



**Coos County  
Planning Department  
Application to Develop in a  
Special Flood Hazard Area**

Official Use Only	
Fee	<u>2080.00</u>
Receipt No.	<u>239837</u>
Check No./Cash	<u>INV 23006</u>
Date	<u>02/22/23</u>
Received By	<u>CM</u>
File No.	<u>FP-23-002</u>

The undersigned hereby makes application for a permit to develop in a designated Special Flood Hazard Area ("floodplain"). The work to be performed is described below and in attachments hereto. The undersigned agrees that all such work shall be done in accordance with the requirements of the Coos County Comprehensive Plan, Coos County Zoning and Land Development Ordinance, and any other applicable Local, State, and Federal regulations. This application does not create liability on the part of the Coos County Planning Department or any officer or employee thereof for any flood damage that results from the reliance on this application or any decision made lawfully thereunder.

Owner(s): Coaledo Drainage District  
(Nate Chisolm) Telephone: CDD: 707-775-1425

Address: Landowners: The Bridges Foundation; Domenighini Family LTD Partnership  
CDD: 91729 North Bank Ln.

City/State: Coquille, OR Zip Code: 97423

Agent(s): Coquille Watershed Association Telephone: 541-396-2541

Address: 390 N. Central Blvd.

City/State: Coquille/Oregon Zip Code: 97423

Township: T27S Section: 20 / 21 / 29

Range: R13W Tax Lot: Sec 20: 1503; Sec 21: 2100  
Sec 29: 101, 103, 200, 201

Situs Address: North Bank Lane. 1.3 miles west of Highway 42

City/State: Coquille/Oregon Zip Code: 97423

**A. Description of Work (Complete for All Proposals):**

1. Proposed Development Description:

- |   |   |
|---|---|
| <input type="checkbox"/> New Building   | <input type="checkbox"/> Improvement to Existing Building |
| <input type="checkbox"/> Manufactured Structure   | <input type="checkbox"/> Fill                             |
| <input checked="" type="checkbox"/> Other <u>Tide Gate replacement, slough channel enhancements, private agricultural bridge replacement, and site restoration.</u> |   |

2. Size and location of proposed development (a site plan must be attached):

Restorative enhancements include proposed channel excavations, tide gate culvert/door replacement, and agricultural bridge replacement; and subsequent disposal of excess excavated native materials will account for the Project's "filling, grading, and excavation". See attached Permitting Memo

3. Is the proposed development in a Special Flood Hazard Area (Zones A, AE, A1-A30, AH, AO, V, or VE)?

Yes Zone: Zone A

No

4. Per the FIRM, what is the zone and panel number of the area of the proposed development?

Zone: Zone A

Panel Number: 41011C0510F

5. Have any other Federal, State, or Local permits been obtained?

Yes - Copies of all permits must be attached.

No

6. Is the proposed development in an identified floodway?

Yes - A "No Rise Certification" with supporting data must be attached.

No

**B. Complete for New Structures and Building Site:**

1. Base Flood Elevation (BFE) at the site (complete one):

NGVD 29 \_\_\_\_\_ feet Source: \_\_\_\_\_

NAVD 88 \_\_\_\_\_ feet Source: \_\_\_\_\_

2. Required lowest floor elevation, including basement (complete one):

NGVD 29 \_\_\_\_\_ feet Source: \_\_\_\_\_

NAVD 88 \_\_\_\_\_ feet Source: \_\_\_\_\_

3. Number and area of flood openings (vents): \_\_\_\_\_

4. Enclosed area below BFE (in square feet): \_\_\_\_\_

**C. Complete for Alterations, Additions, or Improvements to Existing Structures:**

1. What is the estimated market value of the existing structure? Justification for the estimate must be attached and may include, but is not limited to, appraisals completed by private agencies or the County Assessor's office.

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2. What is the cost of the proposed construction? Justification for the estimate must be attached. The estimate is required to include fair market value for any work provided by the property owner or without compensation.

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3. If the cost of the proposed construction equals or exceeds 50 percent of the market value of the structure, then the substantial improvement provisions shall apply.

**D. Complete for Non-Residential Floodproofed Construction:**

1. Type of floodproofing method:

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2. The required floodproofing elevation is (complete one):

NGVD 29 \_\_\_\_\_ feet Source: \_\_\_\_\_

NAVD 88 \_\_\_\_\_ feet Source: \_\_\_\_\_

3. Floodproofing certification by a registered engineer must be attached.

**E. Complete for Land Divisions, Subdivisions, and Planned Unit Development:**

1. Does the proposal contain 50 lots or 5 acres?

Yes - The plat or proposal must clearly identify base flood elevation.

No

2. Are the 100-year Floodplain and Floodway delineated on the site plan?

Yes

No

**F. Authorization: All areas must be initialed by all applicant(s) prior to the Planning Department accepting any application.**

*Nate Chisholm*

Applicant

I hereby attest that I am authorized to make the application for Application to Develop in a Special Flood Hazard Area and the statements within this application are true and correct to the best of my knowledge and belief. I affirm that this is a legally created tract, lot or parcel of land. I understand that I have the right to an attorney for verification as to the creation of the subject property. I understand that any action authorized by Coos County may be revoked if it is determined that the action was issued based upon false statements or misrepresentation.

*Nate Chisholm*

Applicant

I understand it is the function of the Planning Department to impartially review my application and to address all issues affecting it regardless of whether the issues promote or hinder the approval of my application. In the event a public hearing is required to consider my application, I agree I bear the burden of proof. I understand that approval is not guaranteed and the applicant(s) bear the burden of proof to demonstrate compliance with the applicable review criteria.

*Nate Chisholm*

Applicant

As applicant(s) I/we acknowledge that is in my/our desire to submit this application and staff has not encouraged or discouraged the submittal of this application.

*Nate Chisholm*

Applicant(s) Original Signature

1/11/23

Date

Applicant(s) Original Signature

Date

Applicant(s) Original Signature

Date

Applicant(s) Original Signature

Date



## Technical Memorandum

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**DATE:** June 8, 2022

**TO:** Coos County Planning Department

**FROM:** Russell Bartlett, PE  
River Design Group, Inc.



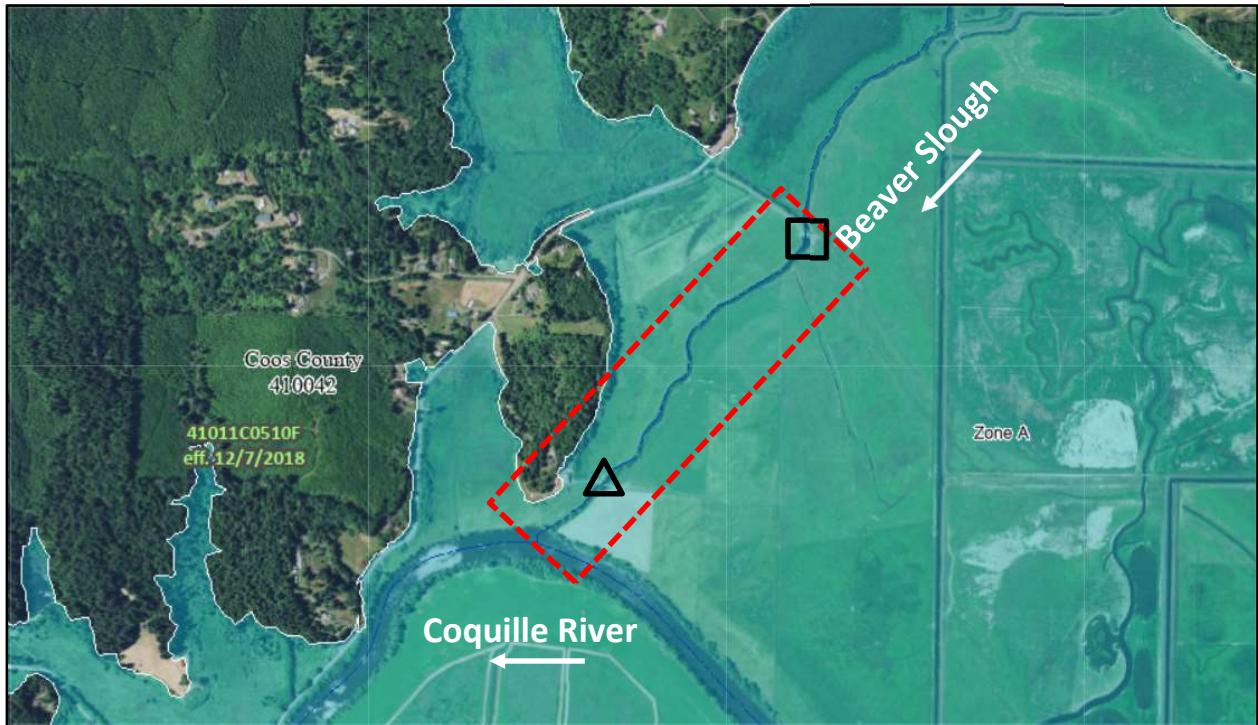
**SUBJECT:** Floodplain analysis for the Coaledo Drainage District fish passage project.

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River Design Group, Inc. (RDG) was retained by the Coquille Watershed Association (CoqWA) to provide professional services for the Coaledo Drainage District fish passage project (Project). The Project site is located within an unincorporated portion of Coos County near Coquille, Oregon. The Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) for Beaver Slough at the project site is contained in Community Number 410042 (Coos County, Unincorporated Areas) and on the Flood Insurance Rate Map (FIRM) 41011C0510F which has an effective date December 7, 2018.

The Beaver Slough/Coquille River floodplain is mapped FEMA Zone A (Figure 1) within the vicinity of the Project site. This mapping designation identifies Special Flood Hazard Areas (SFHA) with a one-percent chance of being inundated by the 100-year base flood with mapping determined by approximate methods with no base flood elevations (BFEs) or floodway delineation. Project elements are proposed to be compliant with Coos County Zoning Code Section 4.11.251(7)(b) for “other development” within the floodplain by showing no cumulative increase greater than 1.0 ft during the occurrence of the base flood discharge. *This is shown by zero-net rise in the base flood elevation resultant of Project actions.*

The Project aims to develop a tide gate design and Water Management Plan (WMP) to enhance natural stream processes, improve ecological function, and maximize potential working lands within the 490 acres located upstream of the Coaledo Drainage District’s (CDD) main tide gate. The Project includes replacing the existing main tide gate infrastructure, slough channel enhancements, replacement of an existing agricultural stream crossing, cattle exclusion fencing, and site revegetation.



**Figure 1.** FEMA NFHL Viewer (June 2, 2022) showing location of Project area in red polygon. Figure is oriented with North to the top and water flow from right to left on figure. Tide gate location noted with square and agricultural bridge noted with triangle.

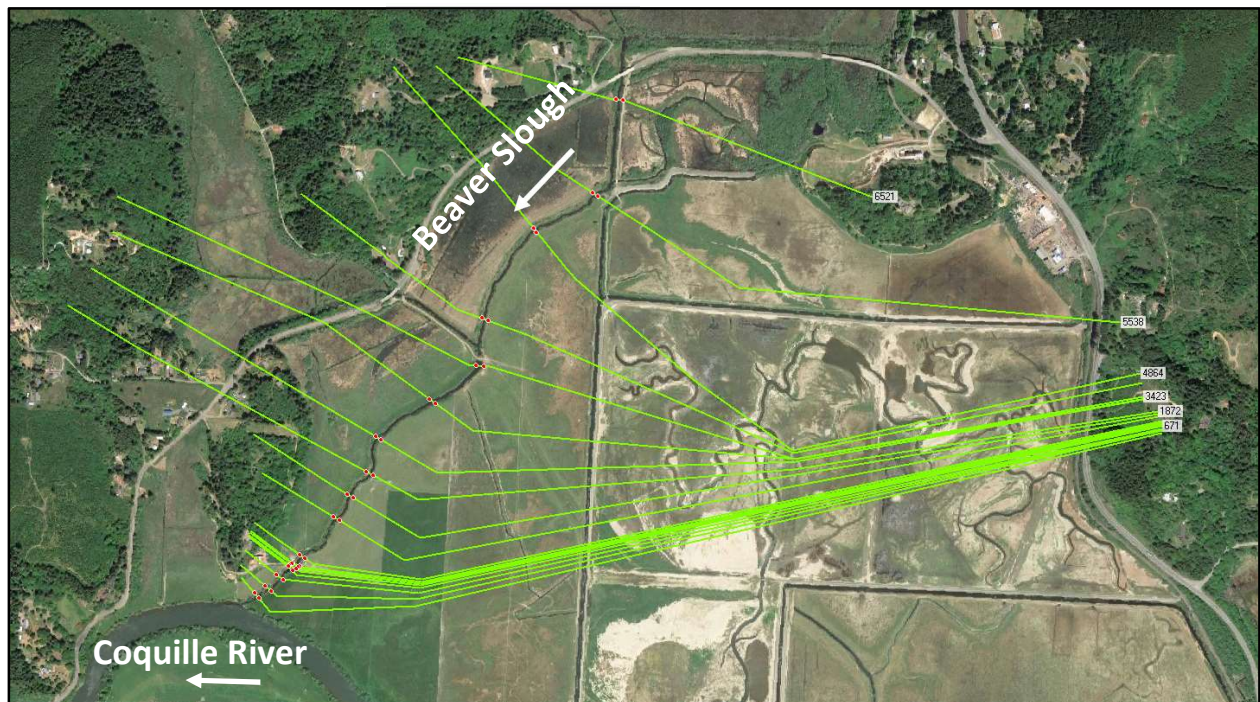
## PROJECT SITE IMPROVEMENTS

Natural stream processes and improved ecological function restorative enhancements include proposed channel excavations, tide gate culvert/door replacement, and agricultural bridge replacement; and subsequent disposal of excess excavated native materials will account for the Project's "filling, grading, and excavation". Overall, the Project results in the removal of ~3,070 cubic yards (cy) of native material from within the Beaver Slough channel and subsequent dispersal of ~5,990 cubic yards (cy) of native material on adjacent agricultural lands within the SFHA.

All excess native materials developed as part of the restorative enhancements not reused as structural backfill will be permanently disposed of within the SFHA as part of the Project as a thin spread over adjacent agricultural grounds. The spreading will distribute native material over the adjacent fields at an approximate depth of three (3) inches over 15 acres. All native floodplain fills will be permanently stabilized and are intended to not alter drainage or shape of the natural floodplain contours.

## METHODOLOGY

One-dimensional, steady-state HEC-RAS models were used to analyze existing and post-project floodplain conditions. The Effective Approximate Hydraulic Analysis conducted by STARR in 2016 was obtained from the FEMA Engineering Library and their model was used as the basis for the net-rise analysis. A segment of the STARR model domain was recreated for the Beaver Slough analysis with duplicated existing STARR cross sections transecting the Project site and unaltered portions of the Beaver Slough floodplain upstream of Project. HEC-RAS input data obtained from the STARR 2016 analysis included an estimate for the 100-year peak flow, roughness estimates, and the reach boundary condition.



**Figure 2.** Plan view of hydraulic model layout showing cross-section locations. Figure is oriented with North to the top and water flow from right to left on figure.

STARR notes that no survey was used in their analysis and no hydraulic structures (bridges) were included in their model geometry. Thus, for the net-rise analysis, existing condition (EG) model geometry updates were made to include the existing agricultural bridge and tide gate structures and provide additional detail along the Beaver Slough channel within the Project extents (Figure 2). The EG terrain was developed from ground geometry comprised of 2009 DOGAMI LiDAR and topographic/bathymetric survey data collected by RDG between 2019 and 2021.

Typical Manning's roughness "n" values were obtained from the Effective STARR model as applicable. An in-channel "n" of 0.04 was noted within the Effective Model, which is typical of stream channels and was used in the EG model. Floodplain roughness "n" values were found to vary, but typically in the range of 0.1 to 0.12 dependent on the location within the floodplain. A standard floodplain "n" value of 0.1 was used in the EG model.

A with-project/finished ground (FG) hydraulic model was developed by editing the section geometry as appropriate to depict proposed site improvements. This included the proposed modification to the “blocked obstruction” at the tide gate location to represent proposed changes to the embankment associated with the structure, updating the bridge bottom chord and top curb elevations, updated channel geometry along Beaver Slough between the confluence with the Coquille River and the tide gate to represent proposed channel enhancements, and modification to floodplain elevations to depicted native fill disposal. The FG model represents the as-designed topography throughout the Project and represents unaltered portions of ground adjacent to, upstream and downstream from proposed Project actions. The FG model was run using the same flow, roughness, and boundary conditions as the existing conditions model. Results from the models were used to evaluate water surface elevation changes.

### 100-YEAR BASE FLOOD IMPACTS

Base flood water surface elevations (WSELs) from the with-project model were compared to WSELs from the existing conditions model to isolate rise impacts to base flood water surface elevations attributable to the Project. *A comparison of WSELs is summarized in Table 1 showing no rise, thus the proposed Project actions are compliant with Coos County Zoning Code Section 4.11.251(7)(b).*

**Table 1.** Base flood WSEL HEC-RAS model output comparing existing (EG) to with-project (FG) conditions.

HEC-RAS Station (ft)	WSELs Existing (EG) (Existing Conditions)	WSELs Proposed (FG) (With-Project)	WSEL Difference (FG-EG) <sup>1</sup>	Placemark
6521	23.83	23.83	0.00	
5538	23.83	23.83	0.00	
4864	23.83	23.83	0.00	
3871	23.83	23.83	0.00	
3423	23.83	23.83	0.00	End of Project
2860	23.83	23.83	0.00	
2237	23.83	23.83	0.00	
1872	23.83	23.83	0.00	
1578	23.83	23.83	0.00	
1318	23.83	23.83	0.00	
805	23.83	23.83	0.00	
713	23.83	23.83	0.00	
698	23.83	23.83	0.00	
671	23.83	23.83	0.00	
645	23.83	23.83	0.00	
514	23.83	23.83	0.00	
360	23.83	23.83	0.00	
233	23.83	23.83	0.00	Start of Project

<sup>1</sup>negative number denotes post-project water surface lowering



## **SUMMARY**

Based on our hydraulic analysis of existing and with-project conditions, this letter conveys assurance the proposed Project as analyzed by RDG will not produce a rise in the base flood. Hence, the Project meets the intent of Coos County Zoning Code Section 4.11.251(7)(b) for “other development” within the floodplain. All materials proposed for the Project that will become permanent features in the floodplain are designed to be resistant to flood damage.

If you have questions or need further assistance please do not hesitate to contact our Corvallis Office, telephone 541-738-2920.