

Keystone Golf Course Snake River Diversion Intake

The 90-acre Keystone Golf Course requires about 130 acre-feet of annual irrigation water with an estimated peak design of 1.5 acre-feet per day, which converts to a design peak rate of 2.25 cfs in 8 hours. WWE designed the Snake River diversion that supplies the Keystone Golf Course.

The intake control structure was planned to minimize bedload washing into the intake channel using a 6-inch vertical step in the river bottom and the arrangement of rocks in the Snake River bed. Stop logs can be added or removed to keep water flowing over the top of the boards and into the channel. The design also includes a trash skimmer as part of this structure.

After the intake structure, a “quieting pool” was incorporated to promote sedimentation. At the downstream end of this pool are two structures: one in the main channel and one returning flow to the river. The channel structure is the first true gate, which is intended to be adjusted to allow slightly more flow than is necessary to pass through to the irrigation intake. Adjustment of this gate causes water to “check” or back-up slightly in the quieting pool. Excess flows are forced over a concrete “return-to-river” spill structure.

Next is a final quieting channel, which accommodates slightly more (0.5 cfs to 1.0 cfs) than the desired irrigation



flow to provide for final settling of sediment. In the middle area of this channel is the pipe intake structure for the irrigation pump wet well. It has a fine set of trash and debris screens as the final step in water “treatment” prior to pumping. Near the pipe intake, but on the river side of the final quieting pool, is a small combination drop inlet structure consisting of an 18-inch diameter corrugated steel pipe riser and a 12-inch gated intake, which allow minor amounts of “excess” flow to return to the Snake River as well as draining/flushing of the pool. At the downstream end of the final quieting pool is a gate structure that can be opened to pass flows to the vertical turbine pump station, also designed by WWE.

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