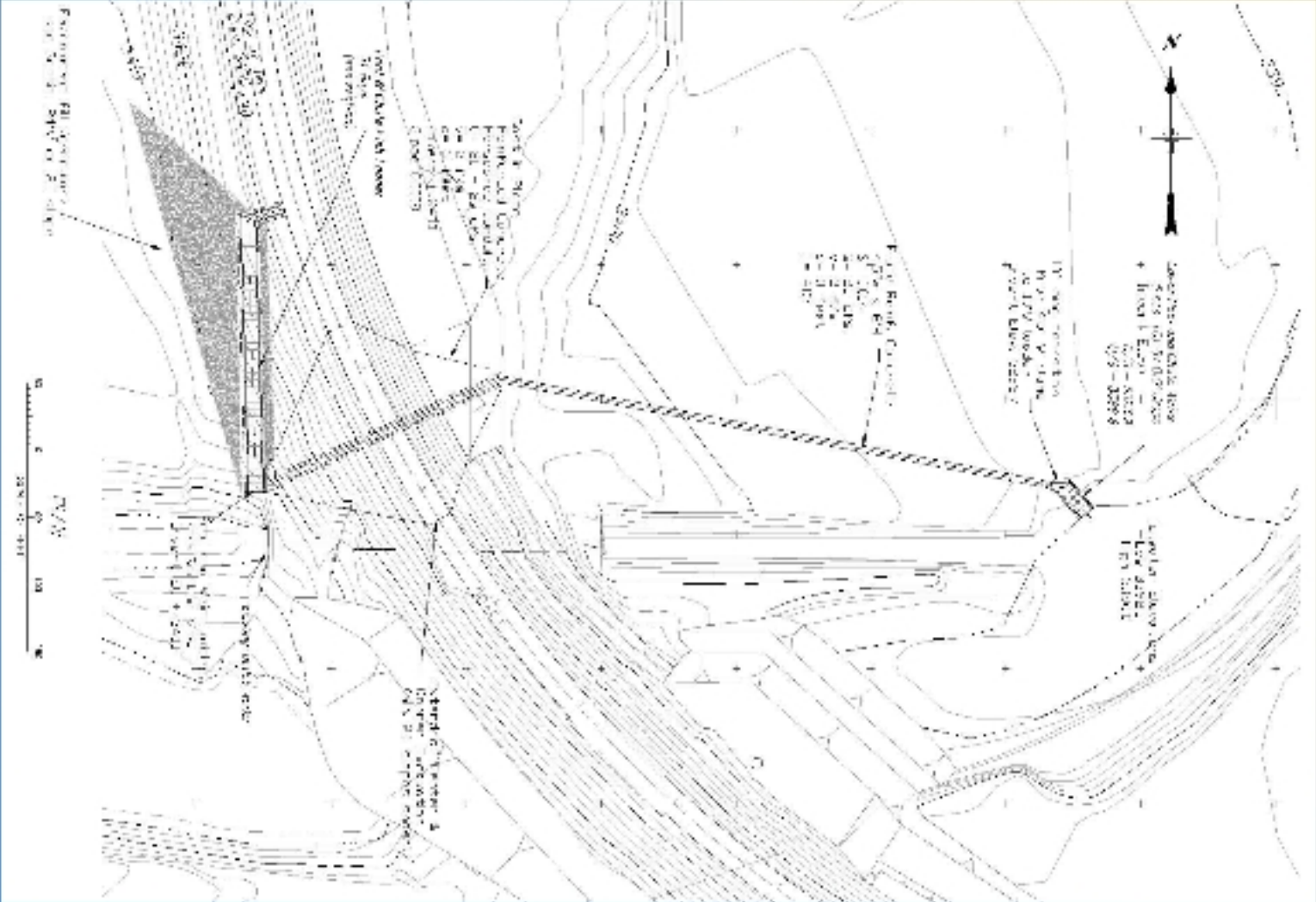
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Cle Elum Downstream



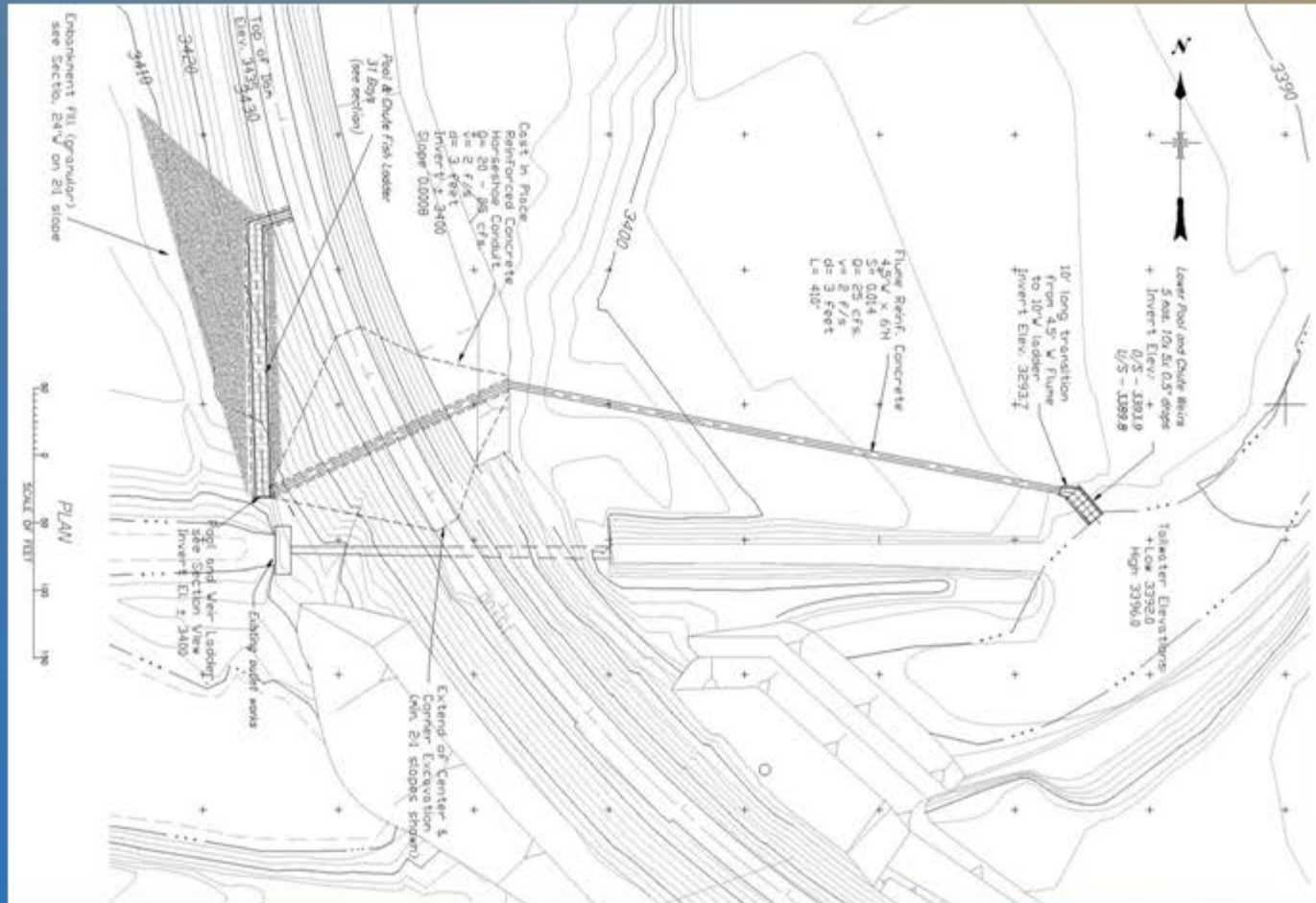
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Bumping Lake Upstream



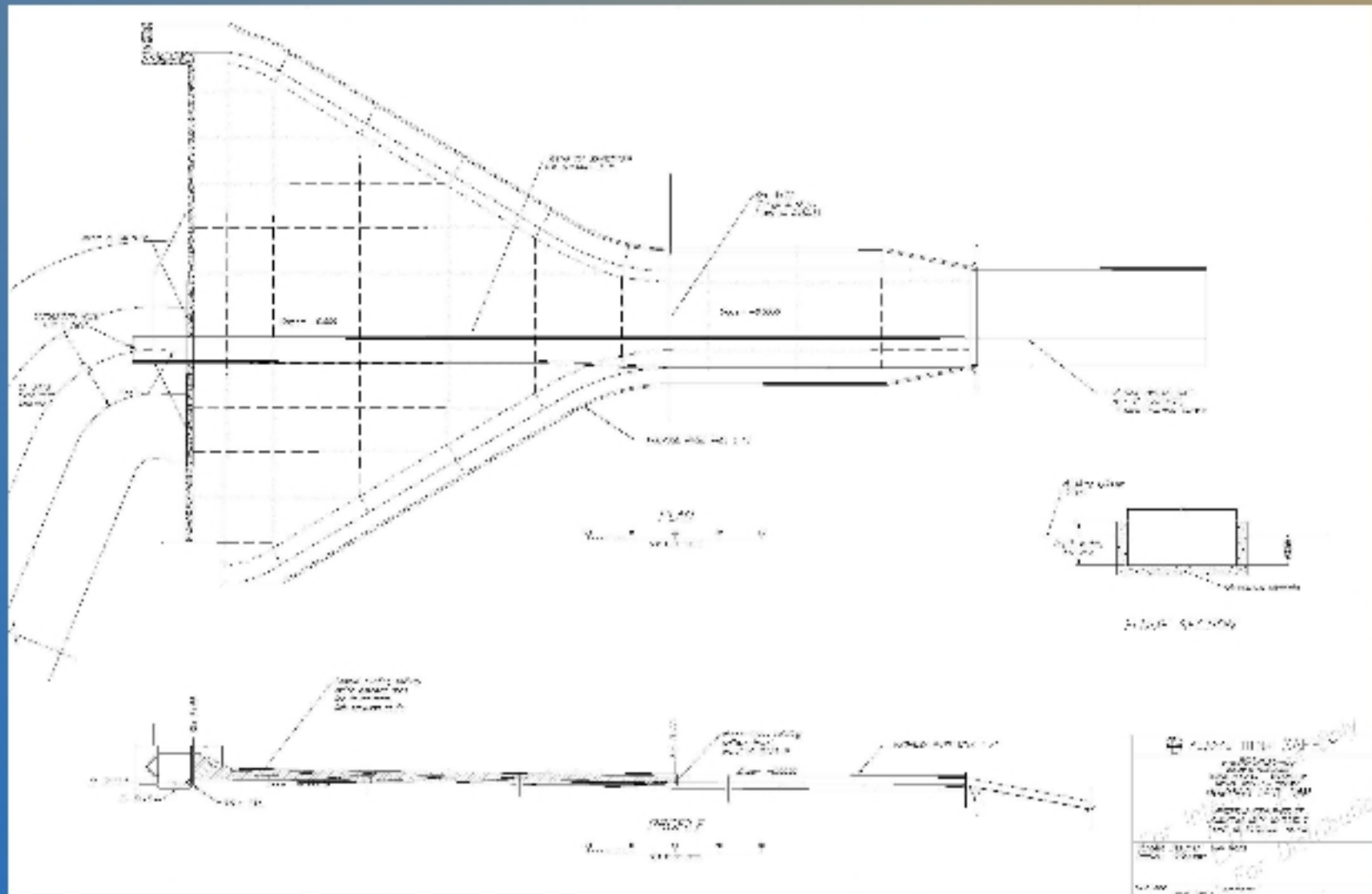
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Bumping Lake Upstream



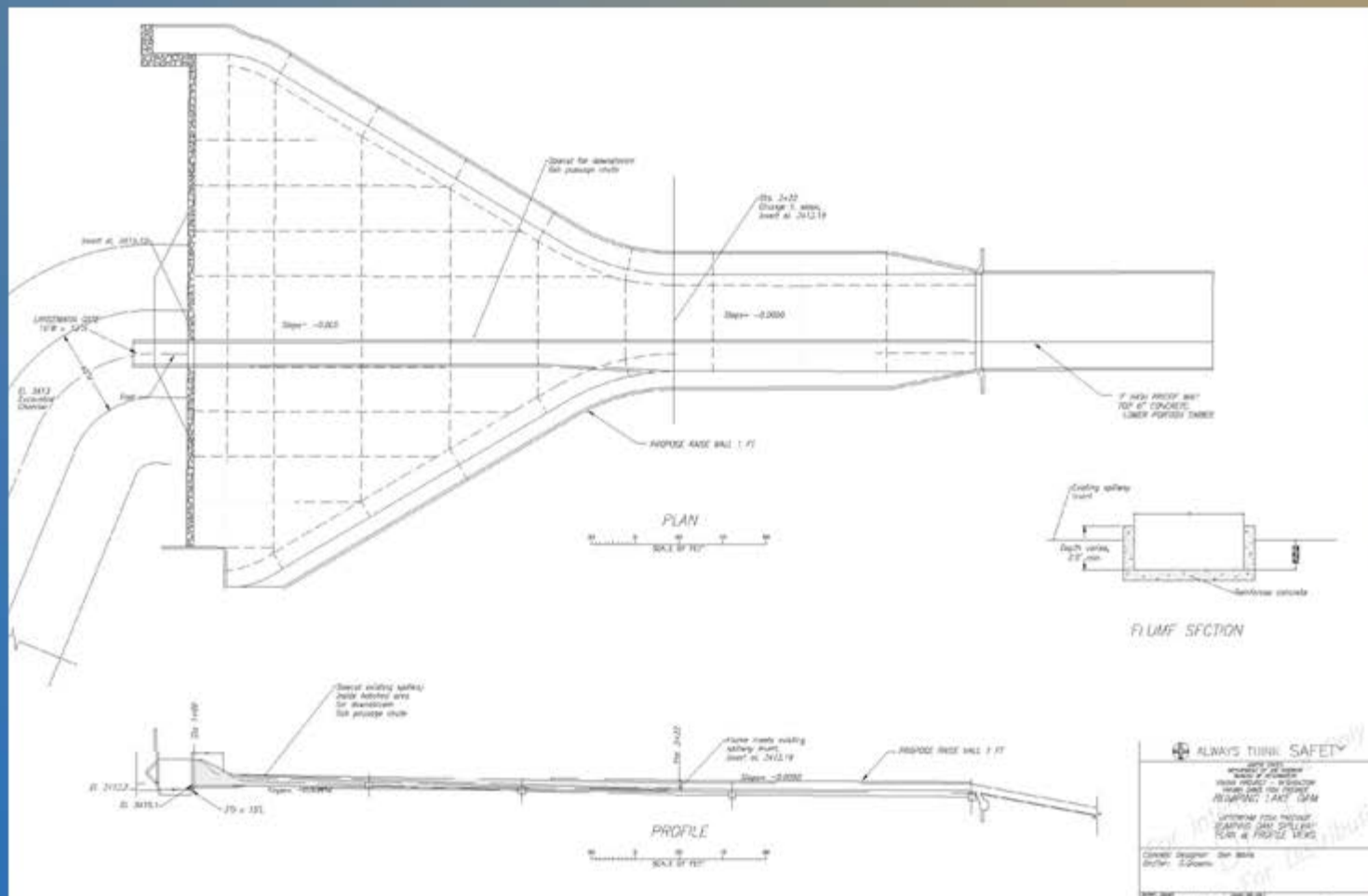
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Bumping Lake Downstream



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Bumping Lake Downstream



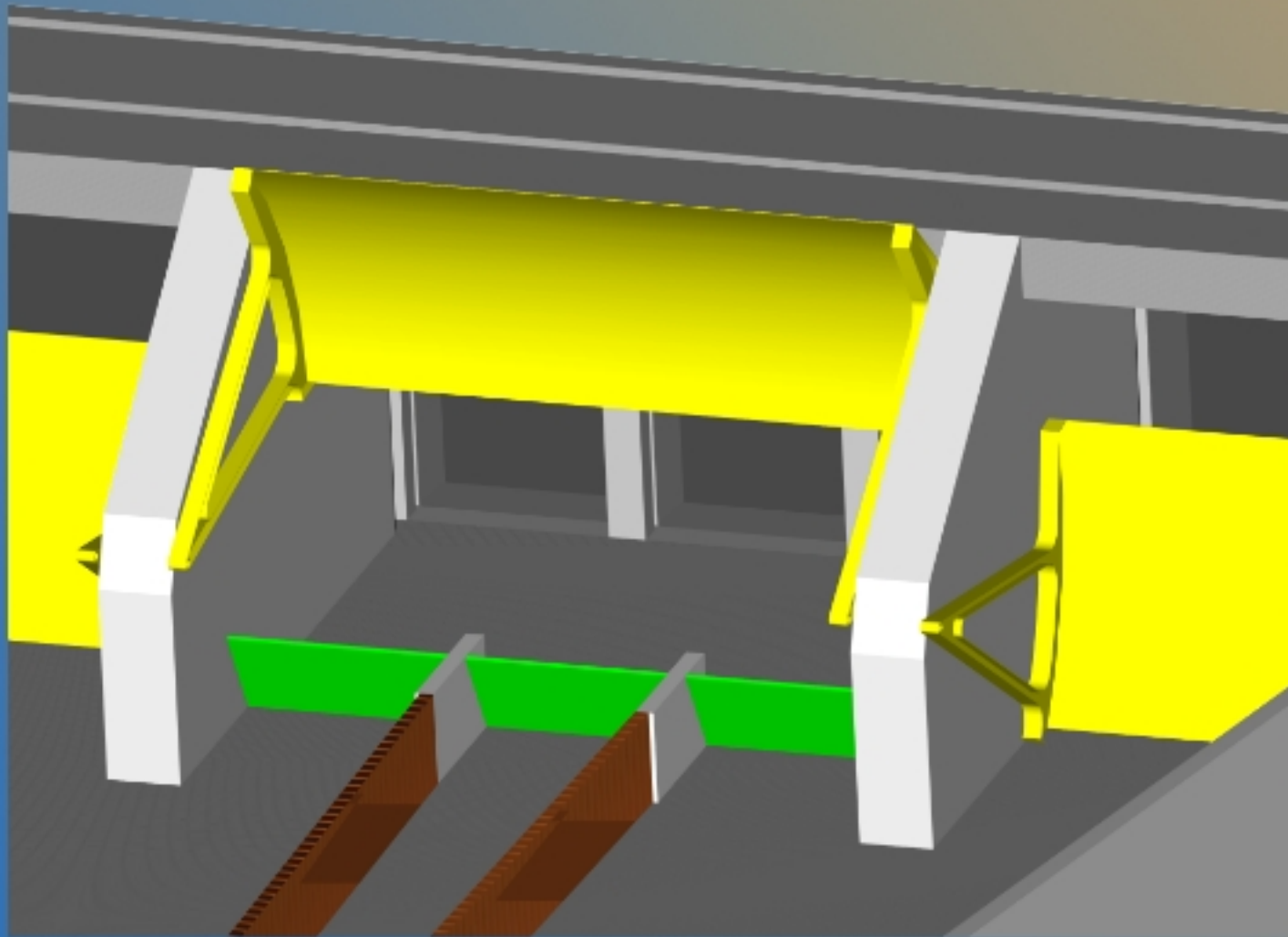
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Objectives

- **Develop temporary conditions that will allow juvenile fish to volitionally pass downstream at critical migration times**
 - Provide surface releases at the spillway of sufficient quantity to attract fish
 - Provide physical features to safely pass fish down the spillway
- **Reclamation**
 - Construct temporary passage features
 - Modify operations on temporary basis as needed
- **YN & WDFW**
 - Develop goals and objectives for reintroduction of fish
 - Develop monitoring and evaluation plans
 - Supply and handle fish

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The Concept



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Cle Elum Dam spillway – 19 Jul 2005



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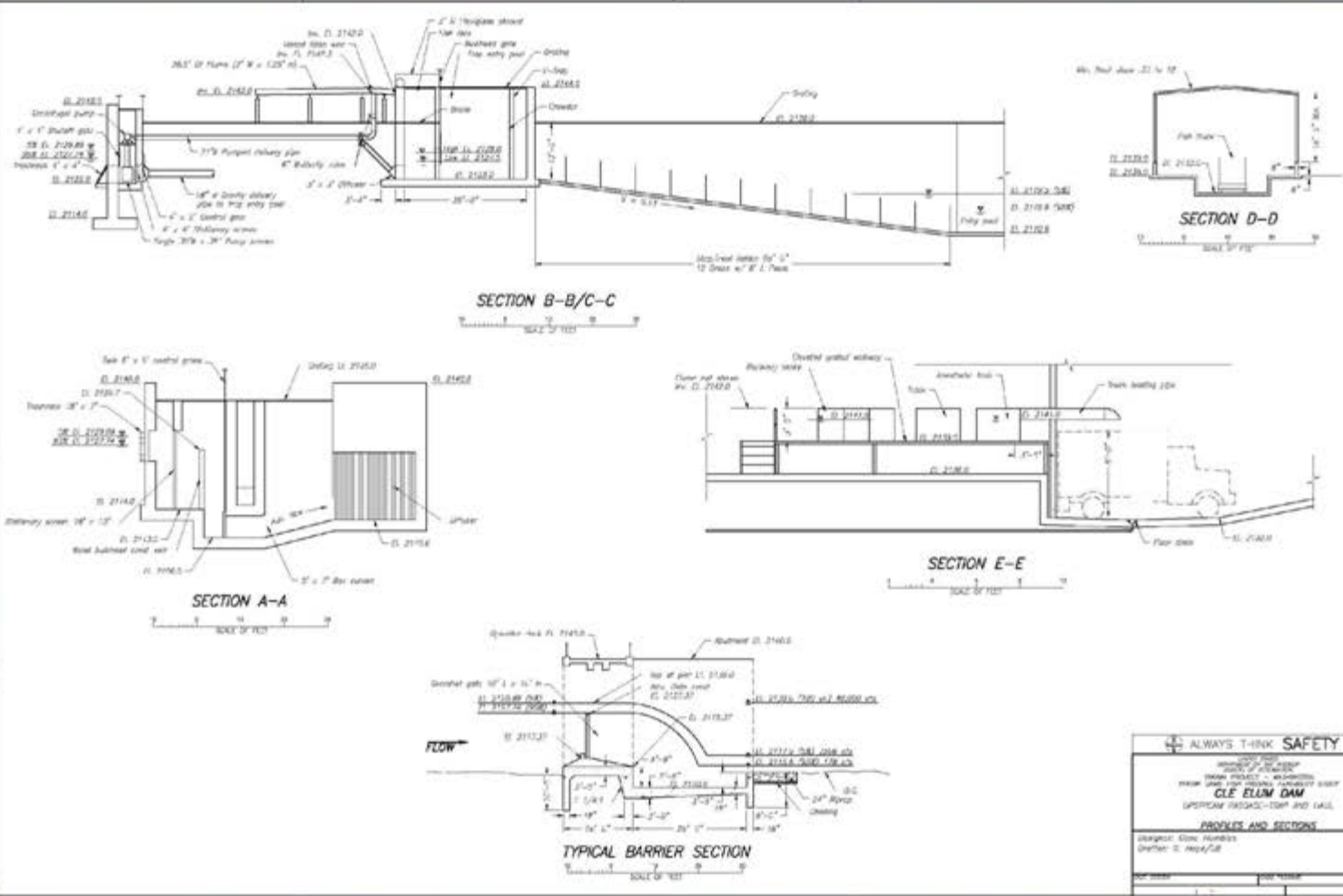


Interim Downstream Fish Passage Cle Elum Dam
04-CC-10-1578 CONCORD CONSTRUCTION INC
Carpenter installing Sikaflex 1a Sealant at the bottom
of the inside of the Wood Flume walls. Photo by
C Kriewald Nov. 6, 21004 041106P3

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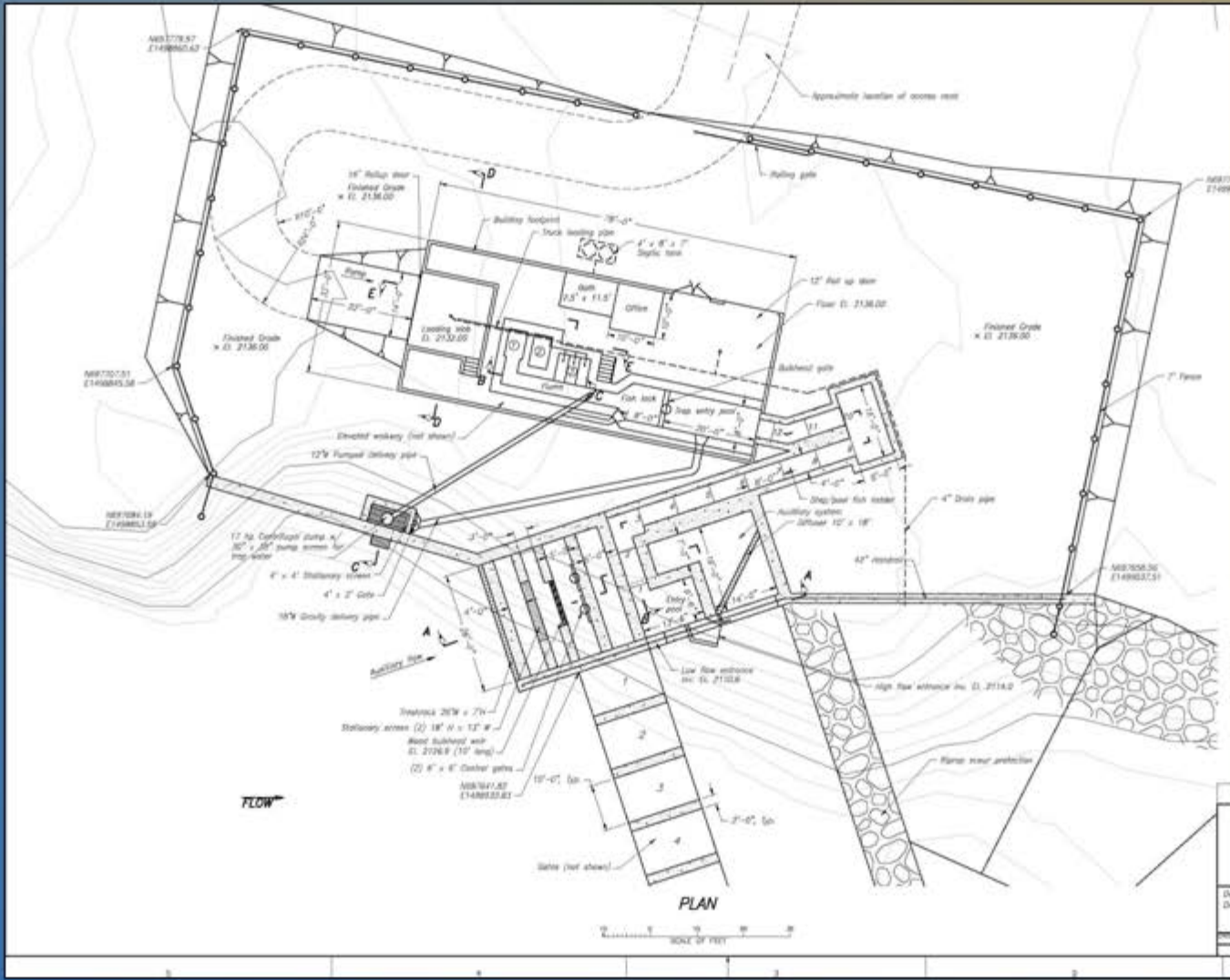


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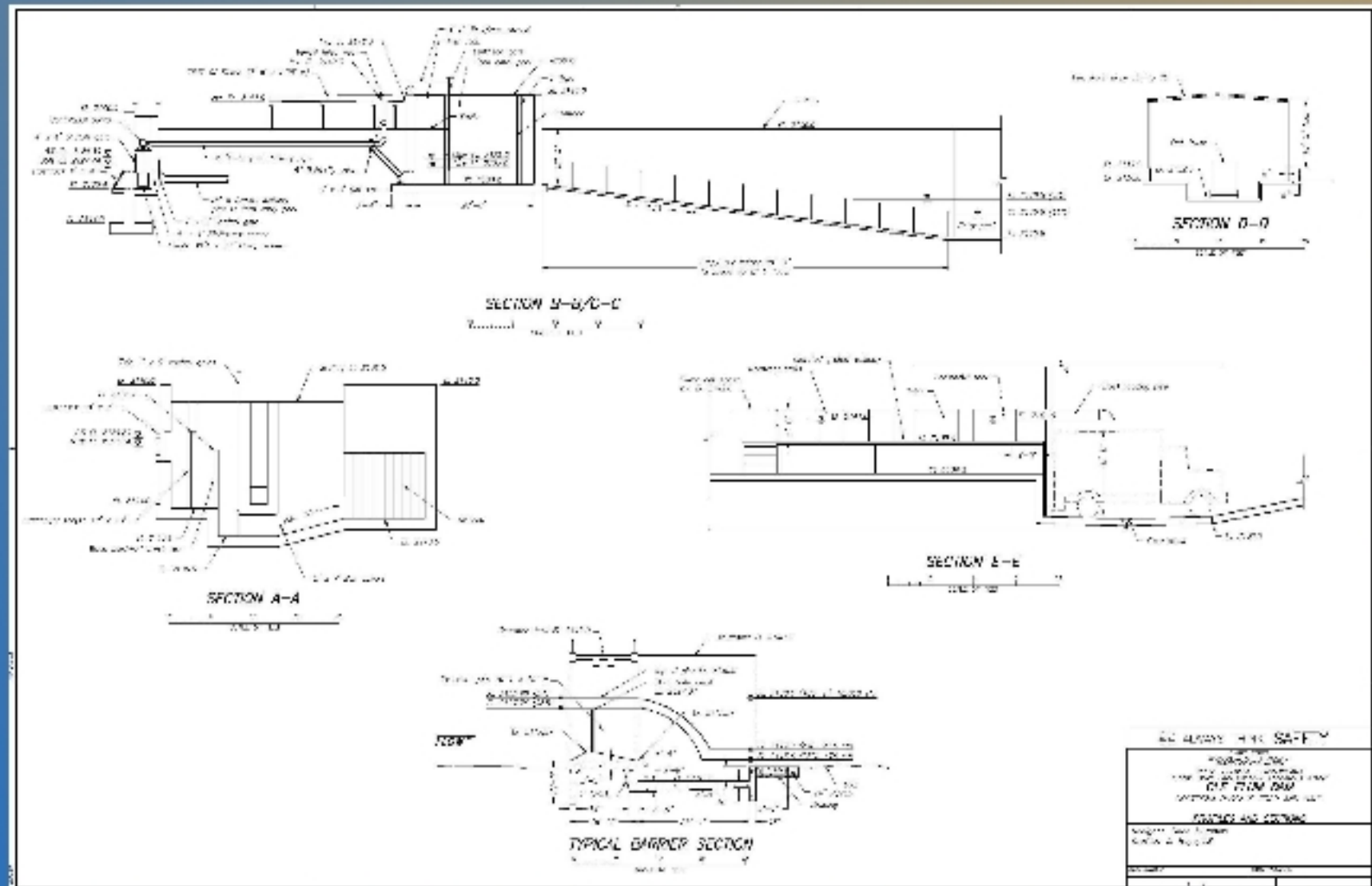


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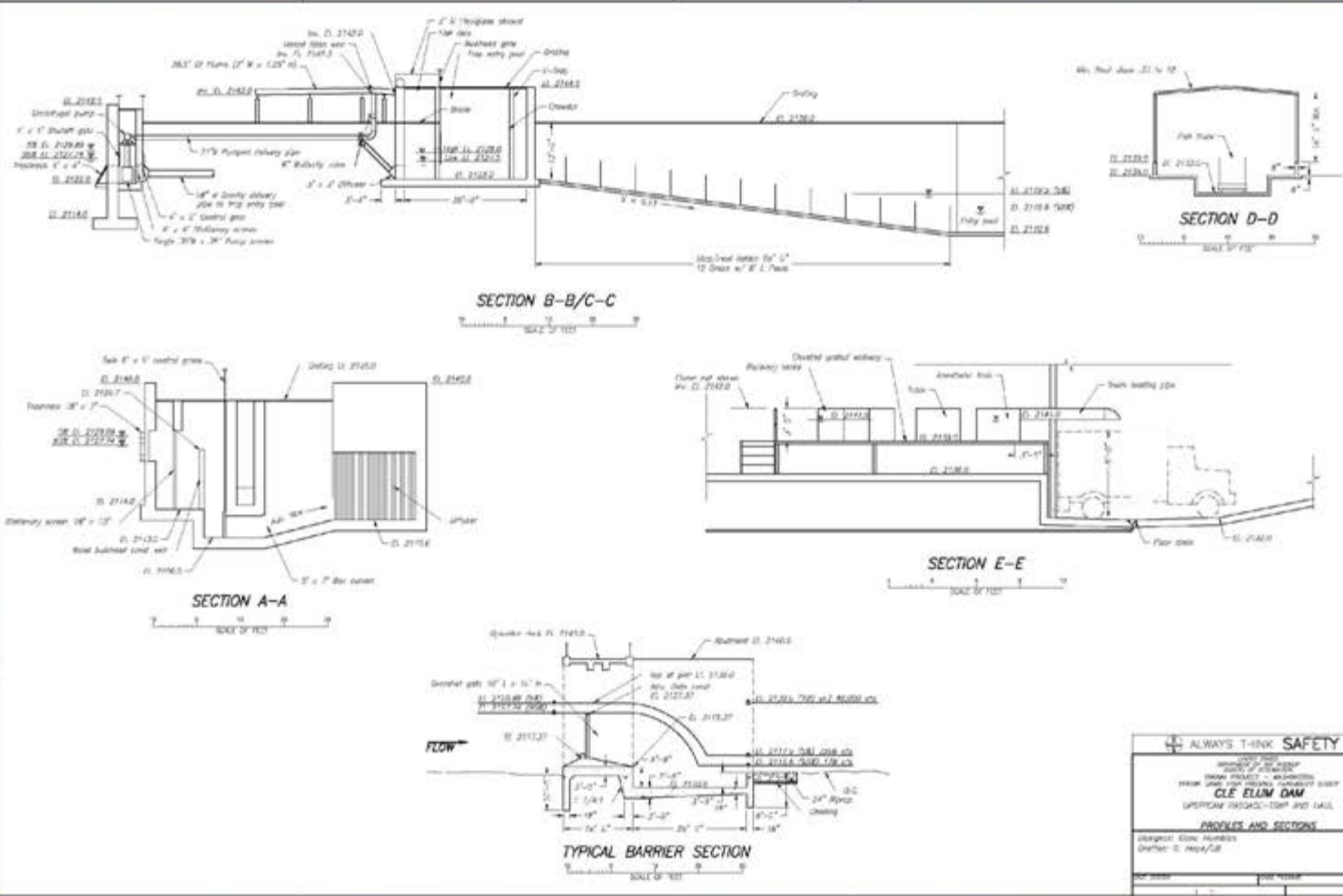
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