

Cle Elum Dam Fish Passage Juvenile Utility/Facility Tunnel U.S. Department of the Interior Bureau of Reclamation

Location: Yakima, WA

Date: 2017

Structure: Juvenile Utility/Facility Tunnel

Length: 1,200 ft (366 m)

Cross-Section: 7 ft (2.1 m) finished internal diameter

Geology: Glacial outwash material consisting of sandy gravel with trace fines content

Cost: \$135 million

Client: Guy F. Atkinson Construction

Owner: U.S. Department of the Interior Bureau of Reclamation

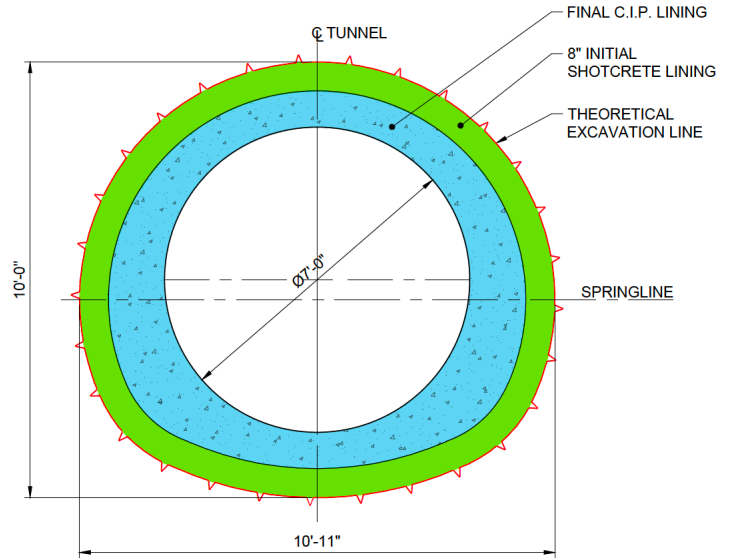


Figure 1. Fish Passage SEM Tunnel Schematic Cross Section.

Design Services for Fish Passage SEM Tunnel:

The Bureau of Reclamation requested proposals for bid for the Cle Elum Dam Juvenile Fish Passage Tunnel. The project consists of various earthworks and permanent slope stability measures, as well as the construction of an approximately 1,200 ft (366 m) long tunnel with an approximate diameter of 11 ft (3.35 m). The tunnel will connect the Cle Elum lake to a previously constructed ovoid secant pile shaft, which will eventually house a helical-shaped reverse fish ladder structure to allow for juvenile fish to bypass the Cle Elum Dam on their way downstream.

Gall Zeidler Consultants (GZ) provided bid support services for Guy F. Atkinson Construction addressing tunneling scopes of work, such as value engineering for tunnel activities, excavation of the secant pile shaft, tunnel outlet portal and access shaft, tunnel excavation, and tunnel lining.

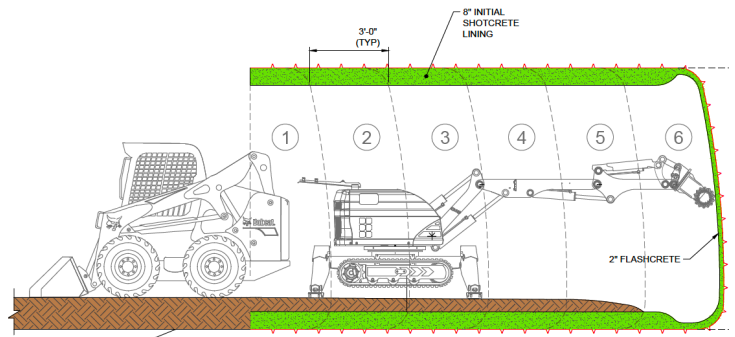


Figure 2. Fish Passage SEM Tunnel Typical Excavation and Support Sequence.