

# Salmon Creek Fish Habitat Improvement Project

## Conceptual Design

**Prepared by**

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**Western Pennsylvania Conservancy**

**159 Main St.**

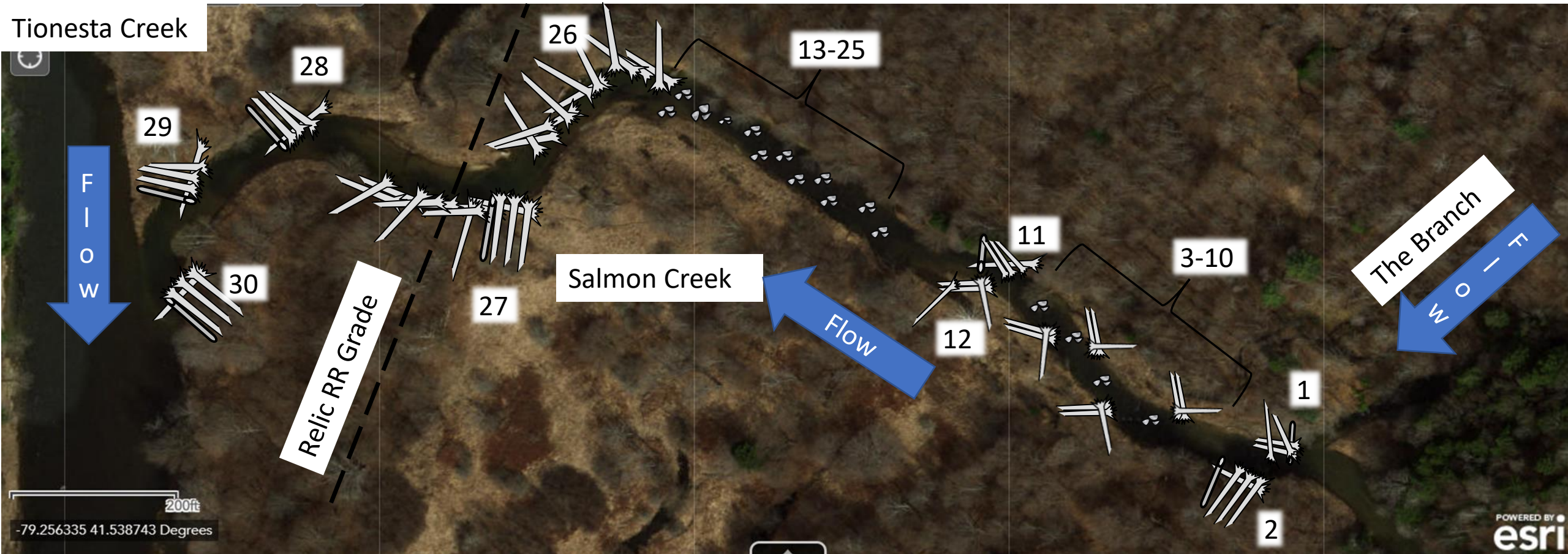
**Ridgway, PA 15853**

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# Salmon Creek: Existing Condition

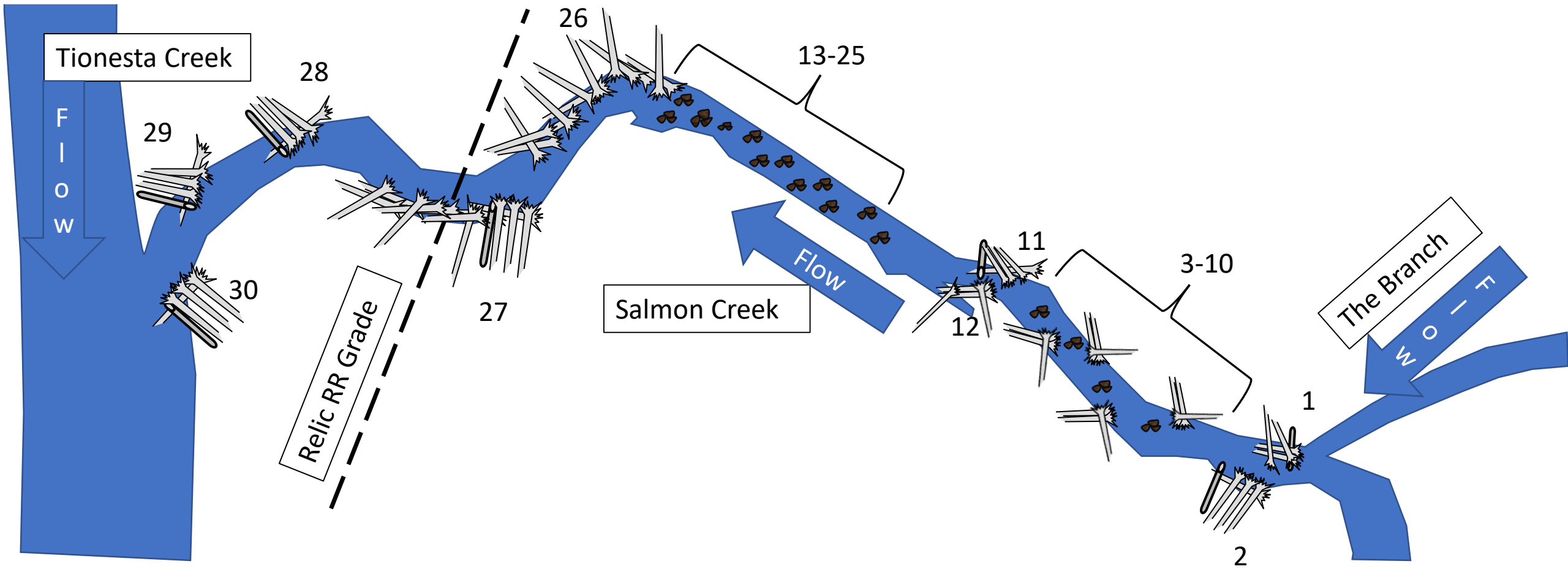


# Salmon Creek: Proposed Habitat Improvement Structures





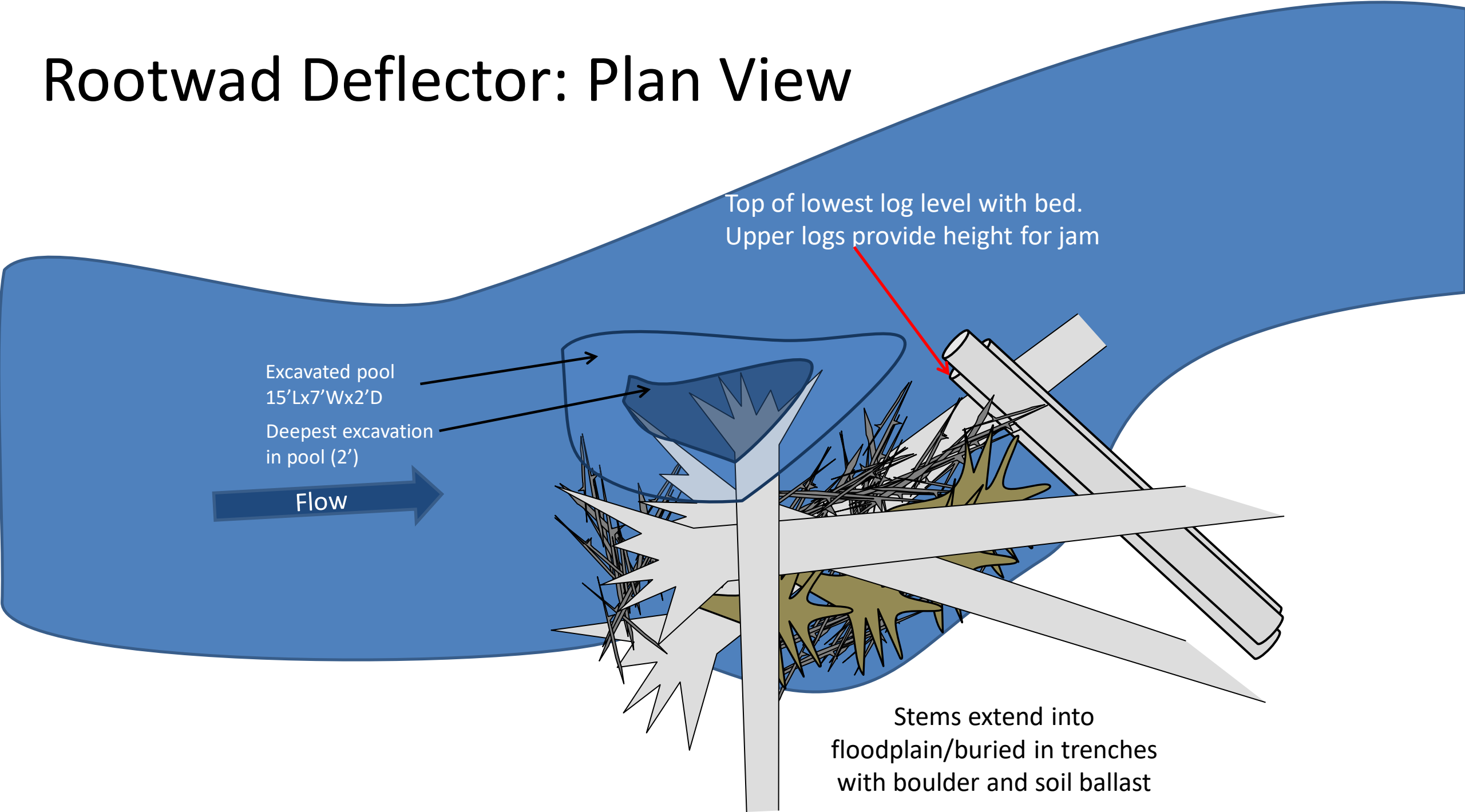
# Salmon Creek: Proposed Habitat Improvement Structures



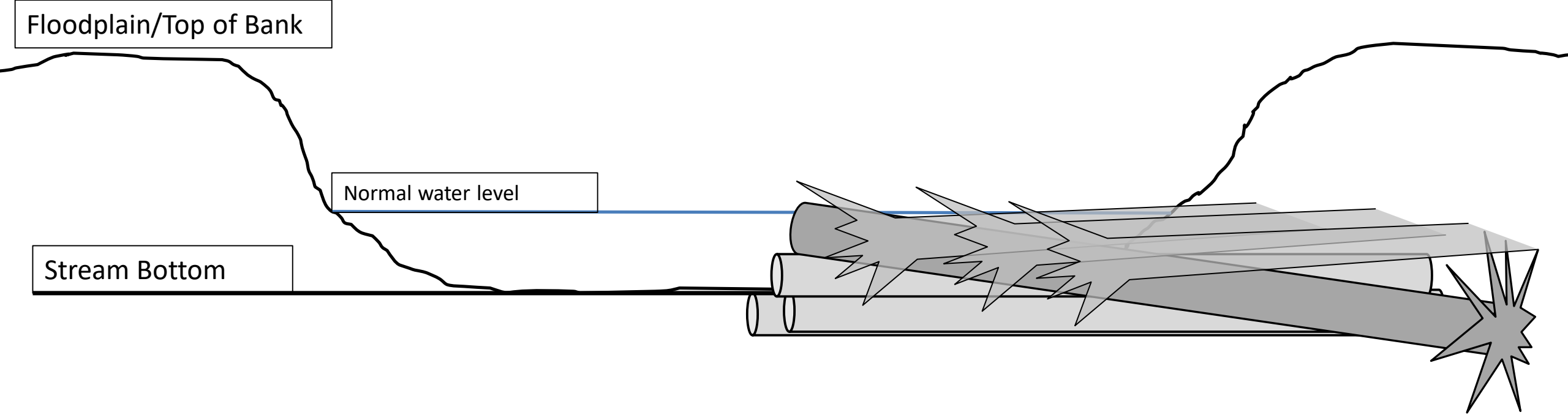
<b>Structure #</b>	<b>Structure Type</b>
1-2	Rootwad Deflector
3-6	Random Boulder Clusters
7-12	Rootwad Deflectors
13-25	Random Boulder Clusters
26	Placed Rootwad Deflector +RW Revetment
27	Rootwad Revetment
28-30	Rootwad Deflectors

# Standard Drawings

# Rootwad Deflector: Plan View

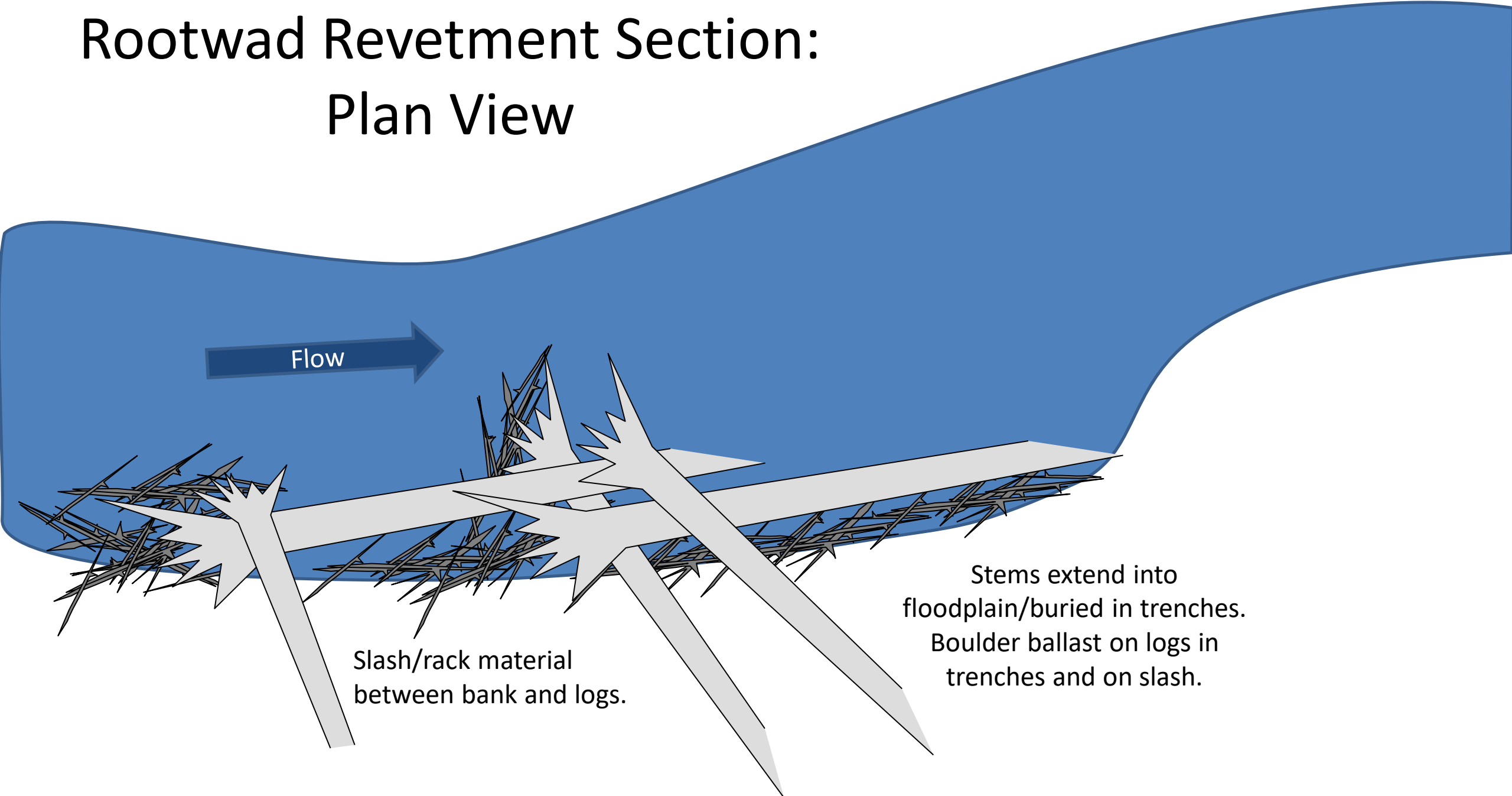


# Rootwad Deflector: Section View





# Rootwad Revetment Section: Plan View

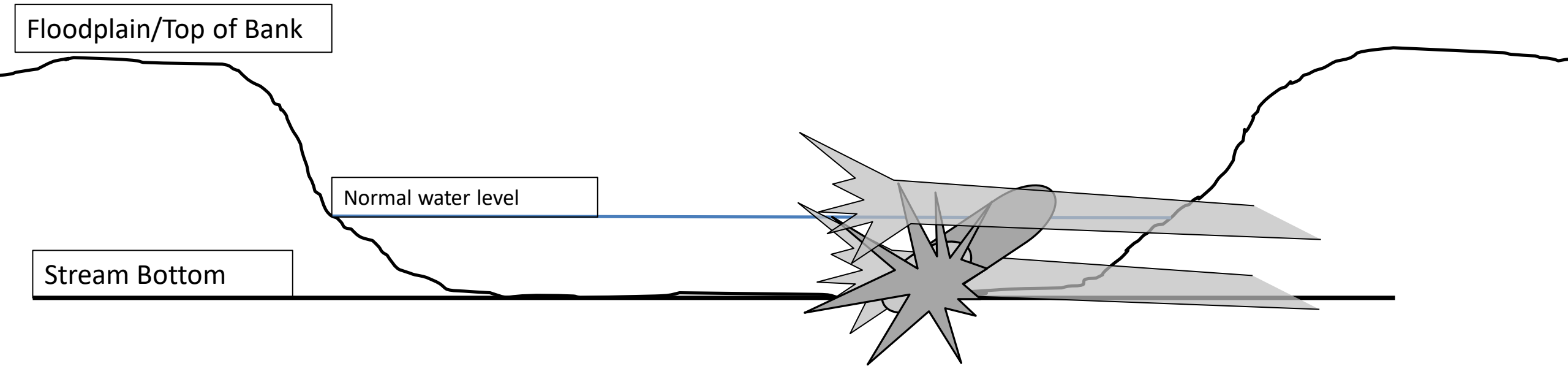


Flow

Slash/rack material  
between bank and logs.

Stems extend into  
floodplain/buried in trenches.  
Boulder ballast on logs in  
trenches and on slash.

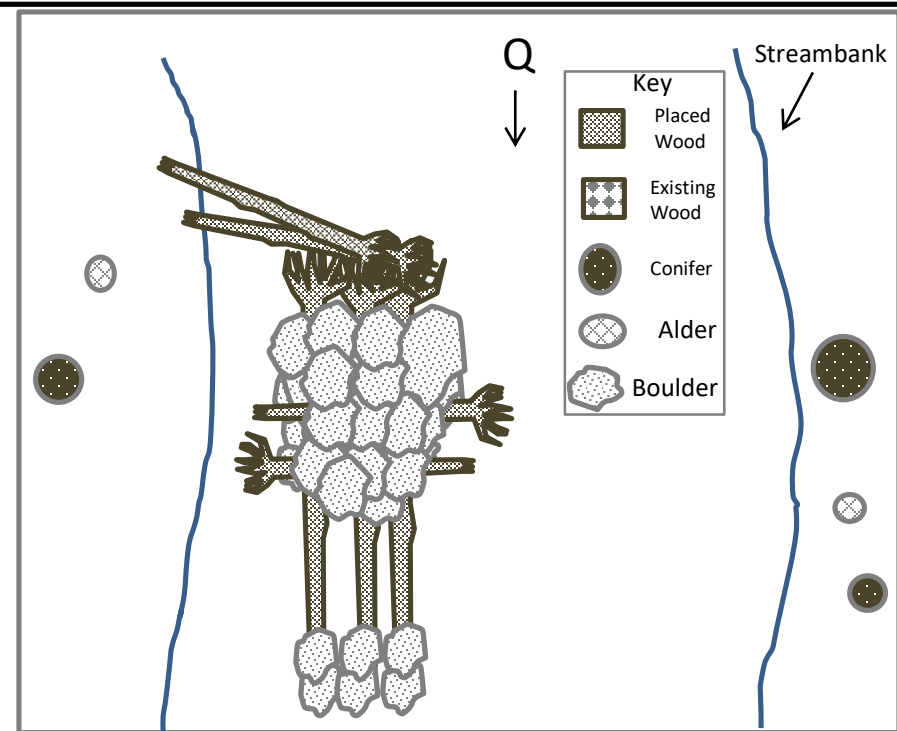
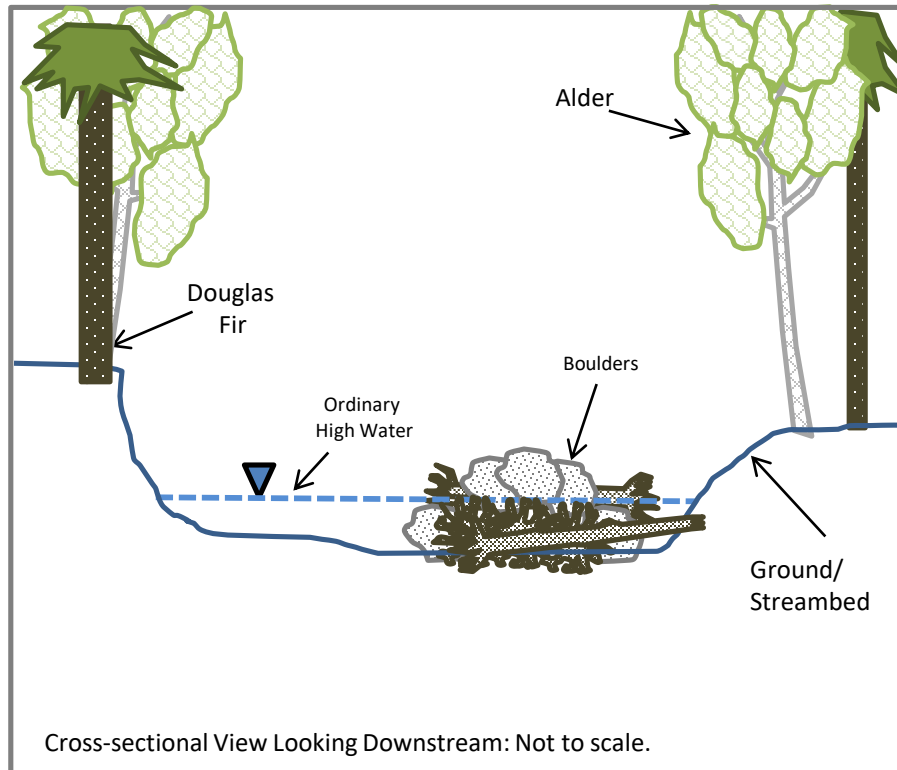
# Rootwad Revetment: Section View



# Conceptual Design: "C" Bar Apex Jam

Use on stream segments with wide, shallow flow; and on the inside, downstream edge of a meander bend

Project:	<<insert>>
Project Lead:	<<insert>>
Landowner:	<<insert>>
Designs By:	<<insert>>
Sheet:	3 of 4



## Materials Description

Item	Quantity	Piece Diameter/Volume	Length (Ft)	Species
Key tree(s)	4	18-22" DBH	60-80	Douglas Fir
Racked trees	3	14-18"	~40+	Douglas Fir
Boulders	10-15 cubic yards	0.5-1.5 cubic yards	n/a	n/a

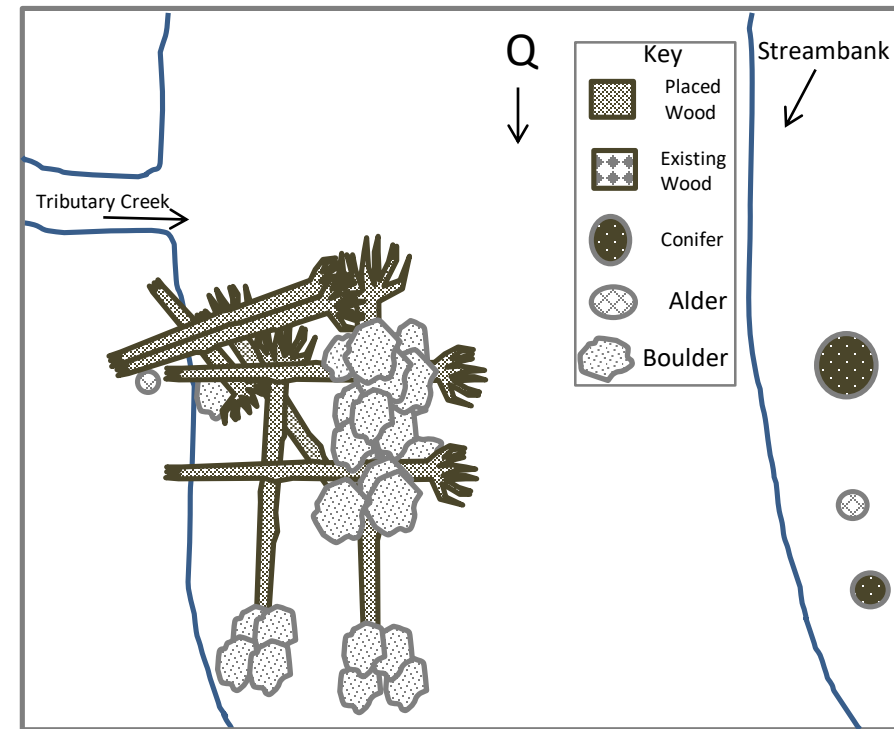
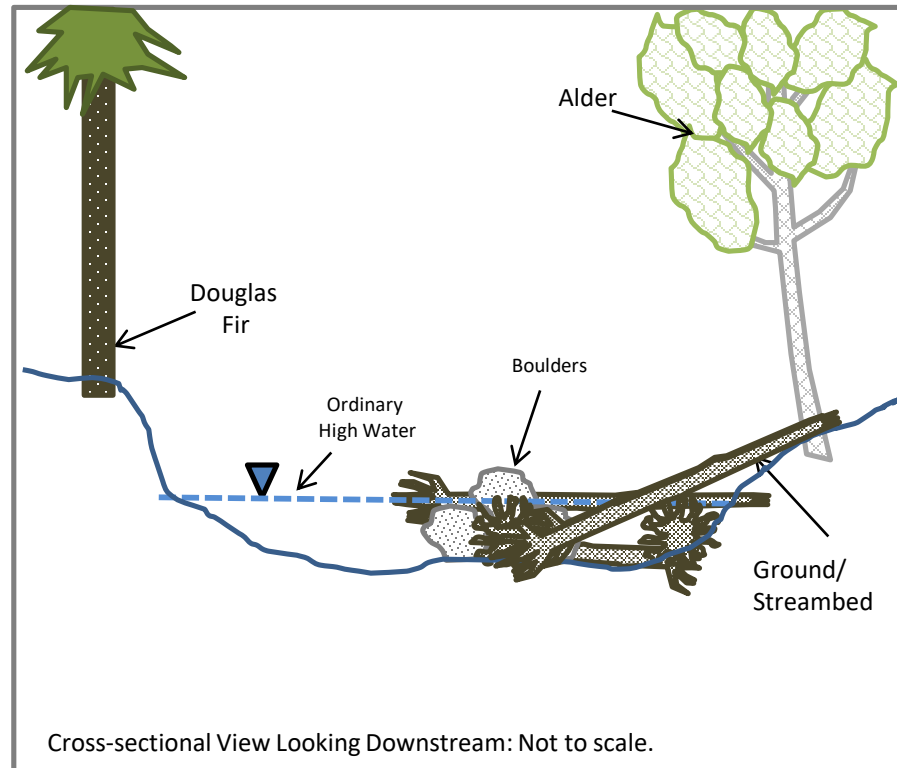
## Construction Notes

- Adjust design to meet site-specific conditions
- Use existing boulders, large wood, or bedrock to key the structure instream
- Use on either left or right bank of a wide, shallow reach that is currently a glide, run, or lateral scour pool.
- Place feature on inside (opposite thalweg) of the channel; preferably on the downstream side of a meander bend.
- Structure should not occupy more than 30% of the bankfull channel width.

## Conceptual Design: "D" Tributary Junction Jam

Use on stream segments with wide, shallow flow; and on the inside, downstream edge of a meander bend

Project:	<<insert>>
Project Lead:	<<insert>>
Landowner:	<<insert>>
Designs By:	<<insert>>
Sheet:	4 of 4



### Materials Description

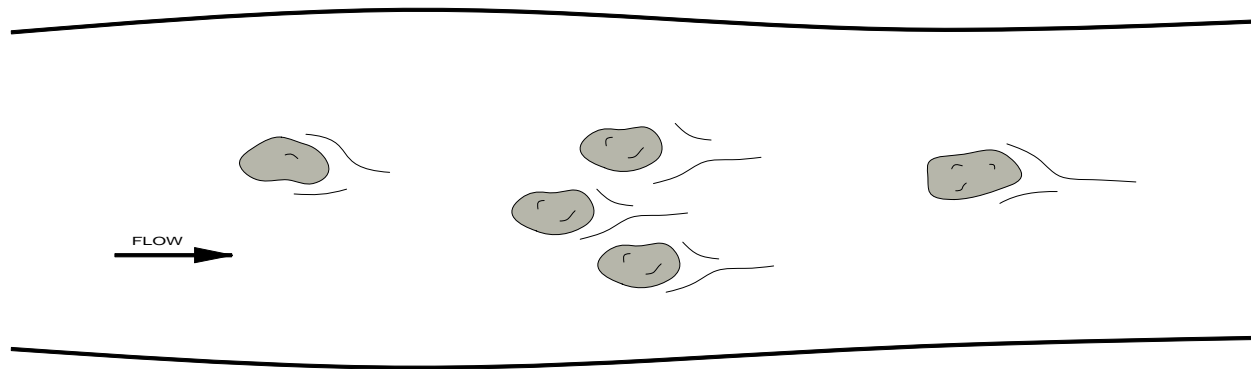
Item	Quantity	Piece Diameter/Volume	Length (Ft)	Species
Key tree(s)	4	18-22" DBH	60-80	Douglas Fir
Racked trees	3	14-18"	~40+	Douglas Fir
Boulders	10-15 cubic yards	0.5-1.5 cubic yards	n/a	n/a

### Construction Notes

- Adjust design to meet site-specific conditions
- Use existing boulders, large wood, or bedrock to key the structure instream
- Place structure immediately downstream of the tributary junction, on the same side of the main channel as the tributary channel.
- Ballast logs that key to trees on the bank should have no more than 50% of the bole length extending into the channel; with the rootwad or base end in the stream.
- Structure should not occupy more than 30% of the bankfull channel width.

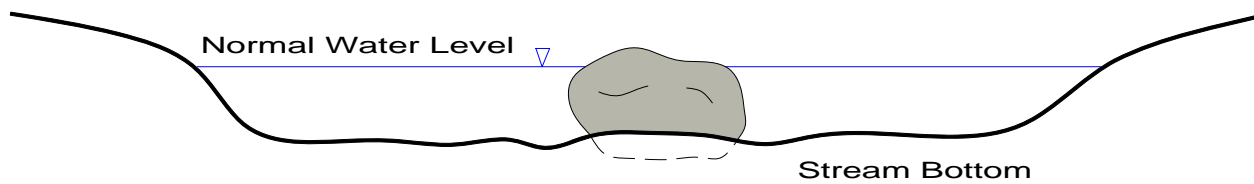
## RANDOM BOULDER PLACEMENT

Plan View



NOTE: Place Boulders in the middle third of the wetted width of the stream to prevent flow deflection into the streambanks.

Section View



NOTE: Boulder should be large enough not to be displaced during high flow periods.