FISHERIES RESOURCE MANAGEMENT

P. O. BOX 151 TOPPENISH, WA 98948 509-865-6262 FAX: 509-865-6293

Request for Proposals – Survey Analysis and Design Engineering Services for the Yakama Nation Eight Mile Creek Barrier Removal Project

Yakama Nation Upper Columbia Habitat Restoration Project – Methow Subbasin

Introduction

The Yakama Nation Department of Fisheries Resource Management is seeking an engineering services contractor to assist in restoration planning and engineered design efforts under the Upper Columbia Habitat Restoration Program (UCHRP). Justification for the project is founded upon the *Upper Columbia Spring Chinook and Steelhead Recovery Plan*, and the *Biological Strategy, revised 2014*. This project, (*see Conceptuals*) will require the winning bidder to analyze and assess the survey data and design a completed final stamped engineered set of designs for the restoration opportunities.

Objective

The objective of this project is to produce a final approved stamped engineering set of plans for the Eightmile Creek Fish Barrier Removal. Eightmile Creek has two velocity fish barriers; one was created when the road was developed into the drainage at a stream crossing, the second is a natural partial barrier downstream of the first (*see conceptuals*). Creating fish passage beyond these points will allow access to 14 miles of additional habitat for aquatic species. Conceptual plans, hydraulic modeling, Eightmile Creek Reconnaissance field map, and a report have been completed for this project. The land owner and the Yakama Nations project manager have approved these items and have agreed for further development of engineered plans. All restoration plans within the project area are designed to assist the recovery goals for listed salmonids in the Upper Columbia system. The winning bidder will receive from the Yakama

Nation, topographic survey points, hydraulic modeling, reach report, and conceptual developed design, *see Eightmile Creek Fish Passage Barrier Assessment for the conceptual design.*

Scope of Work

Phase 3: Draft Construction Plan

Task 7 - Stakeholder Meetings and Communications

The awarded contractor will attend a kick off meeting at the Yakama Nation Winthrop Washington office. This meeting will be an introduction to the project and side boards for the development of this project.

Task 7.1 - Design level survey (if additional survey is needed)

As agreed to between the project manager and the awarded contractor, supplementary site survey may be completed to gather additional field data on existing conditions so that a robust restoration design can begin to be produced. Supplementary surveys may include further topographic survey, bathymetric surveys, and/or geologic surveys, among other things.

Task 8 - Development of Permit level Construction Plan

The awarded contractor will proceed with producing engineered designs of the preferred restoration concept as directed by the Project Manager. Design deliverables provided under this task will provide suitable detail to allow for environmental permits to be acquired for the project (includes accurate depiction of areas being impacted and estimates of material quantities).

Deliverables: Draft Complete Construction drawing set.

Task 9 - Stakeholder Meetings and Communications

If requested, the contractor will assist in presenting the Phase 3 Construction Drawing Set to landowners and agency stakeholders for additional feedback and buy-in.

Phase 4: Final Construction Plan

Task 10 - Development of Final Construction Plan

Based on further direction from the Project Manager, the awarded contractor will produce final stamped designs of the project (includes construction specs and engineer's stamp - should be usable for producing bid document).

Task 11 - Create and Provide a Design Report

Contractor will prepare a Design Report for each project that gets installed under this contract. The Design Report will summarize project goals, field data collection, and technical design of the project including site survey, hydrology, hydraulics, grading, anchoring, and quantities/totals. A draft report will be provided for review, comment, and feedback. Revisions will be made to finalize the report.

Task 12 - Stakeholder Meetings and Communications

If requested, the contractor will assist in presenting the Phase 4 Construction Drawing Set to landowners and agency stakeholders.

Task 12.1 – Compilation of Data

The winning bidder will prepare, in a neat and compiled manner, all collected/produced information in both the paper and electronic format to the Yakama Nation upon completing Phases 3 and 4.

Deliverables: Report of findings, drawing set, planning estimates, and power point presentation for stakeholder meetings.

Anticipated Schedule

The Yakama Nation is seeking to have this work completed promptly upon issuance of a Notice to Proceed. The following deliverables is identified below and will be determined by the Yakama Nation Project Manager.

- **Phase 3**
- Task 7.1 March April – 2016 *(if required)*
- Task 8 July 1st – 2016
- **Phase 4**
- Tasks 10-11 October 31st - 2016
- Task 12.1 December 1st - 2016
- Tasks 7-9-12 Throughout the Contract

Limitations

The Yakama Nation reserves the right to accept or reject any and all of the proposals received as a result of this request, or to cancel in part or entirely this request if it is in the best interest of the Yakama Nation to do so. This request does not commit the Yakama Nation to pay any costs incurred in the preparation of a proposal.

Proposal Requirements:

The selected proposal will have and demonstrate the following:

- Field survey capabilities by in-house and local (Washington/Oregon based) design engineers
- Ability to effectively model hydraulics using HEC-RAS
- Ability to effectively model inundation using a program like Flow 2-D (or similar)
- Ability to provide a report and drawings of findings
- Have on staff a Geologist, Hydrologist, and a Professional Engineer with at least 10 years' experience designing instream restoration projects. The Geologist and Engineer will be certified to work in the state of Washington and License numbers will be provided with this proposal
- Completion of at least 15 successful Large Woody Debris installation projects in the last 10 years
- Experience in field surveys
- Experience in reporting and designing
- Experience designing and constructing constructed riffles or roughened channels
- Complete the bid sheet, *below pg. 5*

Proposal Submittals:

Proposals will only be accepted at the Toppenish Office, and must be submitted by close of business (5:00 p.m.) Wednesday February 17, 2016.
Proposals must be valid for 90 days thereafter the submitted closing date.

Submit the proposal and a list of completed successful projects with references to:

Yakama Nation Fisheries
Attn: Jackie Olney (8Mile Creek)
PO Box 151
Toppenish, WA 98948

FedEx Delivery:
401 Fort Rd
Toppenish, WA 98948
olnj@yakamafish-nsn.gov

Questions should be directed to:
Chris Butler
UCHRP Habitat Fisheries Biologist
509-996-5005 ext. 2
butlerc@yakamafish-nsn.gov

Bid Sheet

Description	*Expense*
Task 7.1 – Design level survey	
Task 8 – Development of Permit level Construction Plan	
Task 10 – Development of Final Construction Plan	
Task 11 – Create and Provide a Design Report	
Task 7-9-12 - Stakeholder Meetings and Communications	
Task 12.1 – Compilation of Data	
TOTAL EXPENSE	

EIGHTMILE CREEK FISH PASSAGE BARRIER ASSESSMENT

FISH PASSAGE BARRIER IMPROVEMENT - CONCEPTS

WINTHROP, WA

PROJECT PARTNERS

Yakama Nation Fisheries

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

PROJECT DESCRIPTION

THE YAKAMA NATION FISHERIES PROGRAM (YNFP) RETAINED RIVER DESIGN GROUP, INC. (RDG) TO COMPLETE AN ASSESSMENT AND DESIGN CONCEPT FOR TWO POTENTIAL FISH PASSAGE BARRIERS ON EIGHTMILE CREEK, A TRIBUTARY TO THE CHEWUCH RIVER NORTH OF WINTHROP, WASHINGTON. THE UPSTREAM BRIDGE SITE IS LOCATED AT RM 1.87 IMMEDIATELY UPSTREAM OF THE NF 5130 BRIDGE. THE BRIDGE SITE IS CHARACTERIZED BY A MODERATELY STEEP (10.8%) CHANNEL THAT IS CONFINED BY A BEDROCK WALL AND THE NF 5130 FILL SLOPE. THE WATERFALL SITE LOCATED AT RM 0.72, IS CHARACTERIZED BY A NATURAL CASCADE INCLUDING SEVERAL BEDROCK DROPS. BOULDERS AND LOGS WITHIN THE CASCADE FURTHER AFFECT FLOW PATHS THROUGH THE CASCADE. HIGH VELOCITIES, SHALLOW CHANNEL DEPTHS, AND TURBULENT FLOW CONDITIONS AFFECT FISH PASSAGE AT BOTH SITES. FISH PASSAGE CONCEPTS PROPOSE MODIFYING THE CHANNEL PROFILE TO REDUCE DROP HEIGHT AND EXPAND THE CHANNEL CROSS-SECTION WIDTH.

SPATIAL REFERENCE

LIDAR, GPS RTK, AND TOTAL STATION:
HORIZONTAL PROJECTION: WASHINGTON STATE PLANE NORTH - US FEET
HORIZ DATUM: NAD83 UNITS: US FEET
VERT DATUM: NAVD88 UNITS: US FEET
SURVEY DATES: 7/13/15-7/15/15

STANDARD OF PRACTICE

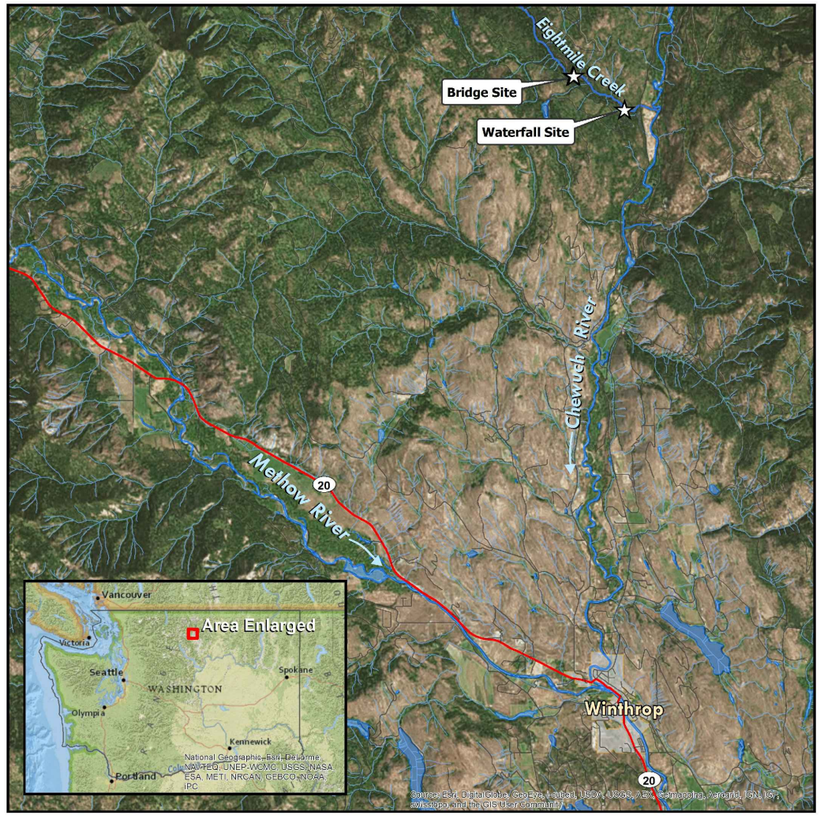
RDG WORKS EXCLUSIVELY IN THE RIVER ENVIRONMENT AND EMPLOYS THE MOST CURRENT AND ACCEPTED PRACTICES AVAILABLE FOR PLANNING AND DESIGN OF RESTORATION AND CHANNEL ENHANCEMENT PROJECTS. THE ANALYSIS FOR THE EIGHTMILE CREEK FISH PASSAGE BARRIER ASSESSMENT RELIED ON CURRENT FISH PASSAGE CRITERIA FROM WDFW AND NMFS, AND HYDRAULIC MODELING OF SITE CONDITIONS. ALL WORK WAS PERFORMED OR DIRECTED BY A REGISTERED PROFESSIONAL CIVIL ENGINEER WITH PAST EXPERIENCE IN FISH PASSAGE..

REUSE OF DRAWINGS

DRAWING INDEX

1.0	COVER PAGE AND NOTES
2.0	BRIDGE SITE EXISTING CONDITIONS
2.1	BRIDGE SITE XS'S
3.0	WATERFALL SITE EXISTING CONDITIONS
3.1	WATERFALL SITE XS'S
4.0	BRIDGE SITE CONCEPT
5.0	WATERFALL SITE CONCEPT

PROJECT VICINITY MAP



SECTION 22 AND 23, T.36N., R.21E., WILLAMETTE MERIDIAN
OKANOGAN COUNTY, WASHINGTON
USGS QUADRANGLE: LEWIS BUTTE, WA

DIRECTION OF SECTION

SECTION OR DETAIL

SHEET WHERE SECTION OR DETAIL IS SHOWN

CROSS-SECTION SHEET REFERENCE

RIVER DESIGN GROUP, INC.
311 SW Jefferson Avenue
Corvallis, OR 97333
541.738.2920
236 Wisconsin Avenue
Whitefish, MT 59937
406.862.4927

COVER PAGE

EIGHTMILE CREEK FISH PASSAGE BARRIER ASSESSMENT
WINTHROP, WA

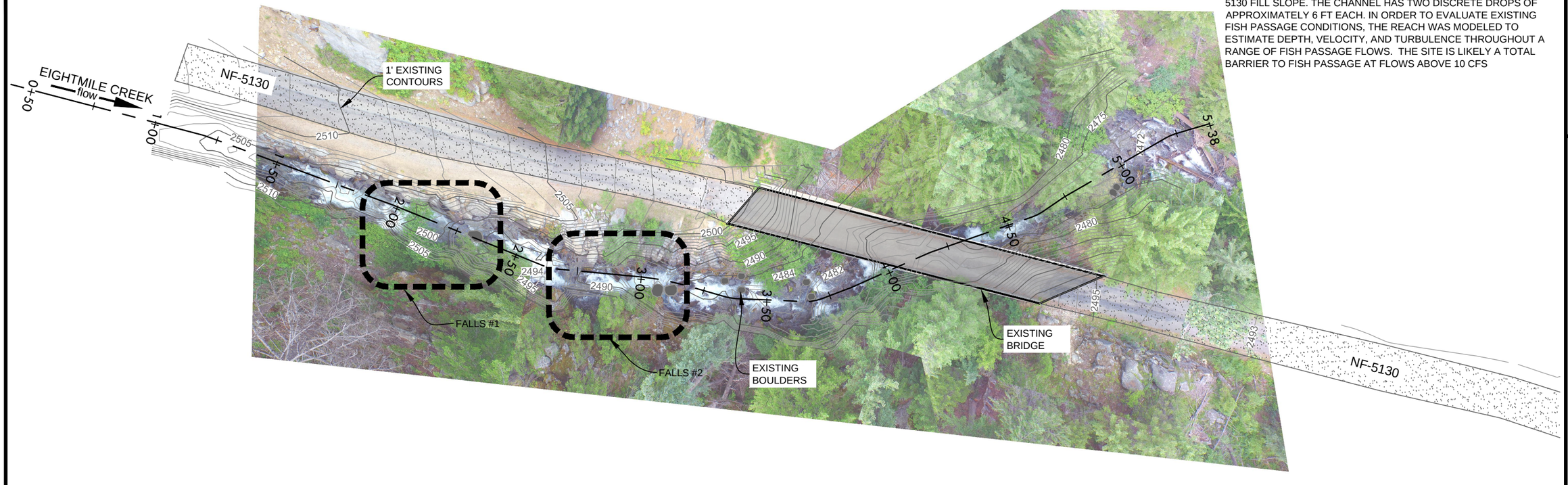
NO.	DATE	BY	DESCRIPTION	CHK
*	12/18/15	TF/CS	CONCEPT	TB/CS

PROJECT NUMBER
RDG-15-030

DRAWING NUMBER
1.0

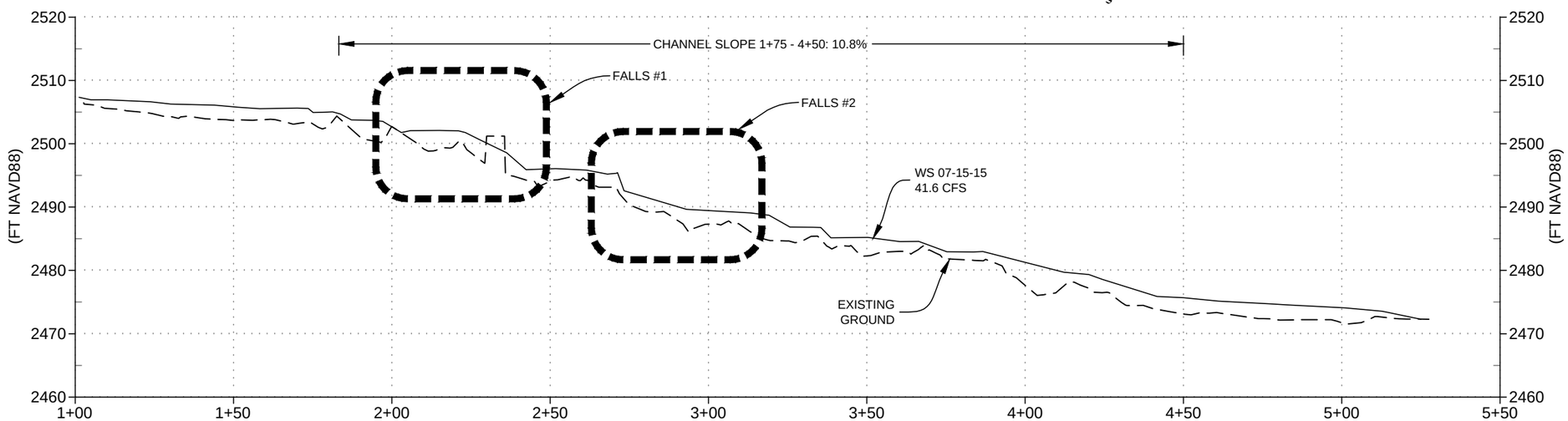
SITE DESCRIPTION

THE UPSTREAM BRIDGE SITE IS LOCATED AT RM 1.87 IMMEDIATELY UPSTREAM OF THE NF 5130 BRIDGE. THE BRIDGE SITE IS CHARACTERIZED BY A MODERATELY STEEP (10.8%) CHANNEL THAT IS CONFINED BY A BEDROCK WALL AND THE NF 5130 FILL SLOPE. THE CHANNEL HAS TWO DISCRETE DROPS OF APPROXIMATELY 6 FT EACH. IN ORDER TO EVALUATE EXISTING FISH PASSAGE CONDITIONS, THE REACH WAS MODELED TO ESTIMATE DEPTH, VELOCITY, AND TURBULENCE THROUGHOUT A RANGE OF FISH PASSAGE FLOWS. THE SITE IS LIKELY A TOTAL BARRIER TO FISH PASSAGE AT FLOWS ABOVE 10 CFS



1 BRIDGE SITE - EXISTING CONDITIONS

1" = 40'



2 BRIDGE SITE PROFILE

HORZ 1" = 40'
VERT 1" = 20'

CONCEPT

RIVER DESIGN GROUP, INC.
311 SW Jefferson Avenue
Corvallis, OR 97333
541.738.2920
236 Wisconsin Avenue
Whitefish, MT 59937
406.862.4927

BRIDGE SITE EXISTING CONDITIONS

EIGHTMILE CREEK FISH PASSAGE BARRIER ASSESSMENT
WINTHROP, WA

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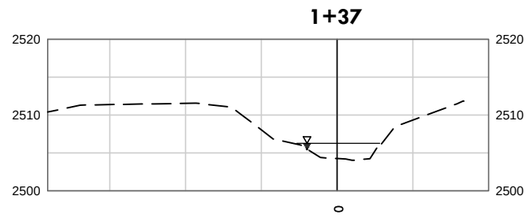
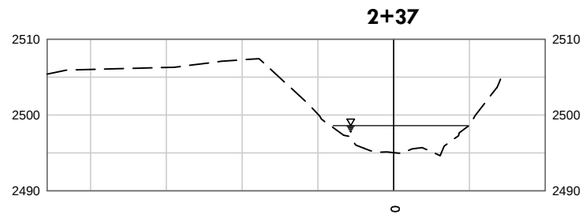
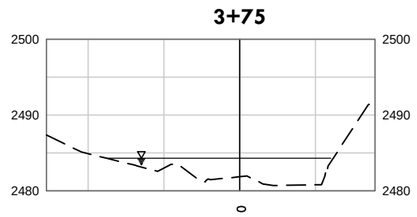
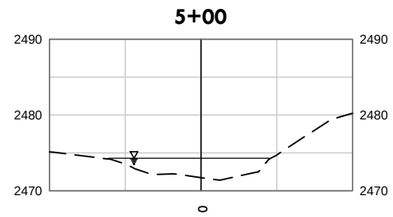
PROJECT NUMBER
RDG-15-030

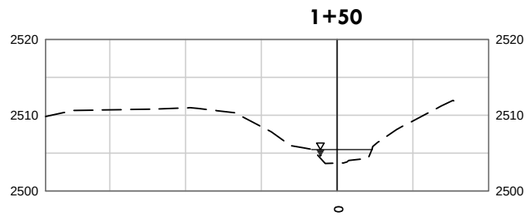
DRAWING NUMBER
2.0

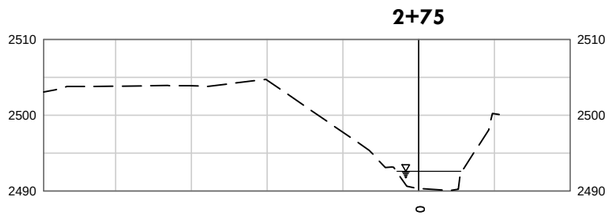


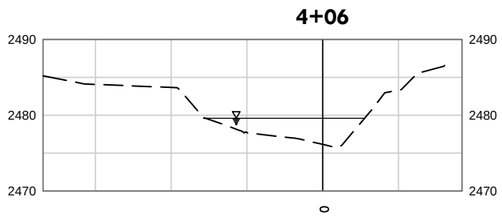


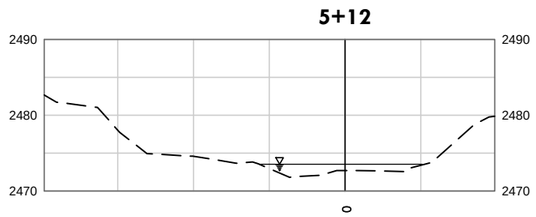


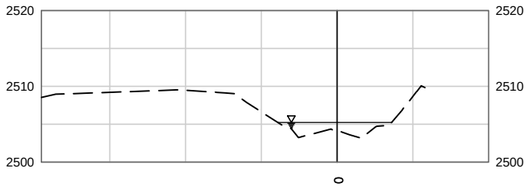


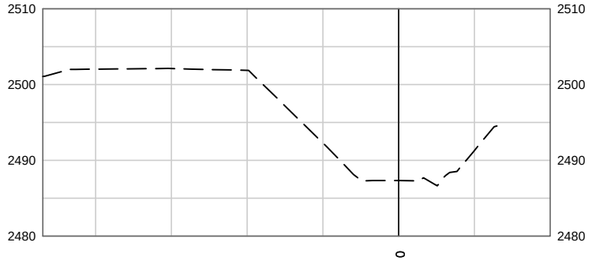


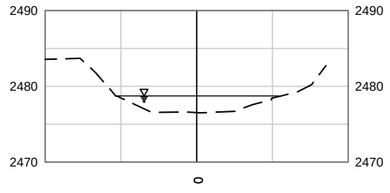


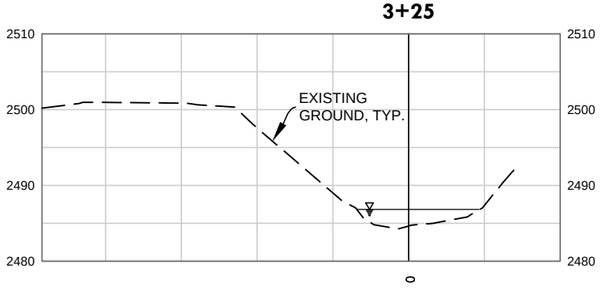


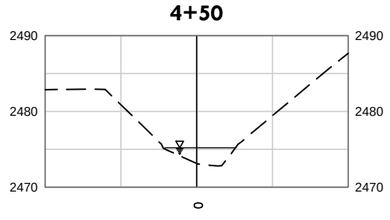


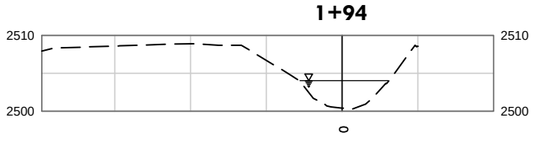


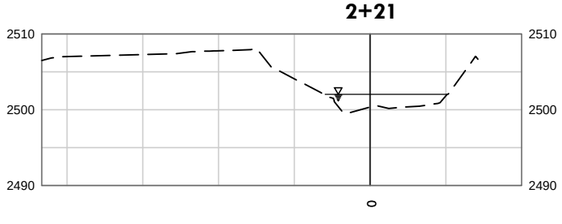


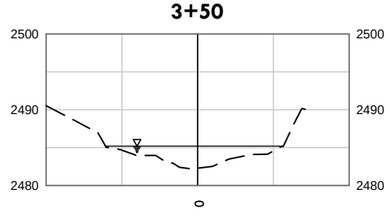


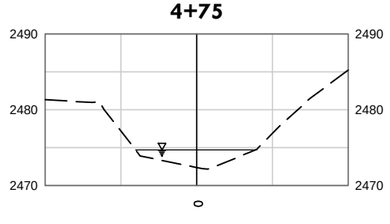












KEY:
WS AT SURVEY (41.6 CFS)

1 **BRIDGE SITE XS'S**

HORZ 1" = 20'
VERT 1" = 20'

CONCEPT

RIVER DESIGN GROUP, INC.
311 SW Jefferson Avenue
Corvallis, OR 97333
541.738.2920
236 Wisconsin Avenue
Whitefish, MT 59937
406.862.4927

BRIDGE SITE XS'S

EIGHTMILE CREEK FISH PASSAGE BARRIER ASSESSMENT
WINTHROP, WA

NO.	DATE	BY	DESCRIPTION	CHK
*	12/18/15	TF/CS	CONCEPT	TB/CS

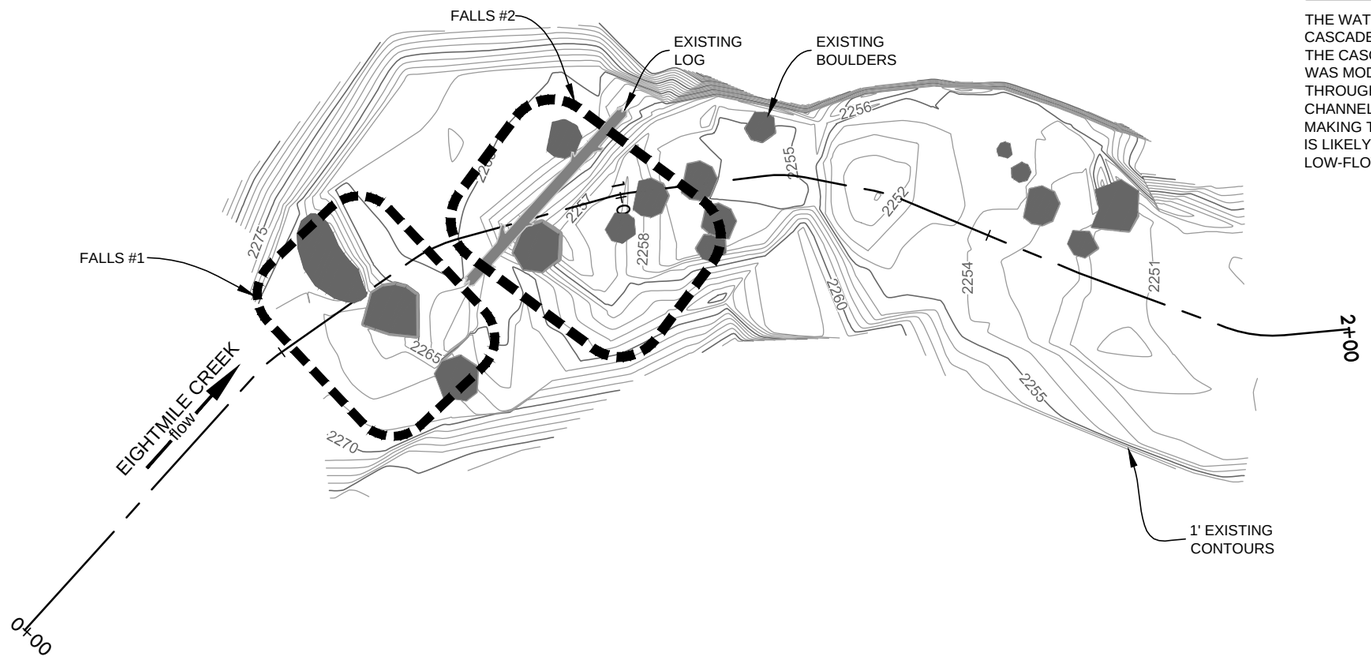
PROJECT NUMBER
RDG-15-030

DRAWING NUMBER
2.1

M:\Client-Data\2015\RDG-15-035 Eightmile Creek Fish Passage\CAD\RDG-15-030_Eightmile Creek- Production.dwg

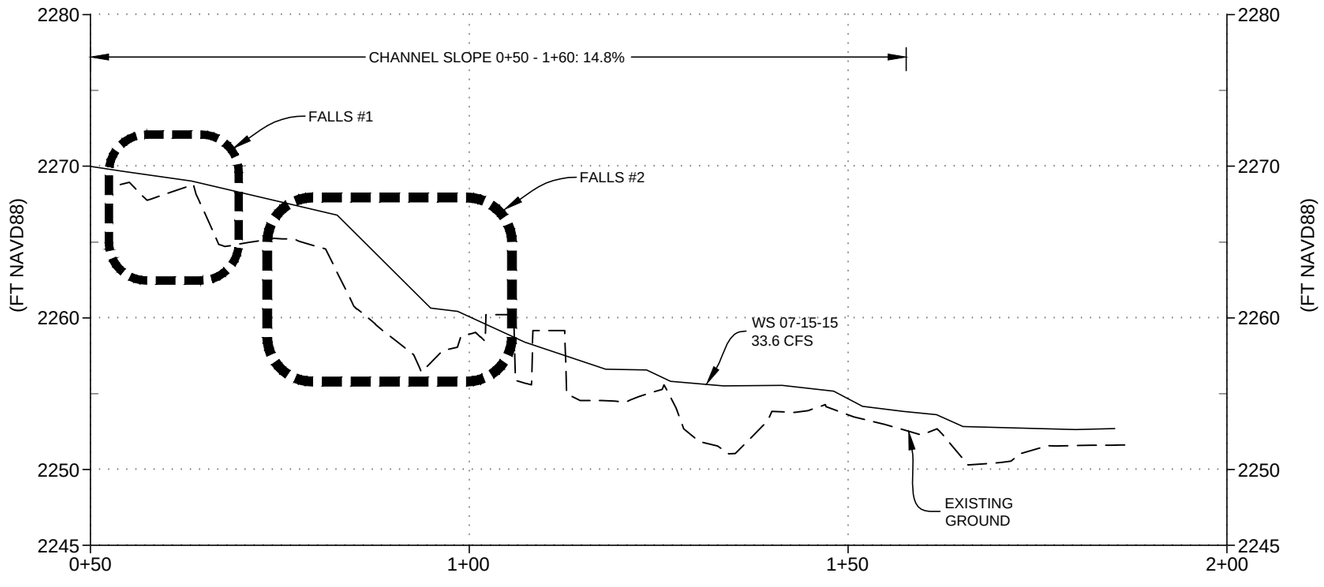
SITE DESCRIPTION

THE WATERFALL SITE LOCATED AT RM 0.72, IS CHARACTERIZED BY A NATURAL CASCADE INCLUDING SEVERAL BEDROCK DROPS. BOULDERS AND LOGS WITHIN THE CASCADE FURTHER AFFECT FLOW PATHS THROUGH THE CASCADE. THE SITE WAS MODELED TO ESTIMATE DEPTHS, VELOCITIES, AND TURBULENCE THROUGHOUT THE RANGE OF FISH PASSAGE FLOWS. HIGH VELOCITIES, SHALLOW CHANNEL DEPTHS, AND TURBULENT FLOW CONDITIONS AFFECT FISH PASSAGE, MAKING THE SITE A BARRIER AT ALL BUT MODERATE AND LOW FLOWS. THE SITE IS LIKELY A BARRIER TO STEELHEAD, BUT MAY PASS ADULT BULL TROUT DURING LOW-FLOW SUMMER MONTHS.



1 WATERFALL SITE - EXISTING CONDITIONS

1" = 20'



2 WATERFALL SITE PROFILE

HORZ 1" = 20'
VERT 1" = 10'

CONCEPT

RIVER DESIGN GROUP, INC.
311 SW Jefferson Avenue
Corvallis, OR 97333
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WATERFALL SITE EXISTING CONDITIONS

EIGHTMILE CREEK FISH PASSAGE BARRIER ASSESSMENT

WINTHROP, WA

NO.	DATE	BY	DESCRIPTION	CHK
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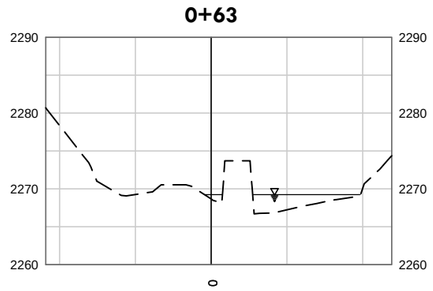
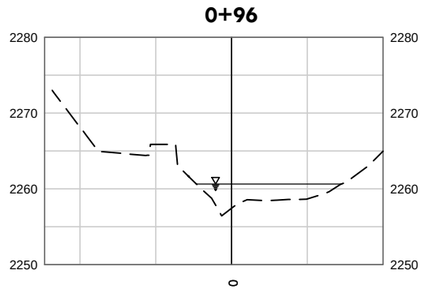
PROJECT NUMBER
RDG-15-030

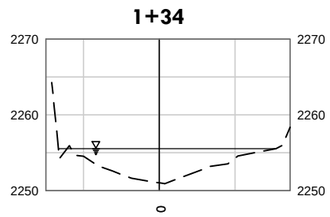
DRAWING NUMBER
3.0

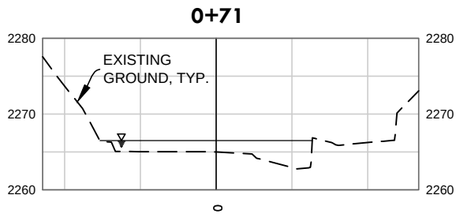
Drawing 4 of 7

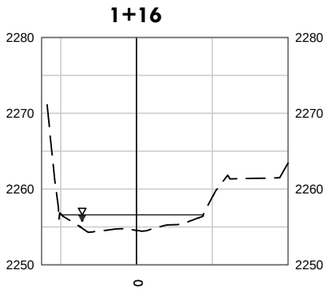
M:\Client-Data\2015\RDG-15-035 Eightmile Creek Fish Passage\CAD\RDG-15-030_Eightmile Creek- Production.dwg

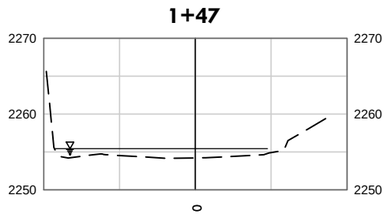


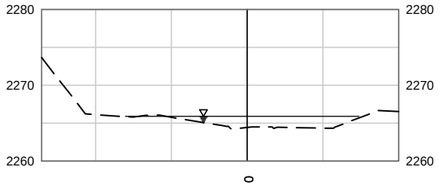


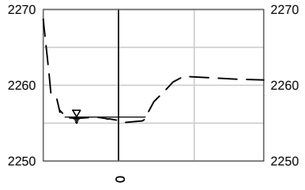


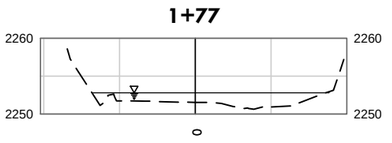












KEY:

WS AT SURVEY (33.6 CFS)

1 WATERFALL SITE XS'S

HORZ 1" = 20'
VERT 1" = 20'

CONCEPT

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WATERFALL SITE XS'S

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WINTHROP, WA

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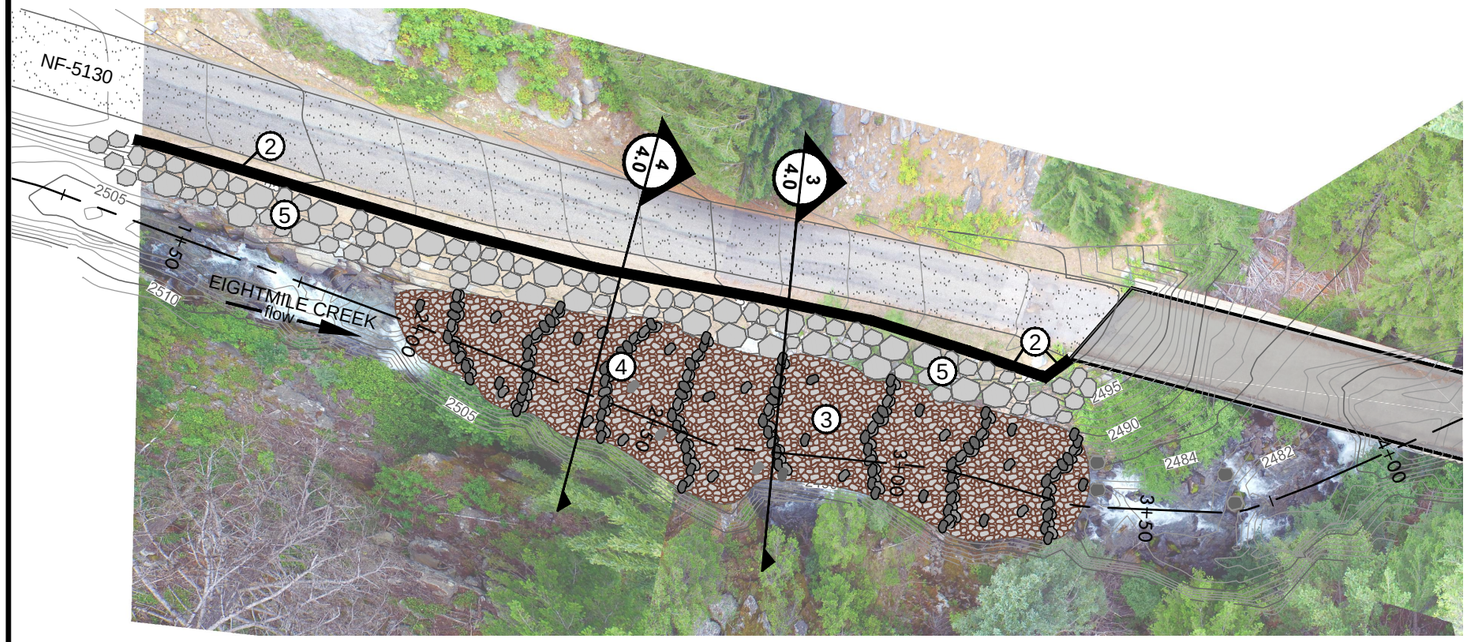
3.1



CONCEPT DESCRIPTION

THE CONCEPT TREATMENT WOULD EXPAND THE CHANNEL SECTION AND RE-GRADE THE CHANNEL TO ELIMINATE THE DISCRETE 6 FT DROPS. THE ROAD WOULD BE SUPPORTED WITH A RETAINING WALL, APPROXIMATELY 14 FT TALL AND 193 FT LONG. REPLACING THE EXISTING SLOPE AND CHANNEL BANK WITH A WALL WOULD ALLOW THE CHANNEL WIDTH TO WIDEN BY APPROXIMATELY 10-15 FT THROUGHOUT THE CONSTRICTED REACH FROM STA 2+00 TO 3+30. THE CHANNEL WOULD BE CONSTRUCTED WITH AN OVERSIZED ROCK MATRIX AND LARGE BOULDER RIBS TO HELP ASSURE VERTICAL CHANNEL STABILITY.

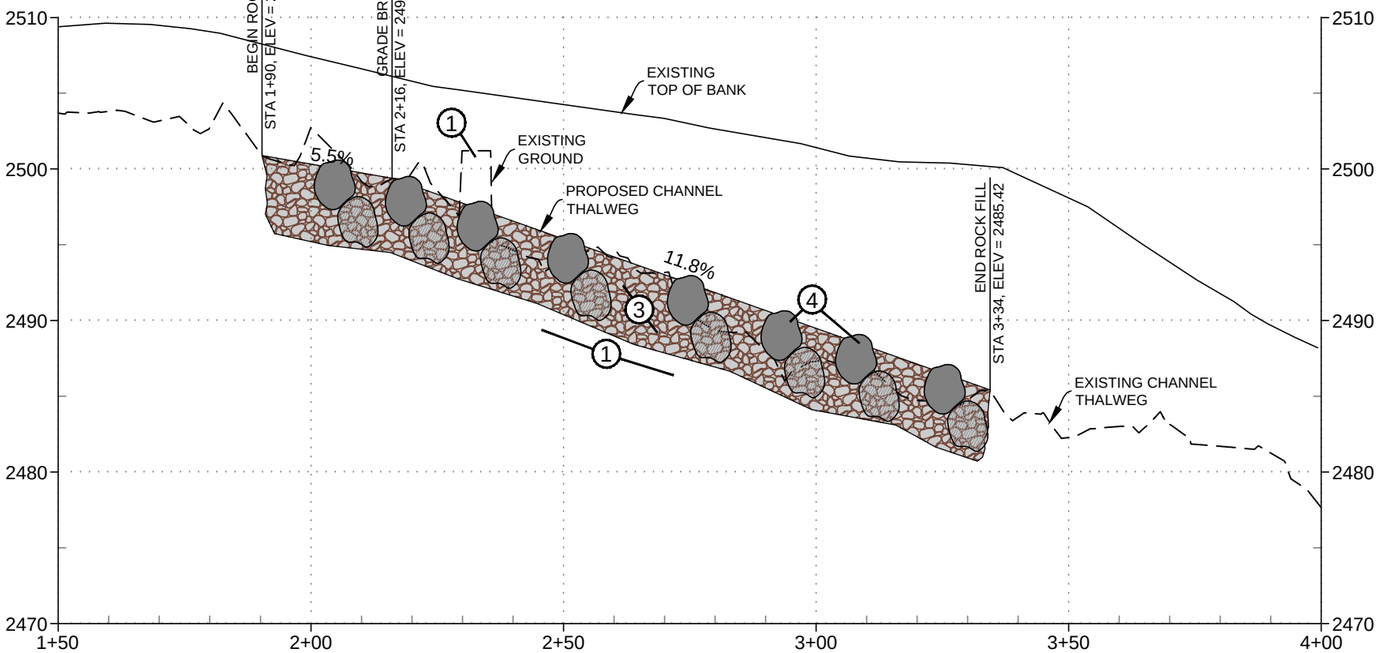
WIDENING THE CHANNEL INCREASES CHANNEL SECTIONAL AREA AND REDUCES VELOCITIES THAT CURRENTLY EXIST IN THE CHANNEL CONSTRICTIONS AND DROPS. ADJUSTING THE CHANNEL GRADE BY CUTTING AND FILLING CHANGES THE DISCRETE DROPS INTO AN EXTENDED CASCADE. A CHANNEL CASCADE LOSES ENERGY TO FRICTION CONTINUOUSLY OVER ITS LENGTH AND WOULD NOT ENTRAIN AS MUCH AIR AS THE DISCRETE DROPS, AND WOULD PROVIDE BETTER PASSAGE DUE TO REDUCED TURBULENCE AND ENTRAINED AIR.

CONCEPT NOTES

1. EXCAVATE BANK AND BED TO ACCOMMODATE ROCK WALL AND CHANNEL, RETAIN SELECT MATERIALS FOR RE-USE
2. CONSTRUCT RETAINING WALL
3. PLACE SELECT CHANNEL BED MATERIAL
4. PLACE ROCK RIBS
5. PLACE ROCK/BOULDER TOE ALONG RETAINING WALL

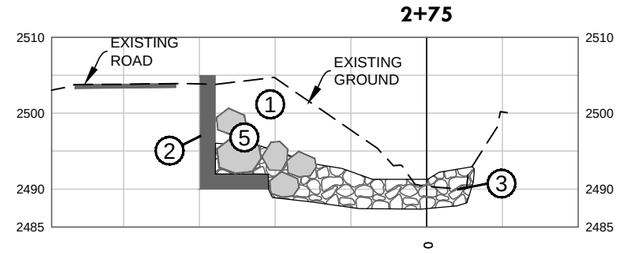
1 BRIDGE SITE - CONCEPT

1" = 30'



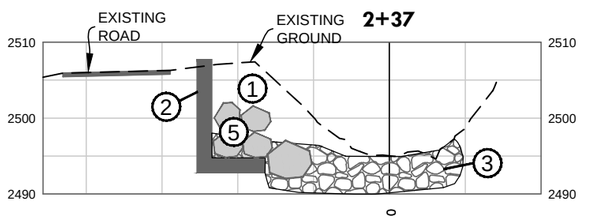
2 BRIDGE SITE - CONCEPT PROFILE

HORZ 1" = 30'
VERT 1" = 10'



3 CONCEPT XS - STA 2+75

1" = 20'



4 CONCEPT XS - STA 2+37

1" = 20'

CONCEPT

RIVER DESIGN GROUP, INC.
311 SW Jefferson Avenue
Corvallis, OR 97333
541.738.2920
236 Wisconsin Avenue
Whitefish, MT 59937
406.862.4927

BRIDGE SITE - CONCEPT

EIGHTMILE CREEK FISH PASSAGE BARRIER ASSESSMENT
WINTHROP, WA

NO.	DATE	BY	DESCRIPTION	CHK
*	12/18/15	TF/CS	CONCEPT	TB/CS

PROJECT NUMBER
RDG-15-030

DRAWING NUMBER
4.0

Drawing 6 of 7

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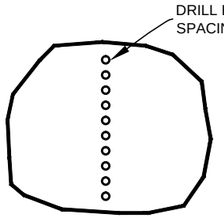
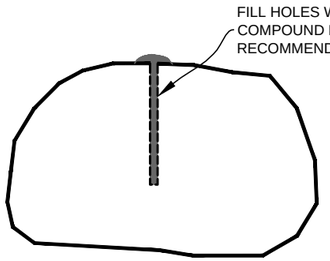
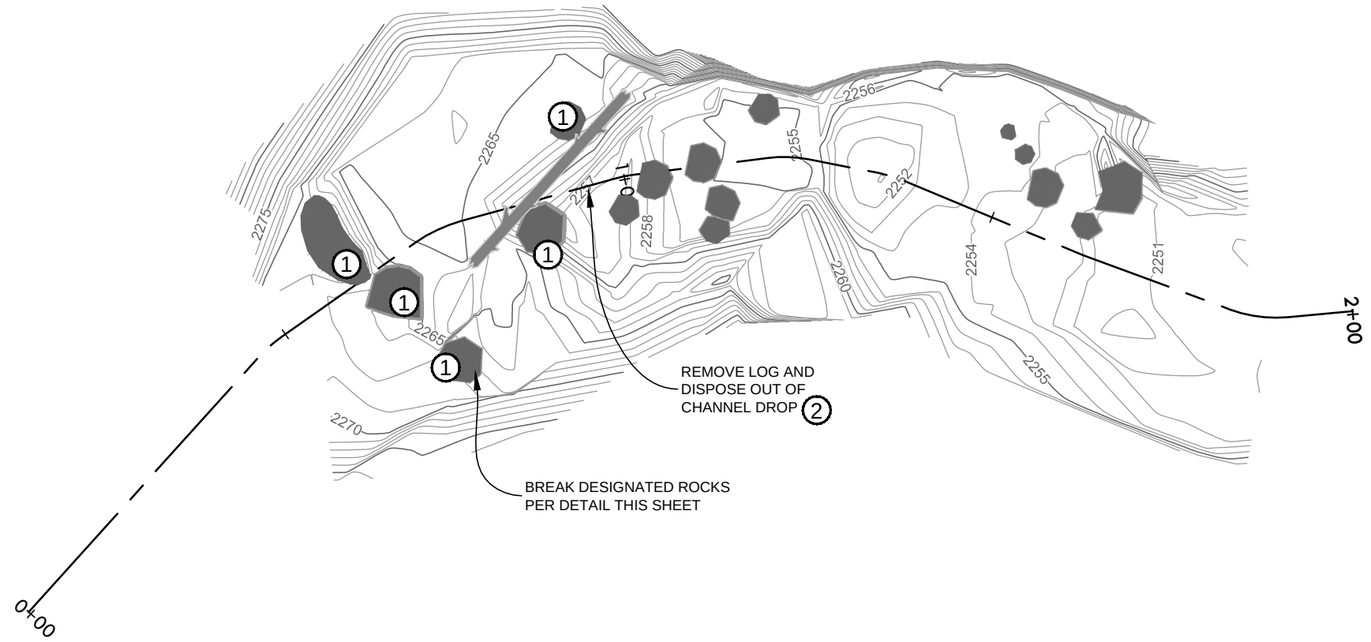




2 ROCK BREAKING - TYP

N.T.S.



1 WATERFALL SITE - CONCEPT

1" = 20'

LOOKING UPSTREAM AT FALLS, SHOWING LOG AND BOULDERS TO BE REMOVED

CONCEPT DESCRIPTION

THE CONCEPT TREATMENT WOULD REMOVE BOULDERS AND LOGS FORMING THE DISCRETE STEPS AT THE WATERFALL SITE. BOULDER AND LOG REMOVAL WOULD BOTH INCREASE CHANNEL SECTION AND REDUCE DROP HEIGHT, AND THEREFORE REDUCE AIR ENTRAINMENT AND TURBULENCE THAT LIMITS FISH PASSAGE.

THIS SITE HAS VERY LIMITED ACCESS FOR EQUIPMENT AND THE CONCEPT WAS DEVELOPED TO UTILIZE EQUIPMENT THAT CAN ACCESS THE REMOTE SITE. BOULDERS WOULD BE DRILLED USING A ROCK DRILL, AND THEN BROKEN USING CONTROLLED-EXPANSION ROCK-BREAKING (DEXPAN-TYPE) COMPOUND. THE LOG WOULD BE REMOVED USING A CHAINSAW, CABLES, HOISTING/LEVERAGING EQUIPMENT, AND HAND TOOLS.

CONCEPT NOTES

1. BREAK AND RE-WORK BOULDER PER DETAIL THIS SHEET
2. SAW CUT AND REMOVE LOG FROM PORTION OF CHANNEL WITH DISCRETE DROP

CONCEPT

RIVER DESIGN GROUP, INC.
311 SW Jefferson Avenue
Corvallis, OR 97333
541.738.2920
236 Wisconsin Avenue
Whitefish, MT 59937
406.862.4927

WATERFALL SITE - CONCEPT

EIGHTMILE CREEK FISH PASSAGE BARRIER ASSESSMENT

WINTHROP, WA

NO.	DATE	BY	DESCRIPTION	CHK
*	12/18/15	TF/CS	CONCEPTS	TB/CS

PROJECT NUMBER
RDG-15-030

DRAWING NUMBER
5.0