

RIVER MILL FISH LADDER AND SPILLWAY IMPROVEMENTS

As part of the agreement to relicensing the Clackamas River Hydroelectric Project, which includes four dams on the Clackamas River, Portland General Electric agreed to make modifications to the spillway and fish ladder at the River Mill Hydroelectric Development in order to meet current fish passage requirements for upstream and downstream migrations. These improvements included reconfiguring the spillway for downstream migrating juvenile fish and replacing the existing fish ladder to include two entrances, more gradual ascent, and better attraction flow. The new fish ladder is attached to a powerhouse listed in the National Register of Historic Places, and located on lands in the Clackamas Scenic Waterway. The layout, design, and finishes selected were coordinated with state and federal agencies to provide an economical, visually acceptable project that also meets all the fisheries requirements.



SERVICES PROVIDED

EES Consulting provided civil and structural review, and mechanical design and construction support (2003-2006) for upstream and downstream fish passage improvements. The design process included value engineering with the Owner's engineering and operations staff, Fisheries Engineering Consultant Mort McMillan, and the project contractor, NMC. Upstream passage consists of a new fish ladder and entrance, and includes both gravity and pumped water. Spillway modifications required lowering the spillway crest by 3-feet and include a 40-foot wide, pneumatic-gated flow control section and provision for downstream passage. Downstream passage includes a gated spillway fish chute, 10-foot wide at the spillway crest reducing to 4-foot wide at the tailrace. The 6-foot high by 10-foot wide pneumatic weir gate at the chute will be operated in the 3-foot high position and includes a fish slide over the weir gate.