Johnson Creek Triple Culvert Design #19-1609P
Cost Increase Request to Fish Barrier Removal Board
11/17/20
Presented by Kevin Long, Project Manager
- **Johnson Triples 19-1609P**
  - RM ~10
- **Trib To Johnson 17-1429R**
  - Construction Completed 2020
  - Cost Increase $194k
- **Johnson Creek Culvert Removal**
  - 17-1418R
  - RM 0  Hoko mile 12.5
  - Construction Completed 2019
  - Returned $798,845
CONSTRAINTS

- Road very low through forested wetland
- Raise road ~5.5’
- Soils very poor for great depth limits design options
- Johnson B trib runs along length of project
- Wetlands extend on both sides of road for nearly the entire project length
- Walls to retain fill will be required
- Walls and road fills are heavy and set on very poor soils
ROAD RELOCATION CONSIDERED

- Not viable
- All Private Ownership
- Multiple new crossings required
- New road grades needed
Alternative #4 - Culverts to pass 100yr flood w/ 2ft freeboard, raise roadway -6ft

Pros:
- Greatly reduces frequency of roadway overtopping, with higher level of confidence.
- Main crossing could be supplemented with smaller relief structures distributed across floodplain.
- Greatly improves fish passage, wetland connectivity, and hydraulic function.
- Culvert layout meets current WDFW standards.

Cons:
- Longer construction duration will require a temporary bypass road to be constructed, greatly increasing construction impacts.
- Soft soils are likely to have long-term settlement due to large increase in overburden.
- Roadway footprint increases in width by 10-12ft each side, for a total increase of ~18,000SF. Retaining walls may be possible to limit footprint in key areas (Johnson B), but increase settlement potential.
# Design Costs

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**Cost Increase Request:** $140,422

**RCO Percentage:** 85%

**Match Percentage:** 15%
QUESTIONS?

Community Stewardship,
Collaborative Restoration